



**INVITATION TO BID
PUBLIC WORKS
PROJECT NUMBER SW-C1829**

PROJECT MANUAL

FOR

WELCOME CENTER REPLACEMENT

AT

FORT FLAGLER STATE PARK

IN

JEFFERSON COUNTY

BID OPENING: 1:00 P.M., TUESDAY, MARCH 25, 2025

**Bidders are required to submit bid prices electronically through the State
Parks Public Opportunities-MRSC Rosters Bonfire Procurement Portal**

<https://mrscrosters.bonfirehub.com>

****BIDS WILL BE OPENED WITHIN THREE BUSINESS DAYS****

WASHINGTON STATE PARKS & RECREATION COMMISSION

1111 ISRAEL ROAD SW

TUMWATER, WA 98501-6512

POST OFFICE BOX 42650

OLYMPIA, WASHINGTON 98504-2650



PROJECT MANUAL

FOR

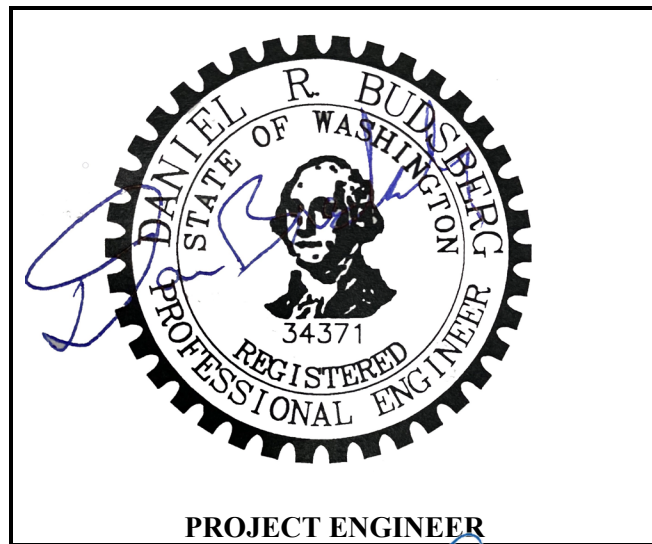
WELCOME CENTER REPLACEMENT

AT

FORT FLAGLER STATE PARK

IN

JEFFERSON COUNTY



Approved for Construction

Heather Saunders
Heather Saunders, Director of Parks Development

WASHINGTON STATE PARKS AND RECREATION COMMISSION
1111 ISRAEL ROAD SW
TUMWATER, WASHINGTON 98501-6512
P.O. BOX 42650
OLYMPIA, WASHINGTON 98504-2650

**FORT FLAGLER STATE PARK
WELCOME CENTER REPLACEMENT**

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WELCOME CENTER REPLACEMENT**

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END OF SECTION

END OF SECTION



STATE OF WASHINGTON
WASHINGTON STATE PARKS AND RECREATION COMMISSION

1111 Israel Road SW • PO Box 42650 • Olympia, WA 98504-2650 • (360) 902-8500
Internet Address: <http://www.parks.wa.gov>

ADVERTISEMENT FOR BID

Sealed bids will be received for the following project:

PROJECT NUMBER:	SW-C1829
PROJECT TITLE:	Fort Flagler State Park – Welcome Center Replacement
PROJECT DESCRIPTION:	This project includes a new welcome center and an exit road loop around the welcome center. Work includes demolition, excavation, grading, paving, concrete, plumbing, and landscaping.
PROJECT LOCATION:	Fort Flagler Historical State Park, 10541 Flagler Road, Nordland, WA 98358, in Jefferson County.
ESTIMATED BID RANGE:	\$ 760,200.00 - \$ 860,000.00
PROJECT REPRESENTATIVE:	Dan Budsberg
PROCUREMENT COORDINATOR	Manuel Iglesias
PREBID WALKTHROUGH:	Tuesday, March 11, 2025, at 11 AM. Meet at the park's main entrance: 10541 Flagler Road, Nordland, WA 98358
SUBMITTAL DUE DATE/TIME:	1:00 PM on Tuesday, March 25, 2025
ELECTRONIC BIDDING:	Bidders are required to register as vendors on the MRSC Bonfire Procurement Portal https://mrscrosters.bonfirehub.com to be eligible to submit bids. All bid submissions must be completed electronically through the State Parks Public Opportunities section of the portal. Bidders must use the official Bid Proposal Form, provided as part of the electronic bid documents, ensuring that all required fields are properly filled out and submitted before the deadline. (See Bonfire support details further down.)

PLANS, SPECIFICATIONS, ADDENDA, AND PLAN HOLDERS LIST: Contractors can access plans and specifications through the State Parks Public Opportunities-MRSC Bonfire Procurement Portal at <https://mrscrosters.bonfirehub.com/portal>.

Important: Bidders are encouraged to “Register as a Prime/GC Interest” on the project details page of the MRSC Rosters Bonfire Procurement Portal to be placed on the Bidders List. This service is free for Prime Bidders, Subcontractors, and Vendors interested in bidding on this project.

Additionally, plans and specifications are available through Builders Exchange Washington, Inc. at <http://www.bxwa.com>. Posted Projects”; “Public Works”, “Washington State Parks and Recreation. Bidders have the option to access Bid Documents, including Specifications and Drawings, at www.parks.wa.gov/contracts by clicking on the Construction Projects link for reference purposes. However, the official channel for bid notifications and addenda is the State Parks Public Opportunities-MRSC Rosters Bonfire Portal, and bidders should rely on it for the most up-to-date information.

PLANS MAY ALSO BE VIEWED THROUGH: Associated Builders And Contractors, Spokane WA; Tri City Construction Council, Kennewick WA; Daily Journal of Commerce, Seattle WA; Weekly Construction Reporter, Bellingham WA; Daily Journal Of Commerce Plan Center, Portland OR; Lower Columbia Contractor Plan Center, Longview WA; Abadan Spokane Plan Center, Spokane WA; ARC Document Solutions, Seattle, WA; Associated General Contractors, Boise, ID; Dodge Construction, Bedford, MA; Hermiston Plan Center, Hermiston, OR; Contractor Plan Center, Clackamas, OR; Wenatchee Plan Center, Wenatchee, WA; Spokane Regional Plan Center, Spokane, WA; Associated General Contractors, Spokane, WA; Walla Walla Valley Plan Center, Walla Wall, WA; Yakima Plan Center, Yakima, WA.

TECHNICAL QUESTIONS regarding this project shall be directed to: Dan Budsberg, Project Representative at telephone: (360) 515-6761, email: dan.budsberg@parks.wa.gov.

BID RESULTS will be published on the State Parks Public Opportunities-MRSC Bonfire Portal <https://mrscresters.bonfirehub.com/portal> following the bid opening and in the Construction Projects section at www.parks.wa.gov/contracts after the bid submittal. This practice ensures that those involved and interested can readily view bid outcomes, enhancing transparency and efficiency in the bidding process.

THE STATE OF WASHINGTON PREVAILING WAGE RATES are applicable for this public works project. Bidders are responsible to verify and use the most recent prevailing wage rates. The “Effective Date” for this project is the bid submittal time and date above.

BIDDER RESPONSIBILITY will be evaluated for this project. In determining bidder responsibility, the Agency shall consider an overall accounting of the criteria set forth in Division 00 – Instructions To Bidders. Please direct questions regarding this subject to the Project Representative.

MANDATORY 15% APPRENTICE LABOR HOURS of the total labor hours are a requirement of this construction contract. Voluntary workforce diversity goals for this apprentice participation are identified in the Instructions to Bidders. Bidders may contact the Department of Labor & Industries, Apprenticeship Section, to obtain information on available apprenticeship programs.

SUBCONTRACTOR LISTINGS: Per RCW 39.30.060, when the bid proposal combined with any alternates totals one million dollars or more, the Bidder must list the Subcontractors they intend to use for structural steel, rebar installation, heating, ventilation, and air conditioning (HVAC), plumbing, and electrical work on the Subcontractor Utilization List form for this project.

ACCESS EQUITY: The successful Bidder is required to complete their vendor registration in Access Equity, a secure B2GNow online vendor management system. Prime Contractors already registered with B2GNow for any public entity must ensure their information is up to date. The system can be accessed either directly at <https://omwbe.diversitycompliance.com/> or via the Office of Minority and Women’s Business Enterprises (OMWBE) website at <https://omwbe.wa.gov/>.

FOR THIS PROJECT, VOLUNTARY DIVERSITY GOALS HAVE BEEN SET: 10% for Minority Business Enterprises (MBE), 6% for Women's Business Enterprises (WBE), 5% for Washington Small Businesses, and 5% for Veteran-owned businesses. While meeting these goals is not mandatory, it is strongly encouraged to promote diversity in business participation.

Bidders may contact the Office of Minority and Women's Business Enterprise (OMWBE) at: <http://omwbe.wa.gov/> to obtain information on certified firms. Bidders may also utilize Washington Small Businesses registered in WEBS at <https://pr-webs-vendor.des.wa.gov/> and Veteran-owned Businesses at <https://www.dva.wa.gov/veterans-their-families/veteran-ownedbusinesses/vob-search>.

Washington State Parks reserves the right to accept or reject any or all proposals and to waive informalities.

STATE OF WASHINGTON
PARKS AND RECREATION COMMISSION
CONTRACTS AND GRANTS

For assistance with the Bonfire Vendor Registration Process, please visit the following link: [Vendor Registration Support](#)

For guidance on the Bonfire Bid Submission Process, refer to this link: [Bid Submission Support](#)

Additional Bonfire Vendor Support resources, including support articles and instructional videos, are available at: [Bonfire Vendor Support](#)

If vendors experience any technical issues, they can contact Bonfire Support via email at Support@GoBonfire.com.

**FORT FLAGLER STATE PARK
WELCOME CENTER REPLACEMENT**

INVITATION TO BID

1.1 DESCRIPTION OF WORK

- A. This project includes a new welcome center and an exit road loop around the welcome center. Work includes demolition, excavation, grading, paving, concrete, plumbing, and landscaping

1.2 LOCATION OF PROJECT

- A. The project is located at Fort Flagler State Park, 10541 Flagler Rd, Nordland, WA 98358

1.3 TECHNICAL QUESTIONS

- A. Direct project questions to Dan Budsberg, Project Representative at (360)515-6761, dan.budsberg@parks.wa.gov

1.4 PRE-BID PROJECT SITE TOUR

DATE:	Tuesday, March 11, 2025
TIME:	11 AM
LOCATION:	Meet at the park's main entrance: 10541 Flagler Road, Nordland, WA 98358

1.5 BID OPENING

- A. Bidders must be registered as vendors through the MRSC Bonfire Procurement Portal <https://mrscrosters.bonfirehub.com/portal>, which is free to sign up for, before submitting their bids electronically through the State Parks Public Opportunities section of the same portal. All bids must be submitted using the Bid Proposal Form, provided as part of the electronic bid documents. Submissions must fully comply with the requirements outlined in Sections 3.1 and 4.1 of the Instructions to Bidders. Bids are due at 1:00 p.m., Tuesday, March 25, 2025. Late submissions will not be accepted.
- B. The Agency does not guarantee a specific timeframe for the public release of bid results; however, they are typically available within three business days of the bid opening, often on the same day. Bid results can be accessed through the MRSC Bonfire Procurement Portal <https://mrscrosters.bonfirehub.com/portal> and public notices. Additionally, they may be available on the Washington State Parks website at www.parks.wa.gov/contracts under "Construction Projects – Public Works Bid Results." Bid results may also be shared through Plan Centers, but Bidders should note that the State Parks Public Opportunities - MRSC Rosters Bonfire Procurement Portal serves as the official release point for the Bid Tabulation or Bid Record for this solicitation.
- C. The Agency reserves the right to accept or reject all bids and to waive informalities. The Bidder will allow 60 days from bid opening date for acceptance of its bid by the Agency.

**FORT FLAGLER STATE PARK
WELCOME CENTER REPLACEMENT**

1.6 COVID 19

- A. COVID-19 Refer to the Department of Labor & Industries website for requirements regarding any safety plans needed. [Novel Coronavirus Outbreak \(COVID-19\) Resources \(wa.gov\)](https://www.wa.gov)

1.7 FOR INFORMATION ON:

- A. Bidder Responsibility: Bidder responsibility will be evaluated for this project. In determining bidder responsibility, the Agency will consider an overall assessment of the criteria outlined in Division 00 – Instructions to Bidders.

For any questions regarding this topic, please contact the Project Representative or submit a vendor discussion through the State Parks Public Opportunities - MRSC Bonfire Procurement Portal <https://mrscrosters.bonfirehub.com/portal>. To ensure consideration, all inquiries must be received at least seven (7) working days before the bid opening date.

- B. Reciprocal Preference: See Instructions to Bidders 11.1 Reciprocal Preference for Resident Contractors.
- C. Apprenticeship Requirements: For projects estimated at or over \$1,000,000, Apprenticeship Participation, Mandatory 15 percent apprentice labor, see Instructions to Bidders 5.1B Apprenticeship Participation.
- D. Subcontractor Listings: When the base bid combined with any alternates totals \$1,000,000 or more, the Bidder must list the Subcontractors they intend to use for structural steel, rebar installation, heating, ventilation, and air conditioning (HVAC), plumbing, and electrical work on the Subcontractor Utilization List form for this project, see Instructions to Bidders 5.1A Subcontractor Listing.
- E. MWBE goals: See Instructions To Bidders 12.1 Minority And Women's Business Enterprise (MWBE) Utilization. For Veteran-Owned and Small Business utilization, see Instruction to Bidders 12.2.
- F. Modification of Bid: See Instructions to Bidders 6.3 Modification of Bid.
- G. Withdrawal of Bid: See Instructions to Bidders 6.4 Withdrawal of Bid.
- H. Bid Guarantee: See Instructions to Bidders 4.1 Bid Bond. No particular bid bond form is required.
- I. Bid Tabulation and Bid Record: See Instructions to Bidders 7.1B for Bid Tabulation, Bid Record, and Announcement of Apparent Low Bid.
- J. Records Request: All submitted bids are subject to public records request once the lowest bidder has been determined and officially announced. See Instructions to Bidders 7.1D Records Request.

**FORT FLAGLER STATE PARK
WELCOME CENTER REPLACEMENT**

1.8 ACCESSIBILITY

- A. Sites may not be fully accessible to people with disabilities. Please contact the Project Representative at least five (5) days prior to scheduled pre-bid tour if special accommodation is required for your attendance.

END OF SECTION

**WASHINGTON STATE PARK AND RECREATION COMMISSION
PUBLIC WORKS PROJECT**

1.1 BIDDER DEFINED

- A. A "*Bidder*" is an entity or person who submits a bid proposal for the work described in the contract documents.
- B. The Bidder must be registered with the Washington State Department of Labor and Industries in accordance with RCW 18.27.020. The contractor registration number, expiration date, Uniform Business Identifier (UBI) number, and federal tax identification number must be entered in the applicable spaces on the Bidder Compliance Form within the Bid Proposal Form.

2.1 EXAMINATION OF THE WORK SITE AND BIDDING DOCUMENTS

- A. Bidder acknowledges that it has taken steps necessary to ascertain the nature and location of the work, and that it has investigated and satisfied itself as to the general and local conditions which can affect the work or its cost, including but not limited to (1) conditions bearing upon transportation, disposal, handling, and storage of materials; (2) the availability of labor, water, electric power, and road; (3) uncertainties of weather, river stages, tides, or similar physical conditions at the site; (4) the conformation and conditions of the ground; and (5) the character of equipment and facilities needed preliminary to and during the work.

The bidder also acknowledges that it has satisfied itself as to character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including exploratory work done by the Agency, as well as from the drawings and specifications made a part of this contract. Any failure of the Bidder to take the actions described and acknowledged in this paragraph will not relieve the Bidder from responsibility for estimating properly the difficulty and cost of successfully performing the work.

- B. No statement by any officer, agent, or employee of the Agency pertaining to the physical conditions of the site of the work will be binding on the Agency other than those statements issued in the contract documents.
- C. Bidders shall promptly notify the Agency of ambiguities, inconsistencies, or errors, if any, which they may discover upon examination of the Bidding Documents or of the site and local conditions.
- D. Interpretations and Clarifications
 - 1) Prospective Bidders seeking clarification or interpretation of the solicitation, drawings, or specifications must submit a written request to the Project Representative listed in the Invitation to Bid or through the **State Parks Public Opportunities-MRSC Rosters Bonfire Procurement Portal** <https://mrscrosters.bonfirehub.com/portal> by submitting a vendor discussion. Requests must be received at least seven (7) working days prior to the bid opening date to be considered.
 - 2) Any Agency responses that do not modify the Scope of Work outlined in the contract documents may be posted on the State Parks Public Opportunities-MRSC Rosters Bonfire Procurement Portal prior to the bid submission deadline. Such clarifications will not be considered part of the contract documents and do not need to be acknowledged by Bidders in their Bid Proposal Form. The Agency retains sole discretion to determine whether a clarification or interpretation affects the Scope of Work and requires inclusion in the Contract Documents.

**WASHINGTON STATE PARK AND RECREATION COMMISSION
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- 3) Changes to the Scope of Work or schedule described in the contract documents will only be issued as written ADDENDA.
- 4) Oral interpretations or clarifications are not legally binding.

E. Substitutions

- 1) The product, equipment, materials, or methods described or noted within the Bidding Documents, whether currently available or not, are to establish a standard of quality, function, appearance and dimension. A proposed substitution shall have equal attributes in all respects.
- 2) No substitution will be considered unless a written request for approval is submitted by the Contractor, after Award, in accordance with the applicable provisions of Section 012500 of the specifications. If no Section 012500 is available, then see section 016000 Product Requirements, sub-section 1.5. Each such request shall describe the proposed substitution in its entirety including name of the material or equipment, drawings, catalog cuts, performance or test data and all other information required for an evaluation. The submittal shall also include a statement noting all changes required in adjoining, dependent or other interrelated work necessitated by the incorporation of the proposed substitute. The Bidder shall bear the burden of proof of merit of the proposed substitution. The Project Representative's decision of approval or disapproval of a proposed substitution shall be final.

3.1 BID PROPOSAL

- A. Bidders must be registered as vendors through the **MRSC Rosters Bonfire Procurement Portal** <https://mrscrosters.bonfirehub.com/portal>. All bid submissions must be made through the State Parks Public Opportunities section on the same portal. The individual who signs and submits the bid through the Bonfire Portal must be an authorized designee responsible for the bid submission.
- B. All bidders for Small Works Projects must be currently registered on the MRSC Small Works Roster (vendor list) found <http://mrscrosters.org/>.
- C. Bidders are required to submit bid prices electronically through the **State Parks Public Opportunities-MRSC Rosters Bonfire Procurement Portal**. Submissions must be completed using the Bid Proposal Form, provided as part of the electronic bid proposal documents. The Bid Proposal Form is a spreadsheet consisting of four tabs:
 1. Bidder Compliance Form
 2. Bid Form
 3. MWBE
 4. Subcontractor Utilization (if applicable)

All fields in the Bid Proposal Form tabs must be properly and completely filled out to ensure compliance. Failure to fill in all required fields may result in the bid being deemed non-responsive.

WASHINGTON STATE PARK AND RECREATION COMMISSION PUBLIC WORKS PROJECT

The Bidder Compliance Form must include the Bidder's full and complete address and information, typed in the spaces provided. The Bid Form must be electronically signed in the firm's name, and a typewritten name is acceptable as an electronic signature, provided it complies with electronic submission requirements.

Once the Bid Proposal Form is completed, it must be uploaded in its original form to the appropriate section of the State Parks Public Opportunities-MRSC Rosters Bonfire Procurement Portal <https://mrscrosters.bonfirehub.com/portal>. Bidders are reminded to thoroughly review their submission before uploading to ensure compliance with all instructions and requirements. Incomplete submissions will be deemed non-responsive.

- D. Except as otherwise provided in these instructions, bid proposals that are incomplete, or that are conditioned in any way, or that contain alterations, or items not called for in the contract documents, or that do not conform to the call for bids, may be rejected as non-responsive at the discretion of the Agency unless the law requires that the omission be deemed non-responsive, in which case the bid will be rejected as non-responsive. Only the amounts and information asked for on the Bid Proposal Form and the plans and specifications furnished will be considered as the bid. Bid amounts include all taxes imposed by law, **except** for Washington Sales Tax unless noted otherwise.
- E. Each Bidder must submit their bid exactly as specified and as provided in the Bid Proposal Form. Bidders are required to include bids for all alternates if alternates are indicated on the Bid Form. For alternates that have no charge, the Bidder must type "\$0.00" in the column for the unit price on the Bid Form.
- F. Bidders shall acknowledge receipt of any ADDENDA to the solicitation for bids on the Bid form. Failure to do so may result in the bid being declared non-responsive.
- G. Substitute bid forms will not be considered unless this solicitation authorizes their submission.
- H. The bid prices listed in the Bid Form must include all labor, materials, equipment, overhead, and compensation necessary to complete the work for each item, while the costs for the building permit and public utility hookup fees will either be reimbursed directly to the Contractor or paid by the Agency to the permitting agency and therefore should not be included in the bid amount.
- I. The low Bidder, for purposes of award, shall be the responsive and responsible Bidder offering the low aggregate amount for the base bid item, plus additive or deductive bid alternates selected by the Agency, and within funds available for the project. The Bidder agrees to hold all bid alternate prices for sixty (60) days from date of bid opening.

4.1 BID GUARANTEE: BID BOND

- A. A bid bond is not required when the total bid amount, including the base bid and all additive alternates, is \$35,000 or less. In such cases, instead of providing a bid bond, Bidders must complete and upload the **Bid Bond Requirement Statement** as part of their bid submission. This ensures compliance with the bidding requirements for projects below the \$35,000 threshold.
- B. When the sum of the base bid plus all additive alternates is greater than \$35,000.00, a bid guarantee in the amount of 5% of the base bid amount is required. Failure of the Bidder to provide bid guarantee when required shall render the bid non-responsive.

**WASHINGTON STATE PARK AND RECREATION COMMISSION
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- C. Acceptable forms of bid guarantee are: A bid bond. A scanned copy (e.g., PDF) of the bid bond must be uploaded to the State Parks Public Opportunities-MRSC Rosters Bonfire Procurement Portal (<https://mrscrosters.bonfirehub.com/portal>) along with your bid response to the Agency. See also, Section 6.1 SUBMISSION OF BID.
- D. The Bidder will allow 60 days from bid opening date for acceptance of its bid by the Agency.
- E. Should the successful Bidder fail to enter into a contract and furnish a satisfactory performance bond within 15 days after receiving properly prepared contract forms from the Agency, the bid bond may be forfeited as liquidated damages for advertisements and administration of bid procedures. Additionally, the Agency reserves the right to terminate the contract award.
- F. Bid bonds must be held for the three low bids for 30 days or until a contract is executed with the successful Bidder. All other bid bonds will be released or returned to the Bidders within 15 days of the bid opening.

5.1 REQUIREMENTS FOR PROJECTS ESTIMATED AT \$1,000,000 OR MORE

A. SUBCONTRACTOR LISTING

Pursuant to [RCW 39.30.060](#), if the base bid combined with the sum of the alternates exceeds one million dollars (\$1,000,000.00) or more for the construction, alteration, or repair of any public building or public work of the state shall require each Bidder to submit as part of the bid the names of subcontractors with whom the Bidder, if awarded the contract, will subcontract for performance of the work of heating, ventilation and air conditioning, plumbing, and electrical, structural steel installation, rebar installation or to name itself for the work. The Bidder shall not list more than one subcontractor for each category of work identified, unless subcontractors vary with bid alternates, in which case the Bidder must indicate which subcontractor will be used for which alternate.

Subcontractor listing is not required for Small Works Projects under \$350,000.

Failure of the Bidder to submit as part of the bid, the names of such subcontractors, or to name itself to perform such work, or the naming of two or more subcontractors to perform the same work, or failure to sign the form shall render the bid as non-responsive and therefore void.

B. APPRENTICESHIP PARTICIPATION

In projects estimated to cost one million dollars (\$1,000,000.00) or more, be aware that the following requirements will be part of the resulting contract.

Apprenticeship requirements do not apply to Small Works Projects estimated below \$350,000.

In accordance with [RCW 39.04.320](#) (Apprenticeship Training Programs), for all public works estimated by the Agency Project Engineer to cost **one million dollars or more**, the state of Washington requires no less than **15% of the labor hours be performed by apprentices**. A contractor or subcontractor may not be required to exceed the 15% requirement. The bid advertisement and Bid Proposal Form shall establish a minimum required percentage of apprentice labor hours compared to the total labor hours. The project's apprenticeship utilization rate is calculated using the approved affidavits from the L&I portal.

**WASHINGTON STATE PARK AND RECREATION COMMISSION
PUBLIC WORKS PROJECT**

1. **Incentives** - The Contractor who meets or exceeds this utilization requirement on eligible contracts, will be awarded a monetary incentive described in the Apprentice Utilization Requirements section of the Bid Proposal Form.
2. **Penalties** - The Contractor who fails to meet the utilization requirement and fails to demonstrate a Good Faith Effort, as outlined below, is subject to penalties described in the Apprentice Utilization Requirements section of the contract Bid Proposal Form. Contractor will receive an invoice payable to the Agency within 30 days. The contractor will have 30 days to pay the penalty invoice at the time of receipt before the penalty is considered outstanding. Contractors with outstanding apprenticeship penalties may be considered non-responsive.
3. **Cost Value** - The expected cost value associated with meeting the goal is included in the Base Bid as described on the Bid Proposal Form.
4. **Utilization Plan** - The Contractor shall provide an Apprentice Utilization Plan (Plan) demonstrating how and when they intend to achieve the Apprenticeship Utilization Requirement. The Plan shall have enough information to track the Contractor's progress in meeting the utilization requirement. The Contractor shall submit the Plan on the Apprentice Utilization Plan template within 10 business days of Notice to Proceed of the contract and prior to submitting the first invoice. The Contractor shall provide an updated Plan during the course of construction when there are significant changes to the Plan which may affect their ability to meet the requirement.
 - a) The Plan shall be uploaded to the Department of Labor & Industries' (L&I): ***Prevailing Wage Intents and Affidavit (PWIA) system on L&I's website.***
 - b) The Plan is not submitted for approval.
 - c) It is expected that the Contractor will actively seek out opportunities to meet the Apprentice Utilization Requirement during construction even if the Plan indicates a shortfall in meeting the requirement.
 - d) If the Plan indicates that the Contractor will not attain the Apprentice Utilization Requirement, then Contractor must submit "Good Faith Effort" (GFE) documentation with their Plan to L&I's PWIA system.

C. APPRENTICESHIP - GOOD FAITH EFFORT (GFE)

1. **Good Faith Effort (GFE)** documentation shall describe in detail why the Contractor is not or was not able to attain the Apprentice Utilization Requirement.
 - a) Contractors may submit Good Faith Effort (GFE) documentation at any time during the construction.
 - b) All GFE documentation must be submitted no later than 30 days before substantial completion.
 - c) Only the awarding Agency can approve GFEs. The Department of Labor & Industries (L&I) may provide assistance but does not have approval authority
 - d) The Awarding Agency must document its GFE decision in writing, including any monetary penalty if denied.

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- e) Good Faith Effort (GFE) documentation must be in signed letter format uploaded to the PWIA system and include:
1. The contract number, title and the apprentice utilization requirements,
 2. The amount of apprentice labor hours the contract can or did attain along with the percentage of labor hours,
 3. Contractors may receive a GFE credit for graduated Apprentice hours through the end of the calendar year for all projects worked on as long as the Apprentice remains continuously employed with the same Contractor they were working for when they graduated. If an Apprentice graduates during employment on a project of significant duration, they may be counted towards a GFE credit for up to one year after their graduation or until the end of the project (whichever comes first). Determination of whether or not Contract requirements were met in good faith will be made by subtracting the hours from the journeyman total reported hours for the project and adding them to the apprentice hour total. If the new utilization percentage meets the Contract requirement, the Contractor will be reported as meeting the requirement in good faith,
 4. Anticipated or actual shortfall (in apprentice labor hours and percentage) and the reason(s) for not attaining the required apprentice labor hours,
 5. Information from one or more of the following areas:
 - (a) Names of any State-Approved Apprentice Training Programs contacted with the name(s) of person(s) contacted and dates of contacts, and a copy of each response from the Training Program(s),
 - (b) Reference Contract Specifications or documents that affected the Contractor's ability to attain apprentice utilization,
 - (c) Discuss efforts the Contractor has taken to require Subcontractors to solicit and employ apprentices,
 6. Backup documentation to the letter consisting of the following:
 - (a) Letters, emails, phone logs including names dates and outcomes, posters, photos, payrolls, timecards, schedules, copies or references to other contract specifications or documents.

Additional Resource Information

- (a) For questions regarding how to complete the Apprentice Utilization Plan template or Good Faith Effort documentation, please contact the Project Manager listed in the Bid Advertisement.
- (b) Step-by-step instructions on how to access and navigate the L&I's PWIA system, including uploading required documents can be found on the L&I website.
- (c) Additional information about apprentice utilization on Public Works Project can be found on the L&I website.

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6.1 SUBMISSION OF BID

- A. Bids must be submitted on or before the time as specified in the Invitation to Bid.
- B. Bid responses will only be accepted electronically through the State Parks Public Opportunities section using the MRSC Rosters Bonfire Procurement Portal as specified in the Invitation to Bid. <https://mrscrosters.bonfirehub.com/portal>.
- C. People with disabilities who wish to request special accommodation, (e.g., sign language interpreters, braille, etc.) need to contact the Agency ten (10) working days prior to the scheduled bid opening.
- D. In the event the MRSC Rosters Bonfire Procurement Portal is unavailable to all users at the bid submittal deadline, the Agency will contact the Bidders within 24 hours and the Agency will extend the bid submittal time.
- E. Neither Agency nor MRSC Rosters Bonfire Procurement Portal can guarantee the availability of Internet connectivity or related telecommunication and hosting services and will not be liable or responsible if the Bidder and its representative(s) or designee(s) cannot connect to the MRSC Rosters Bonfire Procurement Portal.
- F. The Bidder must comply with the MRSC Rosters Bonfire Portal's Terms of Service (<https://gobonfire.com/termservice/>) when submitting the Bid through the MRSC Rosters Bonfire Procurement Portal.

6.2 BID CLOCK:

- A. After the 1 P.M. bid deadline, which serves as the official bid clock to determine timely submission, Agency staff will review the bids. The MRSC Rosters Bonfire Procurement Portal does not permit submissions after the deadline, so bidders must ensure their bids are submitted on time. Late submissions will not be accepted under any circumstances.
- B. CAUTION: To avoid issues, submit your bid response electronically well in advance of the deadline to account for potential technological delays, slow-downs, or malfunctions. Bids received after the deadline, regardless of the reason or responsibility, will be rejected.

6.3 MODIFICATION OF BID

- A. Bidders may update their bid electronically via the MRSC Rosters Bonfire Procurement Portal before the bid due date.

Modifying: Modifying refers to altering information already contained in a submitted bid. If your submission has been finalized but needs modifications, you may update it electronically before the bid due date by navigating to the Submissions page and un-submitting your submission.

NOTE: Un-submitting removes your original bid, so ensure you resubmit before the deadline. Only upload updated files; unchanged files remain in place. A new confirmation email will be sent upon resubmission.

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6.4 WITHDRAWAL OF BID

- A. Withdrawal refers to a bid that has already been submitted to the Agency. A bid response may be withdrawn electronically by the Bidder's authorized representative before the Bid Opening (due date deadline) for the bid. The FAILURE TO WITHDRAW a bid prior to the bid due date deadline exposes the Bidder to the possibility that the Agency will make a demand against the Bidders bid bond.
- B. Procedure for Withdrawing a Bid After Bid Opening Due to Error: If a Bidder discovers an error in its bid following the bid opening, the Bidder must submit written notification of the withdrawal to contracts@parks.wa.gov within 24 hours following the bid opening. Follow the example subject line. Example email subject line: SW-C9999 Withdraw Bid ACME Construction Inc.
- The Bidder must provide written documentation of the claimed error to the satisfaction of the Agency within 72 hours following the bid opening.
 - The Agency will approve or disapprove the request for withdrawal of the bid in writing. If the Bidder's request for withdrawal of its bid is approved, the Bidder will be released from further obligation to the Agency without penalty. If it is disapproved, the Agency may retain the Bidder's bid bond.

6.5 REJECTION OF BID

- A. The Agency reserves the right to reject any or all bids and to waive informalities in connection with the bids.

7.1 BID EVALUATION AND AWARD OF CONTRACT

- A. Award of contract will be made by the Agency based upon any combination of the base bid and alternates that, in the Agency's sole discretion, is in the Agency's best interest considering price, schedule, and other factors. The numbering of the alternates in the bid proposal bears no relationship to the order in which the alternates may be selected by the Agency. Additionally, the Agency reserves the right to negotiate base bid prices (including changes to the contract plans and specifications) with the low responsive, responsible Bidder to bring the final contract amount within the funds available per RCW 39.04.015.
- B. BID TABULATION, BID RECORD AND ANNOUNCEMENT OF APPARENT LOW BID:

The Agency does not guarantee when the Bid results will be released to the public. The bid results are usually released within three business days of the bid opening and often the same day. Bid results can be obtained from MRSC Rosters Bonfire Procurement Portal (<https://mrscrosters.bonfirehub.com/portal>) and viewing public notices. Bid Results may also be obtained by accessing the Washington State Parks webpage at www.parks.wa.gov/contracts (see "Construction Projects- Public works bid results"). The Bid results may also be released through the Plan Centers. But, Bidders are cautioned that the State Parks Public Opportunities-MRSC Rosters Bonfire Procurement Portal is the official release point for the Bid Tabulation or Bid Record for this solicitation.

The bid tabulation will identify all bids received by the Agency. Bids that were not rejected and not withdrawn prior to the bid opening will be ranked by base bid price. The first three lowest base bids will reflect detailed pricing information. The remaining Bidders will reflect only the base bid pricing. Bids that were rejected for any reason will reflect **Non-Responsive** in the bid tabulation but may include its total pricing.

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The bid record will list all bids received, ordered alphabetically. Rejected bids will not show detailed pricing. The bid record is used for projects with Alternates. The Agency may consider Alternate Bid Items in any combination. The low Bidder for award purposes is the responsive Bidder offering the lowest aggregate amount for the base bid plus selected alternates, within available project funds.

Release of the Bid Tabulation or Announcement of the Apparent Low bid information that a Firm was identified as the apparent low base bid simply means that at this point in time the Agency believes the subject bid was the lowest cost responsive bid, but designation as the apparent low responsive bid is not a guarantee of a contract with the Agency. The Agency reserves the right to reevaluate the bid and determine whether the bid was responsive and responsible and successful as first thought. The Bidder identified as the apparent low responsive bid is cautioned not to commit funds, resources, and effort prior to receiving an actual executed contract. The Bidder identified as the apparent low responsive bid that commits funds, resources, and effort prior to a contract do so at its own risk and peril.

Within two (2) business days following the day of the release of the Bid Tabulation/Bid Record or the Announcement of the Apparent Low bid, the Bidder may file a Protest (Protest procedures are outlined in Section 9.1).

- C. **REJECTION LETTER & PROTEST:** No matter the phase of the evaluation, if the Agency determines that the bid is not responsive or the Bidder is not responsible, the Agency will reject the bid/bidder, and send the bidder a Rejection Letter explaining why the bid/bidder was rejected. Within two (2) business days following the day of the release of the Rejection Letter, the Bidder may file a Protest, provided it meets one of the three (3) protest grounds (Protest procedures are outlined in Section 9.1 E.). The Rejection Letter will be sent by email/email attachment to the email address provided by the Bidder in the Bidder's bid response.
- D. **RECORDS REQUEST:** All submitted bids are subject to public records request once the lowest bidder has been determined and officially announced.

After the announcement of the lowest bidder, any member of the public may request access to the bid documents. No official format is required for making a records request; however, the Agency recommends that requests be made through the Public Records Request Center on our website: <https://parks.wa.gov/about/contact-us/public-records-requests>.

- E. The intent of the Agency is to award a contract to the low responsive, responsible bidder.

8.1 RESPONSIVE AND RESPONSIBLE BIDDER

- A. The Agency will evaluate bids responsiveness and responsibility in the MRSC Rosters Bonfire Procurement Portal <https://mrscrosters.bonfirehub.com/portal>.
- B. **RESPONSIVE** - A bid will be considered responsive if its electronic response meets the following requirements:
 - 1. It is received at the proper submittal time, date and location online through the State Parks Public Opportunities-MRSC Rosters Bonfire Procurement Portal.
 - 2. It meets the required requested information of the Bid Proposal Form through the State Parks Public Opportunities-MRSC Rosters Bonfire Procurement Portal.
 - 3. It meets the requirements as stated in section 3.1. of the Instructions To Bidders.

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4. It is submitted by a licensed/registered contractor within the state of Washington at the time of bid opening and is not banned from bidding by the Department of Labor and Industries.
5. It is accompanied by a bid guarantee, if required.

If inconsistencies or errors are noted in the bid proposal prices, the **unit and lump sum prices have precedence over their total amounts**; and the **total amounts have precedence over the total base bid**.

The apparent low Bidder, for purpose of award, is the responsive and responsible Bidder offering the low aggregate amount for the base bid plus selected additive or deductive bid alternates and meeting all other bid submittal requirements.

C. RESPONSIBLE – Before award of a public works contract, a Bidder must meet the following **mandatory responsibility criteria** under [RCW 39.04.350](#) (1) & (2) to be considered a responsible Bidder and qualified to be awarded a public works project. The individual who has signed/submitted the Bid through the State Parks Public Opportunities-MRSC Rosters Bonfire Procurement Portal shall be the authorized designee responsible for bid submissions. The Bidder must:

1. At the time of bid submittal, have a certificate of registration in compliance with [RCW 18.27](#), a plumbing contractor license in compliance with [RCW 18.106](#), an elevator contractor license in compliance with [RCW 70.87](#), or an electrical contractor license in compliance with [RCW 19.28](#) as required under the provisions of those chapters;
2. Have a current state Unified Business Identifier (UBI) number;
3. If applicable, have industrial insurance coverage for the Bidder's employees working in Washington as required in [RCW 51](#); an employment security department number as required in [RCW 50](#); and a state excise tax registration number as required in [RCW 82](#);
4. Not be disqualified from bidding on any public works contract under [RCW 39.06.010](#) or [39.12.065\(3\)](#);
5. If bidding on a public works project subject to the apprenticeship utilization requirements in RCW 39.04.320, 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 date of the bid solicitation; and
6. Public Works and Prevailing Wage Training/Exemption. Bidders shall have received training on the requirements related to public works and prevailing wage under this chapter and chapter [39.12 RCW](#). The bidder must designate a person or persons to be trained on these requirements. The training must be provided by the department of labor and industries or by a training provider whose curriculum is approved by the department. The department, in consultation with the prevailing wage advisory committee, must determine the length of the training. Bidders that have completed three or more public works projects and have had a valid business license in Washington for three or more years are exempt from this subsection. The department of labor and industries must keep records of entities that have satisfied the training requirement or are exempt and make the records available on its website. Responsible parties may rely on the records made available by the department regarding satisfaction of the training requirement or exemption.

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<https://lni.wa.gov/licensing-permits/public-works-projects/contractors-employers/contractor-training>

7. Within the three-year period immediately preceding the bid solicitation, not have been determined by a final a binding citation and notice of assessment issued by the department of labor and industries or through a civil judgment entered by a court of limited or general jurisdiction to have willfully violated, as defined in RCW 49.48.082, any provision of Chapters 49.46, 49.48, or 49.52 RCW. By signing the Bid Proposal Form, the bidder verifies under penalty of perjury, pursuant to RCW 9A.72.085. that the bidder is in compliance with this subsection
8. **Supplemental Responsibility Criteria:** In addition to the mandatory Bidder responsibility, the Agency may adopt relevant supplemental criteria for determining Bidder responsibility applicable to a particular project which the Bidder must meet (RCW 39.04.350 (3)).
 - a. If applicable, the Agency shall consider an overall accounting of the attached supplemental criteria for determining Bidder responsibility “DIVISION 00 SUPPLEMENTAL RESPONSIBILITY CRITERIA”.
 - b. At least seven (7) days prior to the bid submittal deadline, a potential Bidder may request that the Agency modify the supplemental responsibility criteria. The Agency will evaluate the information submitted by the potential Bidder and respond before the bid submittal deadline. If the evaluation results in a change of the criteria, the Agency will issue an ADDENDA to the bidding documents identifying the new criteria. The Addendum will be posted as a public notice in the State Parks Public Opportunities-MRSC Rosters Bonfire Procurement Portal.
 - c. Upon the Agency’s request, the apparent low Bidder must supply the requested responsibility information within two (2) business days of request by the Agency. Withholding information or failure to submit all the information requested within the time provided may render the bid non-responsive and the bid/Bidder may be rejected by Rejection Letter. The rejection is specific to this project and will have no effect on other or future projects.
 - d. The Agency will not execute a contract with any other Bidder until two (2) business days after the Bidder determined to be not responsible has received the rejection letter.

9.1 PROTEST PROCEDURES

A. GENERAL:

This protest process is a courtesy provided by the Agency and it is not governed by Washington’s Administrative Procedures Act (APA), RCW 34.05, nor does it confer any additional rights above and beyond what the Bidder already enjoys as a taxpayer. The purpose of this process is to allow the Agency to correct evaluation process errors and problems before a contract is executed.

Only a Bidder may file a protest regarding this solicitation.

The Bidder must strictly adhere to the protest process as set forth herein, the failure of which may result in a summary determination that the protest is without merit without an opportunity to cure.

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B. FORM AND CONTENT:

All protests must:

- Be in writing.
- The protest must state and clearly articulate the grounds for the protest with specific facts and complete statements of the action(s) being protested.
- A description of the relief or corrective action being requested should also be included.
- All protests shall be addressed to the Procurement Coordinator.

C. CONTENT LIMITATIONS:

The Agency does not currently mandate any page limitation. However, the protest must be clearly articulated, succinct, organized, logical, and professional.

The Agency will reject protests that:

- fail to state and clearly articulate at least one of the three GROUNDS;
- contain rants, attacks, and/or disparaging or abusive remarks;
- include multiple attachments or references (document dumping, document overload); or,
- appear to require the reader piece together voluminous amounts of material to decipher the argument being made.

D. SUBMISSION OF PROTEST:

- All protests must be submitted within two (2) business days following the day of the release of the Bid Tabulation/Announcement of the Apparent Low bid or after the formal Rejection Letter is sent. For purposes of timing the day of the release of the Bid Tabulation or the day of the Rejection Letter is sent to the Bidder shall not count.
- Bidders must send all protests to: contracts@parks.wa.gov. See also Subject Line.
- SUBJECT LINE: Must include the bid's identification number, and "PROTEST" in the subject line. Failure by the Bidder to include this information in the subject line may result in Bidder's protest not being timely recognized.

E. GROUNDS WHICH MAY BE PROTESTED:

- Conflict of Interest on the part of Agency staff.
- Errors in computing the score.
- Non-compliance with procedures described in the procurement document.

Protests will be rejected as without merit if they do not clearly and convincingly meet one of the GROUNDS above and/or seems to address issues such as:

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- An evaluator's professional judgment on the quality of a response, or
- The Agency's assessment of its own and/or other agencies' needs or requirements, or,
- Issues, concerns, objections, or requests for changes that were or could have been addressed prior to the bids due date deadline.

Protests that do not clearly and convincingly meet the requirements and standards described herein are without merit and may be rejected.

F. MANAGER ASSIGNMENT AND REVIEW:

Upon receipt of a protest that meets the requirements described herein, a protest review will be held by the Agency. The Agency will assign a Manager. The Manager is responsible for reviewing and investigating the Bidder's written protest and may meet with agency staff or the agency program that was involved in the solicitation. The Manager may consider the record and all reasonably available facts and will issue a protest determination in writing within fifteen (15) business days from receipt of the protest. If additional time is needed, the Manager will notify the protesting party of the need for additional time within 15 business days from receipt of the protest.

In the event a protest may affect the interest of another Bidder that submitted a response, the Agency may reach out to that Bidder, may provide an unedited copy of the protest to that Bidder, and may invite that Bidder to submit its views and any relevant information on the protest to the Manager.

G. PROTEST DETERMINATION AND FINDINGS AND DISSEMINATION:

The Manager's protest determination may:

- Find the protest lacking in merit and reject the protest;
- Find only technical or harmless errors in the Agency's acquisition process and determine the Agency to be in substantial compliance and reject the protest; OR
- Find merit in the protest and provide THE AGENCY options which may include:
 - Correcting the errors and re-evaluating all responses;
 - Canceling the solicitation and possibly for a new solicitation to take place; OR
 - Making other findings and determining other courses of action as appropriate.

If the Agency rejects the protest, the Agency will enter into a contract with the Apparent Successful Bidder no sooner than two (2) business days after issuance of the protest determination by email to the protesting party at the email address indicated on the party's bid documents. For the purposes of timing, the date the protest determination is sent to the protesting party shall not count.

Dissemination: The Agency will disseminate the decision to all interested Bidders via email/email attachment to the email address provided by the Bidder in the Bidder's bid response.

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H. AGENCY DECISION IS FINAL:

The Manager's protest determination constitutes the agency's final decision regarding the protest. If the protesting party disagrees with the protest determination, the Bidder may seek judicial relief in the Washington Superior Court for Thurston County within two (2) business days of the issuance of the protest determination.

I. STRICT COMPLIANCE

Strict compliance with these protest procedures is essential in furtherance of the public interest. Any aggrieved party that fails to comply strictly with these protest procedures is deemed, by such failure, to have waived and relinquished forever any right or claim with respect to alleged irregularities in connection with the solicitation or award of the Contract. No person or party may pursue any judicial or administrative proceedings challenging the solicitation or award of this Contract, without first exhausting the administrative procedures specified herein.

J. REPRESENTATION

An aggrieved party may participate personally or, if a corporation or other artificial person, by a duly authorized representative. Whether or not participating in person, an aggrieved party may be represented, at the party's own expense, by counsel.

K. COMPUTATION OF TIME

In computing any period of time prescribed by this procedure, the day of the act or event from which the designated period of time begins to run is not included. The last day of the period is included. The term "business day" does not include Sunday, Saturday, or Washington State recognized holiday.

L. ACKNOWLEDGEMENT

By submitting a bid in response to this solicitation, the Bidder acknowledges that it has reviewed and acquainted itself with the bid protest procedures herein and agrees to be bound by such procedures as a condition of submitting a bid.

10.1 EXECUTION OF CONTRACT

- A. The successful bidder will be required to execute the contract and furnish performance bond and insurance certificate satisfactory to the Agency within 15 days after receiving properly prepared contract documents from the Agency.

11.1 RECIPROCAL PREFERENCE FOR RESIDENT CONTRACTORS

- A. In accordance with RCW 39.04.380 the State of Washington is enforcing a Reciprocal Preference for Resident Contractors. Any public works bid received from a nonresident contractor from a state that provides an in-state percentage bidding preference, a comparable percentage disadvantage must be applied to the bid of that nonresident contractor.

A nonresident contractor from a state that provides a percentage bid preference means a contractor that:

- a) is from a state that provides a percentage bid preference to its resident contractors bidding on public works contracts.

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- b) at the time of bidding on a public works project, does not have a physical office located in Washington.

The state of residence for a nonresident contractor is the state in which the contractor was incorporated or, if not a corporation, the state where the contractor's business entity was formed, and for an individual, the individual's state of residence.

All nonresident contractors will be evaluated for out of state bidder preference. If the state of the nonresident contractor provides an in-state contractor preference, a comparable percentage disadvantage will be applied to their bid prior to contract award.

This section does not apply to public works procured pursuant to RCW 39.04.155, 39.04.280, or any other procurement exempt from competitive bidding.

- B. A Comparable Percentage Disadvantage (CPD) will be applied to the bid of that nonresident contractor. The CPD is the in-state contractor percent advantage provided by the contractor's home state. For the purpose of determining the successful bidder, multiply the Nonresident Contractor bid amount by the CPD. The "bid amount" is be the total of the base bid and all accepted alternate bid items. The CPD is added to the Nonresident Contractor bid amount which equates to the Nonresident Disadvantage Total. The Nonresident Disadvantage Total is compared to the Washington contractor bid amounts. The bidder with the lowest total is the successful bidder. See example below.

Alaska Nonresident Contractor Bid Amount	\$100,000
Multiplied by the Alaska CPD	x 0.05
<hr/>	
Alaska CPD Total	\$ 5,000
Alaska Nonresident Contractor Bid Amount	\$100,000
Alaska CPD Total	\$ 5,000
<hr/>	
Nonresident Disadvantage Total	\$105,000*

* Note – If the Nonresident Disadvantage Total is lower than all other Washington contractor bid amounts, the Alaska Nonresident Contractor is the successful bidder and will be awarded a contract for the bid amount of \$100,000.

If the Nonresident Disadvantage Total is higher than a Washington contractor bid amount, the successful Washington bidder will be awarded a contract for the bid amount.

12.1 MINORITY AND WOMEN'S BUSINESS ENTERPRISE (MWBE) UTILIZATION

In accordance with the legislative findings and policies set forth in Chapter 39.19 RCW, the State of Washington encourages participation in contracts by MWBE firms certified by the Office of Minority and Women's Business Enterprises (OMWBE). Participation may be either on a direct basis in response to this solicitation/invitation or as a subcontractor to a Bidder. However, unless required by federal statutes, regulations, grants, or contract terms referenced in the contract documents, no preference will be included in the evaluation of bids, no minimum level of MWBE participation is required as a condition for receiving an award, and bids will not be rejected or considered non-responsive on that basis. Any affirmative action requirements set forth in federal regulations or statutes included or referenced in the contract documents will apply.

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A. VOLUNTARY MWBE GOALS

1. The following voluntary numerical MWBE participation goals have been established for this solicitation:

MBE 10% WBE 6%

2. These goals are voluntary, but achievement of the goals is encouraged. Bidders may contact OMWBE at <http://omwbe.wa.gov/> to obtain information on certified firms.

B. REPORTING REQUIREMENTS

1. If any part of the contract, (including the supply of materials and equipment) is subcontracted using certified MWBE firms during completion of the work, then prior to final acceptance or completion of the contract or as otherwise indicated in the contract documents the Bidder shall submit a statement of participation indicating that MWBEs were used and the dollar value of their subcontracts.
2. The provisions of this section are not intended to replace or otherwise change the requirements of RCW 39.30.060. If said statute is applicable to this contract then the failure to comply with RCW 39.30.060 will still render a bid non-responsive.

C. RECORD KEEPING

1. The Bidder shall maintain, for at least three years after completion of this contract, relevant records and information necessary to document the level of utilization of MWBEs and other businesses as subcontractors and suppliers in this contract as well as any efforts the Bidder makes to increase the participation of MWBEs. The Bidder shall also maintain, for at least three years after completion of this contract, a record of all quotes, bids, estimates, or proposals submitted to the Bidder by all businesses seeking to participate as subcontractors or suppliers in this contract. The State shall have the right to inspect and copy such records. If this contract involves federal funds, Bidder shall comply with all record keeping requirements set forth in any federal rules, regulations, or statutes included or referenced in the contract documents

D. SUGGESTED EFFORTS TO INCREASE PARTICIPATION BY MWBEs

1. Bidders are encouraged to advertise opportunities for subcontractors or suppliers in a manner reasonably designed to provide MWBEs capable of performing the work with timely notice of such opportunities, and all advertisements shall include a provision encouraging participation by MWBE firms. Advertising may be done through general advertisement (e.g., newspapers, journals, etc.) or by soliciting bids directly from MWBEs.
2. Additional Voluntary Efforts. Bidders are encouraged to:
 - (a) Break down total requirements into smaller tasks or quantities, where economically feasible, in order to permit maximum participation by MWBEs and other small businesses.
 - (b) Provide interested MWBEs with adequate and timely information about plans, specifications, and requirements of the Contract.

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- (c) Establish delivery schedules, where the requirements of this contract permit, that encourage participation by MWBEs and other small businesses.
 - (d) Reduce bonding requirements where practicable.
 - (e) Utilize the services of available minority community organizations, minority contractor groups, local minority assistance offices, and organizations that provide assistance in the recruitment and placement of MWBEs and other small businesses.
3. The actions described in this section should supplement efforts to provide information to all qualified firms, and nothing in this section is intended to prevent or discourage the Bidders from inviting proposals for participation from non-MWBE firms as well as MWBE firms.

E. NON-DISCRIMINATION

1. Bidders shall not create barriers to open and fair opportunities for all businesses including MWBEs to participate in all State contracts and to obtain or compete for contracts and subcontracts as sources of supplies, equipment, construction and services. In considering offers from and doing business with subcontractors and suppliers, the Bidder shall not discriminate on the basis of race, color, creed, religion, sex, age, nationality, marital status, or the presence of any mental or physical disability in an otherwise qualified disabled person.

F. SANCTIONS

1. Any violation of the mandatory requirements of this part of the contract shall be a material breach of contract for which the Bidder may be subject to a requirement of specific performance, or damages and sanctions provided by contract, by RCW 39.19.090, or by other applicable laws.

12.2 VETERAN-OWNED BUSINESS AND SMALL, MINI, AND MICRO BUSINESS UTILIZATION

The State of Washington encourages participation in all of its contracts by Veteran-owned businesses (defined in RCW 43.60A.010) and located at:

<http://www.dva.wa.gov/program/certified-veteran-and-servicemember-owned-businesses> and Small, Mini and Micro businesses (defined in RCW 39.26.010) which have registered in WEBS at <https://pr-webs-vendor.des.wa.gov/>.

1. The following voluntary numerical WDVA and Small Business participation goals have been established for this solicitation:

WDVA 5% Small Business 5%

2. These goals are voluntary, but achievement of the goals is encouraged. Bidders may search Washington Small Businesses registered in WEBS at:

<https://pr-webs-vendor.des.wa.gov/> and WA Veteran-owned Businesses at <https://www.dva.wa.gov/veterans-their-families/veteran-ownedbusinesses/vob-search> to obtain information on registered firms.

**WASHINGTON STATE PARK AND RECREATION COMMISSION
PUBLIC WORKS PROJECT**

12.3 SUBCONTRACTOR PARTICIPATION MONITORING AND REPORTING

- A. Once a contract is awarded through the solicitation or proposal process, the awarded Prime Contractor is obligated to complete the vendor registration in Access Equity. Access Equity is a secure online vendor management system (B2GNow). Confidential information (Tax ID, etc.) will not be published. Prime Contractors that have previously registered with B2Gnow for any public entity, must verify the system has updated information. Contractors can access the system at:

<https://omwbe.diversitycompliance.com/> or through a direct link on the Office of Minority and Women’s Business Enterprises (OMWBE) website at: <https://omwbe.wa.gov/>.

- B. Each month during the contract, the Prime Contractor will report payments to ALL Subcontractors through the Access Equity system. This monthly reporting information includes total payment in dollars made to the Subcontractor, payment dates, and any additional information required to verify payment to Subcontractors. The Prime Contractor will enter this payment information into the Access Equity system, and the Subcontractors will verify this payment information in the system. Online training is available through the Access Equity/B2Gnow system. This requirement applies to both Prime Contractors and Subcontractors.

END OF INSTRUCTIONS TO BIDDERS

/ / / / /



Bidder Compliance Form |

Contractor Information

Person Signing Bid	_____	Firm Name	_____
Title Person Signing	_____	Physical Address	_____
Contractor Registration #	_____	City, State, ZIP	_____
Taxpayer Identification #	_____	Phone #	_____
Washington UBI #	_____	Cellular Phone #	_____
WA ESD #	_____	Email Address	_____

The Bidder Compliance Form verifies compliance with State of Washington Public Works Bid Laws and associated Project Documents. It highlights key project components and ensures acknowledgment. Failure to acknowledge this form within the Bid Form, as directed, will render the bid non-responsive. Acknowledging the form does not alter the bidder's obligation to comply with all contract documents if awarded the project.

Bidder's Declaration

The Bidder declares that they have carefully examined the site of the proposed work, the Drawings, Specifications and all of the conditions affecting the work. Therefore, the Bidder proposes to provide all labor, equipment, materials, and permits and to perform all work as required by, and in strict accordance with the Contract Documents as shown on the bid proposal form.

Bid Acceptance and Agency Discretion

The Agency reserves the right to accept or reject all bids and to waive informalities. The Bidder will allow 60 days from bid opening date for acceptance of its bid by the Agency.

Registration and Required Licenses

The Bidder is a registered contractor in compliance with Chapter 18.27 RCW. If applicable, as the prime contractor, the Bidder self-performing plumbing work holds the required licensure under Chapter 18.106 RCW. Similarly, if self-performing elevator work, the Bidder holds the necessary license in accordance with Chapter 70.87 RCW. Additionally, if the Bidder is self-performing electrical work, they are properly licensed under Chapter 19.28 RCW.

Time for Completion

Bidder agrees to complete project (including accepted alternates) in accordance with drawings and specifications within **120** calendar days from the date provided on the Notice to Proceed letter.

Liquidated Damages

It is agreed that liquidated damages, in the amount of **\$250.00**, shall be levied for each and every calendar day by which the completion of the work is delayed beyond the time fixed for completion or extension of the contract.

**Fort Flagler State Park
Welcome Center Replacement
SW-C1829**

<https://mrscrosters.bonfirehub.com/portal>

**The Bidder will submit the Bid to State Parks Public Opportunities
MRSC Bonfire Procurement Portal**



Bid Form

Unit prices and estimated quantities shall be used to determine the Base Bid

These prices shall also be used to adjust the Contract in the event there is an increase or decrease in the estimated quantities. All costs shall be “in place” costs and complete, **excluding State Sales Tax**. In the event of an irregularity, the unit price prevails. The Agency reserves the right to make mathematical corrections of multiplication or addition errors on the bid form.

Trench Excavation Safety Provisions

If the contract contains any work which requires trenching exceeding a depth of four (4) feet, all costs for adequate trench safety systems shall be identified as a separate bid item in compliance with Chapter 39.04 RCW. The purpose of this provision is to ensure that the bidder agrees to comply with all relevant trench safety requirements of Chapter 49.17 RCW. This bid amount shall be considered part of the total base bid. **Include a lump sum dollar amount (even if the value is \$0.00) to be considered responsive to the bid solicitation.**

Wage Certification

The bidder certifies under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct: within the three-year period immediately preceding the bid solicitation date, the bidder has not been a “willful” violator, as defined in RCW 49.48.082, of any provision of chapters 49.46, 49.48, or 49.52 RCW, as determined by a final and binding citation and notice of assessment issued by the Department of Labor and Industries or through a civil judgment entered by a court of limited or general jurisdiction.

Base Bid Items (Be sure to include unit prices)

Item No.	Description	Est Qty	Unit Type	Unit Price	Total Amount
1	Trench Excavation Safety Provisions	1	LS.		\$0.00
2	Mobilization / Demobilization	1	LS.		\$0.00
3	Clearing and Grubbing	1	LS.		\$0.00
4	Temp. Silt & Construction Fencing	1	LS.		\$0.00
5	Initial Site Grading	1	LS.		\$0.00
6	Retaining walls	1	LS.		\$0.00
7	Utilities	1	LS.		\$0.00
8	Base Course (CSBC)	400	Per TN		\$0.00
9	Top course (CSTC)	160	Per TN		\$0.00
10	Hot mix Asphalt	170	Per TN		\$0.00
11	Welcome Center	1	LS.		\$0.00
12	Finishing Details	1	LS.		\$0.00

Item No.	Description	Est Qty	Unit Type	Unit Price	Total Amount
13	Landscaping	1	LS.		\$0.00
Total Base Bid					\$0.00

Receipt of Addenda

List all addenda received, separated by commas (e.g., "1, 2, 3, 4"). Do not list only the final number (e.g., "4"). If no addenda, type "N/A." Failure to follow this may render your bid non-responsive.

Bid Acknowledgment and Compliance Certification

By signing and returning this form, you acknowledge compliance with the bid requirements. Failure to sign and submit this form will result in the bid being considered non-responsive.

/s/ Signature of Authorized Official
 Typing your name can count as a signature.

Date

**Fort Flagler State Park
 Welcome Center Replacement
 SW-C1829**

<https://mrscrosters.bonfirehub.com/portal>

The Bidder will submit the Bid to State Parks Public Opportunities MRSC Bonfire Procurement Portal



MWBE, WA Small Business, Veteran-Owned Business Utilization Certification

The bidder certifies good faith efforts to provide opportunities to MWBEs, Small Businesses, and Veteran-Owned Businesses. If awarded, the bidder commits to utilizing these firms or approved substitutes on the project. If no such firms will be used, enter "N.A." on the first line.

	Firm Name, Address	Federal I.D. #	Type of Work	Certificate Number	MBE%	WBE%	Small Business%	Veteran Business%
1								
2								
3								
4								
5								
6								
Totals					0.00%	0.00%	0.00%	0.00%

The bidder may add rows for additional MWBE/WA Small and Veteran-Owned Business Utilization Certifications.



Subcontractor Utilization List

Subcontractor Utilization List (If Applicable)

In compliance with the contract documents, the following subcontractor list is submitted:

SUBCONTRACTOR LISTING - RCW 39.30.060

If the base bid and the sum of the additive alternates is **ONE MILLION DOLLARS OR MORE**, the Bidder shall provide names of the subcontractors with whom the Bidder will directly subcontract for performance of the following work. If the Bidder intends to perform the work, the Bidder must enter its name for that category of work.

- A. Submission Deadline: **The completed and signed Subcontractors List must be submitted with bid.**
- B. List Subcontractors: The Bidder shall indicate on the Subcontractors List the names of the subcontractors with whom the Bidder, if awarded the contract, will directly subcontract for performance of the work of heating, ventilation, and air conditioning, plumbing as described in Chapter 18.106 RCW, electrical as described in Chapter 19.28 RCW, structural steel installation, and rebar installation.
- C. List Bidder if Bidder Performing Work: If the Bidder will self-perform the work in any of the five areas required, the Bidder shall name itself for the work on the Subcontractors List.
- D. Name Only One Firm for Each Category of Work: The Bidder shall not list more than one firm (subcontractor or Bidder) for each category of work identified, unless subcontractors vary with bid Alternatives or Additives, in which case the Bidder must indicate which firm will be used for which Alternate or Additive.
- E. Substitution of Subcontractors: Substitution of any listed subcontractor may only be according to the procedure and parameters set forth in RCW 39.30.060.
- F. Factors Relating to Non-Responsiveness: **Failure of the Bidder to submit the names of such subcontractors or to name itself to perform such work or the naming of two or more firms (subcontractors or Bidder) to perform the same work, or failure to sign the form shall render the Bidder's bid non-responsive and, therefore, VOID.**
- G. The Subcontractor Utilization List is intended to discourage bid shopping, not to verify subcontractor qualifications. The Agency does not use the Subcontractor Utilization List as a tool to disqualify or qualify bidders.
- H. Applicable to Direct Subcontractors: The requirement of this section to name the Bidders' proposed heating, ventilation and air conditioning, plumbing, electrical, structural steel installation, and rebar installation subcontractors applies only to proposed heating, ventilation and air conditioning, plumbing, electrical, structural steel installation, and rebar installation subcontractors who will contract directly with the Bidder.
 - 1 **HVAC, Electrical, Plumbing:** The requirement of this section to name the bidder's proposed heating, ventilation and air conditioning, plumbing and electrical subcontractors applies only to proposed heating, ventilation, and air conditioning, plumbing and electrical subcontractors who will contract directly with the

Category of Work	Bidder MUST check one box for each Category of Work. If subcontracting the work, bidder must name the subcontractor
HVAC (Heating, Ventilation & Air Conditioning)	<input type="checkbox"/> Name of Subcontractor: _____ <input type="checkbox"/> Bidder will self-perform this work, or the project does not include this work.
Electrical	<input type="checkbox"/> Name of Subcontractor: _____ <input type="checkbox"/> Bidder will self-perform this work, or the project does not include this work.
Plumbing	<input type="checkbox"/> Name of Subcontractor: _____ <input type="checkbox"/> Bidder will self-perform this work, or the project does not include this work.

Bidder may attach a separate sheet for additional alternate bid subcontractors

- 2 Structural Steel Installation and Rebar Installation: The requirement of this section to name the bidder's proposed names of the subcontractors with whom the bidder, if awarded, will subcontract for performance of the work of structural steel installation and rebar installation.

Category of Work	Bidder MUST check one box for each Category of Work. If subcontracting the work, bidder must name the subcontractor
Structural Steel Installation	<input type="checkbox"/> Name of Subcontractor: _____ <input type="checkbox"/> Bidder will self-perform this work, or the project does not include this work.
Rebar Installation	<input type="checkbox"/> Name of Subcontractor: _____ <input type="checkbox"/> Bidder will self-perform this work, or the project does not include this work.

Bidder may attach a separate sheet for additional alternate bid subcontractors

/s/ Signature of Authorized Official

Typing your name can count as a signature.

Fort Flagler State Park
Welcome Center Replacement
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<https://mrscrosters.bonfirehub.com/portal>

The Bidder will submit the Bid Bond (if Applicable) to State Parks Public Opportunities

MRSC Bonfire Procurement Portal



Bid Bond Requirements

Bid Guarantee: See Instructions to Bidders 11.1 Bid Bond. No particular bid bond form is required. Failure of the Bidder to provide bid guarantee when required shall render the bid non-responsive.

Bid Bond Threshold

- 1 A bid bond is not required if the total bid amount, including all additive alternates, is \$35,000 or less.
- 2 For bids exceeding \$35,000, a bid bond of 5% of the total bid amount is mandatory.

Acceptable Forms

- 1 Acceptable forms of bid guarantee: A bid bond, and must be submitted as part of the bid response.
- 2 Scanned copies of the bid bond (e.g., PDF) are acceptable and should be included with the electronic bid submission

Submission Process

- 1 Include the bid bond in a single PDF file.
- 2 At the time of bid, the bidder must upload an electronic copy of the acceptable bid guarantee to the State Parks Opportunities via MRSC Bonfire Procurement Portal <https://mrscrosters.bonfirehub.com/portal>

Retention and Forfeiture

- 1 Bid bonds for the three lowest bidders will be retained for 30 days or until a contract is executed with the successful bidder.
- 2 All other bid bonds will be released within 15 days of the bid opening.
- 3 If the successful bidder fails to execute the contract or provide a performance bond within 15 days of receiving the contract forms, the bid bond may be forfeited as liquidated damages.

Bid Validity Period

- 1 Bidders must allow for a 60-day acceptance period from the bid opening date.

Important Reminder

- 1 Review all bid documents thoroughly to ensure compliance with submission requirements, including proper completion and inclusion of the bid bond when applicable.

For further details or clarification, refer to Section 11.1 of the "Instructions to Bidders" in the project manual. If you have questions, contact contracts@parks.wa.gov

Check the box to the left if the total bid, including all additive alternates, is \$35,000 or less, and include this statement with your bid response. No bid bond is required for bids at or below this amount. For bids exceeding \$35,000, a bid bond must be submitted instead. Failure to provide a required bid bond will render the bid non-responsive.

**FORT FLAGLER STATE PARK
WELCOME CENTER REPLACEMENT**

The following list of major items of construction has been included for Bidder's convenience in preparing a bid proposal. Exclusion of items from this summary does not indicate exclusion from project. For lump sum items, the bidder is cautioned that the drawings are the only source for measurement of project quantities, and drawings have been detailed for this purpose. In preparing a bid proposal, Bidder should note apparent discrepancies between the list below and the drawings and consult with Engineer for verification.

BASE BID ITEMS

BID ITEM	DESCRIPTION	ESTIMATED QUANTITY	PAYMENT
1.	TRENCH EXCAVATION SAFETY PROVISIONS See instructions on Bid Proposal Form.	L.S.	PER LUMP SUM
2.	MOBILIATION / DEMOBILIZATION This item shall consist of preparatory Work and operations including, but not limited to those necessary for the movement of equipment, supplies and incidentals to the Project site; and bonding, insurance, etc. A. Payment shall be based on a percentage of actual construction completed at time of payment estimate. B. Bonding/insurance and equipment hauling costs will be paid for up front upon receipt of cost verification.	L.S.	PER LUMP SUM
3.	CLEARING, GRUBBING Complete clearing and grubbing, including but not limited to: A. Clear and Grub B. Fell trees and remove logs	L.S.	PER LUMP SUM approximately 1 ACRE 58
4.	TEMP. SILT & CONSTRUCTION FENCING Includes temporary sedimentation and erosion controls A. Tree Protection Fence	L.S.	PER LUMP SUM approximately 3000 L.F.
5.	INITIAL SITE GRADING A. Initial grading	L.S.	PER LUMP SUM approximately 1,830 C.Y.
6.	RETAINING WALL Including backfill crushed rock. A. Retaining Wall	L.S.	PER LUMP SUM approximately 1,450 S.F.
7.	UTILITIES	L.S.	PER LUMP SUM

**FORT FLAGLER STATE PARK
WELCOME CENTER REPLACEMENT**

Complete in place, including all labor, equipment, and materials necessary to provide water, sewer, electrical and communication utilities. Including but not limited to:

- | | | |
|----|---|------------------------|
| A. | 2" PE (DR9) | approximately 87 L.F. |
| B. | Make connection to existing pressure sewer main | |
| C. | 1.5" PE (DR9) | approximately 216 L.F. |
| D. | 1" PE (DR7) Water distribution piping | approximately 566 L.F. |
| E. | Incoming secondary service | |
| F. | Junction boxes | 1 Each |
| G. | Welcome center power connection | 1 Each |

8. BASE COURSE CSBC **400 Tns PER TON**
Complete in place, including all labor, equipment, and materials necessary to provide Crushed Base.

9. TOP COURSE CSTC **160 Tns PER TON**
Complete in place, including all labor, equipment, and materials necessary to provide Crushed Base.

10. HOT-MIX ASPHALT **170 Tns PER TON**
Complete in place, including all labor, equipment, and materials necessary to provide HMA.

11. WELCOME CENTER **L.S. PER LUMP SUM**

Provide all material, labor, equipment and tools to construct a Welcome Center as shown on the plans.

12. FINISHING DETAILS **L.S. PER LUMP SUM**
Complete in place, including all labor, equipment, and materials necessary to provide, including but not limited to:

- A. Install traffic Signs
- B. Provide concrete wheelstops
- C. Install Kiosk
- D. Provide Flagpole
- E. Build new Park sign base and relocate the Park Sign.
- F. Road stripping and markings

13. LANDSCAPING **L.S. PER LUMP SUM**
Complete in place, including all labor, equipment, and materials necessary to provide, including but not limited to:

- A. Soil preparation
- B. Planting of trees and shrubs
- C. Hydroseeding Approximately 1/8 Acre
- D. Maintenance

END OF SECTION

GENERAL CONDITIONS FOR CONSTRUCTION AT WASHINGTON STATE PARKS

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GENERAL CONDITIONS FOR CONSTRUCTION AT WASHINGTON STATE PARKS

PART 1 - GENERAL PROVISIONS

1.01 DEFINITIONS

- A. "Application for Payment" means a written request submitted by Contractor to A/E for payment of Work completed in accordance with the Contract Documents and approved Schedule of Values, supported by such substantiating data as Owner or A/E may require.
- B. "Architect," "Engineer," or "A/E" shall mean that person designated by the State Parks and Recreation Commission to be in charge of the work covered by this contract.
- C. "Change Order" means a written instrument signed by Owner and Contractor stating their agreement upon all of the following: (1) a change in the Work; (2) the amount of the adjustment in the Contract Sum, if any, and (3) the extent of the adjustment in the Contract Time, if any.
- D. "Claim" means Contractor's exclusive remedy for resolving disputes with Owner regarding the terms of a Change Order or a request for equitable adjustment, as more fully set forth in part 8.
- E. "Contract Award Amount" is the sum of the Base Bid and any accepted Alternates.
- F. "Contract Documents" means the Advertisement for Bids, Instructions for Bidders, completed Form of Proposal, General Conditions, Modifications to the General Conditions, Supplemental Conditions, Public Works Contract, other Special Forms, Drawings and Specifications, and all addenda and modifications thereof.
- G. "Contract Sum" is the total amount payable by Owner to Contractor for performance of the Work in accordance with the Contract Documents, including all taxes imposed by law and properly chargeable to the Work, except Washington State sales tax.
- H. "Contract Time" is the number of calendar days allotted in the Contract Documents for achieving Substantial Completion of the Work.
- I. "Contractor" means the person or entity who has agreed with Owner to perform the Work in accordance with the Contract Documents.
- J. "Drawings" are the graphic and pictorial portions of the Contract Documents showing the design, location, and dimensions of the Work, and may include plans, elevations, sections, details, schedules, and diagrams.
- K. "Final Acceptance" means the written acceptance issued to Contractor by Owner after Contractor has completed the requirements of the Contract Documents, as more fully set forth in Section 6.09 B.
- L. "Final Completion" means that the Work is fully and finally completed in accordance with the Contract Documents, as more fully set forth in Section 6.09 A.
- M. "Force Majeure" means those acts entitling Contractor to request an equitable adjustment in the Contract Time, as more fully set forth in paragraph 3.05 A.
- N. "Notice" means a written notice which has been delivered in person to the individual or a member of the firm or entity or to an officer of the corporation for which it was intended or, if delivered or sent by registered or certified mail, to the last business address known to the party giving notice.
- O. "Notice to Proceed" means a notice from Owner to Contractor that defines the date on which the Contract Time begins to run.
- P. "Owner" shall mean the Washington State Parks and Recreation Commission and its authorized representative with the authority to enter into, administer and/or terminate contracts and make related determinations and findings.
- Q. "Person" means a corporation, partnership, business association of any kind, trust, company, or individual.

GENERAL CONDITIONS FOR CONSTRUCTION AT WASHINGTON STATE PARKS

- R. "Prior Occupancy" means Owner's use of all or parts of the Project before Substantial Completion, as more fully set forth in Section 6.08 A.
- S. "Progress Schedule" means a schedule of the Work, in a form satisfactory to Owner, as further set forth in section 3.02.
- T. "Project" means the total construction of which the Work performed in accordance with the Contract Documents may be the whole or a part and which may include construction by Owner or by separate contractors.
- U. "Project Manual" means the volume usually assembled for the Work which may include the bidding requirements, sample forms, and other Contract Documents.
- V. "Project Record" means the separate set of Drawings and Specifications as further set forth in paragraph 4.02A.
- W. "Schedule of Values" means a written breakdown allocating the total Contract Sum to each principle category of Work, in such detail as requested by Owner.
- X. "Specifications" are that portion of the Contract Documents consisting of the written requirements for materials, equipment, construction systems, standards, and workmanship for the Work, and performance of related services.
- Y. "Subcontract" means a contract entered into by Subcontractor for the purpose of obtaining supplies, materials, equipment, or services of any kind for or in connection with the Work.
- Z. "Subcontractor" means any person, other than Contractor, who agrees to furnish or furnishes any supplies, materials, equipment, or services of any kind in connection with the Work.
- AA. "Substantial Completion" means that stage in the progress of the Work where Owner has full and unrestricted use and benefit of the facilities for the purposes intended, as more fully set forth in section 6.07.
- AB. "Work" means the construction and services required by the Contract Documents, and includes, but is not limited to, labor, materials, supplies, equipment, services, permits, and the manufacture and fabrication of components, performed, furnished, or provided in accordance with the Contract Documents.

1.02 ORDER OF PRECEDENCE

Any conflict or inconsistency in the Contract Documents shall be resolved by giving the documents precedence in the following order.

1. Signed Public Works Contract, including any Change Orders, and any Special Forms.
2. Supplemental Conditions.
3. General Conditions.
4. Addenda
5. Specifications--provisions in Division 1 shall take precedence over provisions of any other Division.
6. Drawings--in case of conflict within the Drawings, large scale drawings shall take precedence over small scale drawings.
7. Signed and Completed Form of Proposal.
8. Instructions to Bidders.
9. Advertisement for Bids.

GENERAL CONDITIONS FOR CONSTRUCTION AT WASHINGTON STATE PARKS

1.03 EXECUTION AND INTENT

Contractor makes the following representations to Owner:

1. The Contract Sum is reasonable compensation for the Work and the Contract Time is adequate for the performance of the Work, as represented by the Contract Documents;
2. Contractor has carefully reviewed the Contract Documents, visited and examined the Project site, become familiar with the local conditions in which the Work is to be performed, and satisfied itself as to the nature, location, character, quality and quantity of the Work, the labor, materials, equipment, goods, supplies, work, services and other items to be furnished and all other requirements of the Contract Documents, as well as the surface and subsurface conditions and other matters that may be encountered at the Project site or affect performance of the Work or the cost or difficulty thereof;
3. Contractor is financially solvent, able to pay its debts as they mature, and possesses sufficient working capital to complete the Work and perform Contractor's obligations required by the Contract Documents; and
4. Contractor is able to furnish the plant, tools, materials, supplies, equipment and labor required to complete the Work and perform the obligations required by the Contract Documents and has sufficient experience and competence to do so.

PART 2 - INSURANCE AND BONDS

2.01 CONTRACTOR'S LIABILITY INSURANCE

Prior to commencement of the Work, Contractor shall obtain all the insurance required by the Contract Documents and provide evidence satisfactory to Owner that such insurance has been procured. Review of the Contractor's insurance by Owner shall not relieve or decrease the liability of Contractor. Companies writing the insurance to be obtained by this part shall be licensed to do business under Chapter 48 RCW or comply with the Surplus Lines Law of the State of Washington. Contractor shall include in its bid the cost of all insurance and bond costs required to complete the base bid work and accepted alternates. Insurance carriers providing insurance in accordance with the Contract Documents shall be acceptable to Owner, and its A. M. Best rating shall be indicated on the insurance certificates.

- A. Contractor shall maintain the following insurance coverage during the Work and for one year after Final Acceptance. Contractor shall also maintain the following insurance coverage during the performance of any corrective Work required by section 5.16.
 1. Commercial General Liability (CGL) on an Occurrence Form:
 - a. Completed operations/products liability;
 - b. Explosion, collapse, and underground; and
 - c. Employer's liability coverage.
 2. Automobile liability
- B. Contractor shall comply with the Washington State Industrial Insurance Act and, if applicable, the Federal Longshoremen's and Harbor Workers' Act and the Jones Act.
- C. All insurance coverages shall protect against claims for damages for personal and bodily injury or death, as well as claims for property damage, which may arise from operations in connection with the Work whether such operations are by Contractor or any Subcontractor.
- D. All insurance coverages shall be endorsed to include Owner as an additional named insured for Work performed in accordance with the Contract Documents, and all insurance certificates shall evidence the Owner as an additional insured.

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2.02 COVERAGE LIMITS INSURANCE COVERAGE CERTIFICATES

A. Insurance Coverage Certificates

The Contractor shall furnish acceptable proof of insurance coverage on the State of Washington Certificate of Insurance form SF500A dated 07/02/92 or an acceptable ACORD form.

B. Required Coverages

1. For a contract less than \$100,000.00, the coverage required is:

a. Public Liability Insurance – The Contractor shall at all times during the term of this contract, at its cost and expense, carry and maintain general public liability insurance, including contractual liability, against claims for bodily injury, personal injury, death or property damage occurring or arising out of services provided under this contract. This insurance shall cover claims caused by any act, omission, or negligence of the Contractor or its officers, agents, representatives, assigns or servants. The limits of liability insurance, which may be increased as deemed necessary by the contracting parties, shall be:

Each Occurrence	\$1,000,000.00
General Aggregate Limits (other than products – commercial operations)	\$1,000,000.00
Products – Commercial Operations Limit	\$1,000,000.00
Personal and Advertising Injury Limit	\$1,000,000.00
Fire Damage Limit (any one fire)	\$50,000.00
Medical Expense Limit (any one person)	\$5,000.00

b. If the contract is for underground utility work, then the Contractor shall provide proof of insurance for that above in the form of Explosion, Collapse and Underground (XCU) coverage.

c. Employers Liability on an occurrence basis in an amount not less than \$1,000,000.00 per occurrence.

2. For contracts over \$100,000.00 but less than \$5,000,000.00 the contractor shall obtain the coverage limits as listed for contracts below \$100,000.00 and General Aggregate and Products – Commercial Operations Limit of not less than \$2,000,000.00.

3. Coverage for Comprehensive General Bodily Injury Liability Insurance for a contract over \$5,000,000.00 is:

Each Occurrence	\$2,500,000.00
General Aggregate Limits (other than products – commercial operations)	\$5,000,000.00
Products – Commercial Operations limit	\$5,000,000.00
Personal and Advertising Injury Limit	\$2,500,000.00
Fire Damage Limit (any one fire)	\$50,000.00
Medical Expense Limit (any one Person)	\$5,000.00

4. For all Contracts – Automobile Liability: in the event that services delivered pursuant to this contract involve the use of vehicles or the transportation of clients, automobile liability insurance shall be required. If Contractor-owned personal vehicles are used, a Business Automobile Policy covering at a minimum Code 2 “owned autos only” must be secured. If Contractor employee’s vehicles are used, the Contractor must also include under the Business Automobile Policy Code 9, coverage for non-owned autos. The minimum limits for automobile liability is: \$1,000,000.00 per occurrence, using a combined single limit for bodily injury and property damage.

5. For Contracts for Hazardous Substance Removal (Asbestos Abatement, PCB Abatement, etc.)

a. In addition to providing insurance coverage for the project as outlined above, the Contractor shall provide Environmental Impairment Liability insurance for the hazardous substance removal as follows:

<u>EACH OCCURRENCE</u>	<u>AGGREGATE</u>
\$500,000.00	\$1,000,000.00

or \$1,000,000.00 each occurrence/aggregate bodily injury and property damage combined single limit.

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- 1) Insurance certificate must state that the insurer is covering hazardous substance removal.
- 2) Should this insurance be secured on a "claims made" basis, the coverage must be continuously maintained for one year following the project's "final completion" through official completion of the project, plus one year following.

For Contracts where hazardous substance removal is a subcomponent of contracted work, the general contractor shall provide to the Owner a certificate of insurance for coverage as defined in 5a. above. The State of Washington must be listed as an additional insured. This certificate of insurance must be provided to the Owner prior to commencing work.

2.03 INSURANCE COVERAGE CERTIFICATES

- A. Prior to commencement of the Work, Contractor shall furnish to Owner a completed certificate of insurance coverage.
- B. All insurance certificates shall name Owner's Project number and Project title.
- C. All insurance certificates shall specifically require 45 (forty-five) days prior notice to Owner of cancellation or any material change, except 30 (thirty) days for surplus line insurance.

2.04 PAYMENT AND PERFORMANCE BONDS

AIA Payment and Performance Bonds, form A312, or equivalent, is required by the Owner for the work of this contract. The forms shall be obtained from the Contractor's bonding company. The Payment Bond shall cover payment to laborers and mechanics, including payments to Employee Benefit Funds, and payments to subcontractors, material suppliers, and persons who shall supply such person or persons, or subcontractors with materials and supplies.

2.05 ALTERNATIVE SURETY

Contractor shall promptly furnish alternative security required to protect Owner and persons supplying labor or materials required by the Contract Documents if:

- A. Owner has a reasonable objection to the surety; or
- B. Any surety fails to furnish reports on its financial condition if requested by Owner.

2.06 BUILDER'S RISK

- A. Contractor shall purchase and maintain property insurance in the amount of the Contract Sum including all Change Orders for the Work on a replacement cost basis until Substantial Completion. The insurance shall cover the interest of Owner, Contractor, and any Subcontractors, as their interests may appear. For projects not involving New Building Construction, 'Installation Floater' is an acceptable substitute for the Builder's Risk Insurance.
- B. Contractor property insurance shall be placed on an "all risk" basis and insure against the perils of fire and extended coverage and physical loss or damage including theft, vandalism, malicious mischief, collapse, false work, temporary buildings, debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for A/E's services and expenses required as a result of an insured loss.
- C. Owner and Contractor waive all subrogation rights against each other, any Subcontractors, A/E, A/E's subconsultants, separate contractors described in section 5.20, if any, and any of their subcontractors, for damages caused by fire or other perils to the extent covered by property insurance obtained pursuant to this section or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by Owner as fiduciary. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

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PART 3 - TIME AND SCHEDULE

3.01 PROGRESS AND COMPLETION

- A. Contractor shall diligently prosecute the Work, with adequate forces, achieve Substantial Completion within the Contract Time, and achieve Final Completion within 30 (thirty) calendar days thereafter, unless otherwise noted in Division 1 of the specifications.
- B. The Contractor shall notify the Engineer at least two (2) weekdays in advance if work is to be performed on a Saturday, Sunday, or legal holiday. No excavation work will be allowed on Saturdays, Sundays, or legal holidays unless specifically authorized by the Engineer.

3.02 CONSTRUCTION SCHEDULE

- A. Unless otherwise provided in Division 1, Contractor shall, within 14 (fourteen) calendar days after issuance of the Notice to Proceed, submit a preliminary Progress Schedule. The Progress Schedule shall show the sequence in which Contractor proposes to perform the Work, and the dates on which Contractor plans to start and finish major portions of the Work, including dates for shop drawings and other submittals, and for acquiring materials and equipment.
- B. The Progress Schedule shall be in the form of a Critical Path Method (CPM) logic network or, with the approval of the Owner, a bar chart schedule may be submitted. The scheduling of construction is the responsibility of the Contractor and is included in the contract to assure adequate planning and execution of the work. The schedule will be used to evaluate progress of the work for payment based on the Schedule of Values. The schedule shall show the Contractor's planned order and interdependence of activities, and sequence of work. As a minimum the schedule shall include:
 - 1. Date of Notice to Proceed;
 - 2. Activities (resources, durations, individual responsible for activity, early starts, late starts, early finishes, late finishes, etc.);
 - 3. Utility Shutdowns;
 - 4. Interrelationships and dependence of activities;
 - 5. Planned vs. actual status for each activity;
 - 6. Substantial completion;
 - 7. Punch list;
 - 8. Final inspection;
 - 9. Final completion, and
 - 10. Float time

The Schedule Duration shall be based on the Contract Time of Completion listed on the Bid Proposal form. The Owner shall not be obligated to accept any Early Completion Schedule suggested by the Contractor. The Contract Time for Completion shall establish the Schedule Completion Date.

If the Contractor feels that the work can be completed in less than the Specified Contract Time, then the Surplus Time shall be considered Project Float. This Float time shall be shown on the Project Schedule. It shall be available to accommodate changes in the work and unforeseen conditions.

Neither the Contractor nor the Owner have exclusive right to this Float Time. It belongs to the project.

- C. Owner shall return comments on the preliminary Progress Schedule to Contractor within 14 (fourteen) days of receipt. Review by Owner of Contractor's schedule does not constitute an approval or acceptance of Contractor's construction means, methods, or sequencing, or its ability to complete the Work within the Contract Time. Contractor shall revise and resubmit its schedule, as necessary. Owner may withhold a portion of progress payments until a Progress Schedule has been submitted which meets the requirements of this section.
- D. Contractor shall utilize and comply with the Progress Schedule. On a monthly basis, or as otherwise directed by Owner, Contractor shall submit an updated Progress Schedule at its own expense to Owner indicating actual progress. If, in the opinion of Owner, Contractor is not in conformance with the Progress Schedule for reasons other than acts of Force Majeure as identified in section 3.05, Contractor shall take

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such steps as are necessary to bring the actual completion dates of its work activities into conformance with the Progress Schedule, or revise the Progress Schedule to reconcile with the actual progress of the Work.

- E. Contractor shall promptly notify Owner in writing of any actual or anticipated event which is delaying or could delay achievement of any milestone or performance of any critical path activity of the Work. Contractor shall indicate the expected duration of the delay, the anticipated effect of the delay on the Progress Schedule, and the action being or to be taken to correct the problem. Provision of such notice does not relieve Contractor of its obligation to complete the Work within the Contract Time.

3.03 OWNER'S RIGHT TO SUSPEND THE WORK FOR CONVENIENCE

- A. Owner may, at its sole discretion, order Contractor, in writing, to suspend all or any part of the Work for up to 90 (ninety) days, or for such longer period as mutually agreed.
- B. Upon receipt of a written notice suspending the Work, Contractor shall immediately comply with its terms and take all reasonable steps to minimize the incurrence of cost of performance directly attributable to such suspension. Within a period up to 90 (ninety) days after the notice is delivered to Contractor, or within any extension of that period to which the parties shall have agreed, Owner shall either:
 - 1. Cancel the written notice suspending the Work; or
 - 2. Terminate the Work covered by the notice as provided in the termination provisions as more fully set forth in Part 9.
- C. If a written notice suspending the Work is cancelled or the period of the notice or any extension thereof expires, Contractor shall resume Work.
- D. Contractor shall be entitled to an equitable adjustment in the Contract Time, or Contract Sum, or both, for increases in the time or cost of performance directly attributable to such suspension, provided Contractor complies with all requirements set forth in Part 7.

3.04 OWNER'S RIGHT TO STOP THE WORK FOR CAUSE

- A. If Contractor fails or refuses to perform its obligations in accordance with the Contract Documents, Owner may order Contractor, in writing, to stop the Work, or any portion thereof, until satisfactory corrective action has been taken.
- B. Contractor shall not be entitled to an equitable adjustment in the Contract Time or Contract Sum for any increased cost or time of performance attributable to Contractor's failure or refusal to perform or from any reasonable remedial action taken by Owner based upon such failure.

3.05 DELAY

- A. Any delay in or failure of performance by Owner or Contractor, other than the payment of money, shall not constitute a default hereunder if and to the extent the cause for such delay or failure of performance was unforeseeable and beyond the control of the party ("Force Majeure"). Acts of Force Majeure include, but are not limited to:
 - 1. Acts of God or the public enemy;
 - 2. Acts or omissions of any government entity;
 - 3. Fire or other casualty for which Contractor is not responsible;
 - 4. Quarantine or epidemic;
 - 5. Strike or defensive lockout;
 - 6. Unusually severe weather, in excess of weather conditions which could not have been reasonably anticipated; and

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7. Unusual delay in receipt of supplies or products which were ordered and expedited and for which no substitute reasonably acceptable to Owner was available.
- B. Contractor shall be entitled to an equitable adjustment in the Contract Time for changes in the time of performance directly attributable to an act of Force Majeure, provided it makes a request for equitable adjustment according to section 7.03. Contractor shall not be entitled to an adjustment in the Contract Sum resulting from an act of Force Majeure.
- C. Contractor shall be entitled to an equitable adjustment in Contract Time, and may be entitled to an equitable adjustment in Contract Sum, if the cost or time of Contractor's performance is changed due to the fault or negligence of Owner, provided the Contractor makes a request according to sections 7.02 and 7.03.
- D. Contractor shall not be entitled to an adjustment in Contract Time or in the Contract Sum for any delay or failure of performance to the extent such delay or failure was caused by Contractor or anyone for whose acts Contractor is responsible.
- E. To the extent any delay or failure of performance was concurrently caused by the Owner and Contractor, Contractor shall be entitled to an adjustment in the Contract Time for that portion of the delay or failure of performance that was concurrently caused, provided it makes a request for equitable adjustment according to section 7.03, but shall not be entitled to an adjustment in Contract Sum.
- F. Contractor shall make all reasonable efforts to prevent and mitigate the effects of any delay, whether occasioned by an act of Force Majeure or otherwise.
- G. The Owner has acquired ownership and/or easement of lands for the construction, as indicated on the drawings, without cost to the Contractor. The Contractor understands and agrees that, should it appear at any time that the Owner has not acquired title to all of the right-of-ways and lands necessary for the performance of the work under the provisions of this contract, and that if any delay in the performance of said work occasioned by the failure of the Owner, its officers, or employees to acquire a title of any of said lands or right-of-way, such failure shall extend the contract completion date the number of days equal to the period of such delay. The Contractor waives any and all claims for damages against the Owner which the Contractor may sustain by reason of this delay in the work.

3.06 NOTICE TO OWNER OF LABOR DISPUTES

- A. If Contractor has knowledge that any actual or potential labor dispute is delaying or threatens to delay timely performance in accordance with the Contract Documents, Contractor shall immediately give notice, including all relevant information, to Owner.
- B. Contractor agrees to insert a provision in its Subcontracts and to require insertion in all sub-subcontracts, that in the event timely performance of any such contract is delayed or threatened by delay by any actual or potential labor dispute, the Subcontractor or Sub-subcontractor shall immediately notify the next higher tier Subcontractor or Contractor, as the case may be, of all relevant information concerning the dispute.

3.07 DAMAGES FOR FAILURE TO ACHIEVE TIMELY COMPLETION

- A. Liquidated Damages
 1. Timely performance and completion of the Work is essential to Owner and time limits stated in the Contract Documents are of the essence. Owner will incur serious and substantial damages if Substantial Completion of the Work does not occur within the Contract Time. However, it would be difficult if not impossible to determine the exact amount of such damages. Consequently, provisions for liquidated damages are included in the Contract Documents.
 2. The liquidated damage amounts set forth in the Contract Documents will be assessed not as a penalty, but as liquidated damages for breach of the Contract Documents. This amount is fixed and agreed upon by and between the Contractor and Owner because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages the Owner would in such event sustain. This amount shall be construed as the actual amount of damages sustained by the Owner, and may be retained by the Owner and deducted from periodic payments to the Contractor.

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3. Assessment of liquidated damages shall not release Contractor from any further obligations or liabilities pursuant to the Contract Documents.

B. Actual Damages

Actual damages will be assessed for failure to achieve Final Completion within the time provided. Actual damages will be calculated on the basis of direct architectural, administrative, and other related costs attributable to the Project from the date when Final Completion should have been achieved, based on the date Substantial Completion is actually achieved, to the date Final Completion is actually achieved. Owner may offset these costs against any payment due Contractor.

PART 4 - SPECIFICATIONS, DRAWINGS, AND OTHER DOCUMENTS

4.01 DISCREPANCIES AND CONTRACT DOCUMENT REVIEW

- A. The intent of the Specifications and Drawings is to describe a complete Project to be constructed in accordance with the Contract Documents. Contractor shall furnish all labor, materials, equipment, tools, transportation, permits, and supplies, and perform the Work required in accordance with the Drawings, Specifications, and other provisions of the Contract Documents.
- B. The Contract Documents are complementary. What is required by one part of the Contract Documents shall be binding as if required by all. Anything mentioned in the Specifications and not shown on the Drawings, or shown on the Drawings and not mentioned in the Specifications, shall be of like effect as if shown or mentioned in both.
- C. Contractor shall carefully study and compare the Contract Documents with each other and with information furnished by Owner. If, during the performance of the Work, Contractor finds a conflict, error, inconsistency, or omission in the Contract Documents, it shall promptly and before proceeding with the Work affected thereby, report such conflict, error, inconsistency, or omission to A/E in writing.
- D. Contractor shall do no Work without applicable Drawings, Specifications, or written modifications, or Shop Drawings where required, unless instructed to do so in writing by Owner. If Contractor performs any construction activity, and it knows or reasonably should have known that any of the Contract Documents contain a conflict, error, inconsistency, or omission, Contractor shall be responsible for the performance and shall bear the cost for its correction.
- E. Contractor shall provide any work or materials the provision of which is clearly implied and is within the scope of the Contract Documents even if the Contract Documents do not mention them specifically.
- F. Questions regarding interpretation of the requirements of the Contract Documents shall be referred to the A/E.

4.02 PROJECT RECORD

- A. Contractor shall legibly mark in ink on a separate set of the Drawings and Specifications all actual construction, including depths of foundations, horizontal and vertical locations of internal and underground utilities and appurtenances referenced to permanent visible and accessible surface improvements, field changes of dimensions and details, actual suppliers, manufacturers and trade names, models of installed equipment, and Change Order Proposals (COP). This separate set of Drawings and Specifications shall be the "Project Record."
- B. The Project Record shall be maintained on the project site throughout the construction and shall be clearly labeled "PROJECT RECORD". The Project Record shall be updated at least weekly noting all changes and shall be available to Owner at all times.
- C. Contractor shall submit the completed and finalized Project Record to A/E prior to Final Acceptance.

4.03 SUBMITTALS

- A. "Submittals" means documents and other information required to be submitted to A/E by Contractor pursuant to the Contract Documents, showing in detail: the proposed fabrication and assembly of structural

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elements; and the installation (i.e. form, fit, and attachment details) of materials and equipment. Submittals include, but are not limited to, drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, samples, and similar materials furnished by Contractor to explain in detail specific portions of the Work required by the Contract Documents. For materials and equipment to be incorporated into the Work, Contractor submittal shall include the name of the manufacturer, the model number, and other information concerning the performance, capacity, nature, and rating of the item. When directed, Contractor shall submit all samples at its own expense. Owner may duplicate, use, and disclose Submittals provided in accordance with the Contract Documents.

- B. Contractor shall coordinate all Shop Drawings, and review them for accuracy, completeness, and compliance with the Contract Documents and shall indicate its approval thereon as evidence of such coordination and review. Where required by law, Shop Drawings shall be stamped by an appropriate professional licensed by the state of Washington. Shop Drawings submitted to A/E without evidence of Contractor's approval shall be returned for resubmission. Contractor shall review, approve, and submit Shop Drawings with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of Owner or separate contractors. Contractor's submittal schedule shall allow a reasonable time for A/E review. A/E will review, approve, or take other appropriate action on the Shop Drawings. Contractor shall perform no portion of the Work requiring submittal and review of Shop Drawings until the respective submittal has been reviewed and the A/E has approved or taken other appropriate action. Owner and A/E shall respond to Shop Drawing submittals with reasonable promptness. Any Work by Contractor shall be in accordance with reviewed Shop Drawings. Submittals made by Contractor which are not required by the Contract Documents may be returned without action.
- C. Approval, or other appropriate action with regard to Submittals, by Owner or A/E shall not relieve Contractor of responsibility for any errors or omissions in such Submittals, nor from responsibility for compliance with the requirements of the Contract Documents. Unless specified in the Contract Documents, review by Owner or A/E shall not constitute an approval of the safety precautions employed by Contractor during construction, or constitute an approval of Contractor's means or methods of construction. If Contractor fails to obtain approval before installation and the item or work is subsequently rejected, Contractor shall be responsible for all costs of correction.
- D. If Shop Drawings show variations from the requirements of the Contract Documents, Contractor shall describe such variations in writing, separate from the Shop Drawings, at the time it submits the Shop Drawings containing such variations. If A/E approves any such variation, an appropriate Change Order will be issued. If the variation is minor and does not involve an adjustment in the Contract Sum or Contract Time, a Change Order need not be issued; however, the modification shall be recorded upon the Project Record.
- E. Unless otherwise provided in Division I, Contractor shall submit to A/E for approval 5 (five) copies of all Submittals. Unless otherwise indicated, 3 (three) sets of all Submittals shall be retained by A/E and 2 (two) sets shall be returned to Contractor.

4.04 ORGANIZATION OF SPECIFICATIONS

Specifications are prepared in sections which conform generally with trade practices. These sections are for Owner and Contractor convenience and shall not control Contractor in dividing the Work among the Subcontractors or in establishing the extent of the Work to be performed by any trade.

4.05 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS, AND OTHER DOCUMENTS

- A. The Drawings, Specifications, and other documents prepared by A/E are instruments of A/E's service through which the Work to be executed by Contractor is described. Neither Contractor nor any Subcontractor shall own or claim a copyright in the Drawings, Specifications, and other documents prepared by A/E, and A/E shall be deemed the author of them and will, along with any rights of Owner, retain all common law, statutory, and other reserved rights, in addition to the copyright. All copies of these documents, except Contractor's set, shall be returned or suitably accounted for to A/E, on request, upon completion of the Work.
- B. The Drawings, Specifications, and other documents prepared by the A/E, and copies thereof furnished to Contractor, are for use solely with respect to this Project. They are not to be used by Contractor or any

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Subcontractor on other projects or for additions to this Project outside the scope of the Work without the specific written consent of Owner and A/E. Contractor and Subcontractors are granted a limited license to use and reproduce applicable portions of the Drawings, Specifications, and other documents prepared by A/E appropriate to and for use in the execution of their Work.

- C. Contractor and all Subcontractors grant a non-exclusive license to Owner, without additional cost or royalty, to use for its own purposes (including reproduction) all Shop Drawings, together with the information and diagrams contained therein, prepared by Contractor or any Subcontractor. In providing Shop Drawings, Contractor and all Subcontractors warrant that they have authority to grant to Owner a license to use the Shop Drawings, and that such license is not in violation of any copyright or other intellectual property right. Contractor agrees to defend and indemnify Owner pursuant to the indemnity provisions in section 5.03 and 5.23 from any violations of copyright or other intellectual property rights arising out of Owner's use of the Shop Drawings hereunder, or to secure for Owner, at Contractor's own cost, licenses in conformity with this section.
- D. The Shop Drawings and other submittals prepared by Contractor, Subcontractors of any tier, or its or their equipment or material suppliers, and copies thereof furnished to Contractor, are for use solely with respect to this Project. They are not to be used by Contractor or any Subcontractor of any tier, or material or equipment supplier, on other projects or for additions to this Project outside the scope of the Work without the specific written consent of Owner. The Contractor, Subcontractors of any tier, and material or equipment suppliers are granted a limited license to use and reproduce applicable portions of the Shop Drawings and other submittals appropriate to and for use in the execution of their Work under the Contract Documents.

PART 5 - PERFORMANCE

5.01 CONTRACTOR CONTROL AND SUPERVISION

- A. Contractor shall supervise and direct the Work, using its best skill and attention, and shall perform the Work in a skillful manner. Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences, and procedures and for coordinating all portions of the Work, unless the Contract Documents give other specific instructions concerning these matters. Contractor shall disclose its means and methods of construction when requested by Owner.
- B. Performance of the Work shall be directly supervised by a competent superintendent who is satisfactory to Owner and has authority to act for Contractor. The superintendent shall not be changed without the prior written consent of Owner. Owner may require Contractor to remove the superintendent from the Work or Project site, if Owner reasonably deems the superintendent incompetent, careless, or otherwise objectionable, provided Owner has first notified Contractor in writing and allowed a reasonable period for transition. The superintendent shall be on-site at all times while the Work is being performed, unless approved in writing by owner, in advance.
- C. Contractor shall be responsible to Owner for acts and omissions of Contractor, Subcontractors, and their employees and agents.
- D. Contractor shall enforce strict discipline and good order among Contractor's employees and other persons performing the Work. Contractor shall not permit employment of persons not skilled in tasks assigned to them. Contractor's employees shall at all times conduct business in a manner which assures fair, equal, and nondiscriminatory treatment of all persons. Owner may, by written notice, request Contractor to remove from the Work or Project site any employee Owner reasonably deems incompetent, careless, or otherwise objectionable.
- E. Contractor shall, at all times, keep on the Project site a copy of the Drawings, Specifications, addenda, reviewed Shop Drawings, permits, and permit drawings.
- F. Contractor shall ensure that its owner(s) and employees, and those of its Subcontractors, comply with the Ethics in Public Service Act RCW 42.52, which, among other things, prohibits state employees from having an economic interest in any public works contract that was made by, or supervised by, that employee. Contractor shall remove, at its sole cost and expense, any of its, or its Subcontractors', employees, if they are in violation of this act.

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5.02 PERMITS, FEES, AND NOTICES

- A. The Owner has obtained a Shorelines Substantial Development Permit and/or other environmental permits as required for this project. The permits with provisions which affect the construction methods or schedule have been incorporated into these specifications. The Contractor shall abide by all restrictions noted in these permits as the construction is in progress.
- B. All other permits or fees required by local, state or federal governmental agencies necessary for the construction of this project shall be obtained and paid by the Contractor. Only the cost for the building permit will be reimbursed by the Owner.
- C. The Contractor shall conform to all local, State and National Codes in all phases of this project. Where conflicts arise between plans, specifications and code requirements, the code shall prevail unless the plans or specifications are more stringent.

5.03 PATENTS AND ROYALTIES

Contractor is responsible for, and shall pay, all royalties and license fees. Contractor shall defend, indemnify, and hold Owner harmless from any costs, expenses, and liabilities arising out of the infringement by Contractor of any patent, copyright, or other intellectual property right used in the Work; however, provided that Contractor gives prompt notice, Contractor shall not be responsible for such defense or indemnity when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents. If Contractor has reason to believe that use of the required design, process, or product constitutes an infringement of a patent or copyright, it shall promptly notify Owner of such potential infringement.

5.04 PREVAILING WAGES

- A. Contractor and all subcontractors shall pay the prevailing rate of wages to all workers, laborers, or mechanics employed in the performance of any part of the Work in accordance with RCW 39.12 and the rules and regulations of the Department of Labor and Industries. The schedule of prevailing wage rates for the locality or localities of the Work is determined by the Industrial Statistician of the Department of Labor and Industries. It is the Contractor's responsibility to verify the applicable prevailing wage rate.
- B. Before payment is made by the Owner to the Contractor for any work performed by the Contractor and subcontractors whose work is included in the application for payment, the Contractor shall submit, or shall have previously submitted to the Owner for the Project, a Statement of Intent to Pay Prevailing Wages, approved by the Department of Labor and Industries, certifying the rate of hourly wage paid and to be paid each classification of laborers, workers, or mechanics employed upon the Work by Contractor and Subcontractors. Such rates of hourly wage shall not be less than the prevailing wage rate.
- C. Prior to release of retainage, the Contractor shall submit to the Owner an Affidavit of Wages Paid, approved by the Department of Labor and Industries, for the Contractor and every subcontractor, of any tier, that performed work on the Project.
- D. Disputes regarding prevailing wage rates shall be referred for arbitration to the Director of the Department of Labor and Industries. The arbitration decision shall be final and conclusive and binding on all parties involved in the dispute as provided for by RCW 39.12.060.
- E. Each Application for Payment submitted by Contractor shall state that prevailing wages have been paid in accordance with the prefiled statement(s) of intent, as approved. Copies of the approved intent statement(s) shall be posted on the job site with the address and telephone number of the Industrial Statistician of the Department of Labor and Industries where a complaint or inquiry concerning prevailing wages may be made.
- F. In compliance with chapter 296-127 WAC, Contractor shall pay to the Department of Labor and Industries the currently established fee(s) for each statement of intent and/or affidavit of wages paid submitted to the Department of Labor and Industries for certification.
- G. Copies of approved Intents to Pay Prevailing Wages for the Contractor and all subcontractors shall be submitted with the Contractor's first application for payment. As additional subcontractors perform work on

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the project, their approved Intent forms shall be submitted with the Contractor's next application for payment.

- H. The Contractor or subcontractor directly contracting for "Off-Site, Prefabricated, Non-Standard, Project Specific Items" shall identify and report information required on the affidavit of wages paid form filed with the Department of Labor and Industries. The Contractor shall include language in its subcontracts requiring subcontractors and lower-tier subcontractors to comply with the reporting requirements for "Off-Site, Prefabricated, Non-Standard, Project Specific Item(s)" on the affidavit of wages paid.

The reporting requirement for Items shall apply for all public works contracts estimated to cost over \$1 million entered into by the Owner and Contractor between September 1, 2010 and December 31, 2013.

"Off-site, prefabricated, nonstandard, project specific item(s)" means products or items that are:

1. Made primarily of architectural or structural precast concrete, fabricated steel, pipe and pipe systems, or sheet metal and sheet metal duct work;
2. Produced specifically for the public work and not considered to be regularly available shelf items;
3. Produced or manufactured by labor expended to assemble or modify standard items; and
4. Produced at an off-site location outside Washington.

The Contractor or subcontractor shall comply with the reporting requirements and instructions on the affidavit of wages paid form, and shall report the following information on the affidavit of wages paid form submitted to the Department of Labor and Industries in order to comply with the reporting requirements for use of "Off-Site, Prefabricated, Non-Standard, Project Specific item(s)":

1. The estimated cost of the public works project;
2. The name of the awarding agency and the project title;
3. The contract value of the off-site, prefabricated, nonstandard, project specific item(s) produced outside of Washington State, including labor and materials; and
4. The name, address, and federal employer identification number of the contractor that produced the off-site, prefabricated, nonstandard, project specific item(s).

The owner may direct the contractor, at no additional cost to the owner, to remove and substitute any subcontractor(s) found to be out of compliance with the "Off-Site Prefabricated Non-Standard Project Specific Item(s)" reporting requirements more than one time as determined by the Department of Labor and Industries.

- I. The Contractor and all subcontractors shall promptly submit to the Owner certified payroll copies if requested.

5.05 HOURS OF LABOR

- A. Contractor shall comply with all applicable provisions of RCW 49.28 and they are incorporated herein by reference. Pursuant to that statute, no laborer, worker, or mechanic employed by Contractor, any Subcontractor, or any other person performing or contracting to do the whole or any part of the Work, shall be permitted or required to work more than eight (8) hours in any one calendar day, provided, that in cases of extraordinary emergency, such as danger to life or property, the hours of work may be extended, but in such cases the rate of pay for time employed in excess of eight (8) hours of each calendar day shall be not less than one and one-half times (x1.5) the rate allowed for this same amount of time during eight (8) hours service.
- B. Notwithstanding the preceding paragraph, RCW 49.28 permits a contractor or subcontractor in any public works contract subject to those provisions, to enter into an agreement with its employees in which the employees work up to ten (10) hours in a calendar day. No such agreement may provide that the employees work ten-hour days for more than four (4) calendar days a week. Any such agreement is subject to approval by the employees. The overtime provisions of RCW 49.28 shall not apply to the hours, up to forty (40) hours per week, worked pursuant to any such agreement.

5.06 NONDISCRIMINATION

- A. Discrimination in all phases of employment is prohibited by, among other laws and regulations, Title VII of the Civil Rights Act of 1964, the Vietnam Era Veterans Readjustment Act of 1974, sections 503 and 504 of the Vocational Rehabilitation Act of 1973, the Equal Employment Act of 1972, the Age Discrimination Act of

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1967, the Americans with Disabilities Act of 1990, the Civil Rights Act of 1991, Presidential Executive Order 11246, Executive Order 11375, the Washington State Law Against Discrimination, RCW 49.60, and Gubernatorial Executive Order 85-09. These laws and regulations establish minimum requirements for affirmative action and fair employment practices which Contractor must meet.

- B. During performance of the Work:
1. Contractor shall not discriminate against any employee or applicant for employment because of race, creed, color, national origin, sex, age, marital status, or the presence of any physical, sensory, or mental disability, Vietnam era veteran status, or disabled veteran status, nor commit any other unfair practices as defined in RCW 49.60.
 2. Contractor shall, in all solicitations or advertisements for employees placed by or for it, state that the contractor is an "equal opportunity employer".
 3. Contractor shall send to each labor union, employment agency, or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice advising the labor union, employment agency, or workers' representative of Contractor's obligations according to the Contract Documents and RCW 49.60.
 4. Contractor shall permit access to its books, records, and accounts, and to its premises by Owner, and by the Washington State Human Rights Commission, for the purpose of investigation to ascertain compliance with this section of the Contract Documents.
 5. Contractor shall include the provisions of this section in every Subcontract.
- C. Nondiscrimination Requirement. During the term of this Contract, Contractor, including any subcontractor, shall not discriminate on the bases enumerated at RCW 49.60.530(3). In addition, Contractor, including any subcontractor, shall give written notice of this nondiscrimination requirement to any labor organizations with which Contractor, or subcontractor, has a collective bargaining or other agreement.
- D. Obligation to Cooperate. Contractor, including any subcontractor, shall cooperate and comply with any Washington state agency investigation regarding any allegation that Contractor, including any subcontractor, has engaged in discrimination prohibited by this Contract pursuant to RCW 49.60.530(3).
- E. Default. Notwithstanding any provision to the contrary, Owner may suspend Contractor, including any subcontractor, upon notice of a failure to participate and cooperate with any state agency investigation into alleged discrimination prohibited by this Contract, pursuant to RCW 49.60.530(3). Any such suspension will remain in place until Owner receives notification that Contractor, including any subcontractor, is cooperating with the investigating state agency. In the event Contractor, or subcontractor, is determined to have engaged in discrimination identified at RCW 49.60.530(3), Owner may terminate this Contract in whole or in part, and Contractor, subcontractor, or both, may be referred for debarment as provided in RCW 39.26.200. Contractor or subcontractor may be given a reasonable time in which to cure this noncompliance, including implementing conditions consistent with any court-ordered injunctive relief or settlement agreement.
- F. Remedies for Breach. Notwithstanding any provision to the contrary, in the event of Contract termination or suspension for engaging in discrimination, Contractor, subcontractor, or both, shall be liable for contract damages as authorized by law including, but not limited to, any cost difference between the original contract and the replacement or cover contract and all administrative costs directly related to the replacement contract, which damages are distinct from any penalties imposed under Chapter 49.60, RCW. Owner shall have the right to deduct from any monies due to Contractor or subcontractor, or that thereafter become due, an amount for damages Contractor or subcontractor will owe Owner for default under this provision.

5.07 SAFETY PRECAUTIONS

- A. In performing this contract, the Contractor shall provide for protecting the lives and health of employees and other persons; preventing damage to property, materials, supplies, and equipment; and avoid work interruptions. For these purposes, the Contractor shall:

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1. Follow Washington Industrial Safety and Health Act (WISHA) regional directives and provide a site-specific safety program that will require an accident prevention and hazard analysis plan for the contractor and each subcontractor on the work site. The Contractor shall submit a site-specific safety plan to the Owner's representative prior to the initial scheduled construction meeting.
 2. Provide adequate safety devices and measures including, but not limited to, the appropriate safety literature, notice, training, permits, placement and use of barricades, signs, signal lights, ladders, scaffolding, staging, runways, hoist, construction elevators, shoring, temporary lighting, grounded outlets, wiring, hazardous materials, vehicles, construction processes, and equipment required by Chapter 19.27 RCW, State Building Code (International Building, Electrical, Mechanical, Fire, and Uniform Plumbing Codes); Chapter 212-12 WAC, Fire Marshal Standards, Chapter 49.17 RCW, WISHA; Chapter 296-155 WAC, Safety Standards for Construction Work; Chapter 296-65 WAC; WISHA Asbestos Standard; WAC 296-62-071, Respirator Standard; WAC 296-62, General Occupation Health Standards, WAC 296-24, General Safety and Health Standards, WAC 296-24, General Safety and Health Standards, Chapter 49.70 RCW, and Right to Know Act.
 3. Comply with the State Environmental Policy Act (SEPA), Clean Air Act, Shoreline Management Act, and other applicable federal, state, and local statutes and regulations dealing with the prevention of environmental pollution and the preservation of public natural resources.
 4. Post all permits, notices, and/or approvals in a conspicuous location at the construction site.
 5. Provide any additional measures that the Owner determines to be reasonable and necessary for ensuring a safe environment in areas open to the public. Nothing in this part shall be construed as imposing a duty upon the Owner or A/E to prescribe safety conditions relating to employees, public, or agents of the Contractors.
 6. The Contractor shall make available a list of hazardous products being used on the project, and their respective Material Safety Data Sheets (MSDS) to the Engineer. This information will be required at the pre-construction conference.
- B. In carrying out its responsibilities according to the Contract Documents, Contractor shall protect the lives and health of employees performing the Work and other persons who may be affected by the Work; prevent damage to materials, supplies, and equipment whether on site or stored off-site; and prevent damage to other property at the site or adjacent thereto. Contractor shall comply with all applicable laws, ordinances, rules, regulations, and orders of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury, or loss; shall erect and maintain all necessary safeguards for such safety and protection; and shall notify owners of adjacent property and utilities when prosecution of the Work may affect them.
- C. Contractor shall maintain an accurate record of exposure data on all incidents relating to the Work resulting in death, traumatic injury, occupational disease, or damage to property, materials, supplies, or equipment. Contractor shall immediately report any such incident to Owner. Owner shall, at all times, have a right of access to all records of exposure.
- D. Contractor shall provide all persons working on the Project site with information and training on hazardous chemicals in their work at the time of their initial assignment, and whenever a new hazard is introduced into their work area.
1. Information. At a minimum, Contractor shall inform persons working on the Project site of:
 - a. The requirements of chapter 296-62 WAC, General Occupational Health Standards;
 - b. Any operations in their work area where hazardous chemicals are present; and
 - c. The location and availability of written hazard communication programs, including the required list(s) of hazardous chemicals and material safety data sheets required by chapter 296-62 WAC.
 2. Training. At a minimum, Contractor shall provide training for persons working on the Project site which includes:

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- a. Methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area (such as monitoring conducted by the employer, continuous monitoring devices, visual appearance or odor of hazardous chemicals when being released, etc.);
 - b. The physical and health hazards of the chemicals in the work area;
 - c. The measures such persons can take to protect themselves from these hazards, including specific procedures Contractor, or its Subcontractors, or others have implemented to protect those on the Project site from exposure to hazardous chemicals, such as appropriate work practices, emergency procedures, and personal protective equipment to be used; and
 - d. The details of the hazard communications program developed by Contractor, or its Subcontractors, including an explanation of the labeling system and the material safety data sheet, and how employees can obtain and use the appropriate hazard information.
- E. Contractor's responsibility for hazardous, toxic, or harmful substances shall include the following duties:
1. Contractor shall not keep, use, dispose, transport, generate, or sell on or about the Project site, any substances now or hereafter designated as, or which are subject to regulation as, hazardous, toxic, dangerous, or harmful by any federal, state or local law, regulation, statute or ordinance (hereinafter collectively referred to as "hazardous substances", in violation of any such law, regulation, statute, or ordinance, but in no case shall any such hazardous substance be stored more than 90 days on the Project site.
 2. Contractor shall promptly notify Owner of all spills or releases of any hazardous substances which are otherwise required to be reported to any regulatory agency and pay the cost of cleanup. Contractor shall promptly notify Owner of all failures to comply with any federal, state, or local law, regulation, or ordinance; all inspections of the Project site by any regulatory entity concerning the same; all regulatory orders or fines; and all responses or interim cleanup actions taken by or proposed to be taken by any government entity or private party on the Project site.
- F. All Work shall be performed with due regard for the safety of the public. Contractor shall perform the Work so as to cause a minimum of interruption of vehicular traffic or inconvenience to pedestrians. All arrangements to care for such traffic shall be Contractor's responsibilities. All expenses involved in the maintenance of traffic by way of detours shall be borne by Contractor.
- G. In an emergency affecting the safety of life or the Work or of adjoining property, Contractor is permitted to act, at its discretion, to prevent such threatened loss or injury, and Contractor shall so act if so authorized or instructed.
- H. Nothing provided in this section shall be construed as imposing any duty upon Owner or A/E with regard to, or as constituting any express or implied assumption of control or responsibility over, Project site safety, or over any other safety conditions relating to employees or agents of Contractor or any of its Subcontractors, or the public.

5.08 OPERATIONS, MATERIAL HANDLING, AND STORAGE AREAS

- A. Contractor shall confine all operations, including storage of materials, to Owner-approved areas.
- B. Temporary buildings (e.g., storage sheds, shops, offices) and utilities may be provided by Contractor only with the consent of Owner and without expense to Owner. The temporary buildings and utilities shall remain the property of Contractor and shall be removed by Contractor at its expense upon completion of the Work.
- C. Contractor shall use only established roadways or temporary roadways authorized by Owner. When materials are transported in prosecuting the Work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer of the vehicle or prescribed by federal, state, or local law or regulation.
- D. Ownership and control of all materials or facility components to be demolished or removed from the Project site by Contractor shall immediately vest in Contractor upon severance of the component from the facility or severance of the material from the Project site. Contractor shall be responsible for compliance with all

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laws governing the storage and ultimate disposal. Contractor shall provide Owner with a copy of all manifests and receipts evidencing proper disposal when required by Owner or applicable law.

- E. Contractor shall be responsible for the proper care and protection of its materials and equipment delivered to the Project site. Materials and equipment may be stored on the premises subject to approval of Owner. When Contractor uses any portion of the Project site as a shop, Contractor shall be responsible for any repairs, patching, or cleaning arising from such use.
- F. Contractor shall protect and be responsible for any damage or loss to the Work, or to the materials or equipment until the date of Substantial Completion, and shall repair or replace without cost to Owner any damage or loss that may occur, except damages or loss caused by the acts or omissions of Owner. Contractor shall also protect and be responsible for any damage or loss to the Work, or to the materials or equipment, after the date of Substantial Completion, and shall repair or replace without cost to Owner any such damage or loss that might occur, to the extent such damages or loss are caused by the acts or omissions of Contractor, or any Subcontractor.
- G. Any removed item shall be salvaged without undue damage and stockpiled in a neat and orderly fashion in an area designated by the Engineer. All removed items shall remain the property of the Owner, unless, due to their condition, they are rejected by the Engineer. All materials of whatever nature that are rejected shall be properly disposed by the Contractor in compliance with all laws and regulations.
- H. If designated campsites or emergency overflow areas are approved for use, the Contractor shall comply with all campground rules and regulations of the Washington State Parks and Recreation Commission and the park manager.

5.09 PRIOR NOTICE OF EXCAVATION

- A. "Excavation" means an operation in which earth, rock, or other material on or below the ground is moved or otherwise displaced by any means, except the tilling of soil less than 12 (twelve) inches in depth for agricultural purposes, or road ditch maintenance that does not change the original road grade or ditch flow line. Before commencing any excavation, Contractor shall provide notice of the scheduled commencement of excavation to all owners of underground facilities or utilities, through locator services.

5.10 UNFORESEEN PHYSICAL CONDITIONS

- A. If Contractor encounters conditions at the site which are subsurface or otherwise concealed physical conditions which differ materially from those indicated in the Contract Documents, or unknown physical conditions of an unusual nature which differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, then Contractor shall give written notice to Owner promptly and in no event later than 7 (seven) days after the first observance of the conditions. Conditions shall not be disturbed prior to such notice.
- B. If such conditions differ materially and cause a change in Contractor's cost of, or time required for, performance of any part of the Work, the Contractor may be entitled to an equitable adjustment in the Contract Time or Contract Sum, or both, provided it makes a request therefore as provided in part 7.

5.11 PROTECTION OF EXISTING STRUCTURES, EQUIPMENT, VEGETATION, UTILITIES, AND IMPROVEMENTS

- A. Contractor shall protect from damage all existing structures, equipment, improvements, utilities, and vegetation: at or near the Project site; and on adjacent property of a third party, the locations of which are made known to or should be known by Contractor. Contractor shall repair any damage, including that to the property of a third party, resulting from failure to comply with the requirements of the Contract Documents or failure to exercise reasonable care in performing the Work. If Contractor fails or refuses to repair the damage promptly, Owner may have the necessary work performed and charge the cost to Contractor.
- B. Contractor shall only remove trees when specifically authorized to do so, and shall protect vegetation that will remain in place.
- C. In general, the locations of existing major utilities and equipment, whether above ground or underground, are indicated on the drawings. This information has been obtained from utility maps and verbal

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descriptions. The Engineer does not guarantee the accuracy or completeness of this information. Other above ground or underground facilities not shown on the drawings may be encountered during the course of the work for which the Contractor is fully responsible to properly locate and identify within the construction area.

- D. Existing above ground and underground facilities and appurtenant structures, which includes but is not limited to, power transmission and distribution, telephone, alarm systems, sanitary sewers, gas services, water service and house or yard drains and fences, shall be located, protected, maintained, relocated, rerouted, removed and restored as may be necessary by the Contractor for completion of the work, but in a manner satisfactory to their respective owners and operators of the services and to the Engineer with the least possible interruption to existing services.
- E. The Contractor shall be responsible for location and maintenance of existing utilities and improvements. Under no circumstances will errors or omissions in location of utilities or improvements, whether they be visible from the surface, buried, or otherwise obscured, be considered as a basis for a claim for additional compensation by the Contractor.
- F. All utilities shall be protected and maintained in continuous operation except where special arrangements have been made with the appropriate utility owner. All damaged utilities shall be restored to original condition, subject to the approval of its owner and at the Contractor's own expense.
- G. If requested, the Contractor shall provide record information about locations, depths, and dimensions of lines, appurtenances, and structures, and any other relevant information about electrical power, water, sewer, and other utilities.
- H. The Contractor shall provide the Engineer with the data required to make a detailed set of record plans. This data will be obtained and recorded by the Contractor during construction on plans supplied by the Engineer. The Contractor shall ensure that the data is obtained. Typical information to be gathered includes the locations of:
 - 1. Buried utilities
 - 2. Junctions of sewer wyes
 - 3. Junctions of electrical taps
 - 4. Clean-outs
 - 5. Deflection points of utilities
 - 6. Valves
- I. Procedure for obtaining this information will be developed by the Engineer working with the Contractor.
- J. Contractor shall protect all existing facilities using whatever methods are necessary, subject to the Engineer's approval. Trees, shrubs, vegetation, or lawn shall not be damaged, scarred, or destroyed unless deemed necessary for work on this contract. All trees damaged during construction shall be immediately repaired using SEAL AND HEAL or other materials as directed by the Engineer. Any damage to the above-mentioned items shall be repaired at the Contractor's expense and to the Engineer's satisfaction.
- K. In the event that archaeological resources are found or unearthed on public land during the performance of this contract, the Contractor shall be required to comply with RCW 27.44 and RCW 27.53 and the rules and regulations of the office of Archaeology and Historic Preservation, including compliance with all archaeological excavation permit requirements.

5.12 LAYOUT OF WORK

- A. Contractor shall plan and lay out the Work in advance of operations so as to coordinate all work without delay or revision.
- B. Contractor shall lay out the Work from Owner-established baselines and bench marks indicated on the Drawings, and shall be responsible for all field measurements in connection with the layout. Contractor shall furnish, at its own expense, all stakes, templates, platforms, equipment, tools, materials, and labor required to lay out any part of the Work. Contractor shall be responsible for executing the Work to the lines

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and grades that may be established. Contractor shall be responsible for maintaining or restoring all stakes and other marks established.

- C. The indicated limits of work shall be the controlling factor in the Contractor's scope of operation and no payment shall be due for work done out of the limits. Damage to areas not in the Contractor's work area shall be repaired at the Contractor's expense. Questions of what constitutes the work area shall be determined by the Engineer. Only the best methods of construction will be allowed.
- D. The Engineer may adjust or relocate any portion of the system to meet site requirements or to improve the system without additional compensation to the Contractor, provided such adjustments do not represent appreciable costs for additional labor and materials.

5.13 MATERIAL AND EQUIPMENT

- A. All equipment, material, and articles incorporated into the Work shall be new and of the most suitable grade for the purpose intended, unless otherwise specifically provided in the Contract Documents. References in the Specifications to equipment, material, articles, or patented processes by trade name, make, or catalog number, shall be regarded as establishing a standard quality and shall not be construed as limiting competition. Contractor may, at its option, use any equipment, material, article, or process that, in the judgment of A/E, is equal to that named in the specifications, unless otherwise specifically provided in the Contract Documents.
- B. Contractor shall do all cutting, fitting, or patching that may be required to make its several parts fit together properly, or receive or be received by work of others set forth in, or reasonably implied by, the Contract Documents. Contractor shall not endanger any work by cutting, excavating, or otherwise altering the Work and shall not cut or alter the work of any other contractor unless approved in advance by Owner.
- C. Should any of the Work be found defective, or in any way not in accordance with the Contract Documents, this work, in whatever stage of completion, may be rejected by Owner.
- D. The Contractor shall furnish proof of equality in all respects to the specified items when proposing alternate brands or materials. Any significant deviations from specifications, drawings, or equality must be noted by the Contractor when submitting alternate products or materials for approval. The Engineer shall be the sole judge of the equality and suitability of any products, materials, or components proposed by the Contractor as alternates to specified items. The Contractor shall bear all costs and make all secondary changes required to incorporate an approved substitute or alternate into the work. No offers for substitution will be acknowledged from suppliers, distributors, manufacturers, or subcontractors.

5.14 AVAILABILITY AND USE OF UTILITY SERVICES

- A. Owner shall make all reasonable utilities available to Contractor from existing outlets and supplies, as specified in the Contract Documents. Unless otherwise provided in the Contract Documents, the utility service consumed shall be charged to or paid for by Contractor at prevailing rates charged to Owner or, where the utility is produced by Owner, at reasonable rates determined by Owner. Contractor will carefully conserve any utilities furnished.
- B. Contractor shall, at its expense and in a skillful manner satisfactory to Owner, install and maintain all necessary temporary connections and distribution lines, together with appropriate protective devices, and all meters required to measure the amount of each utility used for the purpose of determining charges. Prior to the date of Final Acceptance, Contractor shall remove all temporary connections, distribution lines, meters, and associated equipment and materials.

5.15 TESTS AND INSPECTION

- A. Contractor shall maintain an adequate testing and inspection program and perform such tests and inspections as are necessary or required to ensure that the Work conforms to the requirements of the Contract Documents. Contractor shall be responsible for inspection and quality surveillance of all its Work and all Work performed by any Subcontractor. Unless otherwise provided, Contractor shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. Contractor shall give Owner timely notice of when and where tests and

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inspections are to be made. Contractor shall maintain complete inspection records and make them available to Owner.

- B. Owner may, at any reasonable time, conduct such inspections and tests as it deems necessary to ensure that the Work is in accordance with the Contract Documents. Owner shall promptly notify Contractor if an inspection or test reveals that the Work is not in accordance with the Contract Documents. Unless the subject items are expressly accepted by Owner, such Owner inspection and tests are for the sole benefit of Owner and do not:
 - 1. Constitute or imply acceptance;
 - 2. Relieve Contractor of responsibility for providing adequate quality control measures;
 - 3. Relieve Contractor of responsibility for risk of loss or damage to the Work, materials, or equipment;
 - 4. Relieve Contractor of its responsibility to comply with the requirements of the Contract Documents; or
 - 5. Impair Owner's right to reject defective or nonconforming items, or to avail itself of any other remedy to which it may be entitled.
- C. Neither observations by an inspector retained by Owner, the presence or absence of such inspector on the site, nor inspections, tests, or approvals by others, shall relieve Contractor from any requirement of the Contract Documents, nor is any such inspector authorized to change any term or condition of the Contract Documents.
- D. Contractor shall promptly furnish, without additional charge, all facilities, labor, material and equipment reasonably needed for performing such safe and convenient inspections and tests as may be required by Owner. Owner may charge Contractor any additional cost of inspection or testing when Work is not ready at the time specified by Contractor for inspection or testing, or when prior rejection makes re-inspection or retest necessary. Owner shall perform its inspections and tests in a manner that will cause no undue delay in the Work.
- E. The Owner shall have the right to appoint an Inspector who will have the authority to reject materials or workmanship which does not fulfill the requirements of these specifications. In case of dispute, the Contractor may appeal to the Engineer whose decision shall be final. The acceptance of any material by the Inspector shall not hinder its subsequent rejection if found defective. Rejected materials and workmanship shall be replaced promptly or be made good by the Contractor without additional cost to the Owner.
- F. Contractor shall deliver one (1) key for each type of lock installed on the project to the Engineer to enable the Engineer to enter all facilities under construction for the purpose of inspection. This includes temporary as well as State Parks' key-coded locks. All keys for key-coded locks shall be delivered to the Engineer as they are made available to the Contractor. These coded keys shall then be signed out to the Contractor on an accountable basis for security purposes.

5.16 CORRECTION OF NONCONFORMING WORK

- A. If a portion of the Work is covered contrary to the requirements in the Contract Documents, it must, if required in writing by Owner, be uncovered for Owner's observation and be replaced at the Contractor's expense and without change in the Contract Time.
- B. If, at any time prior to Final Completion, Owner desires to examine the Work, or any portion of it, which has been covered, Owner may request to see such Work and it shall be uncovered by Contractor. If such Work is in accordance with the Contract Documents, the Contractor shall be entitled to an adjustment in the Contract Sum for the costs of uncovering and replacement, and, if completion of the Work is thereby delayed, an adjustment in the Contract Time, provided it makes a request therefore as provided in part 7. If such Work is not in accordance with the Contract Documents, the Contractor shall pay the costs of examination and reconstruction.
- C. Contractor shall promptly correct Work found by Owner not to conform to the requirements of the Contract Documents, whether observed before or after Substantial Completion and whether or not fabricated, installed, or completed. Contractor shall bear all costs of correcting such nonconforming Work, including additional testing and inspections.

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- D. If, within one year after the date of Substantial Completion of the Work or designated portion thereof, or within one year after the date for commencement of any system warranties established under section 6.08, or within the terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, Contractor shall correct it promptly after receipt of written notice from Owner to do so. Owner shall give such notice promptly after discovery of the condition. This period of one year shall be extended, with respect to portions of Work first performed after Substantial Completion, by the period of time between Substantial Completion and the actual performance of the Work. Contractor's duty to correct with respect to Work repaired or replaced shall run for one year from the date of repair or replacement. Obligations under this paragraph shall survive Final Acceptance.
- E. Contractor shall remove from the Project site portions of the Work which are not in accordance with the requirements of the Contract Documents and are neither corrected by Contractor nor accepted by Owner.
- F. If Contractor fails to correct nonconforming Work within a reasonable time after written notice to do so, Owner may replace, correct, or remove the nonconforming Work and charge the cost thereof to the Contractor.
- G. Contractor shall bear the cost of correcting destroyed or damaged Work, whether completed or partially completed, caused by Contractor's correction or removal of Work which is not in accordance with the requirements of the Contract Documents.
- H. Nothing contained in this section shall be construed to establish a period of limitation with respect to other obligations which Contractor might have according to the Contract Documents. Establishment of the time period of one (1) year as described in paragraph 5.16D relates only to the specific obligation of Contractor to correct the Work, and has no relationship to the time within which the Contractor's obligation to comply with the Contract Documents may be sought to be enforced, including the time within which such proceedings may be commenced.
- I. If Owner prefers to accept Work which is not in accordance with the requirements of the Contract Documents, Owner may do so instead of requiring its removal and correction, in which case the Contract Sum may be reduced as appropriate and equitable.

5.17 CLEAN UP

Contractor shall at all times keep the Project site, including hauling routes, infrastructures, utilities, and storage areas, free from accumulations of waste materials. Before completing the Work, Contractor shall remove from the premises its rubbish, tools, scaffolding, equipment, and materials. Upon completing the Work, Contractor shall leave the Project site in a clean, neat, and orderly condition satisfactory to Owner. If Contractor fails to clean up as provided herein, and after reasonable notice from Owner, Owner may do so and the cost thereof shall be charged to Contractor.

5.18 ACCESS TO WORK

Contractor shall provide Owner and A/E access to the Work in progress wherever located.

5.19 OTHER CONTRACTS

Owner may undertake or award other contracts for additional work at or near the Project site. Contractor shall reasonably cooperate with the other contractors and with Owner's employees and shall carefully adapt scheduling and perform the Work in accordance with these Contract Documents to reasonably accommodate the other work.

5.20 SUBCONTRACTORS AND SUPPLIERS

- A. The Contractor shall include the language of this paragraph in each of its first tier subcontracts, and shall require each of its subcontractors to include the same language of this section in each of their subcontracts, adjusting only as necessary the terms used for the contracting parties. Upon request of the Owner, the Contractor shall promptly provide documentation to the Owner demonstrating that the subcontractor meets the subcontractor responsibility criteria below. The requirements of this paragraph apply to all subcontractors regardless of tier. At the time of subcontract execution, the Contractor shall verify that each of its first tier subcontractors meets the following bidder responsibility criteria:

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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 subcontract bid submittal;
 2. Have a current Washington Unified Business Identifier (UBI) number;
 3. If applicable, have:
 - a. Industrial Insurance (workers' compensation) coverage for the subcontractor's employees working in Washington, as required in Title 51 RCW;
 - b. A Washington Employment Security Department number, as required in Title 50 RCW;
 - c. A Washington Department of Revenue state excise tax registration number, as required in Title 82 RCW;
 - d. An electrical contractor license, if required by Chapter 19.28 RCW;
 - e. An elevator contractor license, if required by Chapter 70.87 RCW.
 4. Not be disqualified from bidding on any public works contract under RCW 39.06.010 or 39.12.065 (3).
 5. On a project subject to the apprenticeship utilization requirements in RCW 39.04.320, 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 date of the Owner's first advertisement of the project.
- B. Prior to submitting the first Application for Payment, Contractor shall furnish in writing to Owner, on Owner provided form(s), the names, addresses, telephone numbers, and Tax Identification Numbers (TIN) of all subcontractors, as well as suppliers providing materials in excess of \$2,500.00 which Contractor believes to be MBE or WBE owned businesses, or have identified themselves to the Contractor as MBE or WBE, or are Washington State OMWBE certified. The Contractor shall indicate the anticipated dollar value of each MWBE subcontract. Contractor shall utilize subcontractors and suppliers, which are experienced and qualified, and meet the requirements of the Contract Documents, if any. Contractor shall not utilize any subcontractor or supplier to whom the Owner has a reasonable objection, and shall obtain Owner's written consent before making any substitutions or additions. The Owner may direct the Contractor, at no additional cost to the Owner, to remove and substitute any subcontractor(s) found to be out of compliance with the "Off-Site Prefabricated Non-Standard Project Specific Items" reporting requirements more than one time as determined by the Department of Labor and Industries and as defined in EHB 2805 that amends RCW 39.04.
- C. All Subcontracts must be in writing. By appropriate written agreement, Contractor shall require each Subcontractor, so far as applicable to the Work to be performed by the Subcontractor, to be bound to Contractor by terms of the Contract Documents, and to assume toward Contractor all the obligations and responsibilities which Contractor assumes toward Owner in accordance with the Contract Documents. Each Subcontract shall preserve and protect the rights of Owner in accordance with the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights. Where appropriate, Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. However, nothing in this paragraph shall be construed to alter the contractual relations between Contractor and its Subcontractors with respect to insurance or bonds.
- D. Contractor shall schedule, supervise, and coordinate the operations of all Subcontractors. No Subcontracting of any of the Work shall relieve Contractor from its responsibility for the performance of the Work in accordance with the Contract Documents or any other obligations of the Contract Documents.
- E. Each subcontract agreement for a portion of the Work is hereby assigned by Contractor to Owner provided that:
1. The assignment is effective only after termination by Owner for cause pursuant to section 9.01 and only for those Subcontracts which Owner accepts by notifying the Subcontractor in writing; and
 2. After the assignment is effective, Owner will assume all future duties and obligations toward the Subcontractor which Contractor assumed in the Subcontract.
 3. The assignment is subject to the prior rights of the surety, if any, obligated under any bond provided in accordance with the Contract Documents.

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5.21 WARRANTY OF CONSTRUCTION

- A. In addition to any special warranties provided elsewhere in the Contract Documents, Contractor warrants that all Work conforms to the requirements of the Contract Documents and is free of any defect in equipment, material, or design furnished, or workmanship performed, by Contractor.
- B. With respect to all warranties, express or implied, for Work performed or materials furnished according to the Contract Documents, Contractor shall:
 - 1. Obtain all warranties that would be given in normal commercial practice;
 - 2. Require all warranties to be executed, in writing, for the benefit of Owner;
 - 3. Enforce all warranties for the benefit of Owner, if directed by Owner; and
 - 4. Be responsible to enforce any subcontractor's, manufacturer's, or supplier's warranty should they extend beyond the period specified in the Contract Documents.
- C. The obligations under this section shall survive Final Acceptance.

5.22 INDEMNIFICATION

- A. Contractor shall defend, indemnify, and hold Owner and A/E harmless from and against all claims, demands, losses, damages, or costs, including but not limited to damages arising out of bodily injury or death to persons and damage to property, caused by or resulting from:
 - 1. The sole negligence of Contractor or any of its Subcontractors;
 - 2. The concurrent negligence of Contractor, or any Subcontractor, but only to the extent of the negligence of Contractor or such Subcontractor; and
 - 3. The use of any design, process, or equipment which constitutes an infringement of any United States patent presently issued, or violates any other proprietary interest, including copyright, trademark, and trade secret.
- B. In any action against Owner and any other entity indemnified in accordance with this section, by any employee of Contractor, its Subcontractors, Sub-subcontractors, agents, or anyone directly or indirectly employed by any of them, the indemnification obligation of this section shall not be limited by a limit on the amount or type of damages, compensation, or benefits payable by or for Contractor or any Subcontractor under RCW Title 51, the Industrial Insurance Act, or any other employee benefit acts. In addition, Contractor waives immunity as to Owner and A/E only, in accordance with RCW Title 51.

5.23 AMERICANS WITH DISABILITIES ACT (ADA) COMPLIANCE

- A. **General Requirements**

The Contractor and subcontractor shall ensure that all work performed under this Contract complies with the Americans with Disabilities Act (ADA), as codified in 28 C.F.R. § 35.151, and the 2010 ADA Standards for Accessible Design. The Contractor and subcontractor shall construct and maintain all accessible features in operable condition and correct any identified deficiencies in a timely manner.
- B. **Accessibility in New Construction and Alterations**
 - 1. All new facilities and alterations to existing facilities shall be designed and constructed in a manner that ensures accessibility and usability for individuals with disabilities, consistent with ADA accessibility standards.
 - 2. Alterations shall, to the maximum extent feasible, ensure the altered area and the associated path of travel comply with accessibility requirements.
 - 3. If technical infeasibility prevents full compliance, the Contractor and subcontractor shall notify the Owner's Representative and submit a written request for determination of technical infeasibility.

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4. The Contractor and subcontractor shall coordinate with the Owner to ensure that all public notices related to temporary accessibility interruptions are posted on the project site and on designated agency communication channels.
- C. Maintenance and Inspection of Accessible Features
1. The Contractor and subcontractor shall be responsible for maintaining accessible routes, parking, restrooms, and other accessible features in operable condition throughout the duration of the Work.
 2. Any temporary disruptions affecting accessibility shall be scheduled in a manner that minimizes impact and includes reasonable alternative accommodations where feasible.
 3. The Contractor and subcontractor shall notify the Owner immediately if any accessibility feature is found to be non-compliant or requires repair.
- D. Historic Structures
- If the Work involves historic structures or landscapes that are listed or eligible for listing in the National Register of Historic Places, modifications shall be made in compliance with ADA requirements to the maximum extent feasible. The State Historic Preservation Officer (SHPO) must approve any exemptions for alterations that may impact the historic significance of a structure or landscape.
- E. Compliance and Documentation
1. The Contractor and subcontractor shall comply with all applicable local, state, and federal accessibility requirements.
 2. Any non-compliant work shall be corrected at the Contractor's expense prior to final acceptance.
- F. Submission of Progress Reports – Americans with Disabilities Act (ADA) Compliance
- The Contractor shall submit regular progress reports to the Owner, which shall include the following:
1. Status of Accessible Features – Updates on the construction, installation, and maintenance of all accessibility-related features in accordance with ADA standards.
 2. Compliance Issues – Identification of any non-compliance issues encountered, including deviations from ADA accessibility standards, technical infeasibility determinations, or unforeseen site conditions affecting accessibility.
 3. Corrective Actions – Description of corrective actions taken or proposed to address any identified accessibility deficiencies, including timelines for remediation and any required approvals from the Owner.
 4. Temporary Disruptions – Notification of any planned or unplanned interruptions to accessibility features, including measures taken to minimize impacts and alternative accommodations provided.
 5. Final Verification – Prior to Substantial Completion, the Contractor shall provide documentation verifying that all constructed and altered elements comply with applicable ADA requirements, subject to inspection and approval by the Owner.

Failure to comply with the provisions of this section may result in suspension of the Work, withholding of payment or other remedies as deemed necessary by the Owner.

PART 6 - PAYMENTS AND COMPLETION

6.01 CONTRACT SUM

Owner shall pay Contractor the Contract Sum for performance of the Work, in accordance with the Contract Documents. The Contract Sum shall include all taxes imposed by law and properly chargeable to the Project, including sales tax.

6.02 SCHEDULE OF VALUES

Before submitting its first Application for Payment, Contractor shall submit to Owner for approval a breakdown allocating the total Contract Sum to each principle category of work, in such detail as requested by Owner ("Schedule of Values"). The approved Schedule of Values shall include appropriate amounts for demobilization, record drawings, O&M manuals, and any other requirements for Project closeout, and shall be used by Owner as the basis for progress payments. Payment for Work shall be made only for and in accordance with those items included in the Schedule of Values.

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6.03 APPLICATION FOR PAYMENT

- A. At monthly intervals, unless determined otherwise by Owner, Contractor shall submit to Owner an itemized Application for Payment for Work completed in accordance with the Contract Documents and the approved Schedule of Values. Each application shall be supported by such substantiating data as Owner may require.
- B. By submitting an Application for Payment, Contractor is certifying that all Subcontractors have been paid, less earned retainage in accordance with RCW 60.28.010, as their interests appeared in the last preceding certificate of payment. By submitting an Application for Payment, Contractor is recertifying that the representations set forth in section 1.03 are true and correct, to the best of Contractor's knowledge, as of the date of the Application for Payment.
- C. At the time it submits an Application for Payment, Contractor shall analyze and reconcile, to the satisfaction of Owner, the actual progress of the Work with the Progress Schedule.
- D. If authorized by Owner, the Application for Payment may include request for payment for material delivered to the Project site and suitably stored, or for completed preparatory work. Payment may similarly be requested for material stored off the Project site, provided Contractor complies with or furnishes satisfactory evidence of the following:
 - 1. The material will be placed in a warehouse that is structurally sound, dry, lighted, and suitable for the materials to be stored;
 - 2. The warehouse is located within a 10-mile radius of the Project. Other locations may be utilized, if approved in writing, by Owner;
 - 3. Only materials for the Project are stored within the warehouse (or a secure portion of a warehouse set aside for the Project);
 - 4. Contractor furnishes Owner a certificate of insurance extending Contractor's insurance coverage for damage, fire, and theft to cover the full value of all materials stored, or in transit;
 - 5. The warehouse (or secure portion thereof) is continuously under lock and key, and only Contractor's authorized personnel shall have access;
 - 6. Owner shall at all times have the right of access in company of Contractor;
 - 7. Contractor and its surety assume total responsibility for the stored materials; and
 - 8. Contractor furnishes to Owner certified lists of materials stored, bills of lading, invoices, and other information as may be required, and shall also furnish notice to Owner when materials are moved from storage to the Project site.

6.04 PROGRESS PAYMENTS

- A. Owner shall make progress payments, in such amounts as Owner determines are properly due, within 30 days after receipt of a properly executed Application for Payment. Owner shall notify Contractor in accordance with RCW 39.76 if the Application for Payment does not comply with the requirements of the Contract Documents.
- B. Owner shall retain 5% (five percent) of the amount of each progress payment until forty-five (45) days after Final Acceptance and receipt of all documents required by law or the Contract Documents, including, at Owner's request, consent of surety to release of the retainage. In accordance with RCW 60.28, Contractor may request that monies reserved be retained in a fund by Owner, deposited by Owner in a bank or savings and loan, or placed in escrow with a bank or trust company to be converted into bonds and securities to be held in escrow with interest to be paid to Contractor. Owner may permit Contractor to provide an appropriate bond in lieu of the retained funds.
- C. Title to all Work and materials covered by a progress payment shall pass to Owner at the time of such payment free and clear of all liens, claims, security interests, and encumbrances. Passage of title shall not,

GENERAL CONDITIONS FOR CONSTRUCTION AT WASHINGTON STATE PARKS

however, relieve Contractor from any of its duties and responsibilities for the Work or materials, or waive any rights of Owner to insist on full compliance by Contractor with the Contract Documents.

- D. Payments due and unpaid in accordance with the Contract Documents shall bear interest as specified in RCW 39.76.

6.05 PAYMENTS WITHHELD

- A. Owner may withhold or, on account of subsequently discovered evidence, nullify the whole or part of any payment to such extent as may be necessary to protect Owner from loss or damage for reasons including but not limited to:
1. Work not in accordance with the Contract Documents;
 2. Reasonable evidence that the Work required by the Contract Documents cannot be completed for the unpaid balance of the Contract Sum;
 3. Work by Owner to correct defective Work or complete the Work in accordance with section 5.17;
 4. Failure to perform in accordance with the Contract Documents; or
 5. Cost or liability that may occur to Owner as the result of Contractor's fault or negligent acts or omissions.
- B. In any case where part or all of a payment is going to be withheld for unsatisfactory performance, Owner shall notify Contractor in accordance with RCW 39.76.

6.06 RETAINAGE AND BOND CLAIM RIGHTS

- A. Prior to release of the contract retainage, an "Affidavit of Wages Paid", approved by the Washington State Department of Labor and Industries, must be on file in the Owner's office. Contracts over \$20,000, including tax, necessitate a clearance from the Washington State Department of Revenue and the Washington State Department of Employment Security. The Owner shall initiate action for the releases from the Departments of Revenue and Employment Security.
- B. RCW chapters 39.08 and 60.28, concerning the rights and responsibilities of Contractor and Owner with regard to the performance and payment bonds and retainage, are made a part of the Contract Documents by reference as though fully set forth herein.
- C. In accordance with RCW 60.28, the lien period for filing liens against the contract retainage shall be forty-five (45) days. Persons performing labor or furnishing supplies toward the completion of the contract who intend to file a lien against the contract retainage must do so within forty-five (45) days from the date of Final Acceptance of the contract by the Owner and in the manner as described in RCW 39.08.030.

6.07 SUBSTANTIAL COMPLETION

Substantial Completion is the stage in the progress of the Work (or portion thereof designated and approved by Owner) when the construction is sufficiently complete, in accordance with the Contract Documents, so Owner can fully occupy the Work (or the designated portion thereof) for the use for which it is intended. All Work other than incidental corrective or punch list work shall be completed. Substantial Completion shall not have been achieved if all systems and parts are not functional, if utilities are not connected and operating normally, if all required occupancy permits have not been issued, or if the Work is not accessible by normal vehicular and pedestrian traffic routes. The date Substantial Completion is achieved shall be established in writing by Owner. Contractor may request an early date of Substantial Completion which must be approved by Change Order. Owner's occupancy of the Work or designated portion thereof does not necessarily indicate that Substantial Completion has been achieved.

6.08 PRIOR OCCUPANCY

- A. Owner may, upon written notice thereof to Contractor, take possession of or use any completed or partially completed portion of the Work ("Prior Occupancy") at any time prior to Substantial Completion. Unless otherwise agreed in writing, Prior Occupancy shall not: be deemed an acceptance of any portion of the

GENERAL CONDITIONS FOR CONSTRUCTION AT WASHINGTON STATE PARKS

Work; accelerate the time for any payment to Contractor; prejudice any rights of Owner provided by any insurance, bond, guaranty, or the Contract Documents; relieve Contractor of the risk of loss or any of the obligations established by the Contract Documents; establish a date for termination or partial termination of the assessment of liquidated damages; or constitute a waiver of claims.

- B. Notwithstanding anything in the preceding paragraph, Owner shall be responsible for loss of or damage to the Work resulting from Prior Occupancy. Contractor's one (1) year duty to repair and any system warranties shall begin on building systems activated and used by Owner as agreed in writing by Owner and Contractor.

6.09 FINAL COMPLETION, ACCEPTANCE, AND PAYMENT

- A. Final Completion shall be achieved when the Work is fully and finally complete in accordance with the Contract Documents. The date Final Completion is achieved shall be established by Owner in writing.
- B. Final Acceptance is the formal action of Owner acknowledging Final Completion. Prior to Final Acceptance, Contractor shall, in addition to all other requirements in the Contract Documents, submit to Owner a written notice of any outstanding disputes or claims between Contractor and any of its Subcontractors, including the amounts and other details thereof. Neither Final Acceptance, nor final payment, shall release Contractor or its sureties from any obligations of these Contract Documents or the Public Works Bond, or constitute a waiver of any claims by Owner arising from Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Acceptance of final payment by Contractor, or any Subcontractor, shall constitute a waiver and release to Owner of all claims by Contractor, or any such Subcontractor, for an increase in the Contract Sum or the Contract Time, and for every act or omission of Owner relating to or arising out of the Work, except for those Claims made in accordance with the procedures, including the time limits, set forth in part 8.

PART 7 - CHANGES

7.01 CHANGES IN THE WORK

- A. 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 section 7.02 or 7.03, respectively, and such adjustment(s) shall be incorporated into a Change Order.
- B. If Owner desires to order a change in the Work, it may request a written Change Order Proposal (COP) from Contractor. Contractor shall submit a Change Order Proposal within 14 (fourteen) days of the request from Owner, 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, including any adjustment in the Contract Sum or Contract Time, and including compensation for all delays in connection with such change in the Work and for any expense or inconvenience, disruption of schedule, or loss of efficiency or productivity occasioned by the change in the Work.
- C. 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 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 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-directed change in the Work shall be executed in accordance with the Contract Documents.
- D. If Owner and Contractor reach agreement on the terms of any change in the Work, including any adjustment 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.

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- E. If Owner 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. Owner shall provide Contractor with its written response within 30 (thirty) days of Contractor's request. Owner may also provide Contractor with a final offer at any time. If Contractor rejects Owner'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 part 8.
- F. Field Authorization
 - 1. The Field Authorization (FA) is executed as a directive to proceed with work when the processing time for an approved change order would impact the project.
 - 2. A scope of work must be defined, a maximum not to exceed cost agreed upon, and any estimated modification to the contract completion time determined. The method of final cost verification must be noted and supporting cost data must be submitted in accordance with the requirements of Part 7 of the General Conditions. Upon satisfactory submittal and approval of supporting cost data, the completed FA will be processed into a change order. No payment will be made to the Contractor for FA work until that FA is converted to a Change Order.

7.02 CHANGES IN THE CONTRACT SUM

- A. General Application
 - 1. 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.
 - 2. 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 as defined in Section 3.05.
 - a. A request for an equitable adjustment in the Contract Sum shall be based on written notice delivered to Owner within 7 (seven) 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 Owner and begin to keep and maintain complete, accurate, and specific daily records. Contractor shall give Owner access to any such records and, if requested shall promptly furnish copies of such records to Owner.
 - b. Contractor shall not be entitled to any adjustment in the Contract Sum for any occurrence of events or costs that occurred more than 7 (seven) days before Contractor's written notice to Owner. 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 of any tier, 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.
 - c. Within 30 (thirty) 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 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

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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 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.

- d. 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.
 - e. 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.
3. 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:
 - a. On the basis of a fixed price as determined in paragraph 7.02B.
 - b. By application of unit prices to the quantities of the items involved as determined in paragraph 7.02C.
 - c. On the basis of time and material as determined in paragraph 7.02D.
 4. When Owner has requested Contractor to submit a Change Order proposal, Owner 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 a request for an equitable adjustment, on the basis of the fixed price method.

B. 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 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 Owner.
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.

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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." Direct supervision shall be a reasonable percentage not to exceed 15% (fifteen percent) of the cost of direct labor. No supervision markup shall be allowed for a working supervisor's hours.
 - 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.
 - 4) Travel allowance: Travel allowance and/or subsistence, if applicable, not exceeding those allowances established by regional labor union agreements, which are itemized and identified separately.
 - 5) Safety: Cost incurred due to the Washington Industrial Safety and Health Act, which shall be a reasonable percentage not to exceed 2% (two percent) of the sum of the amounts calculated in (1), (2), and (3) above.
 - 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 first from actual known costs, second from supplier quotations or if these are not available, from 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 computed on the basis of actual invoice costs or if owned, from the current edition of one of the following sources:
 - 1) Associated General Contractors - Washington State Department of Transportation (AGC-WSDOT) Equipment Rental Agreement; current edition, on the Contract execution date.
 - 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 that shown in the AGC WSDOT Equipment Rental Agreement, current edition, on the Contract execution date.
 - d. Allowance for small tools, expendables, and consumable supplies: Small tools consist of tools which cost \$250 or less and are normally furnished by the performing contractor. The maximum rate for small tools shall not exceed the following:

GENERAL CONDITIONS FOR CONSTRUCTION AT WASHINGTON STATE PARKS

- 1) For Contractor, 3% (three percent) of direct labor costs.
- 2) For Subcontractors, 5% (five percent) 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: 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 in the Contract Sum but not to the cost of any change in the Contract Time for which contractor has been compensated pursuant to the conditions set forth in Section 7.03. This allowance shall compensate Contractor for all non-craft labor, temporary construction facilities, field engineering, schedule updating, record drawings, home office cost, B&O taxes, office engineering, estimating 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 rates below:

1) For projects where the Contract Award Amount is under \$3 million, the following shall apply:

- a) For Contractor, for any Work actually performed by Contractor's own forces, 16% (sixteen percent) of the first \$50,000 of the cost, and 4% (four percent) of the remaining cost, if any.
- b) For each Subcontractor (including lower tier subcontractors), for any Work actually performed by its own forces, 16% (sixteen percent) of the first \$50,000 of the cost, and 4% (four percent) of the remaining cost, if any.
- c) For Contractor, for any work performed by its Subcontractor(s), 6% (six percent) of the first \$50,000 of the amount due each Subcontractor, and 4% (four percent) of the remaining amount if any.
- d) For each Subcontractor, for any Work performed by its Subcontractor(s) of any lower tier, 4% (four percent) of the first \$50,000 of the amount due the sub-Subcontractor, and 2% (two percent) of the remaining amount if any.
- e) The cost to which overhead is to be applied shall be determined in accordance with subparagraphs a.-e. above.

2) For projects where the Contract Award Amount is equal to or exceeds \$3 million, the following shall apply:

- a) For Contractor, for any Work actually performed by Contractor's own forces, 12% (twelve percent) of the first \$50,000 of the cost, and 4% (four percent) of the remaining cost, if any.
- b) For each Subcontractor (including lower tier subcontractors), for any Work actually performed by its own forces, 12% (twelve percent) of the first \$50,000 of the cost, and 4% (four percent) of the remaining cost, if any.
- c) For Contractor, for any Work performed by its Subcontractor(s), 4% (four percent) of the first \$50,000 of the amount due each Subcontractor, and 2% (two percent) of the remaining amount if any.
- d) For each Subcontractor, for any Work performed by its Subcontractor(s) of any lower tier, 4% (four percent) of the first \$50,000 of the amount due the sub-Subcontractor, and 2% (two percent) of the remaining amount if any.

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- e) The cost to which overhead is to be applied shall be determined in accordance with subparagraphs a.- e. above.
- g. Allowance for profit: This is an amount to be added to the cost of any change in contract sum, but not to the cost of change in Contract Time for which contractor has been compensated pursuant to the conditions set forth in section 7.03. It shall be limited to a reasonable amount, mutually acceptable, or if none can be agreed upon, to an amount not to exceed the rates below:
 - 1) For Contractor or Subcontractor of any tier for work performed by their forces, 6% (six percent) of the cost developed in accordance with Section 7.02 b. 7a.- e.
 - 2) For Contractor or Subcontractor of any tier for work performed by a subcontractor of a lower tier, 4% (four percent) of the Subcontractor cost developed in accordance with Section 7.02 b. 7a. - h.
- h. 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: 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 allowance for profit are calculated in accordance with subparagraph f. and g. above.

C. Change Order Pricing -- Unit Prices

- 1. Whenever Owner authorizes Contractor to perform Work on a unit-price basis, Owner's authorization shall clearly state:
 - a. Scope of work to be performed;
 - b. Type of reimbursement including pre-agreed rates for material quantities; and
 - c. Cost limit of reimbursement.
- 2. Contractor shall:
 - a. Cooperate with Owner 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 7.02B. 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.

D. Change Order Pricing -- Time-and-Material Prices

- 1. Whenever Owner authorizes Contractor to perform Work on a time-and-material basis, Owner's authorization shall clearly state:
 - a. Scope of Work to be performed;
 - b. Type of reimbursement including pre-agreed rates, if any, for material quantities or labor; and
 - c. Cost limit of reimbursement.
- 2. Contractor shall:

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- a. Cooperate with Owner and assist in monitoring the Work being performed. As requested by Owner, 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 Owner'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 Owner's prior written approval.
3. Contractor shall submit costs in accordance with paragraph 7.02B and additional verification supported by:
- a. Labor detailed on daily time sheets; and
 - b. Invoices for material.

7.03 CHANGES IN THE CONTRACT TIME

- A. 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. 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 (seven) 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 Owner access to any such record and if requested, shall promptly furnish copies of such record to Owner.
 2. Contractor shall not be entitled to an adjustment in the Contract Time for any events that occurred more than 7 (seven) days before Contractor's written notice to Owner. 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 (thirty) 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 7.03B.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 Owner. 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. 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

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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. Contractor may request compensation for the cost of a change in Contract Time in accordance with this paragraph, 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 A/E;
 2. Compensation under this paragraph is limited to changes in Contract Time for which Contractor is not entitled to be compensated under section 7.02;
 3. Contractor shall follow the procedure set forth in paragraph 7.03B;
 4. Contractor shall establish the extent of the change in Contract Time in accordance with paragraph 7.03C; and
 5. The daily cost of any change in Contract Time shall be limited to the items below, less funds that may have been paid pursuant to a change in the Contract Sum that contributed to this change in Contract Time:
 - a. cost of nonproductive field supervision or labor extended because of the 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% (three percent) of Contract Sum divided by the Contract Time for each day of the delay.

PART 8 - CLAIMS AND DISPUTE RESOLUTION

8.01 CLAIMS PROCEDURE

- A. If the parties fail to reach agreement on the terms of any Change Order for Owner-directed Work as provided in section 7.01, or on the resolution of any request for an equitable adjustment in the Contract Sum as provided in section 7.02 or the Contract Time as provided in section 7.03, Contractor's only remedy shall be to file a Claim with Owner as provided in this section.
- B. Contractor shall file its Claim within the earlier of: 120 (one hundred twenty) days from Owner's final offer in accordance with either paragraph 7.01E or the date of Final Acceptance.
- C. The Claim shall be deemed to cover all changes in cost and time (including direct, indirect, impact, and consequential) to which Contractor may be entitled. It shall be fully substantiated and documented. At a minimum, the Claim shall contain the following information:
1. A detailed factual statement of the Claim for additional compensation and time, if any, providing all necessary dates, locations, and items of Work affected by the Claim;
 2. The date on which facts arose which gave rise to the Claim
 3. The name of each employee of Owner or A/E knowledgeable about the Claim;
 4. The specific provisions of the Contract Documents which support the Claim;
 5. The identification of any documents and the substance of any oral communications that support the Claim;
 6. Copies of any identified documents, other than the Contract Documents, that support the Claim;
 7. If an adjustment in the Contract Time is sought: the specific days and dates for which it is sought; the specific reasons Contractor believes an extension in the Contract Time should be granted; and Contractor's analysis of its Progress Schedule to demonstrate the reason for the extension in Contract Time;

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8. If an adjustment in the Contract Sum is sought, the exact amount sought and a breakdown of that amount into the categories set forth in, and in the detail required by, section 7.02; and
 9. A statement certifying, under penalty of perjury, that the Claim is made in good faith, that the supporting cost and pricing data are true and accurate to the best of Contractor's knowledge and belief, that the Claim is fully supported by the accompanying data, and that the amount requested accurately reflects the adjustment in the Contract Sum or Contract Time for which Contractor believes Owner is liable.
- D. After Contractor has submitted a fully documented Claim that complies with all applicable provisions of parts 7 and 8, Owner shall respond, in writing, to Contractor as follows:
1. If the Claim amount is less than \$50,000, with a decision within 60 (sixty) days from the date the Claim is received; or
 2. If the Claim amount is \$50,000 or more, with a decision within 60 (sixty) days from the date the Claim is received, or with notice to Contractor of the date by which it will render its decision. Owner will then respond with a written decision in such additional time.
- E. To assist in the review of Contractor's Claim, Owner may visit the Project site, or request additional information, in order to fully evaluate the issues raised by the Claim. Contractor shall proceed with performance of the Work pending final resolution of any Claim. Owner's written decision as set forth above shall be final and conclusive as to all matters set forth in the Claim, unless Contractor follows the procedure set forth in section 8.02.
- F. Any Claim of the Contractor against the Owner for damages, additional compensation, or additional time, shall be conclusively deemed to have been waived by the Contractor unless timely made in accordance with the requirements of this section.

8.02 ARBITRATION

- A. If Contractor disagrees with Owner's decision rendered in accordance with paragraph 8.01D, Contractor shall provide Owner with a written demand for arbitration. No demand for arbitration of any such Claim shall be made later than 30 (thirty) days after the date of Owner's decision on such Claim; failure to demand arbitration within said 30-day period shall result in Owner's decision being final and binding upon Contractor and its Subcontractors.
- B. Notice of the demand for arbitration shall be filed with the American Arbitration Association (AAA), with a copy provided to Owner. The parties shall negotiate or mediate under the Voluntary Construction Mediation Rules of the AAA, or mutually acceptable service, before seeking arbitration in accordance with the Construction Industry Arbitration Rules of AAA as follows:
1. Disputes involving \$30,000 or less shall be conducted in accordance with the Northwest Region Expedited Commercial Arbitration Rules; or
 2. Disputes over \$30,000 shall be conducted in accordance with the Construction Industry Arbitration Rules of the AAA, unless the parties agree to use the expedited rules.
- C. All Claims arising out of the Work shall be resolved by arbitration. The judgment upon the arbitration award may be entered, or review of the award may occur, in the superior court having jurisdiction thereof. No independent legal action relating to or arising from the Work shall be maintained.
- D. Claims between Owner and Contractor, Contractor and its Subcontractors, Contractor and A/E, and Owner and A/E shall, upon demand by Owner, be submitted in the same arbitration or mediation.
- E. If the parties resolve the Claim prior to arbitration judgment, the terms of the resolution shall be incorporated in a Change Order. The Change Order shall constitute full payment and final settlement of the Claim, including all claims for time and for direct, indirect, or consequential costs, including costs of delays, inconvenience, disruption of schedule, or loss of efficiency or productivity.

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8.03 CLAIMS AUDITS

- A. All Claims filed against Owner shall be subject to audit at any time following the filing of the Claim. Failure of Contractor, or Subcontractors of any tier, to maintain and retain sufficient records to allow Owner to verify all or a portion of the Claim or to permit Owner access to the books and records of Contractor, or Subcontractors of any tier, shall constitute a waiver of the Claim and shall bar any recovery.
- B. In support of Owner audit of any Claim, Contractor shall, upon request, promptly make available to Owner the following documents:
1. Daily time sheets and supervisor's daily reports;
 2. Collective bargaining agreements;
 3. Insurance, welfare, and benefits records;
 4. Payroll registers;
 5. Earnings records;
 6. Payroll tax forms;
 7. Material invoices, requisitions, and delivery confirmations;
 8. Material cost distribution worksheet;
 9. Equipment records (list of company equipment, rates, etc.);
 10. Vendors', rental agencies', Subcontractors', and agents' invoices;
 11. Contracts between Contractor and each of its Subcontractors, and all lower-tier Subcontractor contracts and supplier contracts;
 12. Subcontractors' and agents' payment certificates;
 13. Cancelled checks (payroll and vendors);
 14. Job cost report, including monthly totals;
 15. Job payroll ledger;
 16. Planned resource loading schedules and summaries;
 17. General ledger;
 18. Cash disbursements journal;
 19. Financial statements for all years reflecting the operations on the Work. In addition, the Owner may require, if it deems it appropriate, additional financial statements for 3 (three) years preceding execution of the Work;
 20. Depreciation records on all company equipment whether these records are maintained by the company involved, its accountant, or others;
 21. If a source other than depreciation records is used to develop costs for Contractor's internal purposes in establishing the actual cost of owning and operating equipment, all such other source documents;
 22. All non-privileged documents which relate to each and every Claim together with all documents which support the amount of any adjustment in Contract Sum or Contract Time sought by each Claim;
 23. Work sheets or software used to prepare the Claim establishing the cost components for items of the Claim including but not limited to labor, benefits and insurance, materials, equipment, Subcontractors,

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all documents which establish the time periods, individuals involved, the hours for the individuals, and the rates for the individuals; and

24. Work sheets, software, and all other documents used by Contractor to prepare its bid.

- C. The audit may be performed by employees of Owner or a representative of Owner. Contractor, and its Subcontractors, shall provide adequate facilities acceptable to Owner, for the audit during normal business hours. Contractor, and all Subcontractors, shall make a good faith effort to cooperate with Owner's auditors.

PART 9 - TERMINATION OF THE WORK

9.01 TERMINATION BY OWNER FOR CAUSE

- A. Owner may, upon 7 (seven) days written notice to Contractor and to its surety, terminate (without prejudice to any right or remedy of Owner) the Work, or any part of it, for cause upon the occurrence of any one or more of the following events:
1. Contractor fails to prosecute the Work or any portion thereof with sufficient diligence to ensure Substantial Completion of the Work within the Contract Time;
 2. Contractor is adjudged bankrupt, makes a general assignment for the benefit of its creditors or a receiver is appointed on account of its insolvency;
 3. Contractor fails in a material way to replace or correct Work not in conformance with the Contract Documents;
 4. Contractor repeatedly fails to supply skilled workers or proper materials or equipment;
 5. Contractor repeatedly fails to make prompt payment due to Subcontractors or for labor;
 6. Contractor materially disregards or fails to comply with laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction; or
 7. Contractor is otherwise in material breach of any provision of the Contract Documents.
- B. Upon termination, Owner may at its option:
1. Take possession of the Project site and take possession of or use all materials, equipment, tools, and construction equipment and machinery thereon owned by Contractor to maintain the orderly progress of, and to finish, the Work;
 2. Accept assignment of subcontracts pursuant to section 5.20; and
 3. Finish the Work by whatever other reasonable method it deems expedient.
- C. Owner's rights and duties upon termination are subject to the prior rights and duties of the surety, if any, obligated under any bond provided in accordance with the Contract Documents.
- D. When Owner terminates the Work in accordance with this section, Contractor shall take the actions set forth in paragraph 9.02B, and shall not be entitled to receive further payment until the Work is accepted.
- E. If the unpaid balance of the Contract Sum exceeds the cost of finishing the Work, including compensation for A/E's services and expenses made necessary thereby and any other extra costs or damages incurred by Owner in completing the Work, or as a result of Contractor's actions, such excess shall be paid to Contractor. If such costs exceed the unpaid balance, Contractor shall pay the difference to Owner. These obligations for payment shall survive termination.
- F. Termination of the Work in accordance with this section shall not relieve Contractor or its surety of any responsibilities for Work performed.

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- G. If Owner terminates Contractor for cause, and it is later determined that none of the circumstances set forth in paragraph 9.01A exist, then such termination shall be deemed a termination for convenience pursuant to section 9.02.

9.02 TERMINATION BY OWNER FOR CONVENIENCE

- A. Owner may, upon written notice, terminate (without prejudice to any right or remedy of Owner) the Work, or any part of it, for the convenience of Owner.
- B. Unless Owner directs otherwise, after receipt of a written notice of termination for either cause or convenience, Contractor shall promptly:
1. Stop performing Work on the date and as specified in the notice of termination;
 2. Place no further orders or subcontracts for materials, equipment, services or facilities, except as may be necessary for completion of such portion of the Work as is not terminated;
 3. Cancel all orders and subcontracts, upon terms acceptable to Owner, to the extent that they relate to the performance of Work terminated;
 4. Assign to Owner all of the right, title, and interest of Contractor in all orders and subcontracts;
 5. Take such action as may be necessary or as directed by Owner to preserve and protect the Work, Project site, and any other property related to this Project in the possession of Contractor in which Owner has an interest; and
 6. Continue performance only to the extent not terminated.
- C. If Owner terminates the Work or any portion thereof for convenience, Contractor shall be entitled to make a request for an equitable adjustment for its reasonable direct costs incurred prior to the effective date of the termination, plus a reasonable allowance for overhead and profit on Work performed prior to termination, plus the reasonable administrative costs of the termination, but shall not be entitled to any other costs or damages, whatsoever, provided however, the total sum payable upon termination shall not exceed the Contract Sum reduced by prior payments. Contractor shall be required to make its request in accordance with the provisions of part 7.
- D. If Owner terminates the Work or any portion thereof for convenience, the Contract Time shall be adjusted as determined by Owner.

PART 10 - MISCELLANEOUS PROVISIONS

10.01 GOVERNING LAW

The Contract Documents and the rights of the parties herein shall be governed by the laws of the state of Washington. Venue shall be in the county in which Owner's principal place of business is located, unless otherwise specified.

10.02 SUCCESSORS AND ASSIGNS

Owner and Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to the other party hereto and to partners, successors, assigns, and legal representatives of such other party in respect to covenants, agreements, and obligations contained in the Contract Documents. Neither party shall assign the Work without written consent of the other, except that Contractor may assign the Work for security purposes, to a bank or lending institution authorized to do business in the state of Washington. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations set forth in the Contract Documents.

10.03 MEANING OF WORDS

Unless otherwise stated in the Contract Documents, words which have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings. Reference to standard specifications, manuals, or codes of any technical society, organization, or association, or

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to the code of any governmental authority, whether such reference be specific or by implication, shall be to the latest standard specification, manual, or code in effect on the date for submission of bids, except as may be otherwise specifically stated. Wherever in these Drawings and Specifications an article, device, or piece of equipment is referred to in the singular manner, such reference shall apply to as many such articles as are shown on the drawings, or required to complete the installation.

10.04 RIGHTS AND REMEDIES

No action or failure to act by Owner or A/E shall constitute a waiver of a right or duty afforded them under the Contract Documents, nor shall such action or failure to act constitute approval of an acquiescence in a breach therein, except as may be specifically agreed in writing.

10.05 CONTRACTOR REGISTRATION

Pursuant to RCW 39.06, Contractor shall be registered or licensed as required by the laws of the State of Washington, including but not limited to RCW 18.27.

10.06 TIME COMPUTATIONS

When computing any period of time, the day of the event from which the period of time begins shall not be counted. The last day is counted unless it falls on a weekend or legal holiday, in which event the period runs until the end of the next day that is not a weekend or holiday. When the period of time allowed is less than 7 (seven) days, intermediate Saturdays, Sundays, and legal holidays are excluded from the computation.

10.07 RECORDS RETENTION

The wage, payroll, and cost records of Contractor, and its Subcontractors, and all records subject to audit in accordance with section 8.03, shall be retained for a period of not less than 6 (six) years after the date of Final Acceptance.

10.08 THIRD-PARTY AGREEMENTS

The Contract Documents shall not be construed to create a contractual relationship of any kind between: A/E and Contractor; Owner and any Subcontractor; or any persons other than Owner and Contractor.

10.09 ANTITRUST ASSIGNMENT

Owner and Contractor recognize that in actual economic practice, overcharges resulting from antitrust violations are in fact usually borne by the purchaser. Therefore, Contractor hereby assigns to Owner any and all claims for such overcharges as to goods, materials, and equipment purchased in connection with the Work performed in accordance with the Contract Documents, except as to overcharges which result from antitrust violations commencing after the Contract Sum is established and which are not passed on to Owner under a Change Order. Contractor shall put a similar clause in its Subcontracts, and require a similar clause in its sub-Subcontracts, such that all claims for such overcharges on the Work are passed to Owner by Contractor.

10.10 MINORITY AND WOMEN'S BUSINESS ENTERPRISES (MWBE) PARTICIPATION

In Accordance with the legislative findings and policies set forth in Chapter 39.19 RCW the State of Washington encourages participation in all of its contracts by MWBE firms certified by the Office of Minority and Women's Business Enterprises (OMWBE). Participation may be either on a direct basis in response to this solicitation or as a subcontractor to a Bidder. Any affirmative action requirements set forth in federal regulations or statutes included or referenced in the contract documents will apply. Bidders may contact OMWBE to obtain information on certified firms for potential subcontractors/suppliers.

- A. When referred to in this Contract, the terms Minority Business Enterprise (MBE) and Women's Business Enterprise (WBE) will be as defined by OMWBE, WAC 326-02-030.
- B. The OMWBE has compiled a directory of certified firms. Copies of this directory may be obtained through the OMWBE. For information regarding the certification process or the certification status of a particular firm, contact:

OMWBE, 406 South Water Street, PO Box 41160, Olympia, WA 98504-1160, telephone (360) 753-9693.

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C. Eligible MWBEs or M/W firms

MWBE firms utilized for this project for voluntary MWBE goals may be certified by Washington State OMWBE or self identified as minority or women owned (M/W firm).

D. MWBE Voluntary Goals

The Owner has established voluntary goals for MWBE participation for this project. The voluntary goals are set forth in the Advertisement for Bids.

E. If any part of the contract, including the supply of materials and equipment, is anticipated to be subcontracted, then prior to receipt of the first payment, Contractor shall submit, pursuant to Section 5.20 A, a list of all subcontractors/suppliers it intends to use, designate whether any of the subcontractors/suppliers are MWBE firms, indicate the anticipated dollar value of each MWBE subcontract, and provide Tax Identification Number (TIN).

F. If any part of the contract, including the supply of materials and equipment is actually subcontracted during completion of the work, then prior to final acceptance or completion of the contract or as otherwise indicated in the contract documents, the Contractor shall submit a statement of participation indicating what MWBEs were used and the dollar value of their subcontracts.

G. The provisions of this section are not intended to replace or otherwise change the requirements of RCW 39.30.060. If said statute is applicable to this contract then the failure to comply with RCW 39.30.060 will still render a bid non-responsive.

H. The Contractor shall maintain, for at least three years after completion of this contract, relevant records and information necessary to document the level of utilization of MWBEs and other businesses as subcontractors and suppliers in this contract, as well as any efforts the Contractor makes to increase the participation of MWBEs as listed in section I below. The Contractor shall also maintain, for at least three years after completion of this contract, a record of all quotes, bids, estimates, or proposals submitted to the Contractor by all businesses seeking to participate as subcontractors or suppliers in this contract. The state shall have the right to inspect and copy such records. If this contract involves federal funds, Contractor shall comply with all record keeping requirements set forth in any federal rules, regulations, or statutes included or referenced in the contract documents.

I. Bidders should advertise opportunities for subcontractors or suppliers in a manner reasonably designed to provide MWBEs capable of performing the work with timely notice of such opportunities, and all advertisements shall include a provision encouraging participation by MWBE firms. Advertising may be done through general advertisements (e.g. newspapers, journals, etc.) or by soliciting bids directly from MWBEs. Bidders shall provide MWBEs that express interest with adequate and timely information about plans, specifications, and requirements of the contract.

J. Contractors shall not create barriers to open and fair opportunities for all businesses including MWBEs to participate in all State contracts and to obtain or compete for contracts and subcontracts as sources of supplies, equipment, construction and services.

K. Any violation of the mandatory requirements of this part of the contract shall be a material breach of contract for which the Contractor may be subject to a requirement of specific performance, or damages and sanctions provided by contract, by RCW 39.19.090, or by other applicable laws.

10.11 MINIMUM LEVELS OF APPRENTICESHIP PARTICIPATION

In accordance with Executive Order 00-01 the State of Washington may require apprenticeship participation for projects of a certain cost. The bid advertisement and Bid Proposal form shall establish the minimum percentage of apprentice labor hours as compared to the total labor hours.

A. Voluntary workforce diversity goals have been established for the apprentice hours. These goals are that one-fifth (1/5) of the apprentice hours be performed by minorities, and one-sixth (1/6) of the apprentice hours be performed by women.

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- B. Apprentice participation, under this contract, may be counted towards the required percentage (%) only if the apprentices are from an apprenticeship program registered and approved by the Washington State Apprenticeship and Training Council (RCW 49.04 and WAC 296-04).
- C. Bidders may contact the Department of Labor and Industries, Specialty Compliance Services Division, Apprenticeship Section, P.O. Box 44530, Olympia, WA 98504-4530 by phone at (360) 902-5320, and e-mail at Apprentice@Lni.wa.gov, to obtain information on available apprenticeship programs.
- D. For each project that has apprentice requirements, the contractor shall submit a "Statement of Apprentice/Journeyman Participation" on forms provided by the Department of General Administration, with every request for progress payment. The Contractor shall submit consolidated and cumulative data collected by the Contractor and collected from all subcontractors by the Contractor. The data to be collected and submitted includes the following:
1. Contractor name and address
 2. Contract number
 3. Project name
 4. Contract value
 5. Reporting period "Notice to Proceed" through "Invoicing Date"
 6. Craft/trade/occupation of all (contractor and subcontractor trades working on the project) apprentices and journeymen
 7. Total number of apprentices and total number of hours worked by apprentices, both categorized by gender and ethnicity
 8. Total number of journeymen and total number of hours worked by journeymen, both categorized by gender and ethnicity
 9. Cumulative combined total of apprentice and journeymen labor hours.
 10. Total percentage of apprentice hours worked
 11. No changes to the required percentage (%) of apprentice participation shall be allowed without written approval of the Owner. In any request for the change the Contractor shall clearly demonstrate a good faith effort to comply with the requirements for apprentice participation.
 12. Any substantive violation of the mandatory requirements of this part of the contract may be a material breach of the contract by the Contractor. The Owner may withhold payment pursuant to Part 6.05, stop the work for cause pursuant to Part 3.04, and terminate the contract for cause pursuant to Part 9.01.

10.12 HEADINGS AND CAPTIONS

Headings for convenience only: All headings and captions used in these General Conditions are only for convenience of reference and shall not be used in any way in connection with the meaning, effect, interpretation, construction, or enforcement of the General Conditions, and do not define the limit or describe the scope or intent of any provision of these General Conditions.

10.13 SUBCONTRACTOR PAYMENTS REPORTING REQUIREMENTS

This Contract is subject to compliance tracking using the State's business diversity management system, Access Equity (B2Gnow). Access Equity is web-based and can be accessed at the Office of Minority and Women's Business Enterprises at <https://omwbe.diversitycompliance.com/>. The Contractor and all Subcontractors shall report and confirm receipt of payments made to the Contractor and each Subcontractor through Access Equity.

The Contractor may contact the Owner at contracts@parks.wa.gov for technical assistance in using the Access Equity system. User guides and documentation related to Contractor and Subcontractor access to and use of Access Equity are available online at <https://omwbe.wa.gov/access-equity-help-center>. The Owner reserves the

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right to withhold payments from the Contractor for non-compliance with this section. For purposes of this section, Subcontractor means any subcontractor working on the Contract, at any tier and regardless of status as certified WMBE or Non-WMBE.

The Contractor shall:

- a. Register and enter all required Subcontractor information into Access Equity no later than 15 days after the Owner creates the Contract Record.
- b. Complete the required user training (two (2) one-hour online sessions) no later than 20 days after the Owner creates the Contract Record.
- c. Report the amount and date of all payments (i) received from the Owner, and (ii) paid to Subcontractors, no later than 30 days, issuance of each payment made by the Owner to the Contractor, unless otherwise specified in writing by the Owner, except that the Contractor shall mark as "Final" and report the final Subcontractor payments) into Access Equity no later than thirty (30) days after the final payment is due the Subcontractor(s) under the Contract, with all payment information entered no later than sixty (60) days after end of fiscal year.
- d. Monitor contract payments and respond promptly to any requests or instructions from the Owner or system-generated messages to check or provide information in Access Equity.
- e. Coordinate with Subcontractors, or Owner when necessary, to resolve promptly any discrepancies between reported and received payments.
- f. Require each Subcontractor to: (i) register in Access Equity and complete the required user training; (ii) verify the amount and date of receipt of each payment from the Contractor or a higher tier Subcontractor, if applicable, through Access Equity; (iii) report payments made to any lower tier Subcontractors, if any, in the same manner as specified herein; (iv) respond promptly to any requests or instructions from the Contractor or system-generated messages to check or provide information in Access Equity; and (v) coordinate with Contractor, or Owner when necessary, to resolve promptly any discrepancies between reported and received payments.

END OF CONDITIONS

/ / / / /

Approved as to Form:
William Van Hook /s/
Asst. Attorney General
02/2007
08/2010 GA Updates – jrc
09/2010 to AAG Schwartz



PREVAILING WAGES

Instruction for Prevailing Wage Rates

The State of Washington prevailing wage rates for this public works project, which is located in Jefferson County, may be found at the following website address of the Department of Labor and Industries:

<https://secure.lni.wa.gov/wagelookup/rates/journey-level-rates>

The prevailing wages for this project are those that are in effect on the date that the bids are due.

Contractor to Pay Prevailing Wages

The Contractor shall pay the prevailing rate of wages to all workers, laborers, or mechanics employed in the performance of any part of the Work in accordance with RCW 39.12 and the rules and regulations of the Department of Labor and Industries. The schedule of prevailing wage rates for the locality or localities of the Work is determined by the Industrial Statistician of the Department of Labor and Industries. It is the Contractor's responsibility to verify the applicable prevailing wage rate.

A copy of the applicable wage rates is available upon request. Please request a copy by email at: contracts@parks.wa.gov.

Diana Dupuis
Director



STATE OF WASHINGTON
WASHINGTON STATE PARKS AND RECREATION COMMISSION

1111 Israel Rd S.W. • P.O. Box 42650 • Olympia, WA 98504-2650 • (360) 902-8500
TDD (Telecommunications Device for the Deaf): (360) 664-3133
www.parks.wa.gov

July 30, 2024

To: Dan Budsburg, Project Manager

Cc: Darrel Hopkins, Region Manager
Brian Hageman, Area Manager
Brian Yearout, CRM
Shari Silverman, Archeology

Central Files

From: Hannah Ross, Environmental Planner

Subject: ENVIRONMENTAL TRANSMITTAL – Welcome Center Replacement Fort Flagler Historical State Park

All the required environmental approvals have been obtained for the following PARK proposal:

The staff of the Washington State Parks and Recreation Commission proposes to construct a new welcome center at a location that better suites visitors. The new 20-foot by 40-foot welcome center will be constructed along the entrance road near the entrance gate and will include visitor and employee parking. Along with the welcome center, State Parks is proposing new traffic routes and lanes for more efficient traffic control. The current roadway will be used as a traffic stack-up lane and as the entrance road; new roadway, approximately 866 feet in length will be constructed to the southwest of the welcome center for an exit lane.

This letter transmits the following environmental approvals to you for project implementation:

1. **State Environmental Policy Act (SEPA) Compliance:** A Determination of Nonsignificance was issued on May 23, 2023. See attachment 1 for SEPA determination.
2. **Cultural Resources Review:** This project was reviewed by Shari Silverman, State Park Archeologist per Governor's Order 21-02. No additional work is required. See attachment 2 for the Inadvertent Discovery Plan and Cultural Resources Checklist.

3. **Hydraulic Project Approval**: The Washington State Department of Fish & Wildlife (WDFW) issued a Hydraulic Project Approval (HPA) (Permit Number: 2023-6-321+01) on August 2, 2023. The HPA expires on January 31, 2025. See Attachment 3 and pay close attention to the provisions of the issued permit. The Habitat Biologist will need to be contacted prior to work commencing.
4. **Forest Practices and State Parks Tree Activity Worksheet**: The Washington State Department of Natural Resources issued a Forest Practices approval (Permit Number: 2618129) on October 29, 2023. The Forest Practices approval expires on October 29, 2026. State Parks review of the tree removal was completed and signed by the Stewardship Director, Lisa Lantz, on July 25, 2024. See attachment 4.

Please remember that it is your responsibility to understand all conditions of the various permits and approvals. Violation of regulatory compliance may result in civil and criminal penalties being assessed to the contractor and/or the agency.

Permit and environmental approval provisions should be reviewed at the pre-construction conference with the contractor and subsequently, with any subcontractors. Permits should be read and understood by all responsible parties prior to undertaking construction activities. A copy of the permits should be located on site with the contractor and any subcontractors during construction activities.

Attachment 1
SEPA Documentation

Diana Dupuis
Director



STATE OF WASHINGTON
WASHINGTON STATE PARKS AND RECREATION COMMISSION

1111 Israel Road S.W. • P.O. Box 42650 • Olympia, WA 98504-2650 • (360) 902-8500
TDD Telecommunications Device for the Deaf: 800-833-6388
www.parks.state.wa.us

STATE ENVIRONMENTAL POLICY ACT
DETERMINATION OF NON-SIGNIFICANCE

Date of Issuance: May 23, 2023

Project Name: Fort Flagler State Park Welcome Center Replacement

Proponent: Washington State Parks and Recreation Commission

Lead agency: Washington State Parks and Recreation Commission

Description of proposal: The Washington State Parks and Recreation Commission (State Parks) proposes to construct a new welcome center at a location that better suits visitors. The new 20-foot by 40-foot welcome center will be constructed along the entrance road near the entrance gate and will include visitor and employee parking. Along with the welcome center, State Parks is proposing new traffic routes and lanes for more efficient traffic control. The current roadway will be used as a traffic stack-up lane and as the entrance road; a new roadway, approximately 866 feet in length will be constructed to the southwest of the welcome center for an exit lane. Utilities will need to be brought from the four-way stop to the north of the proposed welcome center and include power, sewer, and communication lines.

Location of Proposal: Fort Flagler State Park is located at 10541 Flagler Rd, Nordland, WA 98358 in Jefferson County. The project area is situated within Section 17, Township 30N, Range 1E and tax parcel number 021174000.

Threshold Determination: After a review of the completed environmental checklist, the lead agency for this proposal has determined that it does not have a probable significant adverse impact to the environment, nor does it need mitigation to avoid significant adverse environmental impacts. Development has been sited to avoid and minimize impacts to earth, water, vegetation, and recreation. The nature of the improvements, as described in the checklist, will not result in any lasting impacts to waterways, native habitat, or species. Best Management Practices (BMPs) have been incorporated into the design to provide protection from incidental or unanticipated impacts such as sediment run-off; BMPs include but are not limited to silt fencing, tree protection fencing and construction staging in already disturbed areas. Lastly, the completed proposal would not pose a threat to public health or safety and there will be no impacts to cultural or historic resources.

The lead agency for this proposal has determined that it does not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030(2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public on request.

- This DNS is issued under 197-11-340(2); the lead agency will not act on this proposal for 14 days from the date below. Comments must be submitted by **June 6, 2023** or they may not be considered.

Responsible Official: Chelsea Hamer
Position/Title: Environmental Planner
Phone: (360) 790-8512
Address: 1111 Israel Rd SW | PO Box 42650
Olympia, WA 98504-2650

Date: May 23, 2023

Signature: 

"All Washington State Parks are developed and maintained for the enjoyment of all persons regardless of age, sex, creed, ethnic origin, or physical limitations."

There is no agency SEPA appeal; however, all comments are welcome and will be thoroughly considered.

Attachment 2
Cultural Resources Review



CULTURAL RESOURCES REVIEW CHECKLIST

Fill out each field as appropriate for your project.
Fields or sections marked with an asterisk require a response.

This form is for public disclosure and should not contain any sensitive information.

PROJECT INFORMATION		<input type="checkbox"/> Additional Info Attached
1) *Park/Property Name	58000 - Fort Flagler	
2) *Project Name	Fort Flagler Welcome Center Replacement and Road Work	
3) *Cost Code(s)	P1824-C00	
4) Grant Number	Click or tap here to enter text.	<input checked="" type="checkbox"/> N/A
5) *Regulatory Context	<input checked="" type="checkbox"/> EO 21-02 <input type="checkbox"/> Section 106 <input type="checkbox"/> Best Practices <input type="checkbox"/> Other:	
6) Archaeology Permit:	<input checked="" type="checkbox"/> Not Required <input type="checkbox"/> ARPA <input type="checkbox"/> AA <input type="checkbox"/> WA Arch Site Alteration/Excavation <input type="checkbox"/> Other:	
7) *Landowner/Parcel Numbers:	Washington State Parks and Recreation Commission/021174000 <input type="checkbox"/> List of Additional Parcel Numbers Attached	
8) If Section 106, lead federal agency:	Click or tap here to enter text.	<input checked="" type="checkbox"/> N/A
9) Project is being done in partnership with:	Click or tap here to enter text.	<input checked="" type="checkbox"/> N/A
10) *Agency Responsible for Consultation:	<input checked="" type="checkbox"/> WSPRC is Responsible for All Consultation Tasks <input type="checkbox"/> WSPRC Conducted Consultation on Behalf of: <u>Click or tap here to enter text.</u> <input type="checkbox"/> Another Agency is Responsible for Consultation: <u>Click or tap here to enter text.</u>	
STATE PARKS POINTS OF CONTACT		<input type="checkbox"/> Additional Info Attached
11) Project Manager	<i>Dan Budsberg</i>	
12) Job Sheet Contact	<i>Hannah Ross</i>	
13) *Archaeologist	<i>Shari Silverman; Shari.Silverman@parks.wa.gov</i>	
14) Historic Preservation Planner	<i>Alex McMurry; Alex.McMurry@parks.wa.gov</i>	
15) Statewide Curator of Collections & NAGPRA Specialist	<i>Alicia Woods; Alicia.Woods@parks.wa.gov</i>	
PRELIMINARY HISTORIC PRESERVATION & ARCHAEOLOGY PROJECT REVIEW		<input type="checkbox"/> Additional Info Attached
16) Date Job Sheet Submitted	10/25/2022	
17) *DAHP Project Number	2023-01-00557	Obtained by: <i>Shari Silverman</i>
18) Historic Preservation Review by Alex?	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes Date: 12/12/2022 <input type="checkbox"/> Not Required	
19) Notes Regarding Historic Preservation Review:	<i>Within district in park but not near any contributing historic properties.</i>	
20) Archy Desktop Review	Date/Year: 2022-2023	By: <i>Shari Silverman</i>
21) Notes Regarding Archy Desktop Review:	<i>Historic district; potential for historic features; no survey done yet</i>	

CULTURAL RESOURCES REVIEW CHECKLIST, cont.

This form is for public disclosure and should not contain any sensitive information.

* CONSULTATION ON PROJECT (INTRO), FIELD METHODS, & AI/APE Additional Info Attached

	Date	By	Response	Date	Response From/Sent To	Notes	N/A
22) DAHP Consultation-Arch	3/3/2023	Shari Silverman	<input checked="" type="checkbox"/> Concur <input type="checkbox"/> Does not concur <input type="checkbox"/> No response	3/6/2023	Rob Whitlam	Concurred to both consultations: 1/27/2023 & addition for survey	<input type="checkbox"/>
23) DAHP Consultation-HP	Click or tap to enter a date.	Choose an item.	<input type="checkbox"/> Concur <input type="checkbox"/> Does not concur <input type="checkbox"/> No response	Click or tap to enter a date.	Choose an item.	Click or tap here to enter text.	<input checked="" type="checkbox"/>
24) Jamestown S'Klallam	3/3/2023	Shari Silverman	<input checked="" type="checkbox"/> Concur <input type="checkbox"/> Does not concur <input type="checkbox"/> No response	3/15/2023	Allie Taylor	Concurred to both consultations: 1/27/2023 & addition for survey	<input type="checkbox"/>
25) Suquamish	3/3/2023	Shari Silverman	<input type="checkbox"/> Concur <input type="checkbox"/> Does not concur <input type="checkbox"/> No response	3/3/2023	Dennis Lewarch	Thanks for update (consulted on both 1/27/2023 & 3/3/2023)	<input type="checkbox"/>
26) Port Gamble S'Klallam	3/3/2023	Shari Silverman	<input type="checkbox"/> Concur <input type="checkbox"/> Does not concur <input checked="" type="checkbox"/> No response	Click or tap to enter a date.	Click or tap here to enter text.	They, LEKT, & Stillaguamish consulted with 1/27/2023 & for add 3/3/2023 w no response	<input type="checkbox"/>

CULTURAL RESOURCE SURVEY, INVENTORY & REPORT Additional Info Attached

27) *Cultural Resource Work Conducted:	<input checked="" type="checkbox"/> Archaeology Survey	<input type="checkbox"/> Historic Property Inventory	<input type="checkbox"/> Monitoring	<input type="checkbox"/> Other:	Click or tap here to enter text.
28) Date Survey conducted (if applicable)	Spring 2023	By:	<input type="checkbox"/> State Parks: Click or tap here to enter text. <input checked="" type="checkbox"/> Consultant: Click or tap here to enter text. <input type="checkbox"/> Another Agency: Click or tap here to enter text.		
29) *Archaeological Sites Identified?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Notes:	Click or tap here to enter text.		
30) *Historic Structures Recorded?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Notes:	Click or tap here to enter text.		
31) Site/HPI forms reviewed by State Parks (if applicable)	Date	Click or tap to enter a date.	By	Choose an item.	

A completed and signed checklist may be submitted as proof that cultural resource review is complete for a project

Form version 08/23/2022

CULTURAL RESOURCES REVIEW CHECKLIST, cont.

This form is for public disclosure and should not contain any sensitive information.

32) Smithsonian Trinomials Requested (if applicable)	Date	Click or tap to enter a date.	By	Choose an item.
33) If Applicable, Report Associated with Project	Author	Noelle Vasquez and Dave Iversen	Agency/ Consultant Firm	ASM Affiliates
34) If Applicable, Report Title (Year)	Archaeological Survey for Four Washington State Parks and Recreation Commission Projects at Fort Flagler State Park, Marrowstone Island, Jefferson County, Washington			
35) Artifacts Collected?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	If yes, date Alicia Woods was consulted regarding curation:	Click or tap to enter a date.	Curation Notes: Click or tap here to enter text.

*CONSULTATION ON RECOMMENDATIONS & FINDINGS Additional Info Attached

	Date	By	Response	Date	Response From/Sent To	Notes	N/A
36) DAHP Consultation-Arch	7/11/2023	Shari Silverman	<input checked="" type="checkbox"/> Concur <input type="checkbox"/> Does not concur <input type="checkbox"/> No response	7/12/2023	Rob Whitlam	Concur with IDP	<input type="checkbox"/>
37) DAHP Consultation-HP	Click or tap to enter a date.	Choose an item.	<input type="checkbox"/> Concur <input type="checkbox"/> Does not concur <input type="checkbox"/> No response	Click or tap to enter a date.	Choose an item.	Sent to Suquamis on same date no response	<input type="checkbox"/>
38) Jamestown S'Klallam	7/11/2023	Shari Silverman	<input checked="" type="checkbox"/> Concur <input type="checkbox"/> Does not concur <input type="checkbox"/> No response	7/26/2023	Allie Taylor, THPO	Concur but update the ethno in rpt; we agreed	<input type="checkbox"/>
39) LEKT	7/11/2023	Shari Silverman	<input type="checkbox"/> Concur <input type="checkbox"/> Does not concur <input checked="" type="checkbox"/> No response	Click or tap to enter a date.	Click or tap here to enter text.	Click or tap here to enter text.	<input type="checkbox"/>
40) Port Gamble S'Klallam	7/11/2023	Shari Silverman	<input type="checkbox"/> Concur <input type="checkbox"/> Does not concur <input checked="" type="checkbox"/> No response	Click or tap to enter a date.	Click or tap here to enter text.	Click or tap here to enter text.	<input type="checkbox"/>
41) Stillaguamish	7/11/2023	Shari Silverman	<input type="checkbox"/> Concur <input type="checkbox"/> Does not concur <input checked="" type="checkbox"/> No response	Click or tap to enter a date.	Click or tap here to enter text.	Click or tap here to enter text.	<input type="checkbox"/>

*CONDITIONS Additional Info Attached

<input type="checkbox"/> The project <u>may not</u> proceed because:	<i>Check all that apply</i>
<input type="checkbox"/> Additional CR survey/testing is needed <input type="checkbox"/> Additional information is needed <input type="checkbox"/> Other: Click or tap here to enter text.	
Notes: Click or tap here to enter text.	
<input checked="" type="checkbox"/> The project <u>may</u> proceed based on the following conditions:	<i>Check all that apply</i>
<input type="checkbox"/> None <input checked="" type="checkbox"/> Inadvertent Discovery Plan Required <input type="checkbox"/> Archaeological Monitoring is Required	

A completed and signed checklist may be submitted as proof that cultural resource review is complete for a project
Form version 08/23/2022

CULTURAL RESOURCES REVIEW CHECKLIST, cont.

This form is for public disclosure and should not contain any sensitive information.

Other: Click or tap here to enter text.

Notes: Click or tap here to enter text.

Alex McMurry

12/12/2022

Signature of State Parks Historic Preservation Planner

Date



8/11/2023

Signature of State Parks Archaeologist

Date

Inadvertent Discoveries of Cultural Resources and Human Skeletal Remains Welcome Center, Fort Flagler State Park, Jefferson County

Many of Washington's most important heritage sites reside on lands owned or managed by the Washington State Parks and Recreation Commission (WSPRC). Nearly all Washington State Parks contain one or more important historic buildings, structures, or archaeological sites. For this reason, archaeological surveys and historic building inventories are ordinarily commissioned as a part of background analysis and information gathering for park developments and undertakings. Results of these surveys are used during project planning to ensure every effort is made to avoid impacts to cultural resources. Yet, despite these efforts, there **always** remains some potential for unanticipated discoveries while working in Washington State Parks.

All unanticipated discoveries, both cultural resources and human skeletal remains, are subject to all applicable federal and state statutes, regulations, and executive orders. For these reasons, the Inadvertent Discovery Plan (IDP) provides useful guidance and instructions for circumstances when cultural resources or human skeletal remains are found. Please carefully read these instructions. If you have any questions, please contact the appropriate WSPRC Area Manager or the WSPRC archaeologist assigned to the undertaking. It is also strongly recommended that anyone conducting ground-disturbing activities watch the training video produced by Washington State Dept of Ecology: [Inadvertent Discovery of Cultural Resources or Human Remains: Training for Field Staff](#). This IDP for cultural resources and human skeletal remains is based on [RCW 27.53](#), [RCW 68.50.645](#), [RCW 27.44.055](#), and [RCW 68.60.055](#) and [recommended language](#) from the Department of Archaeology and Historic Preservation (DAHP).

INADVERTENT DISCOVERY PLAN FOR CULTURAL RESOURCES

If cultural resources are found during a project, activity in the immediate area of the find should be discontinued (**stop**), the area secured (**protect**), and the WSPRC archaeologists notified to assess the find (**notify**). ***When in doubt, assume the material is a cultural resource and implement the IDP outlined below.***

Recognizing Cultural Resources-Types of Historic/Prehistoric Artifacts and/or Activity Areas That May Be Found

- **Artifacts**- Both historic and prehistoric artifacts may be found exposed in backhoe trenches or back dirt piles.
 - Prehistoric artifacts may range from finished tools such as stone pestles, arrowheads/projectile points, shell beads, or polished bone tools to small pieces or "flakes" or "chips" of exotic stone such as chert, jasper, or obsidian.
 - Historic artifacts may include older (more than 50 years) nails, plates/ceramics, bottles, cans, coins, glass insulators, or bricks.
 - Old abandoned industrial materials from farming, logging, railways, lighthouses, and military installations.
- **Activity Area/Cultural Features**- While excavating trench lines look for evidence of buried activity areas/cultural features such as old campfire hearths or buried artifacts.
 - An area of charcoal or very dark stained soil with artifacts or burned rocks may be a fire hearth.
 - A concentration of shell with or without artifacts may be shell midden deposits.
- **Historic building foundation/structural remains**- During excavation, buried historic structures (e.g., privies, building foundations) that are more than 50 years old may be found.
- **Bone**- Complete or broken pieces of bones may be discovered exposed in trench walls or in back dirt piles. Bone of recent age is usually transparent or white in color. Older bone is usually found in various shades of brown. Burned bone is usually black or, if heavily burned, bluish-white.

Steps to Take If a Cultural Resource Is Found During Construction

1. **Stop** if a cultural resource(s) is observed or suspected, all work within the immediate area of the discovery must stop.
2. **Protect** the area from further disturbance. Do not touch, move, or further disturb the exposed materials/artifacts. Create a protected area with temporary fencing, flagging, stakes, or other clear markings that is large enough (30 feet or larger) to protect the discovery location area. The WSPRC archaeologist can help determine the size of the protected area. Do not permit vehicles, equipment, or unauthorized personnel to traverse the discovery site.
3. **Notify** the WSPRC archaeologist. If the area needs to be secured, notify the Park Ranger or Park staff as well.
4. If requested by the WSPRC archaeologist, take photographs with a scale (e.g., pen, coin, etc.) and collect geospatial information of the discovery site to document the initial finds.

What Not to Do If a Cultural Resource Is Found During Construction

- Do not remove any artifacts from the site of the discovery.
- Do not dig out objects protruding from any trench walls as this may cause further damage to artifacts and/or destroy important contextual information.
- Do not share any information about the find, including on social media, except as necessary to implement the IDP.

What Happens Next?

1. The find will be assessed by a professional archaeologist (may be a WSPRC archaeologist or an archaeology consultant).
 - a. If the find is not a cultural resource, construction work may resume.
 - b. If the find is a cultural resource, the WSPRC archaeologist will contact the DAHP and affected Tribes, as appropriate, to develop a suitable treatment plan for the resource.
2. Construction work may resume in the protected area after the WSPRC archaeologist assigned to the undertaking has determined that the find has been adequately investigated and, if necessary, a treatment plan and monitor are in place to protect any remaining archaeological deposits.

INADVERTENT DISCOVERY PLAN FOR HUMAN SKELETAL REMAINS

Native American burials and historic grave sites are uncommon features on Washington State Park lands. These remains, as well as any associated artifacts or funerary objects, are protected under state law and, if the park is a federal lease, applicable federal law. If you discover human remains (or bones that you believe may be human remains) during construction, please follow these important instructions. It is imperative that reporting and treatment of any human remains found during construction or any ground-disturbing activities are treated with utmost dignity and respect.

Steps to Take If Human Skeletal Remains are Found During Construction

1. **Stop** if human skeletal remains observed or suspected, all work within the immediate area of the discovery must stop.
2. **Protect** the area from further disturbance. Do not touch, move, or further disturb the remains. Cover the remains with a tarp or other materials (not soil or rocks) for temporary protection in place and shield them from being photographed. Create a protected area with temporary fencing, flagging, stakes, or other clear markings that is large enough (30 feet or larger) to protect the discovery location area. The WSPRC archaeologist can help determine the size of the protected area. Do not permit vehicles, equipment, or unauthorized personnel to traverse the discovery site.
3. **Notify** law enforcement and the appropriate county medical examiner/coroner as soon as possible. If you are unsure if the remains are human, the physical anthropologist at DAHP may be called. Also notify the Park Ranger, the WSPRC archaeologist, and the WSPRC Curator of Collections/NAGRPA Specialist of the discovery of the remains.

4. If requested by the law enforcement, the county coroner/examiner, the DAHP physical anthropologist, or the WSPRC archaeologist, take photographs with a scale (e.g., pen, coin, etc.) and geospatial information of the discovery site to document the initial finds.

What Not to Do If Human Skeletal Remains are Found During Construction

- Do not pick up or remove anything.
- Do not take any photographs of the remains unless instructed to do so by law enforcement, the county coroner/examiner, the DAHP physical anthropologist, or the WSPRC archaeologist. If pictures are requested, be prepared to photograph them with a scale (e.g., pen, coin, etc.) and collect geospatial information of the remains.
- Do not call 911 unless you cannot reach law enforcement or the coroner/examiner by other means.
- Do not share any information about the find, including on social media, except as necessary to implement the IDP.

What Happens Next?

1. The county medical examiner/coroner will assume jurisdiction over the human skeletal remains and decide whether those remains are forensic (crime-related) or non-forensic.
 - a. If forensic, the county medical examiner/coroner will retain jurisdiction over the remains.
 - b. If non-forensic, the county medical examiner/coroner will report that finding to the DAHP who will then take jurisdiction over the remains. The DAHP will notify any appropriate cemeteries and all affected Tribes of the remains. The State Physical Anthropologist will decide whether the remains are Indian or Non-Indian and report that finding to any appropriate cemeteries and the affected Tribes. The DAHP will then handle all consultation with the affected parties as to the future preservation, excavation, and disposition of the remains.

Note: The WSPRC archaeologist assigned to the undertaking will be coordinating and consulting with the DAHP, affected Tribes, and other groups as necessary. Additionally, WSPRC's Curator of Collections/NAGPRA Specialist should be included on all written and/or verbal correspondence until the remains have been officially transferred from WSPRC's possession to an outside authority. Until the remains are transferred off of WSPRC's property, it is the responsibility of the Curator of Collections/NAGPRA Specialist to document and track the information regarding all human remains and associated funerary objects (including all material from excavation areas/units from which the human remains were removed).
2. Construction work may resume in the protected area after the WSPRC archaeologist assigned to the undertaking has determined that the find has been adequately investigated and, if necessary, a treatment plan and monitor are in place.

EMERGENCY CONTACTS

WSPRC Archaeologists

Jennifer Wilson, Archaeology Program Manager Email: jennifer.wilson@parks.wa.gov	(360) 787-6511 (cell)
Shari Silverman, Archaeologist SW Region Email: shari.silverman@parks.wa.gov	(435) 260-9894 (cell)
Sarah DuBois, Archaeologist Eastern Region Email: sarah.dubois@parks.wa.gov	(509) 972-5884 (cell)
Sean Stcherbinine, Archaeologist NW Region Email: sean.stcherbinine@parks.wa.gov	(360) 770-1419 (cell)

WSPRC Curator of Collections/NAGPRA Specialist

Alicia L. Woods, Statewide Curator of Collections & NAGPRA Specialist (360) 586-0206 (office)

State Physical Anthropologist

Guy Tasa, PhD, Dept. of Archaeology and Historic Preservation (360) 790-1633 (cell)
(360) 586-3534 (office)

Assistant State Physical Anthropologist

Jackie Berger, Dept. of Archaeology and Historic Preservation (360) 890-2633 (cell)

Project Contact

Brian Hageman, Olympia View Area Manager (360) 890-0796 (cell)
(360) 344-4401 (office)

Law Enforcement Contact

Contact a Park Ranger or Area Manager. They will contact the local municipality. The ranger/area manager include:

Aaron Terada, Fort Flagler Park Ranger (360) 301-3808 (cell)
(360) 385-3701 (office)

Brian Hageman, Olympia View Area Manager (360) 890-0796 (cell)
(360) 344-4401 (office)

Jefferson County Coroner/Prosecuting Attorney

The park ranger or area manager contacted for Law Enforcement will contact the coroner.

Olympic View Area Manager, Washington State Parks and Recreation Commission

Brian Hageman, (360) 890-0796, Brian.Hageman@PARKS.WA.GOV

Attachment 3
Hydraulic Project Approval
WDFW



HYDRAULIC PROJECT APPROVAL

Washington Department of
Fish & Wildlife
PO Box 43234
Olympia, WA 98504-3234
(360) 902-2200

Issued Date: August 02, 2023
Project End Date: January 31, 2025

Permit Number: 2023-6-321+01
FPA/Public Notice Number: N/A
Application ID: 31704

PERMITTEE	AUTHORIZED AGENT OR CONTRACTOR
Washington State Parks and Recreation Commission ATTENTION: Hannah Ross 1111 Israel Rd SW Olympia, WA 98504	

Project Name: Fort Flagler State Park Welcome Center and Utilities

Project Description: State Parks proposes to construct a new welcome center and new traffic routes that better suits visitors. Along with the welcome center, utilities will be brought from the four-way stop to the north of the proposed welcome center. The utilities include power, sewer, and communication lines.

The utility crossing work will take place at two existing culvert water crossings of unnamed, non-fish bearing, streams. The culverts will remain in place all work will be within the roadway prism. The utility crossings will be completed under the culverted stream crossing which is closest to the four-way stop and over the second culverted stream crossing closer to the proposed welcome center. No in-water work is proposed.

PROVISIONS

- 1. TIMING LIMITATION:** Work may start immediately and can occur at any time prior to the expiration of this permit.
- 2. APPROVED PLANS:** You must accomplish the work per plans and specifications submitted with the application and approved by the Washington Department of Fish and Wildlife, entitled "APP03 - CROSS POWER - CULVERT CROSSINGS.pdf" dated 07/20/2023, "Engineer Plans_1.pdf" dated 06/12/2023 and "Engineer Plans_2.pdf" dated 06/12/2023 except as modified by this Hydraulic Project Approval. You must have a copy of these plans available on site during all phases of the project construction.
- 3. INVASIVE SPECIES CONTROL:** Follow Method 1 for low risk locations (i.e. clean/drain/dry). Thoroughly remove visible dirt and debris from all equipment and gear (including drive mechanisms, wheels, tires, tracks, buckets, and undercarriage) before arriving and leaving the job site to prevent the transport and introduction of invasive species. For contaminated or high risk sites please refer to the Method 2 Decontamination protocol. Properly dispose of any water and chemicals used to clean gear and equipment. You can find this and additional information in the Washington Department of Fish and Wildlife's "Invasive Species Management Protocols", available online at <https://wdfw.wa.gov/species-habitats/invasive/prevention>.

NOTIFICATION REQUIREMENTS

- 4. PRE- AND POST-CONSTRUCTION NOTIFICATION:** You, your agent, or contractor must contact the Washington Department of Fish and Wildlife by e-mail at HPAapplications@dfw.wa.gov; mail to Post Office Box 43234, Olympia, Washington 98504-3234; or fax to (360) 902-2946 at least three business days before starting work, and again within seven days after completing the work. The notification must include the permittee's name, project location, starting date for work or date the work was completed, and the permit number. The Washington Department of Fish and Wildlife may conduct inspections during and after construction; however, the Washington Department of Fish and Wildlife will notify you or your agent before conducting the inspection.



HYDRAULIC PROJECT APPROVAL

Washington Department of
Fish & Wildlife
PO Box 43234
Olympia, WA 98504-3234
(360) 902-2200

Issued Date: August 02, 2023

Permit Number: 2023-6-321+01

Project End Date: January 31, 2025

FPA/Public Notice Number: N/A

Application ID: 31704

5. FISH KILL/ WATER QUALITY PROBLEM NOTIFICATION: If a fish kill occurs or fish are observed in distress at the job site, immediately stop all activities causing harm. Immediately notify the Washington Department of Fish and Wildlife of the problem. If the likely cause of the fish kill or fish distress is related to water quality, also notify the Washington Military Department Emergency Management Division at 1-800-258-5990. Activities related to the fish kill or fish distress must not resume until the Washington Department of Fish and Wildlife gives approval. The Washington Department of Fish and Wildlife may require additional measures to mitigate impacts.

STAGING, JOB SITE ACCESS, AND EQUIPMENT

6. Establish staging areas (used for equipment storage, vehicle storage, fueling, servicing, and hazardous material storage) in a location and manner that will prevent contaminants such as petroleum products, hydraulic fluid, fresh concrete, sediments, sediment-laden water, chemicals, or any other toxic or harmful materials from entering waters of the state.

7. Use existing roadways or travel paths.

8. Clearly mark boundaries to establish the limit of work associated with site access and construction.

9. Retain all natural habitat features on the bed or banks including large woody material and boulders. You may move these natural habitat features during construction but you must place them near the preproject location before leaving the job site.

10. Station and operate equipment used for this project landward of the ordinary high water line.

11. If wet or muddy conditions exist, in or near a riparian zone or wetland area, use equipment that reduces ground pressure.

12. Use environmentally acceptable lubricants composed of biodegradable base oils such as vegetable oils, synthetic esters, and polyalkylene glycols in equipment operated near the water.

13. Check equipment daily for leaks and complete any required repairs in an upland location before using the equipment near the water.

14. This Hydraulic Project Approval does not authorize equipment crossings of the wetted stream channel.

CONSTRUCTION-RELATED SEDIMENT, EROSION AND POLLUTION CONTAINMENT

15. Protect all disturbed areas from erosion. Maintain erosion and sediment control until all work and cleanup of the job site is complete.

16. All erosion control materials that will remain onsite must be composed of 100% biodegradable materials.

17. Straw used for erosion and sediment control, must be certified free of noxious weeds and their seeds.

18. Stop all hydraulic project activities except those needed to control erosion and siltation, if flow conditions arise that will result in erosion or siltation of waters of the state.

19. Prevent project contaminants, such as petroleum products, hydraulic fluid, fresh concrete, sediments, sediment-laden water, chemicals, or any other toxic or harmful materials, from entering or leaching into waters of the state.

20. Route construction water (wastewater) from the project to an upland area above the limits of anticipated floodwater. Remove fine sediment and other contaminants before discharging the construction water to waters of the state.

21. Deposit waste material from the project, such as construction debris, silt, excess dirt, or overburden, in an upland area above the limits of anticipated floodwater.

CONSTRUCTION MATERIALS

22. Do not stockpile construction material waterward of the ordinary high water line.

23. Store all construction and deconstruction material in a location and manner that will prevent contaminants such as petroleum products, hydraulic fluid, fresh cement, sediments, sediment-laden water, chemicals, or any other toxic or



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harmful materials from entering waters of the state.

UTILITY CROSSING

- 24. Align the conduit as perpendicular as possible to the watercourse.
- 25. Install the conduit above the existing culvert or else well below the watercrossing to prevent natural scouring of the stream bed from exposing the pipeline or cable.
- 26. Trenching must be isolated from the flowing water course and completed in the dry.
- 27. Do not disturb the active stream flow or bed material. If the streambed or culvert collapses work activities must cease and the Habitat Biologist listed below must be contacted immediately.

DEMOBILIZATION AND CLEANUP

- 28. Upon completion of the project, restore the disturbed bed, banks, and riparian zone to preproject condition to the extent possible.
- 29. Seed areas disturbed by construction activities with a native seed mix suitable for the site that has at least one quick-establishing plant species.
- 30. Upon completion of the project, remove all materials or equipment from the site and dispose of all excess spoils and waste materials in an upland area above the limits of anticipated floodwater.
- 31. Remove temporary erosion and sediment control methods after job site is stabilized or within three months of project completion, whichever is sooner.

LOCATION #1:		Site Name: Fort Flagler Historic State Park 10541 Flagler Rd, Norland, WA 98358				
WORK START:		August 2, 2023		WORK END:		January 31, 2025
<u>WRIA</u>		<u>Waterbody:</u>			<u>Tributary to:</u>	
17 - Quilcene - Snow		Unknown Stream Number			Unknown	
<u>1/4 SEC:</u>	<u>Section:</u>	<u>Township:</u>	<u>Range:</u>	<u>Latitude:</u>	<u>Longitude:</u>	<u>County:</u>
	17	30 N	01 E	48.089119	-122.701004	Jefferson
<u>Location #1 Driving Directions</u>						
From Chimicum, head north on center rd toward WA 19, turn right onto WA 116 E and Fort Flagler State Park is approximately 7 miles on WA 116 E						

APPLY TO ALL HYDRAULIC PROJECT APPROVALS

This Hydraulic Project Approval pertains only to those requirements of the Washington State Hydraulic Code, specifically Chapter 77.55 RCW. Additional authorization from other public agencies may be necessary for this project. The person(s) to whom this Hydraulic Project Approval is issued is responsible for applying for and obtaining any additional authorization from other public agencies (local, state and/or federal) that may be necessary for this project.



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This Hydraulic Project Approval shall be available on the job site at all times and all its provisions followed by the person(s) to whom this Hydraulic Project Approval is issued and operator(s) performing the work.

This Hydraulic Project Approval does not authorize trespass.

The person(s) to whom this Hydraulic Project Approval is issued and operator(s) performing the work may be held liable for any loss or damage to fish life or fish habitat that results from failure to comply with the provisions of this Hydraulic Project Approval.

Failure to comply with the provisions of this Hydraulic Project Approval could result in civil action against you, including, but not limited to, a stop work order or notice to comply, and/or a gross misdemeanor criminal charge, possibly punishable by fine and/or imprisonment.

All Hydraulic Project Approvals issued under RCW 77.55.021 are subject to additional restrictions, conditions, or revocation if the Department of Fish and Wildlife determines that changed conditions require such action. The person(s) to whom this Hydraulic Project Approval is issued has the right to appeal those decisions. Procedures for filing appeals are listed below.

MINOR MODIFICATIONS TO THIS HPA: You may request approval of minor modifications to the required work timing or to the plans and specifications approved in this HPA unless this is a General HPA. If this is a General HPA you must use the Major Modification process described below. Any approved minor modification will require issuance of a letter documenting the approval. A minor modification to the required work timing means any change to the work start or end dates of the current work season to enable project or work phase completion. Minor modifications will be approved only if spawning or incubating fish are not present within the vicinity of the project. You may request subsequent minor modifications to the required work timing. A minor modification of the plans and specifications means any changes in the materials, characteristics or construction of your project that does not alter the project's impact to fish life or habitat and does not require a change in the provisions of the HPA to mitigate the impacts of the modification. If you originally applied for your HPA through the online Aquatic Protection Permitting System (APPS), you may request a minor modification through APPS. A link to APPS is at <http://wdfw.wa.gov/licensing/hpa/>. If you did not use APPS you must submit a written request that clearly indicates you are seeking a minor modification to an existing HPA. Written requests must include the name of the applicant, the name of the authorized agent if one is acting for the applicant, the APP ID number of the HPA, the date issued, the permitting biologist, the requested changes to the HPA, the reason for the requested change, the date of the request, and the requestor's signature. Send by mail to: Washington Department of Fish and Wildlife, PO Box 43234, Olympia, Washington 98504-3234, or by email to HPAapplications@dfw.wa.gov. You should allow up to 45 days for the department to process your request.

MAJOR MODIFICATIONS TO THIS HPA: You may request approval of major modifications to any aspect of your HPA. Any approved change other than a minor modification to your HPA will require issuance of a new HPA. If you originally applied for your HPA through the online Aquatic Protection Permitting System (APPS), you may request a major modification through APPS. A link to APPS is at <http://wdfw.wa.gov/licensing/hpa/>. If you did not use APPS you must submit a written request that clearly indicates you are requesting a major modification to an existing HPA. Written requests must include the name of the applicant, the name of the authorized agent if one is acting for the applicant, the APP ID number of the HPA, the date issued, the permitting biologist, the requested changes to the HPA, the reason for the requested change, the date of the request, and the requestor's signature. Send your written request by mail to: Washington Department of Fish and Wildlife, PO Box 43234, Olympia, Washington 98504-3234. You may email your request for a major modification to HPAapplications@dfw.wa.gov. You should allow up to 45 days for the department to process your request.



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APPEALS INFORMATION

If you wish to appeal the issuance, denial, conditioning, or modification of a Hydraulic Project Approval (HPA), Washington Department of Fish and Wildlife (WDFW) recommends that you first contact the department employee who issued or denied the HPA to discuss your concerns. Such a discussion may resolve your concerns without the need for further appeal action. If you proceed with an appeal, you may request an informal or formal appeal. WDFW encourages you to take advantage of the informal appeal process before initiating a formal appeal. The informal appeal process includes a review by department management of the HPA or denial and often resolves issues faster and with less legal complexity than the formal appeal process. If the informal appeal process does not resolve your concerns, you may advance your appeal to the formal process. You may contact the HPA Appeals Coordinator at (360) 902-2534 for more information.

A. INFORMAL APPEALS: WAC 220-660-460 is the rule describing how to request an informal appeal of WDFW actions taken under Chapter 77.55 RCW. Please refer to that rule for complete informal appeal procedures. The following information summarizes that rule.

A person who is aggrieved by the issuance, denial, conditioning, or modification of an HPA may request an informal appeal of that action. You must send your request to WDFW by mail to the HPA Appeals Coordinator, Department of Fish and Wildlife, Habitat Program, PO Box 43234, Olympia, Washington 98504-3234; e-mail to HPAapplications@dfw.wa.gov; fax to (360) 902-2946; or hand-delivery to the Natural Resources Building, 1111 Washington St SE, Habitat Program, Fifth floor. WDFW must receive your request within 30 days from the date you receive notice of the decision. If you agree, and you applied for the HPA, resolution of the appeal may be facilitated through an informal conference with the WDFW employee responsible for the decision and a supervisor. If a resolution is not reached through the informal conference, or you are not the person who applied for the HPA, the HPA Appeals Coordinator or designee may conduct an informal hearing or review and recommend a decision to the Director or designee. If you are not satisfied with the results of the informal appeal, you may file a request for a formal appeal.

B. FORMAL APPEALS: WAC 220-660-470 is the rule describing how to request a formal appeal of WDFW actions taken under Chapter 77.55 RCW. Please refer to that rule for complete formal appeal procedures. The following information summarizes that rule.

A person who is aggrieved by the issuance, denial, conditioning, or modification of an HPA may request a formal appeal of that action. You must send your request for a formal appeal to the clerk of the Pollution Control Hearings Boards and serve a copy on WDFW within 30 days from the date you receive notice of the decision. You may serve WDFW by mail to the HPA Appeals Coordinator, Department of Fish and Wildlife, Habitat Program, PO Box 43234, Olympia, Washington 98504-3234; e-mail to HPAapplications@dfw.wa.gov; fax to (360) 902-2946; or hand-delivery to the Natural Resources Building, 1111 Washington St SE, Habitat Program, Fifth floor. The time period for requesting a formal appeal is suspended during consideration of a timely informal appeal. If there has been an informal appeal, you may request a formal appeal within 30 days from the date you receive the Director's or designee's written decision in response to the informal appeal.

C. FAILURE TO APPEAL WITHIN THE REQUIRED TIME PERIODS: If there is no timely request for an appeal, the WDFW action shall be final and unappealable.



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Habitat Biologist

Danielle.Zitomer@dfw.wa.gov

Danielle Zitomer

360-764-0866

A handwritten signature in black ink, appearing to read "Danielle Zitomer".

for Director

WDFW

Attachment 4
Forest Practices and TAW



Forest Practices Application/Notification Notice of Decision

FPA/N No: 2618129

Effective Date: 10/29/2023

Expiration Date: 10/29/2026

Shut Down Zone: 653 S

EARR Tax Credit: Eligible Non-eligible
Washington State Parks &
Recreation Commission

Reference: OP: Washington State Parks &
Recreation Commission

Decision

- Notification Accepted Operations shall not begin before the effective date.
- Approved This Forest Practices Application is subject to the conditions listed below.
- Disapproved This Forest Practices Application is disapproved for the reasons listed below.
- Withdrawn Applicant has withdrawn the Forest Practices Application/Notification (FPA/N).
- Closed All forest practices obligations are met.

FPA/N Classification

- Class II
- Class III
- Class IVG
- Class IVS

Number of Years Granted on Multi-Year Request

- 4 years
- 5 years

Conditions on Approval/Reasons for Disapproval

Issued By: Levi Puksta

Region: Olympic

Title: Forest Practices Forester

Date: 10/29/2023

Copies to: Landowner, Timber Owner and Operator

Issued in person: LO TO OP By: _____ Date: _____

Appeal Information

You have thirty (30) days to **file** (i.e., **actually deliver**) an appeal in writing of this Decision and any related State Environmental Policy Act (SEPA) determinations to the Pollution Control Hearings Board, the Attorney General's Office, and the Department of Natural Resources' region office. See [RCW 76.09.205](http://rcw.wa.gov/RCW_76.09.205). The appeal period starts when the applicant receives this decision, which usually happens electronically on the date indicated below.

You must file your appeal at all three addresses below:

Pollution Control Hearings Board	Office of the Attorney General Natural Resources Division	Department Of Natural Resources Olympic Region
<u>Physical Address</u> 1111 Israel Road, SW Suite 301 Tumwater, WA 98501 <u>Mailing address</u> Post Office Box 40903 Olympia, WA 98504-0903	<u>Physical Address</u> 1125 Washington Street, SE Olympia, WA 98504 <u>Mailing Address</u> Post Office Box 40100 Olympia, WA 98504-0100	<u>Physical & Mailing Address</u> 411 Tillicum Lane Forks, WA 98331

Information regarding the Pollution Control Hearings Board can be found at: <http://eluhu.wa.gov/>

Other Applicable Laws

Operating as described in this application/notification does not ensure compliance with the Endangered Species Act, or other federal, state, or local laws.

Transfer of Forest Practices Application/Notification (WAC 222-20-010)

Use the "Notice of Transfer of Approved Forest Practices Application/Notification" form. This form is available at region offices and on the Forest Practices website <https://www.dnr.wa.gov/programs-and-services/forest-practices/review-applications-fpars/forest-practices-forms-and>. Notify DNR of new Operators within 48 hours.

Continuing Forestland Obligations (RCW 76.09.060, RCW 76.09.070, RCW 76.09.390, and WAC 222-20-055)

Obligations include reforestation, road maintenance and abandonment plans, conversions of forestland to non- forestry use and/or harvest strategies on perennial non-fish habitat (Type Np) waters in Eastern Washington.

Before the sale or transfer of land or perpetual timber rights subject to continuing forest and obligations, the seller must notify the buyer of such an obligation on a form titled "Notice of Continuing Forest Land Obligation". The seller and buyer must both sign the "Notice of Continuing Forest Land Obligation" form and send it to the DNR Region Office for retention. This form is available at DNR region offices.

If the seller fails to notify the buyer about the continuing forestland obligation, the seller must pay the buyer's costs related to continuing forestland obligations, including all legal costs and reasonable attorneys' fees incurred by the buyer in enforcing the continuing forestland obligation against the seller.

Failure by the seller to send the required notice to DNR at the time of sale will be prima facie evidence in an action by the buyer against the seller for costs related to the continuing forestland obligation prior to sale.

DNR Declaration of Mailing

I, Stephanie Recinos-Valencia, caused the Notice of Decision for FPA/N No. 2618129 to be placed in the United States mail at Forks, WA, postage paid. I declare under penalty of perjury of the laws of the State of Washington, that the foregoing is true and correct.

10/27/2023
(Date)

Forks, Washington
(City & State where signed)


(Signature)



WASHINGTON STATE PARKS & RECREATION COMMISSION

TREE ACTIVITY WORKSHEET
NON-EMERGENCY / SIGNIFICANT TREES

NOTE: No agency staff, including the Arbor Crews, are authorized to fell non-emergency, significant trees without authorization by the Director or his/her designee.

PARK Fort Flagler Historical State Park		STAFF MEMBER Hannah Ross				DATE 2/21/2024				
PROJECT DISCRIPTION (Attach park map and note land classification) The Welcome Center project at Fort Flagler Historical State Park proposes to construct a new welcome center at a location that better suits visitors. The new 20-foot by 40-foot welcome center will be constructed along the entrance road near the entrance gate and will include visitor and employee parking. Along with the welcome center, State Parks is proposing new traffic routes and lanes for more efficient traffic control. The current roadway will be used as a traffic stack-up lane and as the entrance road; a new roadway, approximately 866 feet in length will be constructed to the southwest of the welcome center for an exit lane. Utilities will need to be brought from the four-way stop to the north of the proposed welcome center and include power, sewer, and communication lines										
Can target be permanently removed? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				Can felled materials be left in-place for habitat? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Is there any known tree diseases / insects involved? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Please note if known:										
Is the project within 200 ft of a shoreline? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				Does the project require permits? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure?						
Is the project near any known sensitive: Natural Resources <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ,or, Cultural Resources <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No										
Are the services of the Arbor Crew requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No										
Tree #	Species Code	Old Growth X	Approx Diam. (inches)	Approx Ht. (feet)	Tree Risk Rating				Pruning or Felling	Work Complete? When? If no, explain
					Failure	Size	Target	Total		
1	DF		12	70	0	2	2	4	F	No-Awating Welcome Center Construction
2	DF		12	70	0	2	2	4	F	No-Awating Welcome Center Construction
3	DF		12	70	0	2	3	5	F	No-Awating Welcome Center Construction
4	DF		12	80	0	2	2	4	F	No-Awating Welcome Center Construction
5	DF		13	80	0	2	2	4	F	No-Awating Welcome Center Construction
6	DF		14	85	0	2	3	5	F	No-Awating Welcome Center Construction
7	DF		15	86	0	2	2	4	F	No-Awating Welcome Center Construction
8	DF		15	100	0	2	2	4	F	No-Awating Welcome Center Construction
9	DF		15	100	0	2	2	4	F	No-Awating Welcome Center Construction
10	DF		15	85	0	2	2	4	F	No-Awating Welcome Center Construction
Project review NOTE: No reviewer, excepting the Director or his/her designee, can halt the routing of this form. Reviewers who have issues with the proposed treatments should note them in the "Comments" box below or in an attached document (in the case of the latter, please indicate in the comment box that additional comments exist in a separate document).										
Staff	Signature			Date	Comments					
Park				2/22/2024						
Reg. Ops Mgr				02/26/2024						
Reg. Environ.				2/21/2024	Forest Practices Permit recieved and attached.					

This project detracts from a imperiled forest community. NHP formally reached out to recommend against this project. There likely would have been significant modifications and/or a recognition that the project was not feasible given the natural resource impacts, had Stewardship been brought into planning earlier. Nathan Johnson

Reg. Planner	<i>Eric Olmstead</i>	2/29/24	
Reg. Steward	Nathan Johnson	3/1/2024	
HQ Cult. Res.	<i>[Signature]</i>	3/4/2024	Follow the attached Inadvertent Discovery Plan
HQ Nat. Res.	<i>[Signature]</i>	3/15/24	No concerns. Conducted site visit and appraisal. Advised on FPA and resource sale considerations and process.

Approval

Parks Development Director

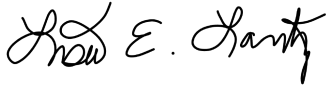
Date

Non-Emergency / Significant Trees - Tree Activity Worksheet (cont.)

PARK Fort Flagler			STAFF MEMBER Dan Budsberg						DATE 2/15/24	
Tree #	Species Code	Old Growth X	Approx Diam. (inches)	Approx Ht. (feet)	Tree Risk Rating				Pruning or Felling	Work Complete? When? If no, explain
					Failure	Size	Target	Total		
11	DF		16	90	0	2	2	4	F	No-Awaiting Welcome Center Construction
12	DF		16	100	0	2	2	4	F	No-Awaiting Welcome Center Construction
13	DF		16	90	0	2	2	4	F	No-Awaiting Welcome Center Construction
14	DF		14	90	0	2	2	4	F	No-Awaiting Welcome Center Construction
15	DF		16	90	0	2	2	4	F	No-Awaiting Welcome Center Construction
16	DF		16	100	0	2	3	5	F	No-Awaiting Welcome Center Construction
17	DF		16	90	0	2	2	4	F	No-Awaiting Welcome Center Construction
18	DF		16	108	0	2	2	4	F	No-Awaiting Welcome Center Construction
19	DF		18	100	0	2	2	4	F	No-Awaiting Welcome Center Construction
20	DF		18	100	0	2	3	5	F	No-Awaiting Welcome Center Construction
21	DF		18	100	0	2	3	5	F	No-Awaiting Welcome Center Construction
22	DF		18	100	0	2	2	4	F	No-Awaiting Welcome Center Construction
23	DF		20	100	0	2	2	4	F	No-Awaiting Welcome Center Construction
24	DF		20	100	0	2	3	5	F	No-Awaiting Welcome Center Construction
25	DF		20	100	0	2	2	4	F	No-Awaiting Welcome Center Construction
26	DF		20	100	0	2	2	4	F	No-Awaiting Welcome Center Construction
27	DF		20	100	0	2	3	5	F	No-Awaiting Welcome Center Construction
28	DF		21	100	0	3	2	5	F	No-Awaiting Welcome Center Construction
29	DF		22	100	0	3	2	5	F	No-Awaiting Welcome Center Construction
30	DF		24	110	0	3	3	6	F	No-Awaiting Welcome Center Construction

31	DF		24	110	0	3	3	6	F	No-Awating Welcome Center Construction
32	DF		24	105	0	3	2	5	F	No-Awating Welcome Center Construction
33	DF		24	105	0	3	2	5	F	No-Awating Welcome Center Construction
34	DF		24	105	0	3	2	5	F	No-Awating Welcome Center Construction
35	DF		24	105	0	3	3	6	F	No-Awating Welcome Center Construction
36	GF		13	80	0	2	2	4	F	No-Awating Welcome Center Construction
37	GF		18	80	0	2	3	5	F	No-Awating Welcome Center Construction
38	GF		18	100	0	2	3	5	F	No-Awating Welcome Center Construction
39	GF		19	100	0	2	3	5	F	No-Awating Welcome Center Construction
40	GF		19	100	0	2	2	4	F	No-Awating Welcome Center Construction
41	GF		20	100	0	2	2	4	F	No-Awating Welcome Center Construction
42	GF		20	100	0	2	2	4	F	No-Awating Welcome Center Construction
43	GF		21	100	0	3	2	5	F	No-Awating Welcome Center Construction
44	GF		22	110	0	3	2	5	F	No-Awating Welcome Center Construction
45	GF		26	120	0	3	2	5	F	No-Awating Welcome Center Construction
46	BM		13	50	0	2	3	5	F	No-Awating Welcome Center Construction
47	BM		14	55	0	2	2	4	F	No-Awating Welcome Center Construction

Approval



Parks Development Director

7/25/24

Date

Non-Emergency / Significant Trees - Tree Activity Worksheet (cont.)

PARK Fort Flagler			STAFF MEMBER Dan Budsberg						DATE 2/15/24	
Tree #	Species Code	Old Growth X	Approx Diam. (inches)	Approx Ht. (feet)	Tree Risk Rating				Pruning or Felling	Work Complete? When? If no, explain
					Failure	Size	Target	Total		
48	BM		18	65	0	2	2	4	F	No-Awaiting Welcome Center Construction
49	WRC		12	70	0	2	2	4	F	No-Awaiting Welcome Center Construction
50	WRC		12	70	0	2	3	5	F	No-Awaiting Welcome Center Construction
51	WRC		12	85	0	2	3	5	F	No-Awaiting Welcome Center Construction
52	WRC		13	85	0	2	3	5	F	No-Awaiting Welcome Center Construction
53	WRC		14	85	0	2	2	4	F	No-Awaiting Welcome Center Construction
54	WRC		15	85	0	2	3	5	F	No-Awaiting Welcome Center Construction
55	WRC		15	90	0	2	2	4	F	No-Awaiting Welcome Center Construction
56	WRC		18	90	0	2	3	5	F	No-Awaiting Welcome Center Construction
57	WRC		22	100	0	3	3	6	F	No-Awaiting Welcome Center Construction
58	WRC		26	105	0	3	3	6	F	No-Awaiting Welcome Center Construction

Non-Emergency / Significant Trees

Significant trees (as defined in WAC 352-28-010): Significant trees means living and dead standing trees > 10 inches in diameter at breast height (4.5 feet above the ground). Significant trees in any area under the jurisdiction and/or management of the commission shall be removed only after they have been evaluated, rated and marked by a professional forester, certified arborist or staff member trained in agency-approved tree risk rating and abatement techniques. In addition, except where deemed an emergency tree, or in the event of wildfire, weather or other natural emergencies, significant trees can be cut or removed only after compliance with WAC 352-28-010 subsection 1(d) and subsection (4) of this section, agency review through the tree activity worksheet process and upon the written approval of the director or the designee of the director.

Land Classification (as defined in WAC 352-16-020): Land classes in the Washington State Park system include Recreation, Resource Recreation, Heritage, Natural, Natural Forest and Natural Area Preserves.

Common Tree Species in the park system

Ailanthus	AA	Elm, Siberian	SE	Madrone, Pacific	PM	Pine, other	OP
Alder, red	RA	Fir, Douglas	DF	Maple, bigleaf	BM	Plane, London/Sycamore	SY
Ash	AS	Fir, grand	GF	Maple, Norway	NM	Sequoia, giant	GS
Ash, mount.	MA	Fir, other	OF	Maple, red	RM	Spruce, Englemann	ES
Aspen, quaking	QA	Gum, sweet	SG	Maple, sugar / hard	HM	Spruce, Norway	NS
Birch	BR	Hemlock, mount.	MH	Maple, silver	SM	Spruce, Sitka	SS
Boxelder	BE	Hemlock, Western	WH	Oak, Oregon	OO	Walnut, black	BW
Catalpa	CA	Holly	HO	Oak, pin	PO	Willow, black	KW
Cedar, W red	RC	Larch, Western	WL	Oak, red	RO	Willow, Pacific	PW
Cherry	CH	Locust, black	BL	Oak, white	WO	Willow, weeping	WW
Cottonwood, blk	BC	Elm, Siberian	SE	Olive, Russian	RV	Yew, Pacific	PY
Elm, other	OE	Locust, honey	HL	Pine, ponderosa	PP		

Tree Risk Rating (from agency Tree Risk Evaluation Form)

Probability of Failure		Probability of Failure (cont.)	
3	Adv. decay ≥40% any large tree part circum.	1	Adv. decay 10-40% any lg tree part circum.
	Stem shell <1" sound wood/6" stem diameter		Lightning scar, 25-40% girdling root
	Cavity ≥30% + <2"shell/6" stem diameter		Mistletoe, dead top/branch 2-4" diameter
	Crack - severe or associated with fork		Exposed roots < 50% with no decay
	≥40% roots compromised-critical root zone*		Natural lean and/or small cracks
	Large girdling root ≥40% of root collar		
	Unnatural Lean (w/ or w/o other defects)	Size of Part	
Dead tree, top/branch >10" diameter	3	>20 inches in diameter	
*CRZ = 1.5 x DBH away from trunk	2	4–20 inches in diameter	
	1	<4 inches in diameter	
2	Adv. decay 25-40% any lg tree part circum.	Target	
	Stem shell 1-2" sound wood/6" stem diam.		
	25-40% roots compromised-CRZ*	3	Day use, campsite, structures, parking, etc.
	Large branches or stems w/ included bark	2	Major trails & roads, open picnic areas, etc.
Dead tree, top/branch 4-10" diameter	1	Low traffic areas, secondary roads & trails	

General Procedure for addressing Non-Emergency / Significant Trees

- NOTE: No agency staff, including the Arbor Crews, are authorized to fell non-emergency, significant trees without authorization by the Director or his/her designee (WAC 352-28-010).**
- Park staffs identify trees needing treatment, list the trees on the Non-Emergency / Significant Trees – Tree Activity Worksheet, briefly describe the project, mark trees to be treated on a map, and route the form to the Region Steward. Call Stewardship Service Center to log and track Form, thus reducing risk that it might “go missing”.
- Region Steward reviews Form and ensures that Region Operations Manager, Region Planner and Region Environmental Specialist review it.
- Region Steward forwards Form to Stewardship Service Center for review by Natural & Cultural Resources Programs.
- Director, Parks Development provides final signature to form. Form then goes to Arbor Crew, where they schedule with the park time to treat the tree issues identified on the form.
- Following completion of the work, the Arbor Crew provides a final copy of the form to the Stewardship Service Center. The parks should keep a copy of the final form in their files.

**FORT FLAGLER STATE PARK
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SECTION 010000 – GENERAL REQUIREMENTS

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- 2 This project includes a new welcome center and an exit road loop around the welcome center. Work includes demolition, excavation, grading, paving, concrete, plumbing, and landscaping.

2.1 TIME FOR COMPLETION OF PROJECT

- A. Substantially complete project in accordance with the drawings and specifications within 120 calendar days from date on Notice to Proceed letter. Final completion in accordance with Contract Documents within 30 calendar days from substantial completion date.

2.2 HOURS OF WORK

- A. Work hours are between 8.00 a.m. and & 5.00 p.m. Monday through Friday, excluding national holidays.

2.3 LIQUIDATED DAMAGES

- A. If Contractor fails to complete Contract within stipulated time, an assessment of \$250 per day will be made against Contractor for each additional day required to complete contract, unless an extension of time was granted through Change Order. This assessment is to cover Commission's liquidated damages and is not to be construed as a penalty.
- B. Contract authorizes the Washington State Parks and Recreation Commission to deduct liquidated damages from money due at completion of contract.

2.4 PRE-CONSTRUCTION CONFERENCE

- A. Following notification of award to Contractor, the date for an on-site pre-construction conference will be set. Do not commence Work prior to conference or until written clearance has been obtained from Project Representative.
- B. Furnish Project Representative with following:
1. Complete list of sub-contractors, including business address, telephone numbers, items of Work, and registration numbers. List is to be updated during contract life.
 2. Name and contact information of Contractor's staff who is in charge and responsible for site safety and will be on site at all times.
 3. A Site-Specific Safety Plan that is in compliance with the Department of Labor and Industries and 000011 – General Conditions specifically for this project.
 4. A progress schedule in accordance with General Conditions.

**FORT FLAGLER STATE PARK
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5. A detailed cost breakdown for lump sum bid items. Furnish a fair evaluation of actual cost of each items of Work listed. This will be used in processing Contractor's requests for partial payment. Submittal of breakdown does not affect the Contract terms.

C. Project Representative will supply a list of hazardous products that could be encountered on Project. Appropriate Safety Data Sheet (SDS) will be on file at park.

2.5 PROGRESS CLEANING

A. Remove rubbish and debris from park property daily unless otherwise directed do not allow accumulation. Store materials that cannot be removed daily only in areas specified by the Project Representative.

B. Maintain worksites in a neat and orderly condition.

C. Cleanup operations are incidental to the Contract and no extra compensation will be made.

2.6 WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT)

A. WSDOT General Requirements, measurement or payment provisions apply.

2.7 UTILITY MONUMENTS

A. Contractor is responsible for installing monuments in accordance with drawings and at locations designated by Project Representative to permanently mark utilities installed on Project. Install monuments in trenches during backfilling operations.

2.8 AS-BUILT DRAWINGS

A. Keep a clean set of full-sized drawings at job site to use to identify changes.

2.9 PROJECT CONDITIONS

A. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.

1. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Project Representative and Owner. Owner will remove hazardous materials under a separate contract.

2.10 PROJECT SIGN

A. Provide following temporary sign. Sign location is shown on drawings or determined by Project Representative. Upon Project completion, remove sign and restore area to original condition.

**FORT FLAGLER STATE PARK
WELCOME CENTER REPLACEMENT**

2.11 PROJECT SIGN LETTERING

TITLE OF PROJECT:	WELCOME CENTER REPLACEMENT
NAME OF FACILITY:	FORT FLAGLER STATE PARK
NAME OF CONTRACTOR:	(Place Contractor's Name here)
ADDRESS OF CONTRACTOR:	(Place Contractor's Address here)
FUNDING TITLE NUMBER 1:	D1824-C00
FUNDING TITLE NUMBER 2:	LEAVE BLANK FOR THIS PROJECT

2.12 PARTNERSHIP IN THE CONTRACT

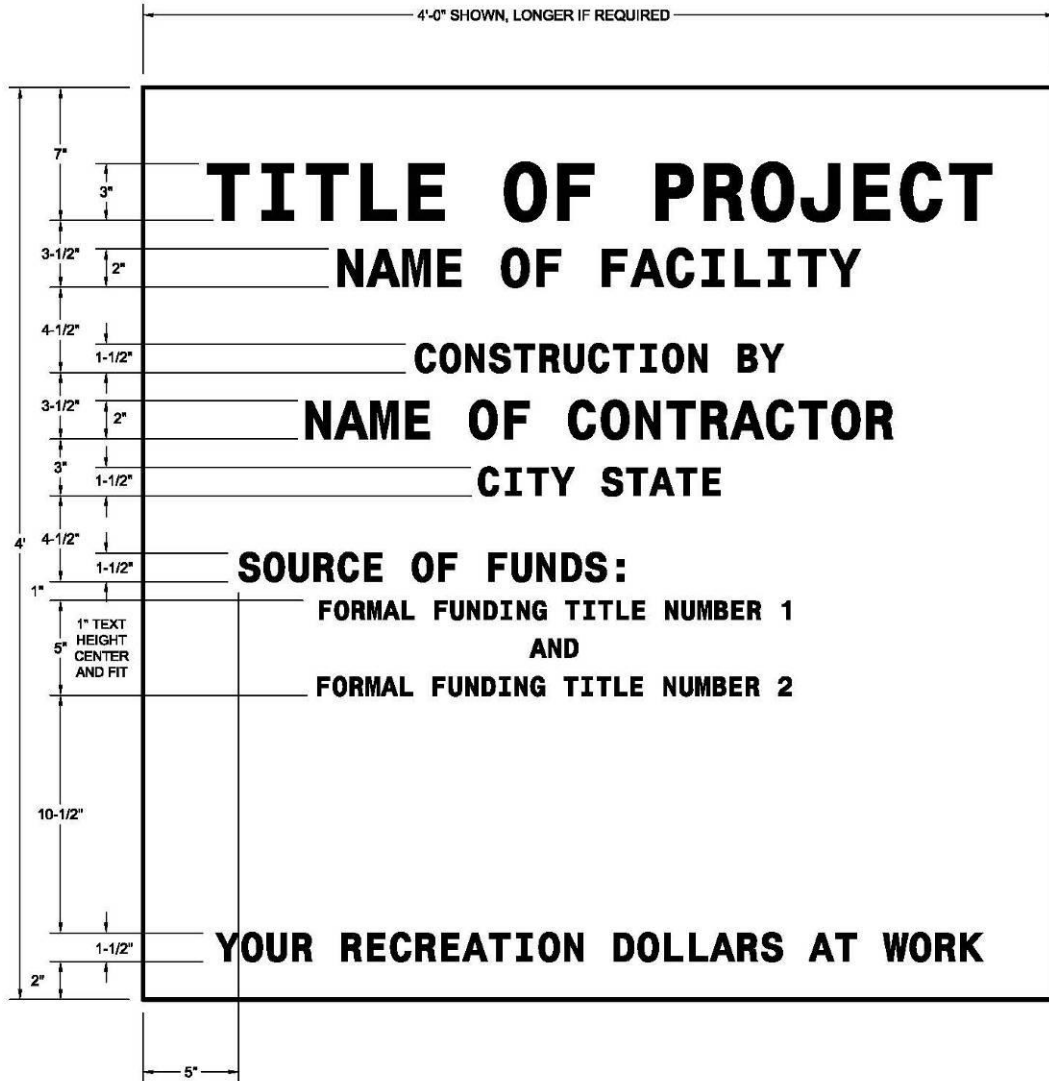
- A. As partners in this contract, both Contractor and Commission recognize the value of a successful Project. Both parties recognize, besides the tangible benefits to Contractor and the Commission, the citizens of Washington State and visitors to Washington State Parks will benefit immensely from the successful completion of a quality Project.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

FORT FLAGLER STATE PARK
WELCOME CENTER REPLACEMENT

PROJECT SIGN DETAIL

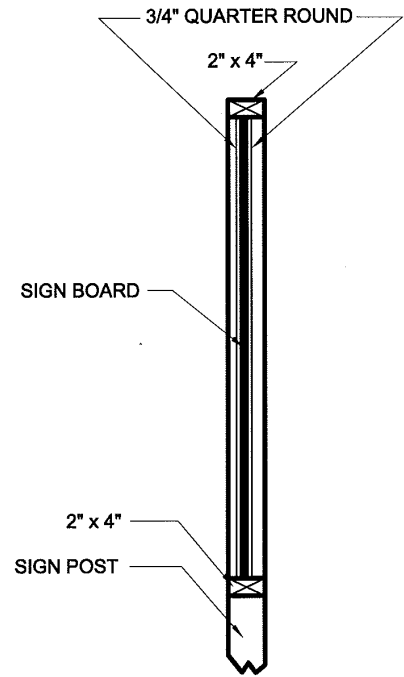
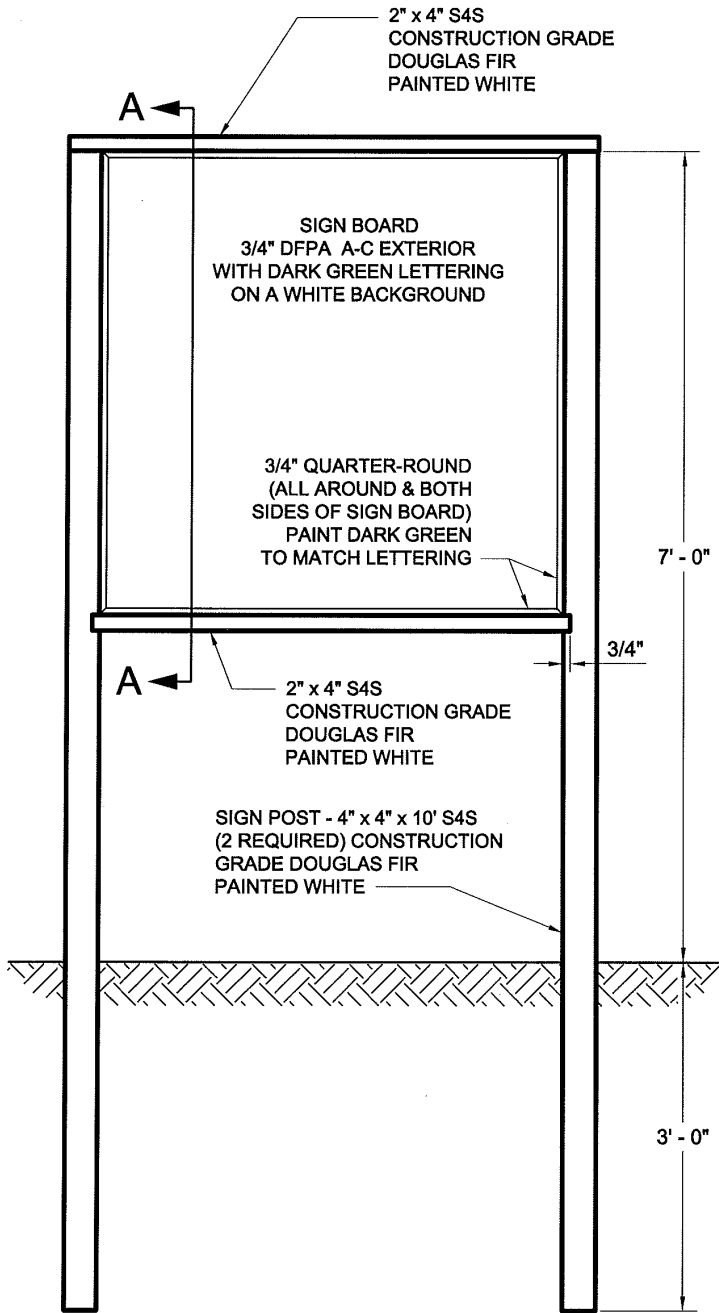


LAY OUT SIGN TO FIT ON A PORTION OF ONE (1) SHEET OF PLYWOOD. IF PLYWOOD IS THE FINAL SURFACE, PAINT IT WITH TWO (2) OR MORE COATS OF WHITE PAINT TO FORM A SMOOTH, NONABSORBENT SURFACE. PROVIDE DARK GREEN WELL FORMED LETTERS, EVENLY SPACED, NEAT IN APPEARANCE, AND ALIGNED AS SHOWN ABOVE.

**WASHINGTON STATE PARKS
PROJECT SIGN DETAIL**

FORT FLAGLER STATE PARK
WELCOME CENTER REPLACEMENT

PROJECT SIGN DETAIL



SECTION A - A

PLAN

END OF SECTION

**FORT FLAGLER STATE PARK
WELCOME CENTER REPLACEMENT**

SECTION 013300 – SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. For information on submittals see General Conditions 4.03

PART 2 - PRODUCTS - (NOT USED)

PART 3 - EXECUTION – (NOT USED)

END OF SECTION

**FORT FLAGLER STATE PARK
WELCOME CENTER REPLACEMENT**

SECTION 013501 – INADVERTENT DISCOVERIES OF CULTURAL RESOURCES AND HUMAN SKELETAL REMAINS

PART 1 - GENERAL

1.1 PROJECT SPECIFIC REQUIREMENTS

- A. No cultural resource sites are known to exist within Work area. However, there always exist the potential for unanticipated discoveries during excavation work.

1.2 EMERGENCY CONTACTS

WSPRC Archaeologists

Jennifer Wilson, Archaeology Program Manager	(360) 787-6511 (cell)
Email: jennifer.wilson@parks.wa.gov	(360) 902-8637 (office)
Shari Silverman, Archaeologist SW Region	(360) 902- 8640 (office and remote)
Email: shari.silverman@parks.wa.gov	
Kayley Bass, Archaeologist SW Region	(360) 701-1277 (cell)
Emails: kayley.bass@parks.wa.gov	
Sarah DuBois, Archaeologist Eastern Region	(360) 972-5884 (cell)
Email: sarah.dubois@parks.wa.gov	(509) 665-4336 (office)
Ayla Aymond, Archaeologist Eastern Region	(509) 743-8251 (cell)
Email: ayla.aymond@parks.wa.gov	
Sean Stcherbinine, Archaeologist NW Region	(360) 770-1419 (cell)
Email: sean.stcherbinine@parks.wa.gov	
Laura Syvertson, Archaeologist NW Region	(360) 770-0444 (cell)
Email: laura.syvertson@parks.wa.gov	
Maurice Major, Stewardship Archaeologist	(360) 701-6218 (cell)
Email: maurice.major@parks.wa.gov	(360) 902-8503 (office)

WSPRC Curator of Collections/NAGPRA Specialist

Alicia L. Woods, Statewide Curator of Collections & NAGPRA Specialist (360) 586-0206 (office)

State Physical Anthropologist

Guy Tasa, PhD, Dept. of Archaeology and Historic Preservation (360) 790-1633 (cell)

Assistant State Physical Anthropologist

Jennifer Spence, Dept. of Archaeology and Historic Preservation (360) 890-0174 (office)

County Coroner/Examiner

James M. Kennedy, Prosecuting Attorney/Coroner (360) 385-9180 (phone)

Area Manager

Brian Hagerman, Olympic View Area Manager (360) 344-4401 (cell)

**FORT FLAGLER STATE PARK
WELCOME CENTER REPLACEMENT**

Region Manager

Darrel Hopkins, SW-North

(360) 725-9781 (work)

(360) 791-0774 (cell)

Local Law Enforcement

Jheison Chinchilla, Ranger

(360) 344-4412 (cell)

Wayne Fitch, Ranger

(360) 344-4412 (cell)

1.3 **INADVERTENT DISCOVERIES OF CULTURAL RESOURCES AND HUMAN SKELETAL REMAINS**

- A. Many of Washington’s most important heritage sites reside on lands owned or managed by the Washington State Parks and Recreation Commission (WSPRC). Nearly all Washington State Parks contain one or more important historic buildings, structures, or archaeological sites. For this reason, archaeological surveys and historic building inventories are ordinarily commissioned as a part of background analysis and information gathering for park developments and undertakings. Results of these surveys are used during project planning to ensure every effort is made to avoid impacts to cultural resources. Yet, despite these efforts, there **always** remains some potential for unanticipated discoveries while working in Washington State Parks.
- B. All unanticipated discoveries, both cultural resources and human skeletal remains, are subject to all applicable federal and state statues, regulations, and executive orders. For these reasons, the Inadvertent Discovery Plan (IDP) provides useful guidance and instructions for circumstances when cultural resources or human skeletal remains are found. Please carefully read these instructions. If you have any questions, please contact the appropriate WSPRC Area Manager or the WSPRC archaeologist assigned to the undertaking. It is also strongly recommended that anyone conducting ground-disturbing activities watch the training video produced by Washington State Dept of Ecology: [Inadvertent Discovery of Cultural Resources or Human Remains: Training for Field Staff](#). This IDP for cultural resources and human skeletal remains is based on [RCW 27.53](#), [RCW 68.50.645](#), [RCW 27.44.055](#), and [RCW 68.60.055](#) and [recommended language](#) from the Department of Archaeology and Historic Preservation (DAHP).

1.4 **INADVERTENT DISCOVERY PLAN FOR CULTURAL RESOURCES**

- A. If cultural resources are found during a project, activity in the immediate area of the find should be discontinued (**stop**), the area secured (**protect**), and the WSPRC archaeologists notified to assess the find (**notify**). *When in doubt, assume the material is a cultural resource and implement the IDP outlined below.*
- B. **Recognizing Cultural Resources-Types of Historic/Prehistoric Artifacts and/or Activity Areas That May Be Found**
1. Artifacts- Both historic and prehistoric artifacts may be found exposed in backhoe trenches or back dirt piles.
- a) Prehistoric artifacts may range from finished tools such as stone pestles, arrowheads/projectile points, shell beads, or polished bone tools to small pieces or “flakes” or “chips” of exotic stone such as chert, jasper, or obsidian.

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- b) Historic artifacts may include older (more than 50 years) nails, plates/ceramics, bottles, cans, coins, glass insulators, or bricks.
 - c) Old abandoned industrial materials from farming, logging, railways, lighthouses, and military installations.
2. Activity Area/Cultural Features- While excavating trench lines look for evidence of buried activity areas/cultural features such as old campfire hearths or buried artifacts.
- a) An area of charcoal or very dark stained soil with artifacts or burned rocks may be a fire hearth.
 - b) A concentration of shell with or without artifacts may be shell midden deposits.
 - c) Modified or stripped trees, often cedar or aspen, or other modified natural features, such as rock drawings or carvings
3. Historic building foundation/structural remains- During excavation, buried historic structures (e.g., privies, building foundations) that are more than 50 years old may be found.
4. Bone- Complete or broken pieces of bones may be discovered exposed in trench walls or in back dirt piles. Bone of recent age is usually transparent or white in color. Older bone is usually found in various shades of brown. Burned bone is usually black or, if heavily burned, bluish-white.

C. STEPS TO TAKE IF A CULTURAL RESOURCE IS FOUND DURING CONSTRUCTION

- 1. **Stop** if a cultural resource(s) is observed or suspected, all work within the immediate area of the discovery must stop.
- 2. **Protect** the area from further disturbance. Do not touch, move, or further disturb the exposed materials/artifacts. Create a protected area with temporary fencing, flagging, stakes, or other clear markings that is large enough (30 feet or larger) to protect the discovery location area. The WSPRC archaeologist can help determine the size of the protected area. Do not permit vehicles, equipment, or unauthorized personnel to traverse the discovery site.
- 3. **Notify** the WSPRC archaeologist. If the area needs to be secured, notify the Park Ranger or Park staff as well.
- 4. If requested by the WSPRC archaeologist, take photographs with a scale (e.g., pen, coin, etc.) and collect geospatial information of the discovery site to document the initial finds.

D. WHAT NOT TO DO IF A CULTURAL RESOURCE IS FOUND DURING CONSTRUCTION

- 1. Do not remove any artifacts from the site of the discovery.
- 2. Do not dig out objects protruding from any trench walls as this may cause further damage to artifacts and/or destroy important contextual information.
- 3. Do not share any information about the find, including on social media, except as necessary to implement the IDP.

E. WHAT HAPPENS NEXT?

- 1. The find will be assessed by a professional archaeologist (may be a WSPRC archaeologist or an archaeology consultant).
 - a) If the find is not a cultural resource, construction work may resume.

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- b) If the find is a cultural resource, the WSPRC archaeologist will contact the DAHP and affected Tribes, as appropriate, to develop a suitable treatment plan for the resource.
2. Construction work may resume in the protected area after the WSPRC archaeologist assigned to the undertaking has determined that the find has been adequately investigated and, if necessary, a treatment plan and monitor are in place to protect any remaining archaeological deposits.

1.5 INADVERTENT DISCOVERY PLAN FOR HUMAN SKELETAL REMAINS

A. Native American burials and historic grave sites are uncommon features on Washington State Park lands. These remains, as well as any associated artifacts or funerary objects, are protected under state law and, if the park is a federal lease, applicable federal law. If you discover human remains (or bones that you believe may be human remains) during construction, please follow these important instructions. It is imperative that reporting and treatment of any human remains found during construction or any ground-disturbing activities are treated with utmost dignity and respect.

B. **Steps to Take If Human Skeletal Remains are Found During Construction**

1. **Stop** if human skeletal remains observed or suspected, all work within the immediate area of the discovery must stop.
2. **Protect** the area from further disturbance. Do not touch, move, or further disturb the remains. Cover the remains with a tarp or other materials (not soil or rocks) for temporary protection in place and shield them from being photographed. Create a protected area with temporary fencing, flagging, stakes, or other clear markings that is large enough (30 feet or larger) to protect the discovery location area. The WSPRC archaeologist can help determine the size of the protected area. Do not permit vehicles, equipment, or unauthorized personnel to traverse the discovery site.
3. **Notify** law enforcement and the appropriate county medical examiner/coroner as soon as possible. If you are unsure if the remains are human, the physical anthropologist at DAHP may be called. Also notify the Park Ranger, the WSPRC archaeologist, and the WSPRC Curator of Collections/NAGRPA Specialist of the discovery of the remains.
4. If requested by law enforcement, the county coroner/examiner, the DAHP physical anthropologist, or the WSPRC archaeologist, take photographs with a scale (e.g., pen, coin, etc.) and geospatial information of the discovery site to document the initial finds.

C. **What Not to Do If Human Skeletal Remains are Found During Construction**

1. Do not pick up or remove anything.
2. Do not take any photographs of the remains unless instructed to do so by law enforcement, the county coroner/examiner, the DAHP physical anthropologist, or the WSPRC archaeologist. If pictures are requested, be prepared to photograph them with a scale (e.g., pen, coin, etc.) and collect geospatial information of the remains.
3. Do not call 911 unless you cannot reach law enforcement or the coroner/examiner by other means.
4. Do not share any information about the find, including on social media, except as necessary to implement the IDP.

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D. What Happens Next?

1. The county medical examiner/coroner will assume jurisdiction over the human skeletal remains and decide whether those remains are forensic (crime-related) or non-forensic.
 - a) If forensic, the county medical examiner/coroner will retain jurisdiction over the remains.
 - b) If non-forensic, the county medical examiner/coroner will report that finding to the DAHP who will then take jurisdiction over the remains. The DAHP will notify any appropriate cemeteries and all affected Tribes of the remains. The State Physical Anthropologist will decide whether the remains are Indian or Non-Indian and report that finding to any appropriate cemeteries and the affected Tribes. The DAHP will then handle all consultation with the affected parties as to the future preservation, excavation, and disposition of the remains.

Note: The WSPRC archaeologist assigned to the undertaking will be coordinating and consulting with the DAHP, affected Tribes, and other groups as necessary. Additionally, WSPRC's Curator of Collections/NAGPRA Specialist should be included on all written and/or verbal correspondence until the remains have been officially transferred from WSPRC's possession to an outside authority. Until the remains are transferred off of WSPRC's property, it is the responsibility of the Curator of Collections/NAGPRA Specialist to document and track the information regarding all human remains and associated funerary objects (including all material from excavation areas/units from which the human remains were removed).

2. Construction work may resume in the protected area after the WSPRC archaeologist assigned to the undertaking has determined that the find has been adequately investigated and, if necessary, a treatment plan and monitor are in place.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

**FORT FLAGLER STATE PARK
WELCOME CENTER REPLACEMENT**

SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
 - 2. Requirements for Contractor to provide quality-assurance and -control services required by Project Representative, Owner, or Authorities Having Jurisdiction are not limited by provisions of this Section.
- C. Related Requirements:
 - 1. Divisions 02 through 49 Sections for specific test and inspection requirements.

1.2 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Project Representative.
- C. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria.
- D. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to Authorities Having Jurisdiction, to establish product performance and compliance with specified requirements.
- E. Source Quality-Control Testing: Tests and inspections that are performed at the source, e.g., plant, mill, factory, or shop.

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- F. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- G. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- H. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
 - 1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).
- I. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of two (2) previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.3 CONFLICTING REQUIREMENTS

- A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Project Representative for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Project Representative for a decision before proceeding.

1.4 MATERIAL INSPECTION CONTROL

- A. For bulk items, furnish quantity sheets (load receipts) to account for each load delivered to the jobsite. Deliver quantity sheets to the Inspector on job at time of delivery. In the event the Inspector is not on job, deliver quantity sheets on a daily basis to place designated by Project Representative.

1.5 QUANTITY SHEETS/WEIGHT TICKETS

- A. For bulk items, supply quantity sheets (load receipts) to account for each load delivered to the jobsite. Deliver quantity sheets to Inspector on job at delivery time. If Inspector is not on job, deliver quantity sheets on a daily basis to place designated by Project Representative.

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- B. No payment shall be made for materials delivered for which quantity tickets have not been turned into Inspector or delivered to designated place at end of working day. Backdated tickets are not acceptable as a basis for payment, except at Project Representative's discretion.
- C. If bid item for material to be delivered to jobsite is stated in TONS, only weight slips from approved scale are acceptable for payment purposes, unless approved in advance by Project Representative.
- D. No payment for materials will be made until proper accounting has been made. Final quantity records are approved by Project Representative, with payment at Project Representative's discretion.

1.6 INFORMATIONAL SUBMITTALS

- A. Contractor's Statement of Responsibility: When required by Authorities Having Jurisdiction, submit copy of written statement of responsibility sent to Authorities Having Jurisdiction before starting work on the following systems:
 - 1. Seismic-force-resisting system, designated seismic system, or component listed in the designated seismic system quality-assurance plan prepared by Engineer.
 - 2. Main wind-force-resisting system or a wind-resisting component listed in the wind-force-resisting system quality-assurance plan prepared by Engineer.
- B. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

1.7 REPORTS AND DOCUMENTS

- A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
 - 1. Date of issue.
 - 2. Project title and number.
 - 3. Name, address, and telephone number of testing agency.
 - 4. Dates and locations of samples and tests or inspections.
 - 5. Names of individuals making tests and inspections.
 - 6. Description of the Work and test and inspection method.
 - 7. Identification of product and Specification Section.
 - 8. Complete test or inspection data.
 - 9. Test and inspection results and an interpretation of test results.
 - 10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
 - 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
 - 12. Name and signature of laboratory inspector.
 - 13. Recommendations on retesting and reinspecting.

**FORT FLAGLER STATE PARK
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- B. **Manufacturer's Field Reports:** Prepare written information documenting tests and inspections specified in other Sections. Include the following:
 - 1. Name, address, and telephone number of representative making report.
 - 2. Statement on condition of substrates and their acceptability for installation of product.
 - 3. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
 - 4. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 - 5. Other required items indicated in individual Specification Sections.

- C. **Permits, Licenses, and Certificates:** For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.8 **QUALITY ASSURANCE**

- A. **General:** Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

- B. **Manufacturer Qualifications:** A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

- C. **Fabricator Qualifications:** A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

- D. **Installer Qualifications:** A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

- E. **Professional Engineer Qualifications:** A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.

- F. **Specialists:** Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
 - 1. Requirements of Authorities Having Jurisdiction shall supersede requirements for specialists.

- G. **Testing Agency Qualifications:** An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and, where required by Authorities Having Jurisdiction, that is acceptable to authorities.

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1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.

H. **Manufacturer's Representative Qualifications:** An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

1.9 **QUALITY CONTROL**

A. **Contractor Responsibilities:** Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.

1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
2. Notify testing agencies at least **24** hours in advance of time when Work that requires testing or inspecting will be performed.
3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

B. **Manufacturer's Field Services:** Where indicated, engage a manufacturer's representative to observe and inspect the Work. Manufacturer's representative's services include examination of substrates and conditions, verification of materials, inspection of completed portions of the Work, and submittal of written reports.

C. **Retesting/Reinspecting:** Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.

D. **Testing Agency Responsibilities:** Cooperate with Project Representative, and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.

1. Notify Project Representative and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
6. Do not perform any duties of Contractor.

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- E. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
1. Access to the Work.
 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
 4. Facilities for storage and field curing of test samples.
 5. Delivery of samples to testing agencies.
 6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
 7. Security and protection for samples and for testing and inspecting equipment at Project site.
- F. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

- A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:
1. Date test or inspection was conducted.
 2. Description of the Work tested or inspected.
 3. Date test or inspection results were transmitted to Project Representative.
 4. Identification of testing agency or special inspector conducting test or inspection.
- B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Project Representative's, reference during normal working hours.

3.2 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible.

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- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION

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SECTION 014100 - REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.1 PERMITS, CODES AND REGULATIONS

- A. The following permits have been applied for (or are on file) and incorporated into the contract:
 - 1. S.E.P.A.
 - 2. Building
- B. Conform with the requirements of listed permits and additional or other applicable permits, codes, and regulations as may govern Work.
- C. Obtain and pay fees for licenses, permits, inspections, and approvals required by laws, ordinances, and rules of appropriate governing or approving agencies necessary for proper completion of Work (other than those listed under item 1.1A. above and Special Inspections called for by the International Building Code).
- D. Conform with current applicable codes, regulations and standards, which is the minimum standard of quality for material and workmanship. Provide labor, materials, and equipment necessary for compliance with code requirements or interpretations, although not specifically detailed in the Drawings or specifications. Be familiar with applicable codes and standards prior to bidding.
- E. Process through Project Representative, requests to extend, modify, revise, or renew any of the permits (listed in 1.1A above). Furnish requests in writing and include a narrative description and adequate Drawings to clearly describe and depict proposed action. Do not contact regulatory agency with requests for permit extensions, modifications, revisions, or renewals without the prior written consent of Project Representative.

1.2 VARIATIONS WITH CODES, REGULATIONS AND STANDARDS

- A. Nothing in the drawings and specifications permits Work not conforming to codes, permits or regulations. Promptly submit written notice to Project Representative of observed variations or discrepancies between the Contract documents and governing codes and regulations.
- B. Appropriate modifications to the Contract documents will be made by Change Order to incorporate changes to Work resulting from code and/or regulatory requirements. Contractor assumes responsibility for Work contrary to such requirements if Work proceeds without notice.
- C. Contractor is not relieved from complying with requirements of Contract documents which may exceed, but not conflict with requirements of governing codes.

1.3 COORDINATION WITH REGULATORY AGENCIES

- A. Coordinate Work with appropriate governing or regulating authorities and agencies.

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- B. Provide advance notification to proper officials of Project schedule and schedule revisions throughout Project duration, in order to allow proper scheduling of inspection visits at proper stages of Work completion.
- C. Regulation coordination is in addition to inspections conducted by Project Representative. Notify Project Representative of scheduled inspections involving outside regulating officials, to allow Project Representative to be present for inspections.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

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SECTION 014200 – REFERENCES

PART 1 - GENERAL

1.1 DEFINITIONS

- A. General: Basic Contract definitions are included in the General Conditions of the Contract.
- B. "Approved": When used to convey Project Representative's action on Contractor's submittals, applications, and requests, "approved" is limited to Project Representative's duties and responsibilities as stated in the General Conditions of the Contract.
- C. "Directed": A command or instruction by Project Representative. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."
- D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Project Engineer", "Project Architect", "Engineer", and "Architect" are interchangeable terms.
- J. Project Representative and Owners Representative are interchangeable terms.
- K. "As-built Drawings": Drawings done by the Contractor in the field showing changes to the Work.
- L. "Record Drawings": Drawings prepared based on the information on the As-built Drawings.

1.2 GENERAL

- A. Applicable standards of the construction industry have the same force and effect (and are made a part of the Contract Documents by reference) as if directly copied or bound herein.

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1.3 PUBLICATION DATES

- A. Where compliance with an industry standard is required, comply with the standard in effect on Bid Date.

1.4 ABBREVIATIONS AND NAMES

- A. The following acronyms or abbreviations, referenced in the Contract documents, are defined to mean the associated name. Applicable standards include, but are not limited to the following:

1.	AASHTO	American Association of State Highway & Transportation Officials
2.	ACI	American Concrete Institute
3.	AGA	American Gas Association
4.	AI	Asphalt Institute
5.	AIA	American Institute of Architects (The)
6.	AISC	American Institute of Steel Construction, Inc.
7.	AISI	American Iron and Steel Institute
8.	AITC	American Institute of Timber Construction
9.	ANSI	American National Standards Institute
10.	APA	Engineered Wood Association (The)
11.	APWA	American Public Works Association
12.	ASME	American Society of Mechanical Engineers
13.	ASTM	American Society for Testing and Materials International
14.	AWPA	American Wood Protection Association
15.	AWS	American Welding Society
16.	AWWA	American Water Works Association
17.	CRSI	Concrete Reinforcing Steel Institute
18.	EPA	Environmental Protection Agency
19.	HPVA	Hardwood Plywood and Veneer Association
20.	IBC	International Building Code
21.	IEEE	Institute of Electrical & Electronics Engineers, Inc. (The)
22.	IES	Illuminating Engineering Society of North America
23.	LPI	Lighting Protection Institute
24.	MCAA	Mechanical Contractors Association of America, Inc.
25.	NIST	National Institute of Standards and Technology
26.	NCMA	National Concrete Masonry Association
27.	NEC	National Electrical Code
28.	NECA	National Electrical Contractors Association, Inc.
29.	NFPA	National Fire Protection Association
30.	NHLA	National Hardwood Lumber Association
31.	NSF	National Sanitation Foundation International
32.	OSHA	Occupational Safety & Health Administration
33.	PCA	Portland Cement Association, (The)
34.	SEPA	State Environmental Policy Act
35.	UL	Underwriters Laboratories, Inc.
36.	UPC	Uniform Plumbing Code
37.	WCLIB	West Coast Lumber Inspection Bureau (Grading Rules)
38.	WRI	Wire Reinforcement Institute
39.	WSDOE or ECY	Washington State Department of Ecology
40.	WSDOH or DOH	Washington State Department of Health

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- | | | |
|-----|-------|---|
| 41. | WSDOT | Washington State Department of Transportation |
| 42. | WSPRC | Washington State Parks and Recreation Commission |
| 43. | WWPA | Western Wood Products Association (Grading Rules) |

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

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SECTION 015000 – TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 PROTECTION OF PROPERTY AND EXISTING FACILITIES

- A. Provide protections necessary to prevent damage to park property and facilities.
- B. Only rubber-tired equipment are permitted to operate on paved park roads.
- C. Protect existing trees and other vegetation indicated to remain in place against cutting, breaking or skinning of roots, skinning and bruising of bark, or smothering of trees by stockpiling materials within dripline. Provide necessary temporary guards to protect trees and vegetation to remain in place.
- D. Make every effort to minimize damage and cutting major tree roots during excavation operations. Provide protection for larger tree roots exposed or cut during excavation operations.

1.2 ENVIRONMENTAL PROTECTIONS

- A. Scope:
 - 1. Provide labor, materials, equipment and perform Work required for protection of environment during and as a result of construction operations under contract.
- B. Applicable Regulations:
 - 1. Comply with applicable federal, state and local laws and regulations concerning environmental pollution control and abatement, and specific requirements elsewhere in specifications and drawings to prevent and provide for control of environmental pollution.
- C. Protection of Land Resources:
 - 1. Give special attention to the effect of Contractor's operations upon surroundings. Take special care to maintain natural surroundings undamaged and conduct Work in compliance with following requirements:
 - a. When Work is completed, remove storage and other Contractor buildings and facilities, and sites restored to a neat and presentable condition appropriate to surrounding landscape, unless otherwise specified. Remove debris resulting from Contractor's operation.
 - b. Store petroleum products, industrial chemicals and similar toxic or volatile materials in durable containers approved by the Authority Having Jurisdiction and located in areas where accidental spillage will not enter water. Store substantial quantities of materials in an area surrounded by containment dikes of sufficient capacity to contain an aggregate capacity of tanks.

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D. Protection and Restoration of Property:

1. Preserve public and private property, monuments, power and telephone lines, other utilities, prevention of damage to natural environment, etc., insofar as they may be endangered by Work.
2. When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect or misconduct in execution of Work, or in consequence of non-execution of Contractor, restore, or have restored at Contractor's expense, such property to a condition similar and equal to that existing before such damage or injury was done, by repairing, rebuilding, or otherwise restoring same, or make good damage or injury in some other manner acceptable to Project Representative.

E. Protection of Water Resources:

1. Perform Work not to create conditions injurious to fish or to their habitat, or which would make water unsuitable for private, municipal, or industrial use.
2. Take special measures to prevent chemicals, fuels, oils, grease, bituminous materials, waste washings, herbicides, insecticides, lime, wet concrete, cement, silt or organic or other deleterious material from entering waterways.
3. Dispose of offsite, in a lawful manner conforming to applicable local, state and federal laws wastes, effluents, trash, garbage, oil, grease, chemicals, cement, bitumen, etc., petroleum, and chemical products or wastes containing such products. Furnish Owner with documentation showing compliance with this requirement.
4. Conform to applicable local, state and federal laws for disposal of effluents. Dispose of waters used to wash down equipment in a manner to prevent their entry into a waterway. If waste material is dumped in unauthorized areas, remove material and restore area to condition of adjacent, undisturbed area. If necessary, excavate contaminated ground and disposed of as directed by Project Representative and replace with suitable compacted fill material with surface restored to original condition.

F. Dust Control:

1. Dust control is required on roads used by Contractor. Maintain excavations, embankments, stockpiles, roads, plant sites, waste areas, borrow areas and other Work areas within or without the Project boundaries free from dust which would cause a hazard or nuisance to others. Provide approved, temporary methods of stabilization consisting of sprinkling, chemical treatment, light bituminous treatment or equal methods to control dust. If sprinkling is used, sprinkling must be repeated at intervals to keep disturbed areas at least damp.

G. Temporary Water Pollution/Erosion Controls:

1. Provide for prevention, control and abatement of soil erosion and water pollution within the limits of Project, to prevent and/or minimize damage to adjacent bodies of water and Work itself.
2. Coordinate temporary soil erosion/water pollution control measures with permanent drainage and erosion control Work to ensure effective and continuous controls are maintained throughout Project life.

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3. Develop a written spill prevention and response plan for construction activities adjacent to/and over any surface waters and/or wetlands. "Adjacent" means within 150' as measured on a horizontal plane. Plan addresses:
 - a. Narrative description of the proposed construction methods, materials, and equipment to be used for Work
 - b. Assessment and listing of hazardous materials and/or potential contaminants that could be released during execution of Work
 - c. SDS sheets with cleanup instructions for potential contaminants
 - d. Spill response/cleanup materials and instructions for use
 - e. Procedures and precautions to prevent spills
 - f. Spill response training for on-site personnel, including the location of the containment and cleanup materials at site
 - g. Emergency notification in case of a spill or release. Park Manager and Project Representative must be included on the list of notified.
4. Comply with applicable codes and ordinances for spill prevention and response plan and submit a copy to Project Representative before commencing Work adjacent to or over any waters and/or wetlands.

H. Emergency Spill Response Notification

1. Under state law, Ecology must be notified when any amount of regulated waste or hazardous material that poses an imminent threat to life, health, or the environment is released to the air, land, or water, or whenever oil is spilled on land or to waters of the state. The spiller is always responsible for reporting a spill. Failure to report a spill in a timely manner may result in enforcement actions. If you are not responsible for a spill, making the initial notification does not make you liable. However, please consult with Ecology's response team before attempting any type of response or cleanup. Also notify Park Manager and Project Representative.
2. If oil or hazardous materials are spilled to state waters, the spiller must notify both federal and state spill response agencies. The federal agency is the National Response Center at 1-800-424-8802. For state notification, call the Washington Emergency Management Division (EMD) at 1-800-258-5990 or 1-800-OILS-911 AND the appropriate Ecology regional office for your county (see numbers below). An Ecology spill responder will normally call reporting party back to gather more information. The agency will then determine its response actions. Also notify Park Manager and Project Representative.
3. Ecology Regional Spill Reporting Numbers:
 - a. Southwest Regional Office: (360) 407-6300 (Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Kitsap, Lewis, Mason, Pacific, Pierce, Skamania, Thurston, and Wahkiakum counties)
TDD: Washington Relay Service 711 or (800) 833-6388.

1.3 PARK TRAFFIC/PEDESTRIAN CONTROLS

- A. Properly warn the public of construction equipment and activities, open trenches, and/or other unsafe conditions by providing all necessary warning equipment. Equipment includes warning signs, barricades, fencing, flashing lights and traffic control personnel (flaggers).

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- B. Conduct operations with the least possible obstruction and inconvenience to the public in accordance with appropriate Section(s) of the WSDOT "Standard Specifications".

1.4 PROTECTION OF WORK

- A. Protect Work, materials, and equipment against damage, weather conditions, or other hazards. Equipment, Work or materials found damaged or in other than new condition will be rejected by Project Representative.

1.5 REMOVAL AND REPLACEMENT OF STATE-OWNED ITEMS

- A. Should any state-owned items, such as signs, bumper blocks, or related items, interfere with the proper construction process, remove and reinstall such items to the satisfaction of Project Representative.

1.6 USE OF PARK SPACE

- A. Only in areas of park that Contract covers and only during active inclusive dates of Contract.
- B. Contractor vehicle and equipment parking only as designated by Project Representative.
- C. Contractor will be issued temporary parking passes for construction crew, vehicles and equipment, valid for the duration of the contract only.

1.7 ROADWAY CLOSURE

- A. Closure of the park is not in the best interest of the general public, only close roads being trenched while conduits, etc., are being installed, and immediately reopened for traffic. Supply necessary barricades, etc., to effectively prevent automotive traffic from entering upon any traveled way while trenches are open, unless other approved appropriate safety measures are taken.

1.8 UTILITIES

- A. Existing subsurface utilities on Project are represented on Contract Drawings to the best of the Commission's knowledge. It is Contractor's responsibility to verify existence of utilities and determine exact location and depth. Maintain use of utilities during construction through temporary connections or other measures suitable to Commission. No extra compensation will be made for removal, temporary connections, relocations, or replacement of utilities.

1.9 SERVICE OUTAGES

- A. Coordinate and schedule outages for, power, water, and sewer service connections/repairs with Park Manager, so as not to inconvenience park staff or public.

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1.10 SANITARY FACILITIES

- A. Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with requirements of Authorities Having Jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

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SECTION 015526 – TRAFFIC CONTROL

PART 1 – GENERAL

1.1 RELATED REQUIREMENTS

- A. Section 015000 – Temporary Facilities and Controls

1.2 GENERAL

- A. Provide flaggers, signs, and other traffic control devices in accordance with the Washington State Department of Transportation (WSDOT) Current Edition, Standard Specifications for Road, Bridge, and Municipal Construction and the Manual on Uniform Traffic Control Devices (MUTCD). Erect and maintain construction signs, warning signs, detour signs, and other traffic control devices necessary to warn and protect the public from injury or damage as a result of the Contractor's operations that may occur on highways, roads, drives, streets, or sidewalks and walkways. Do no work on or adjacent to the above locations until necessary signs and traffic control devices are in place.
- B. These flaggers, signs, and other traffic control devices are for the safety of the public, the Contractor's employees, and Commission's personnel and to facilitate the movement of the traveling public. They may be used for the separation or merging of public and construction traffic when in accordance with a specific approved traffic control plan.
- C. Upon failure of the Contractor to immediately provide flaggers; erect, maintain, and remove signs; or provide, erect, maintain, and remove other traffic control devices, the Commission may, without further notice to the Contractor, shut down the Contractor's activity until adjacent traffic control is implemented.
- D. Providing adequate flaggers, signs, and other traffic control devices for the protection of the work and the public at all times, regardless of whether or not the flaggers, signs, and other traffic control devices are ordered by the Project Representative, furnished by the Commission, or paid for by the Commission or by any modifications made by the Contractor. The Contractor shall be liable for injuries and damages to persons and property suffered by reason of the Contractor's operations or any negligence in connection therewith.
- E. Lane closure or diversion: advise Project Representative a minimum of two calendar days prior to implementation.

1.3 CONFORMANCE TO ESTABLISHED STANDARDS

- A. Flagging, signs, and other traffic control devices: conform to the standards established in the latest edition of the WSDOT Standard Specifications for Road, Bridge, and Municipal Construction, to the WSDOT Traffic Control Plans 1 through 18 (TC1-19) as published by WSDOT at <https://www.wsdot.wa.gov/Design/Standards/PlanSheet/Work-Zone-Typical-TCPs.htm> and to the Manual on Uniform Traffic Control Devices (MUTCD).

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1.4 SUBMITTALS

- A. Submit a temporary traffic control plan for Project Representative review.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 CONSTRUCTION PARKING CONTROL

- A. Control vehicular parking to prevent interference with public traffic and parking, and access by emergency vehicles. Monitor parking of construction personnel's vehicles. Maintain vehicular access to and through parking areas. Prevent parking on or adjacent to access roads or in non-designated areas.

END OF SECTION

**FORT FLAGLER STATE PARK
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SECTION 015639 - TEMPORARY TREE AND PLANT PROTECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the administrative and procedural requirements for the protection of trees, shrubs, and plant material not designated for removal. Trees, shrubs, and plant material not designated for removal shall be left in place and protected from damage or injury during construction using full and adequate methods of protection in order to preserve these natural resources, ecological function, and aesthetic character of the park.

1.2 REFERENCES

A. Definitions

1. Arborist Qualifications: An Arborist approved of by the Project Representative or certified by the International Society of Arboriculture (ISA) or Association of Consulting Arborists (ASCA) and licensed in the jurisdiction where project is located.
2. Critical Root Zone (CRZ): The portion of the root system nearest the stem that is critical for the stability and vitality of the tree. The minimum CRZ is a circular area having a radius of one foot for each one inch of trunk diameter defined by measuring the trunk diameter at 4.5 feet above ground level. For example, a tree that has a diameter of 20 inches would have a CRZ with a radius of 20 feet from the base of the tree. This is a MINIMUM CRZ radius for healthy trees; the CRZ often extends beyond the dripline of the tree. A critical root zone defined by 2.5 feet radius for each 1-inch diameter is desirable for old growth, historic, and character trees as designated by the Project Representative.
3. Vegetation Protection Zone (VPZ): A defined area of any size within the project area where existing vegetation (trees, shrubs, or other plant material) is to be protected from construction impacts. The zone may be accomplished by physical barriers or other means (e.g., soil protection layers or treatments).
4. Soil Protection Zone (SPZ): A defined area of any size within the project area where sensitive native soils are to be protected from construction impacts. The zone may be accomplished by physical barriers or other means (e.g., soil protection layers, durable matting, or other treatments as specified by the Project Representative).
5. High Risk Tree: Any tree with a structural defect and/or disease that makes the tree highly prone to failure, and which has a target and may result in personal injury or property damage. A high risk tree is the same as an "Emergency Tree" as defined in WAC 352-28-005 (<https://apps.leg.wa.gov/wac/default.aspx?cite=352-28-005>)

B. Reference Standards

1. ANSI A300. Specifications for Tree, Shrub, and Other Woody Plant Management including Section 5: Management of Trees and Shrubs During Site Planning, Site Development, and Construction.
2. ANSI Z133-2012. Safety Requirements for Arboricultural Operations.

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3. Council of Tree and Landscape Appraisers. (2020). *Guide for Plant Appraisal*, 10th ed. International Society of Arboriculture, Champaign, Illinois.

1.3 SUBMITTALS

- A. Tree Removal and Pruning Schedule: Written schedule from project Arborist detailing scope and extent of tree removals and pruning of trees to remain that interfere with or are affected by construction.
- B. Certification: From project Arborist, certifying that trees indicated to remain have been protected during construction according to recognized standards and that trees were promptly and properly treated and repaired when damaged.
- C. Maintenance Recommendations: From project Arborist, for care and protection of trees affected by construction during and after completing the Work.

1.4 QUALITY ASSURANCE

- A. Tree Pruning Standard: Comply with ANSI A300 (Part 1), "Tree, Shrub, and Other Woody Plant Maintenance--Standard Practices (Pruning)."
- B. Construction Management Standard: Comply with ANSI A300 (Part 5): Management of Trees and Shrubs During Site Planning, Site Development, and Construction
- C. Tree Planting: Comply with ANSI A300 (Part 6) Planting and Transplanting
- D. Tree Root Protection and Management: Comply with ANSI A300 (Part 8) - 2013 Root Management Standard

PART 2 - PRODUCTS

2.1 TREE PROTECTION MATERIALS

- A. Temporary Fencing
 1. Chain link fencing panels 6 feet tall by any length up to 14 feet. Panels must be braced and must be secured to stands and weighted per manufacturers specifications.
 2. Continuous molded safety mesh 36 inches wide with clear openings no more than 1-1/2 inches x 2 inches. Orange, 40 grams per square foot, high density polyethylene with U-V inhibitor suitable for above-grade use installed around the circumference of the CRZ.
 3. Posts five-foot steel heavy-duty "T" posts, 1-3/8 inches x 1-3/8 inches x 7/64 inches with steel anchor placed at 8' intervals at or beyond the CRZ.
 4. Nylon zip straps having a minimum breaking strength of 150 lbs.

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2.2 SOIL AND ROOT PROTECTION

- A. Mulch: Ground, shredded bark, or wood and bark chips, or “hog fuel” free from deleterious materials. Or new straw mulch, free from weeds, weed seeds, and foreign materials.
- B. Landscape fabric: American Excelsior Stabilenka 140, Celanese Mirafi 140, Propex 45-45, or approved equivalent geotextile.
- C. Filter Fabric: Manufacturer’s standard, nonwoven, pervious, geotextile fabric of polypropylene, nylon, or polyester fibers.
- D. Ground staples: 9 inches x 9 inches wire staples sufficient for holding landscape fabric or filter fabric in place for required time period.
- E. Ground protection mats: Construction mats or timber mats, as a temporary road surface of sufficient weight rating for the equipment being operated in the work area.

2.3 TREE TRUNK PROTECTION

- A. Where work has been approved to take place within the CRZ, tree trunk protection shall be installed vertically around tree trunk on all sides exposed to construction activity.
- B. Common wood 2 inches x 4 inches lumber, 8 feet long, without nails, other hardware, concrete residue, or other material that may be detrimental to plant health.
- C. Strapping sufficient to hold 2 x 4’s

PART 3 - EXECUTION

3.1 PLANNING AND NOTIFICATION

- A. Where existing trees and other vegetation are in the area of work, or where existing trees outside the area of work have a CRZ extending into the area of work, employ methods to minimize adverse impact to the existing trees (including limbs, stems, and roots), understory vegetation and their root systems, and soils. Where VPZ are designated by the Project Representative and/or in project plans, observe protection measures set forth herein. Notify the Project Representative of any construction work within the CRZ of trees at least two (2) working days before the scheduled activity.

3.2 PREPARATION

- A. Prior to Construction: Erect tree and plant protection prior to beginning any site work. Protect trees to remain against cutting, breaking, skinning, or compaction of roots; skinning or bruising of bark; breaking of branches and foliage. Review locations, fencing, and other markings of any VPZ and CRZ for trees within the construction area with the Project Representative.
- B. Tree Removal: Trees that are scheduled for removal as part of the project should be removed before construction to prevent hazards during construction.

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- C. **Material Storage:** Do not store construction materials, debris, or excavated material inside critical root zones or vegetation protection zones.
- D. **Vehicle and Foot Traffic:** Designate access routes within construction area and limitations on equipment and vehicles. Designate parking on existing pavement or away from critical root zones of trees. Tree protection fencing will serve as an exclusion zone within the CRZ except for where plans stipulate work will take place within the CRZ.

3.3 CRITICAL ROOT ZONE AND VEGETATION PROTECTION ZONE DESIGNATION

- A. **Temporary Fencing:** Install temporary fencing around CRZ, VPZ, or SPZ of either chain link or plastic mesh as indicated by Project Representative. Maintain temporary fence during construction and remove only when construction is complete.
 - 1. For plastic mesh, line posts space at eight feet maximum. Set posts vertically to minimum 18 inches depth. Posts may be driven provided method of driving does not damage posts. Ensure that posts do not damage tree roots.
 - 2. Where plastic fence is used, secure plastic fencing to posts with nylon zip-straps, minimum three per post. Draw fence material tight and vertical. Where chain link panels are used join panels with manufacturers clamps that require tool removal.
 - 3. With Project Representative's approval, sections of tree protection fencing may be removed temporarily to allow approved short-term construction activities. Reinstall fencing immediately when construction operations permit.
- B. **Tree Trunk Protection:** Where required tree trunks shall be protected by placing 2 x 4 lumber around the trunk, spaced so that strapping will not come in contact with the tree bark and lumber does not damage branches. Use strapping to hold lumber in place. Secure straps without nailing into or otherwise damaging tree bark.

3.4 SOIL COMPACTION, LOSS, AND DAMAGE WITHIN THE CRITICAL ROOT ZONE

- A. Protection against soil compaction within the CRZ may include but will not be limited to the following methods:
 - 1. Application of a minimum 6-inch thick layer of mulch (or wood chips salvaged from clearing and grubbing operations) within the CRZ. Replenish mulch as necessary to maintain a 6-inch depth. Do not place mulch within 6 inches of tree trunks. Where mulch is to be removed following project completion it should be underlaid with a porous geotextile.
 - 2. Ground protection mats, such as: timber or steel planking, construction mats, 1/2 inches thick CDX grade (or better) plywood, or brush for protection of surface roots and vegetation from equipment.
 - 3. Where equipment operating within the CRZ exceeds 12,000 lbs use a 6-inch layer of mulch overlaid with ground protection mats described above.
- B. Protection of soils against erosion and loss within the critical root zone of trees may require application of mulch, wood chips, ground protection mats, or landscape fabric at the request of the Project Representative.

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- C. Noxious Materials: Protect soils from damage caused by runoff or spillage of noxious materials while operating, mixing, placing, or storing construction materials and equipment; this includes washout of concrete mixing vessels, dewatering operations, equipment cleanup, maintenance, and service; ponding, erosion, or excessive wetting may incur a Stop-Work order at the discretion of the Project Representative.
- 3.5 TRENCHING, DIGGING, TUNNELING, AND GRADING WITHIN THE CRITICAL ROOT ZONE:
- A. Disturbance to soils and impacts to roots within the CRZ may require any of, and will not be limited to, the following methods, practices, and restrictions:
1. Maintain existing grade within CRZ of trees unless otherwise directed.
 - a. Lowering grades (cutting): Where existing grade is above new finish grade shown around trees, carefully excavate within CRZ to new grade. Document roots exposed in this process with photographs to be shared with project Representative.
 - b. Raising grades (filling): Where existing grade is raised within the CRZ to greater than 4 inches above existing grade these roots shall be considered damaged by smothering. Methods to increase air exchange of tree roots within these areas may be required. Examples of such methods may include and will not be limited to:
 - 1) Application of a 6 inch or thicker layer of large clean aggregate (2 inches by 4 inches or larger) covered with landscape fabric below fill material to maintain large pore space.
 - 2) Selection of a fill material with high porosity and minimal compressibility, which may include mulch. Compaction will not be required except as required by structural load requirements, to limit soil compaction.
 2. Alternative excavation methods that minimize root damage may be required. These may include but are not limited to: hand digging, horizontal boring, use of an air excavation tool, or other methods as otherwise deemed necessary by the Project Representative.
- B. Only limited intrusions into tree CRZ zones will be allowed as shown on the plans and with the approval of the Project Representative. Where trenching for utilities or irrigation is required within CRZ's of trees the following may be required:
1. No cutting of roots greater than two inches diameter. Tunnel under or around roots by drilling, auger boring, air excavation, or digging by hand.
 2. Where necessary for installation, cut roots with sharp pruning instruments flush with the edge of the trench or tunnel; do not break or chop.
 3. Avoid hitting roots with heavy equipment. Roots that are ripped by equipment should be excavated by hand, photographed, kept moist with mulch or burlap layers, and inspected by the Project Representative.
 4. Pile excavated soil outside of the CRZ of residual trees and return area to original grade upon completion of work.
 5. Cover exposed roots with soil as soon as possible or at the end of each day; the soil compacted to the original firmness only; and, watered when conditions are dry.
 6. Tree root pruning or other tree root treatments may be required as directed by the Project Representative.

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7. Root painting is not permitted.

3.6 STEM AND BRANCH PRUNING:

- A. Any unnecessary cutting, breaking, skinning, or bruising of bark; breaking of branches and foliage; damage or clearing of vegetation in the work area will not be permitted. Where permitted, stem and branch pruning must follow ANSI A300 Standards (including Part 1 and Part 5).
- B. Temporarily tie-up of low limbs is permitted where designated by the project representative.
- C. All final pruning cuts shall be made in branch tissue close to the trunk or parent limb, without cutting into the branch bark ridge or branch collar and without leaving a stub. Flush cuts to the tree trunk that remove the branch collar are unacceptable. Flush cuts result in a larger wound and expose trunk tissues to the possibility of decay.
- D. All significant tree pruning must have prior approval of Project Representative. An approved Arborist may be required, at the Contractors expense, for extensive or technically challenging pruning activities. Such requirements will be made explicit to the Contractor prior to the start of work.
- E. Only proper branch pruning techniques will be accepted. Improperly pruned trees could be irreparably damaged and are subject to section 3.7 DAMAGE TO TREES AND TREE REPLACEMENT.

3.7 DAMAGE TO TREES AND TREE REPLACEMENT:

- A. Should any tree or vegetation designated to remain be damaged in the course of construction activities immediately notify the Project Representative for inspection and direction for remedy.
- B. Remedies for damage will, at the Owner's discretion, require removal and disposal of the damaged tree(s) and be one of the following, at the discretion of the Project Representative.
 - 1. Compensate the Owner in cash or as a credit to the contract for up to the full value of the damaged tree, as appraised by an ISA certified Arborist according to the latest edition of the "Guide for Plant Appraisal".
 - 2. Replace each damaged tree under 6 inches diameter at breast height measurement with one replacement tree of 1-3/4 inches caliper measure. Replace each damaged tree over 6 inches diameter at breast height measurement with one replacement tree of 1-3/4 inches caliper measure for each 6 inches of diameter at breast height measure of the damaged tree. The new trees may or may not be the same species, at the discretion of the Project Representative. Select nursery stock, plant, and maintain as specified in Section 1.4 QUALITY ASSURANCE.
 - 3. For identified old-growth trees specified to remain, the Project Representative may be provided alternative remediation requirements from Parks Stewardship staff above and beyond requirements of 3.7.B.1 and 3.7.B.2.

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- C. Notify Project Representative in any case where construction called for in the contract documents cannot be completed without damage to trees identified to remain. Approval of the Project Representative is required prior to beginning construction described in the contract documents that might damage a tree designated to remain. Any tree designated to remain which is damaged without Project Representative's written approval, even if damage is necessary to complete the work, will subject the Contractor to remedies described in section 3.7 B above.

END OF SECTION

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SECTION 016000 – PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 COMMISSION FURNISHED ITEMS

- A. The Commission furnishes no items, except for toilet tissue dispenser, traffic signs, transformer vault, kiosk, and Fort Flagler identification signboard (relocate the existing signboard). Make all arrangements for and provide all materials required to accomplish the Work.

1.2 IMPLIED/INCIDENTAL MATERIALS

- A. Minor materials required for proper Project completion although not specifically mentioned or shown in Contract documents, are part of materials to be provided by Contractor as a part of Contract and are considered incidental to the total cost of Project. No additional compensation is due to the Contractor for providing such items.

1.3 QUALITY OF MATERIALS

- A. Materials are to be new, free from defects, and of quality specified in the drawings and specifications.
- B. Select and provide materials to ensure satisfactory operation and rated life in prevailing environmental conditions were installed.
- C. Same make and quality throughout the entire job, for each type. Furnish materials of latest standard design products of manufacturers regularly engaged in their production.

1.4 SPECIFIED MATERIALS

- A. Drawings and specifications generally reference only one make and model for each item of material or equipment required. This is not intended to be restrictive but indicates the standard of quality, design, and features required.
- B. Specified product is the basis of design regarding physical size, strength, and performance. Products named indicate minimum acceptable product and are "or equal" unless noted otherwise.

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1.5 SUBSTITUTIONS

- A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 14 days prior to time required for preparation and review of related submittals.
1. Conditions: Project Representative will consider Contractor's request for substitution when the following conditions are satisfied:
 - a. Requested substitution is consistent with Contract Documents and will produce indicated results.
 - b. Requested substitution provides sustainable design characteristics that specified product provided.
 - c. Requested substitution will not adversely affect Contractor's construction schedule.
 - d. Requested substitution has received necessary approvals of Authorities Having Jurisdiction.
 - e. Requested substitution is compatible with other portions of Work.
 - f. Requested substitution has been coordinated with other portions of Work.
 - g. Requested substitution provides specified warranty.
 - h. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
- B. Substitutions for Convenience: Project Representative will consider requests for substitution if received within **14** days after **commencement of the Work**.
1. Conditions: Project Representative will consider Contractor's request for substitution when the following conditions are satisfied:
 - a. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Engineer for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
 - b. Requested substitution does not require extensive revisions to Contract Documents.
 - c. Requested substitution is consistent with Contract Documents and will produce indicated results.
 - d. Requested substitution provides sustainable design characteristics that specified product provided for achieving LEED prerequisites and credits.
 - e. Requested substitution will not adversely affect Contractor's construction schedule.
 - f. Requested substitution has received necessary approvals of Authorities Having Jurisdiction.
 - g. Requested substitution is compatible with other portions of Work.
 - h. Requested substitution has been coordinated with other portions of Work.
 - i. Requested substitution provides specified warranty.
 - j. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

1.6 SUBSTITUTION OF MATERIALS ("OR EQUAL")

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- A. Proposed equipment to be considered "or equal" will necessitate written approval by the Engineer prior to substitution.
- B. On requests for substitution of materials clearly define and describe proposed substitute.
- C. Accompany requests by complete specifications, samples, records of performance, certified test reports, and such other information as the Engineer may request to evaluate the substitute product.
- D. Contractor is responsible for a substitute item suiting the installation requirements and for additional costs incurred as a result of substitution.
- E. Final decisions regarding quality and suitability of proposed substitutions rests solely with Engineer and will be based on information submitted.

1.7 TECHNICAL DATA

- A. Technical data and information contained herein relies entirely on tests and ratings provided by manufacturers who are solely responsible for their accuracy. Project Representative, by use of this information in no way implies that Project Representative has tested or otherwise verified the results of published manufacturer's information.

1.8 DELIVERY, STORAGE AND HANDLING

- A. Transport products by methods to avoid product damage. Only deliver products to the site that are undamaged and free from defects.
- B. Provide proper equipment and personnel to handle and transport materials/products to the Project sites safely and undamaged.
- C. Promptly inspect material to assure that products comply with Contract requirements, quantities are correct, and products are undamaged.
- D. Store and/or stockpile materials and products only in areas of park designated and approved by Project Representative prior to delivery.
- E. Arrange storage to provide easy access for inspections. Original product labels, certifications, stamps, etc. to be intact and readily visible for inspection purposes.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

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SECTION 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL (NOT USED)

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 DISPOSAL OF WASTE

- A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to Authorities Having Jurisdiction.
 - 1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Waste and debris removed from the worksite and not specified for reuse becomes the responsibility of the Contractor and disposed of off park property in areas authorized by the applicable county and/or state agencies and in accordance with current rules and regulations governing the disposal of solid waste. Disposal fees and sundry charges are paid by the Contractor and are incidental to the contract.
- C. Burning: Do not burn waste materials.
- D. Disposal: Remove waste materials from Owner's property and legally dispose of them.

END OF SECTION

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SECTION 017700 – CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 OPERATING AND MAINTENANCE (O&M) INSTRUCTION MANUAL

- A. Final payment will be held to no more than 95 percent completion percentage until receipt of the O & M Instruction Manuals. Payment for Contract closeout item will be made after receipt and approval of the manuals by the Project Representative. Have O & M Instruction Manuals prepared before final payment. Lack of O & M Instruction Manuals will not be a cause for Contract extensions.

- B. Furnish three (3) complete hard copy sets of binders and one (1) Electronic PDF copy on a storage device containing the following data for each mechanical, pumping, electrical equipment, major hardware, and plumbing installation or provided on this Project:
 - 1. Installation instructions
 - 2. Operating instructions (start-up and shut-down)
 - 3. Maintenance instructions, including trouble shooting guide
 - 4. Electrical schematics
 - 5. Illustrated parts breakdown and code (if available)
 - 6. Parts list (complete)
 - 7. Technical manuals
 - 8. Provide a complete list of manufacturer's representatives sales offices, or suppliers of major parts used on this Project, including their business address and telephone number, for the Park Manager's use when maintaining/repairing the system. Major parts are defined as other than miscellaneous plumbing, wire, piping fittings, etc.
 - 9. List of subcontractors contact information, and specific items of work performed by them.
 - 10. Tab binders and clearly mark all information contained.

- C. Affix to walls, panels, boxes or at other locations, the following data sealed in heavy plastic:
 - 1. Operating instructions (start-up and shut-down)
 - 2. Electrical schematics

- D. Operating instructions refer to designated parts of each particular installation as necessary and tag such parts with permanent markers as directed by Project Representative. This includes operational equipment.

1.2 AS-BUILTS

- A. Before final acceptance of Project, furnish Project Representative "As-Builts" which shows as-built locations and dimensions of major items constructed. Include locations and elevations of existing utilities encountered during excavation. Show location of pipes, manholes, buildings, structures, etc. by field measurements consisting of at least two (2) ties to permanent surface objects such as hydrants, buildings, etc.

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- B. Final payment: No more than 95 percent until As-Built Drawings received. Payment made after receipt and acceptance of drawings by Project Representative. Lack of As-Built Drawings will not be a cause for contract extensions.

1.3 SPECIAL TOOLS

- A. Deliver special tools required for maintenance and adjustment of equipment to Project Representative upon completion and before final acceptance of Project.

1.4 SPARE MATERIALS AND PARTS

- A. Before final acceptance, deliver spare materials, parts and other similar items to storage locations specified by Project Representative.

1.5 CERTIFICATES AND PERMITS

- A. Submit signed original certificates of compliance and final approval from Authorities Having Jurisdiction.

1.6 OUTSTANDING DOCUMENTS

- A. Expedite and submit outstanding administrative documents including outstanding cost proposals, Change Orders, etc.

1.7 PRIOR OCCUPANCY

- A. Reference General Conditions.
- B. Commission has the right to occupy completed portions of Project prior to final acceptance, and such occupation is not an acceptance of Project. Prior to occupancy, Project Representative and Contractor mutually agree to a date for prior occupancy; the area to be occupied; that occupancy is commencing within the requirements of applicable codes and ordinances; that endorsements from insurance companies, as necessary to maintain full insurance of Project regardless of prior occupancy, have been obtained; and that other necessary provisions are completed.
- C. The Project Representative will inspect areas designated for prior occupancy and issue a letter of acceptance or provide a list of deficiencies to be corrected to Contractor. Correct deficiencies prior to date of occupancy.

1.8 SUBSTANTIAL COMPLETION

- A. Reference General Conditions.
- B. Notify Project Representative in writing a minimum of seven (7) days in advance of the scheduled date of completion. Project Representative will conduct a "pre-final" inspection and formulate a final punchlist of Work items to be completed prior to final inspection. Project

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Representative will establish the date of substantial completion based on pre-final inspection findings. Following this inspection, Project Representative will either issue notice of substantial completion or advise the Contractor of deficient items which must be corrected prior to issuance of substantial completion.

1.9 DAMAGE TO FACILITIES, ROADS, VEGETATION OR PROPERTY

- A. During the course of construction, should any park facility be damaged by the Contractor's actions, operations or neglect, repair any such damages to their original condition, as acceptable to the Project Representative, at no cost to the Commission.
- B. Repair, restore or replace any park roads, vegetation or property damaged by the Contractor to the original condition at the time construction began. Repair or replace trees and vegetation indicated to remain, which has been damaged by construction operations, in a manner acceptable to the Project Representative.

1.10 FINAL CLEAN-UP

- A. Upon completion of the Work and prior to final inspection and acceptance, clean up the entire construction site and all grounds occupied by the Contractor in connection with the Work.
- B. Fine graded, rake clean and smooth all worksites and disturbed areas. Remove from the park rubbish, surplus and discarded materials, falsework, temporary structures, equipment, and debris.
- C. Leave all phases of the Project clean and ready for public use prior to final acceptance.
- D. Inspect all materials and surfaces for damage, scratches, marring, untreated ends of sawcuts, etc. and repair to original or intended condition.

1.11 FINAL INSPECTION AND ACCEPTANCE

- A. Reference General Conditions.
- B. Notify Project Representative in writing when Work, including punchlist items, has been completed.
- C. Project Representative will schedule and conduct a final inspection to verify that outstanding Work items are complete.
- D. Owner will establish the date of final acceptance based on the results of final inspection. Complete/correct any items identified as outstanding during final inspection prior to final acceptance of Project.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

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END OF SECTION

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SECTION 024113.13 – PAVING REMOVAL

PART 1 – GENERAL

1.1 DESCRIPTION OF WORK

- A. This Section covers removal of existing pavement, either asphalt concrete (HMA) or bituminous surface treatment (B.S.T.) pavements to prepare for utility and construction work.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 GENERAL

- A. The Contractor shall cut and remove existing pavement as necessary to meet the requirements shown on the plans for building construction and utility trenching operations grading. The Contractor shall load, haul and dispose of all existing pavement/excess material at a site licensed to receive this material.
- B. All pavement removal, that abuts asphalt that is to remain, shall be saw cut. Make a vertical full depth saw cut between any existing pavement, sidewalk, curb, or gutter that is to remain and the portion to be removed. For concrete pavement removal, a second vertical full depth relief saw cut offset 12 to 18 inches from and parallel to the initial saw cut is also required, unless the Engineer allows otherwise. For removal of bituminous pavement, asphalt planning equipment may be used in lieu of saw cutting provided that a clean vertical edge remains.

END OF SECTION

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SECTION 031000 – CONCRETE FORMING & ACCESSORIES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Formwork for cast-in place concrete, with shoring, bracing and anchorage.
- B. Openings for other work.
- C. Form accessories.
- D. Form stripping.
- E. Cleanup of formwork and adjacent elements, materials,

1.2 RELATED REQUIREMENTS

- A. Section 032000 - Concrete Reinforcing.
- B. Section 033000 - Cast-In-Place Concrete.

1.3 REFERENCE STANDARDS

- A. ACI 117 - Specifications for Tolerances for Concrete Construction and Materials 2010 (Reapproved 2015).
- B. ACI 301 - Specifications for Structural Concrete 2016.
- C. ACI 318 - Building Code Requirements for Structural Concrete and Commentary; 2014
- D. ACI 347R - Guide to Formwork for Concrete 2014, with Errata (2017).
- E. PS 1 - Structural Plywood 2009.

1.4 SUBMITTALS

- A. Shop Drawings: Indicate pertinent dimensions, materials, bracing, and arrangement of joints and ties.

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1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with WSDOT Standard Specifications for Road, Bridge, and Municipal Construction, most current edition at time of Bid.
- B. Design, engineer, and construct formwork, shoring and bracing to conform to code requirements; resultant concrete to conform to required shape, line and dimension.
- C. Wet concrete shall be prevented from entering waters of the State. Forms for any concrete structure shall be constructed to prevent leaching of wet concrete. Impervious materials shall be placed over any exposed concrete not lined with forms which will come in contact with State waters. Forms and impervious materials shall remain in place until the concrete is cured (HPA Provision #28).
- D. Any form release agent used shall be a 100% natural, organic chemical release agent acceptable for use in sensitive aquatic environments. Refer to Products.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver prefabricated forms and installation instructions in manufacturer's packaging.
- B. Store prefabricated forms off ground in ventilated and protected manner to prevent deterioration from moisture.
- C. Materials shall be immediately returned to the Staging Area after use. Any cleaning of forms or equipment shall be done in an approved area within the Staging Area.

PART 2 - PRODUCTS

2.1 FORMWORK - GENERAL

- A. Provide concrete forms, accessories, shoring, and bracing as required to accomplish cast-in-place concrete work.
- B. Design and construct concrete that complies with design with respect to shape, lines, and dimensions.
- C. Chamfer outside corners of beams and walls.
- D. Comply with applicable state and local codes with respect to design, fabrication, erection, and removal of formwork.
- E. Comply with relevant portions of ACI 301, ACI 318, ACI 347R, ACI 301, ACI 318, ACI 347R, ACI 301, ACI 318, and ACI 347R.

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2.2 WOOD FORM MATERIALS - GENERAL

- A. Plywood: Douglas Fir species exterior type minimum 5/8" thick; medium density overlaid one side grade; sound undamaged sheets with clean, true edges and surfaces suitable for the required finish.
- B. Lumber forms shall be boards selected for straightness in both planes and having no surface defects which will prevent achieving the required finish.

2.3 FORMWORK ACCESSORIES

- A. Form Ties: Snap-off type, galvanized metal, fixed length, cone type, with waterproofing washer, free of defects that could leave holes larger than 1 inch (25 mm) in concrete surface.
- B. Form Release Agent: Capable of releasing forms from hardened concrete without staining or discoloring concrete or forming bugholes and other surface defects, compatible with concrete and form materials, and not requiring removal for satisfactory bonding of coatings to be applied.
- C. Form Release Agent: Colorless mineral oil that will not stain concrete, absorb moisture, impair natural bonding of concrete finish coatings, or affect color characteristics of concrete finish coatings.
- D. Corners: Chamfered, rigid plastic type; 3/4 x 3/4 inch (19 x 19 mm) size, unless shown otherwise; maximum possible lengths.
- E. Keyways shall be formed using wood or removable plastic or metal preformed units to sizes indicated.
- F. Nails, Spikes, Lag Bolts, Through Bolts, Anchorages: Sized as required, of sufficient strength and character to maintain formwork in place while placing concrete.
- G. Embedded Anchor Shapes, Plates, Angles and Bars: As shown on Drawings.
- H. Isolation/Expansion Joints: Furnish resilient bituminous type, Sternson Ltd. "Flexcell", Grace Construction Products "Fiber", Homosote Co. "Homex 300", Old North Mfg. Co., Inc. "Gray-Flex", or approved, non-extruding type, 1/2 inch thickness unless otherwise shown, of depth as required to bring top to within 1/4 inch of surface of slab.

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PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify lines, levels and centers before proceeding with formwork. Ensure that dimensions agree with drawings.

3.2 ERECTION - FORMWORK - GENERAL

- A. Erect formwork, shoring and bracing to achieve design requirements, in accordance with requirements of ACI 347R.
- B. Provide bracing to ensure stability of formwork. Shore or strengthen formwork subject to overstressing by construction loads.
- C. Arrange and assemble formwork to permit dismantling and stripping. Do not damage concrete during stripping. Permit removal of remaining principal shores.
- D. Align joints and make watertight. Keep form joints to a minimum.
- E. Provide chamfer strips on external corners of formwork including retaining wall tops.
- F. Coordinate this section with other sections of work that require attachment of components to formwork.
- G. Joints And Stoppages:
 - 1. Construction Joints:
 - a. Install in accordance with provisions of ACI 318, Section 26.5.6.2, and as specified herein. Located where indicated or otherwise required and approved as to not impair strength of structure.
 - b. Provide nominal $\frac{3}{4}$ inch x 2-1/2 inch key at construction joints, unless otherwise shown on drawings, or as directed by Structural Engineer.
 - c. Make joints perpendicular to principal reinforcement. Continue half reinforcement and mesh across joints except at isolation joints; provide longitudinal keys at least 1-1/2 inches deep at all joints in walls and between walls and slabs or footings.
 - d. Remove key-forming wood inserts and thoroughly clean surface of concrete at all joints, removing all laitance, before placing next lift.
 - e. Immediately prior to placing next lift and/or adjacent slab, dampen hardened concrete of joint surface and coat with neat cement mortar of similar proportions to mortar in concrete.

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2. Isolation/Expansion Joints For Slabs-On-Grade: Do not extend reinforcement through where bonded on both sides of joint; smooth dowels may extend through joint. Position accurately and support against displacement in locations listed hereinafter.
 - a. Interior Work:
 - 1) Install isolation/expansion joints between new interior ground-supported slabs and building foundation walls, and around isolated slabs at column structures; elsewhere where shown on Drawings.
 - 2) Install joints with top surface recessed below finish elevation 1/4 inch, and fill with joint sealer as specified in Section 079200 Joint Sealants, finished flush with slab surface.
 - b. Exterior Work:
 - 1) Install as required in new walks and slabs in locations and/or spacings shown, elsewhere not more than 16 feet apart. Coordinate exact locations and alignment with Architect.
 - 2) Install isolation/expansion joints between concrete walks/slabs and vertical building walls and retaining walls.
 - 3) Install at all other locations indicated.
 - 4) Install joints with top surface recessed below finish elevation 1/4 inch, and fill with joint sealer as specified in Section 079200 Joint Sealants, finished flush with slab surface.
3. Control Joints: As specified in Section 033000 Cast In Place Concrete.

3.3 APPLICATION - FORM RELEASE AGENT

- A. Apply form release agent on formwork in accordance with manufacturer's recommendations.
- B. Apply prior to placement of reinforcing steel, anchoring devices, and embedded items.
- C. Do not apply form release agent where concrete surfaces will receive special finishes or applied coverings that are affected by agent. Soak inside surfaces of untreated forms with clean water. Keep surfaces coated prior to placement of concrete.

3.4 INSERTS, EMBEDDED PARTS, AND OPENINGS

- A. Provide formed openings where required for items to be embedded in passing through concrete work.
- B. Locate and set in place items that will be cast directly into concrete.

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- C. Coordinate with work of other sections in forming and placing openings, slots, recesses, sleeves, bolts, anchors, other inserts, and components of other work.
- D. Install accessories in accordance with manufacturer's instructions, so they are straight, level, and plumb. Ensure items are not disturbed during concrete placement.
- E. Prepare previously placed concrete by cleaning with steel brush and applying bonding agent in accordance with manufacturer's instructions.
- F. Install joint fillers, primer and sealant in accordance with manufacturer's instructions.
- G. Install joint covers in one piece longest practical length, when adjacent construction activity is complete.

3.5 FORM CLEANING

- A. All form cleaning will be accomplished within the Staging Area. No exceptions.
- B. Clean forms as erection proceeds, to remove foreign matter within forms.
- C. Clean formed cavities of debris prior to placing concrete.
- D. Flush with water or use compressed air to remove remaining foreign matter. Ensure that water and debris drain to exterior through clean-out ports.
- E. During cold weather, remove ice and snow from within forms. Do not use de-icing salts. Do not use water to clean out forms, unless formwork and concrete construction proceed within heated enclosure. Use compressed air or other means to remove foreign matter.

3.6 FORMWORK TOLERANCES

- A. Construct formwork to maintain tolerances required by ACI 117, unless otherwise indicated.
- B. All curves shall have a consistent radii and vertical grade. Successive curves shall flow smoothly from one into another with no visible angle points. Straight tangents shall be unwavering in the horizontal and vertical alignment.

3.7 FIELD QUALITY CONTROL

- A. Quality Control: Field inspection and testing.
- B. Inspect erected formwork, shoring, and bracing to ensure that work is in accordance with formwork design, and to verify that supports, fastenings, wedges, ties, and items are secure.
- C. Do not reuse wood formwork more than 2 times. Do not patch formwork.

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3.8 INSPECTION

- A. Notify Owner's Representative at commencement of formwork.
- B. Schedule an inspection of formwork with Owner's Representative 48 hours prior to expected time of completion of formwork. Obtain Owner's Representative's approval of formwork before placing concrete.

3.9 FORM REMOVAL

- A. Do not remove forms or bracing until concrete has gained sufficient strength to carry its own weight and imposed loads.
- B. Loosen forms carefully. Do not wedge pry bars, hammers, or tools against finish concrete surfaces scheduled for exposure to view.
- C. Store removed forms to prevent damage to form materials or to fresh concrete. Discard damaged forms.

END OF SECTION

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SECTION 032000 – CONCRETE REINFORCING

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Reinforcing steel for cast-in-place concrete.
- B. Welded wire fabric reinforcing for exterior concrete slabs on grade.
- C. Supports and accessories for steel reinforcement.

1.2 RELATED REQUIREMENTS

- A. Section 031000 - Concrete Forming and Accessories.
- B. Section 033000 - Cast-In-Place Concrete.

1.3 REFERENCE STANDARDS

- A. ACI 301 - Specifications for Structural Concrete Latest Edition.
- B. ACI 318 - Building Code Requirements for Structural Concrete and Commentary Latest Edition
- C. ACI SP-66 - ACI Detailing Manual Latest Edition.
- D. ASTM A184/A184M - Standard Specification for Welded Deformed Steel Bar Mats for Concrete Reinforcement Latest Edition.
- E. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement Latest Edition.
- F. ASTM A706/A706M - Standard Specification for Deformed and Plain Low-Alloy Steel Bars for Concrete Reinforcement Latest Edition.
- G. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete Latest Edition.
- H. CRSI (DA4) - Manual of Standard Practice Latest Edition.
- I. CRSI (P1) - Placing Reinforcing Bars Latest Edition.

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1.4 SUBMITTALS

- A. Shop drawings: comply with requirements of ACI SP-66. Include bar schedules, shapes of bent bars, spacing of bars, and location of splices.
 - 1. Indicate bar sizes, spacings, locations, and quantities of reinforcing steel and wire fabric, bending and cutting schedules, and supporting and spacing devices.
 - 2. Prepare shop drawings under seal of a Professional Structural Engineer experienced in design of work of this type and licensed in Washington State.
- B. Manufacturer's data: submit manufacturer's product data and installation instructions for proprietary materials.
- C. Manufacturer's certificate: certify that reinforcing steel and accessories supplied for this project meet or exceed specified requirements.

1.5 QUALITY ASSURANCE

- A. Perform work of this section in accordance with ACI 301.
- B. Inspections: Covered hereinafter in this Section, and in Section 014100 Regulatory Requirements. Should reinforcing placed under this Contract not meet specified requirements, remove and replace to assure compliance with Contract Documents.
- C. Welders' Certificates: Submit certifications for welders employed on the project, verifying AWS qualification within the previous 12 months and welders are WABO certified.

1.6 DELIVERY, STORAGE, AND PROTECTION

- A. Material and Equipment: Transport, handle, store, and protect products.
- B. All products to be stored in the Staging Area until day of use. All unused reinforcing steel and excess materials shall be immediately returned to the Staging Area after use.

PART 2 - PRODUCTS

2.1 REINFORCEMENT

- A. Reinforcing Steel:

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1. Unless otherwise noted in Structural Notes, furnish deformed bars meeting requirements set forth in ASTM Standard A615, Grade 60 (Fy = 60,000 psi). Bars shall be unpainted, uncoated, and free from rust, dirt and loose scale.
 2. Where reinforcing requires welded connections, furnish weldable reinforcing bars which meet the chemical requirements of ASTM A706 (Grade 60 ksi) with a minimum carbon equivalent of .55 percent.
- B. Welded Steel Wire Fabric: Furnish welded wire fabric meeting requirements set forth in ASTM A1064, Fy=65 ksi; 6"x6" - W 1.4/W 1.4 size, unless otherwise noted.
- C. Reinforcement Accessories:
1. Tie Wire: 16 gauge or heavier, double annealed wire.
 2. Spacer Bars for Wall Reinforcing: 3-inch bars, "U" shaped. Stock items of equivalent function may be submitted for approval.
 3. Mortar Blocks:
 - a. Furnish as required for use as spacers in placing reinforcement; shall be two (2) inches square (maximum).
 - b. Mortar blocks shall be constructed of mortar mixed with the same proportions of sand and cement used in concrete, and develop a minimum compressive strength of 4,000 psi at 28 days.
 - c. Mortar blocks shall have a tie wire embedded and the protruding ends to be tied to the reinforcing steel to hold the mortar blocks in place; mortar blocks with a grooved top may be used for supporting steel in slabs.
 4. Metal Chair Supports: In lieu of mortar blocks, furnish approved heavy-duty plastic-type chair supports, sized to support all slab steel to proper height and with cushioned pads to prevent vapor retarder membrane penetration.

2.2 FABRICATION

- A. Fabricate concrete reinforcing in accordance with CRSI manual of practice.
- B. Locate reinforcing splices not indicated on drawings at point of minimum stress. Review locations of splices with structural engineer.
- C. Hooks & bends
1. Minimum bend diameter: the diameter of bend measured on the inside of the bar for standard hooks, other than stirrup and tie hooks, not less than:
 - a. Bar sizes #3 through #8: 6 bar diameters.
 - b. Bar sizes #9 through #11: 8 bar diameters.
- D. Bending: bend cold, unless otherwise permitted by structural engineer; do not field bend partially embedded bars except as permitted by structural engineer. Conform to ACI 318, section 26.6.3.

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PART 3 - EXECUTION

3.1 PLACEMENT

A. General:

1. Conform to ACI 318, Section 26.6.2 for placing, supports, tolerances, and draped fabric, unless noted otherwise on Drawings.
2. Place, support and secure reinforcement against displacement. Do not deviate from required position.
3. Do not displace or damage vapor barrier.
4. Prevent water from softening soil under reinforcing during steel placing.
5. Accommodate placement of formed openings.

B. Maintain concrete cover around reinforcing as set forth on Drawings, but not less than 2 inches.

C. Cleaning Reinforcement: Clean reinforcement, at time concrete is placed, free of mud, oil, or other materials that will reduce the bond. Conform to ACI 318, Section 26.6.1.2.

D. Placement:

1. Reinforcing steel shall be accurately placed in accordance with related drawings, schedules, and detailed shop drawings and be securely tied and supported in its precise location at all points where the bars cross so as to preclude shifting during the placing of formwork, construction, or concrete placement operations.
2. Provide sufficient number of supports and of strength to carry the reinforcement. Do not place reinforcing bars more than 2 inches beyond last leg of any continuous bar support. Do not use supports as bases for runways for concrete conveying equipment and similar construction loads.
 - a. Bar reinforcing for concrete slabs on grade shall be securely supported in its proper position by means of mortar blocks or metal chairs as required; wood or foam supports are not acceptable.
 - 1) Use mortar blocks where placing reinforcing over vapor barrier or waterproof membranes at interior slabs on grade.
 - 2) Metal chair supports may be used at exterior slabs.
3. Bar reinforcing shall be continuous insofar as practical and shall carry around corners and through intersections in footings and walls. Provide elbow bars of size to develop required laps.
4. Unless otherwise noted, reinforcing bar splices shall lap 40 bar diameters. Splices shall not be made at the points of maximum stress. Stagger all lap splices such that no more than 50% of horizontal or vertical bars shall splice at any location.
5. Fastening:
 - a. Securely tie bars and bar supports together with 16 gauge wire to hold reinforcement accurately in position during concrete placement.

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- b. Set wire so that ends are directed into the concrete.
- c. Wire tie stirrups and ties to main reinforcement.

E. Placing Welded Wire Fabric:

- 1. Install in new exterior paving slabs. Provide of size specified herein or otherwise indicated, and with minimum coverages indicated for concrete protection.
- 2. Install welded wire fabric in as long lengths as practicable. The mesh fabric shall be rolled out, straightened, cut to the required size and be laid reasonably flat in place.
- 3. Lap adjoining pieces at least 12 inches or one full mesh spacing plus 2 inches, whichever is greater, and lace splices with 16 gauge wire. Offset end laps in adjacent widths to prevent continuous laps in either direction.
- 4. Do not carry through isolation/expansion joints.
- 5. Prior to concrete placement, the mesh reinforcing shall be supported at frequent intervals as required to insure proper location in the concrete.
- 6. Lifting mesh reinforcing during concrete placement is not allowed, unless approved in writing by the Structural Engineer.

3.2 FIELD QUALITY CONTROL

- A. Owner, or its representative will inspect installed reinforcement for conformance to contract documents before concrete placement.

END OF SECTION

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SECTION 033000 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 WORK IN THIS SECTION

- A. Work includes cast-in-place concrete for building wall footings, column/post footings, and floor slabs-on-grade, mixed, transported, placed, finished and cured, plus all formwork, reinforcement, embedment, and related Work items. Work covers structural concrete for all building components.

1.2 QUALITY ASSURANCE

- A. Codes, Definitions and Standards: Section 014100 - Regulatory Requirements and Section 014200 - References.
- B. Standards:
 - 1. Field Reference Manual: ACI SP-15 "Specifications for Structural concrete for buildings with selected ACI and ASTM References".
 - 2. Standards: Comply with provisions of following codes, specifications and standards, except as otherwise indicated.
 - a. CRSI "Manual of Standard Practice."
 - b. Design and control of concrete mixtures (PCA).
 - c. ACI 301 "Specifications for Structural Concrete for Buildings."
 - d. ACI 318 "Building Code Requirements for Reinforced Concrete."
 - e. IBC Chapter 19.
 - f. Where provisions of above codes and standards are in conflict with building code in force for this Project, most stringent governs.
- C. Notices and Scheduling: Contractor to notify building inspector and Project Representative not less than two (2) working days prior to all concrete pours, and Work requiring special inspection.

1.3 SUBMITTALS

- A. Product Data: Submit manufacturer's product data, specifications with application and installation instructions for proprietary materials and items, including admixtures, bonding agents, and the like.
- B. Reinforcing Steel: Submit steel producer's certificates of mill analysis, tensile and bend tests for reinforcing steel.
- C. Shop Drawings: Submit Shop Drawings for fabrication, bending, and placement of concrete reinforcement.
- D. Laboratory Test Reports: Submit laboratory test reports for concrete materials and mix design tests. The Project Representative's review will be for general information only. Production of concrete to

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comply with specified requirements is Contractor's responsibility.

- E. Design Mixes: Submit proposed design mixes for all concrete to allow ample time for approval by Project Representative.
- F. Delivery Tickets: Furnish copies of delivery tickets for each load of concrete delivered to site. Provide items of information as specified.

1.4 COORDINATION AND SCHEDULING

- A. Obtain information and instructions for other trades and suppliers in ample time to schedule and coordinate the installation of items furnished by them to be embedded in concrete so provision for their Work can be made without delaying the Project. Do all cutting and patching made necessary for failure or delay in complying with these requirements, at no cost to Owner.
- B. Coordinate and verify all ramps, warped surfaces, changes in elevation, and the like prior to placing concrete.

1.5 DELIVERY, HANDLING AND STORAGE OF REBAR

- A. Deliver reinforcement to Project site bundled, tagged and marked. Use metal tags indicating bar size, lengths, and other information corresponding to markings shown on placement diagrams.

PART 2 - PRODUCTS

2.1 CONCRETE INGREDIENTS

- A. Portland Cement: Standard approved brand of Portland Cement, Type II or I-II, shall be in accordance with ASTM C150.
 - 1. Use only one brand of cement for each required type throughout the Project. All cement for Project to be from one lot to maintain color consistency.
- B. Normal Weight Aggregates: Comply with ASTM C-33.
 - 1. Local aggregates not complying with ASTM C-33 but which have shown by special test or actual service to produce concrete of equal strength and durability may be used when acceptable to Project Representative.
- C. Do not use aggregates containing soluble salts or other substances such as iron sulfides, pyrite, marcasite or ochre which can cause stains on exposed concrete surfaces.
 - 1. Fine Aggregate: Clean, sharp, natural sand free from loam, clay, lumps or other deleterious substances. Dune sand, bank run sand and manufactured sand shall not be acceptable.
 - 2. Coarse Aggregate: Clean, uncoated, washed gravel containing no clay, mud, loam, or foreign matter.
 - 3. Maximum Aggregate Size: In no case shall the aggregate size exceed 3/4 inch size.

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- a. Provide aggregates from one source of supply to ensure uniformity in color size and shape.
- 4. Water: Clean, fresh, potable.
- D. Admixtures: Provide admixtures produced by established reputable manufacturers and use in compliance with manufacturer's printed directions. Do not use admixtures which have not been incorporated and tested in accepted mixes, or will impair subsequent finishes, unless otherwise authorized in writing by Project Representative.
 - 1. Two or more admixtures may be used in the same concrete provided such admixtures are added separately during the batching sequence and provided further that the admixtures used in that combination retain full efficiency and have no deleterious effect on the concrete or on the properties of each other.
 - a. Air-Entraining Admixture: Comply with ASTM C260.
 - b. Water-Reducing Admixture: Comply with ASTM C494.
 - c. Calcium Chloride: ASTM D98. Calcium chloride shall not be used in concrete.
 - d. Admixtures containing calcium chloride shall not be used where concrete is placed against galvanized steel, or in mix using high-early strength cement.
 - e. Fly ash or other pozzolans used as admixtures: ASTM C618.

2.2 PROPORTIONING AND MIX DESIGN

- A. Minimum Compressive Strength and Slump:
- B. Minimum Compressive Strength: 3000 psi at 28 days (5 1/2 sack/cy)
- C. Slump: Maximum slump for vibrated concrete shall be:
 - 1. 4 inches for concrete placed in footings and slabs.
 - 2. 5 inches for all other vibrated concrete.
 - 3. 7 inches for all non-vibrated concrete.
- D. Admixtures: Use amount of admixtures as recommended by manufacturer for climatic conditions prevailing at time of placing. Adjust quantities and types of admixtures as required to maintain quality control.
 - 1. Air-Entraining Admixture: Use air-entraining admixture in all concrete. Add air-entraining admixture at the manufacturer's prescribed rate to result in concrete at the point of placement having air content within 4 percent to 6 percent limits.
- E. Alternate Mix Designs:
 - 1. General: In lieu of the concrete mixes specified, the Contractor may submit an alternative design mix to the Project Representative for approval. The Contractor shall inform the Project Representative of the intent to submit mixes, proportion mixes per ACI 301 and IBC Chapter 19, and provide testing laboratory data and reports.
 - 2. Submit written reports to Project Representative of each proposed mix for each type of concrete at least 15 days prior to start of Work. Concrete production shall not begin until

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mixes have been reviewed by Project Representative and authorized in writing.

2.3 MISCELLANEOUS MATERIALS

- A. Non-Shrink Grout: Conform to ASTM C-476. Grout for setting and leveling of tanks, equipment, etc. shall be non-shrink, non-metallic high strength grout (pre-mixed and factory proportioned). Grout shall be "Burke", or equal.
- B. Expansion Joint Materials: Preformed Expansion Joint Filler: ASTM D1751, non-extruding and bituminous type resilient filler, compatible with sealant and backer rod.
- C. Vapor Retarder: See Section 072100 – Thermal Insulation. Provide vapor retarder cover over prepared base material below floor slab-on-grade. Use only materials which are resistant to decay when tested in accordance with ASTM E 154: Polyethylene sheet not less than 6 mils thick.
- D. Slab on Grade Insulation:
 - 1. See Section 072100 – Thermal Insulation

2.4 REINFORCING MATERIALS

- A. All concrete reinforcement materials shall be new, free from rust, mill scale, dirt, grease, or other foreign matter, and shall comply with the structural notes and the following reference standards:
- B. Reinforcing Bars: ASTM A 615, deformed, and as follows:
 - 1. Grade 60
 - 2. Bars for Welded Splices: ASTM A 706, low-alloy steel
 - 3. Bars to be sized per the plans
- C. Tie Wire:
 - 1. Steel Wire: ASTM A 82. 16 gauge minimum, annealed
 - 2. Deformed Wire: ASTM A 496
- D. Supports for Reinforcement: Provide all bolsters, chairs, spacers and other devices for spacing, supporting and fastening reinforcement in place.
 - 1. Wire Bar Type: Supports complying with CRSI recommendations, unless otherwise indicated. Do not use wood, brick, and other unacceptable materials.
 - 2. On Grade: Use supports with sand plates or horizontal runners where base material will not support chair legs.
 - 3. Concrete Surfaces to View or Potential Corrosion: Where legs of supports are in contact with forms, provide supports with either plastic protected or stainless steel protected legs - at Contractor's option. (CRSI, Class 1 and CRSI, Class 2, respectively.)

2.5 FORMS

- A. All forms shall be of sufficient thickness to support concrete at the rate placed. Face APA, Grade

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"B" or better, on concrete surfaces exposed to view. Any grade may be used on surfaces not exposed to view. Frame with face grain perpendicular to supports. Provide continuous supports for all edges.

2.6 SLEEVES

- A. Provide proper size sleeves for mechanical and electrical Work. Nail in place to prevent movement during concrete placement.

2.7 FORM TIES

- A. Strength consistent with spacing and rate of placement. Wire ties and wood spacers not permitted.

2.8 EMBEDDED ITEMS

- A. Position in forms in locations shown on the "building plans." Install reglets, nailers, frames, etc. Provide adequate support to prevent displacement during concrete pours. Install anchor bolts where shown on the plans or at spacing set forth on the "building plans." Where embedded conduit is required the following shall apply:
 - 1. Use only galvanized steel.
 - 2. Do not displace any reinforcing to accommodate installation of conduits and boxes.
 - 3. Locate conduits at physical center of particular section of concrete. Space at least 3" clear of parallel runs of reinforcing. Secure in place.
 - 4. Except as approved, maximum number of conduits embedded in reinforced concrete as follows:
 - a. Slabs, walls, beams - maximum conduit size 1/3 slab or wall thickness; or 1/3 minimum beam dimension.
 - 5. Conduits require same covering as reinforcing.

PART 3 - EXECUTION

3.1 INSTALLATION - REINFORCING STEEL

- A. General: Comply with Structural Notes, specified codes and standards, and Concrete Reinforcing Steel Institute recommended practice for "Placing Reinforcing Bars," for details and methods of reinforcement placement and supports.
- B. Clean reinforcement to remove loose rust and mill scales, earth, ice, and other materials which reduce or destroy bond with concrete.
- C. Accurately position, support, and secure reinforcement against displacement by formwork, construction, or concrete placement operations. Locate and support reinforcing by metal chairs, runners, bolsters, spacers and hangers, as required.

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- D. Place reinforcement to obtain minimum coverage for concrete protection. Arrange, space, and securely tie bars and bar supports together with minimum 16 gauge wire to hold reinforcement accurately in position during concrete placement operations. Set wire ties so that twisted ends are directed away from exposed concrete surfaces.
- E. Provide sufficient numbers of supports and of strength to carry reinforcement. Do not place reinforcement bars more than 2" beyond the last leg of any continuous bar support. Do not use supports as bases for runways for concrete conveying equipment and similar construction loads.
- F. See structural Drawings and notes for lapped splices.
- G. Lapped Splices: Provide standard reinforcement splices by lapping ends, placing bars in contact, and tightly wire tying. See Drawings for minimum lap of spliced bars.
- H. Welding: Comply with requirement of AWS D1.4 for field welding. Prior to field welding, determine weld-ability of reinforcing bars by laboratory chemical analysis of steel. Only steel conforming to chemical requirements specified in AWS D12.1 may be welded.
 - 1. If any deficient welds are found, the Contractor shall provide and pay for additional x-rays and tests directed by Architect and repair or replace defective welds to satisfaction of Architect at no cost to the Owner.

3.2 VAPOR RETARDER INSTALLATION

- A. Following leveling and compaction of drainage course for floor slab, place vapor retarder sheeting with longest dimension parallel with direction of pour. Lap joints 12" and seal with appropriate tape.

3.3 SLAB-ON-GRADE INSULATION

- A. Insulate footing interior perimeters and under slab of all heated floor slabs-on-grade in accordance with Specification Section 072100 – Thermal Insulation and as specified on the Drawings.

3.4 CONCRETE MIXING

- A. General: Concrete may be mixed at batch plants, or it may be transit-mixed. Plant facilities are subject to testing laboratory inspection.
- B. Ready-Mix Concrete: Comply with the requirements of ASTM C94 and IBC Chapter 19, and as herein specified, provided quantity and rate of delivery will permit unrestricted progress of Work in accordance with placement schedule.
- C. During hot weather, or under conditions contributing to rapid setting of concrete, a shorter mixing time than specified in ASTM C94 may be required. Proposed changes in mixing procedures, other than herein specified, must be approved by Project Representative before implementation.
- D. Plant Equipment and Facilities: Conform to National Ready-Mix Concrete Association "Checklist for Certification of Ready-Mix Concrete Production Facilities."

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3.5 PREPARATION

- A. Placement Inspection: Before placing concrete, inspect and complete formwork installation, reinforcing steel, sleeves, anchors, bolts inserts, supports, ties and items to be embedded or cast-in. Notify other crafts involved in ample time to permit installation of their Work; cooperate with other trades in setting such Work, as required. Thoroughly wet wood forms immediately before placing concrete, as required where form coatings are not used.
- B. Coordinate the installation of joint materials and moisture barriers with placement of forms and reinforcing steel.

3.6 CONCRETE PLACEMENT

- A. General: Conform to ACI 304 and to ACI 604 (306) for cold weather concreting and ACI 605 (305) for hot weather concreting.
- B. Comply with IBC Chapter 19 requirements for handling and placing.

3.7 JOINTS

- A. Contraction and Control Joints: Locate and install construction and control joints, as shown on Drawings and on accepted formwork Drawings, or as permitted by Project Representative prior to pour, so as not to impair strength and appearance of structure. Locate construction joints, if required but not shown, only after review and approval by Project Representative.

3.8 FINISH OF FORMED SURFACES

- A. Concealed Surfaces: Knock fins off and repair surface only as required for application of covering materials and structural integrity.
- B. Exposed Finish Surfaces: Concrete surfaces that are Exposed Finish Concrete shall not be repaired and patched without the Project Representatives approval. Minor rock pockets and the like may be less objectionable than a poorly done or discolored patch. Knock fins off to achieve flush surfaces and clean edges; patch imperfections to match adjacent surfaces in color and texture. Grind fins and projections smooth where directed.
- C. Finish tolerance 1/8 inch in 8 feet with no abrupt misalignments. Remove all grout leakage onto adjacent surfaces. Leave surfaces clean and smooth.
- D. Related Unformed Surfaces: At tops of wall, horizontal offsets, and similar unformed surfaces occurring adjacent to formed surfaces, strike off smooth and finish with texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.

3.9 FLOOR SLAB FINISHES

- A. After screeding, consolidating, and leveling concrete slabs, do not Work surface until ready for finishing. Begin finishing when surface water has disappeared or when concrete has stiffened

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sufficiently to permit proper finishing. Consolidate surface with power-driven floats or by hand-floating if area is small or inaccessible to power units.

- B. The slope and level of all slabs is as shown on the plans.
- C. Check and level surface to a tolerance not exceeding 1/8 inch in 12 feet when tested with a 12 foot straightedge placed on surface at not less than 2 different angles. Cut down high spots and fill low spots. Uniformly slope surfaces to floor drains at 1/8 inch per foot unless specified otherwise. Immediately after leveling, re-float surface to uniform, smooth, granular texture.

3.10 EXTERIOR SIDEWALK FINISH

- A. All walking surfaces of exterior building perimeter sidewalks shall receive light broom finish. Slope all walkway surfaces to drain away from building walls and footings as shown in the plans. The slope shall be 1 1/2 to 2 percent.

3.11 CONCRETE CURING AND PROTECTION

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperature, and maintain without drying at relatively constant temperature for period of time necessary for hydration of cement and proper hardening of concrete.

3.12 NON-SHRINK GROUT

- A. Prepare surfaces, mix, place and finish material per manufacturer's recommendations.

3.13 CONCRETE SURFACE REPAIRS

- A. Patching Defective Areas-General: Repair and patch defective areas with cement mortar immediately after removal of forms.
 - 1. In no case shall reinforcement bars or welded wire fabric be cut to facilitate concrete repair unless acceptable to Project Representative prior to start of repair Work.
 - 2. Cut out rock pockets, voids over 1/2 inch in dimension, down to solid concrete but, in no case, to a depth of less than 1 inch. Make the edges of chipping as perpendicular as possible to concrete surface. Before placing cement mortar, thoroughly clean, dampen with water, and brush-coat area to be patched with neat cement grout. Proprietary patching compounds may be used when acceptable to Project Representative.
 - 3. For Exposed Finish Concrete surfaces, blend white Portland cement and standard Portland cement so that, when dry, patching mortar will match color and finish of surrounding concrete. Provide test areas at inconspicuous location to verify mixture and color match, for review by Project Representative before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.
 - 4. Fill holes extending through concrete by means of plunger-type gun or other suitable device form least exposed face, using a flush stop held at exposed face to ensure complete filling.
- B. Repair of Exposed Finish Concrete Surfaces: Repair surfaces that contain defects which adversely affect appearance of finish. Remove and replace concrete having defective surfaces if defects

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cannot be repaired to satisfaction of Project Representative. Surface defects include color and/or texture irregularities, cracks, spalls, rock pockets; fins and other projections on surface; and stains and other discoloration that cannot be removed by cleaning.

- C. Repair of Other Formed Surfaces: Repair defects that adversely affect durability of concrete. If defective surfaces cannot be repaired, remove and replace concrete having defective surfaces.
 - 1. Surface defects, as such, include cracks in excess of 0.01 inch wide, cracks of any width and other surface deficiencies which penetrate to reinforcement or completely through non-reinforced Section, honeycomb, rock pockets, and spalls except minor breakage at corners.
- D. Form Tie Holes: Remove form ties immediately after form removal. Patch following item No. (1) one above.
- E. Repair of Unformed Surfaces: Test unformed surfaces for smoothness and to verify surface plane to tolerances specified for each surface and finish. Correct low and high areas as herein specified.
 - 1. Test unformed surfaces sloped to drain for trueness of slope, in addition to smoothness, using template having required slope. Correct high and low areas as herein specified.
 - 2. Repair finished unformed surfaces that contain defects which adversely affect durability of concrete. Surface defects, as such, include crazing, cracks in excess of 0.01 inch wide or which penetrate to reinforcement or completely through non-reinforced sections regardless of width, spalling, popouts, honeycomb, rock pockets, and other objectionable conditions.
- F. Correct high areas in unformed surfaces by grinding, after concrete has cured sufficiently so that repairs can be made without damage to adjacent areas.
 - 1. Correct low areas in unformed surfaces during, or immediately after completion of surface finishing operations by chipping out low area and replacing with fresh concrete. Proprietary patching compounds may be used when acceptable to Project Representative. Repair defective areas, except random cracks and single holes not exceeding 1 inch diameter, by chipping out and replacing with fresh concrete. Remove defective areas to sound concrete and expose reinforcing steel with at least 3/4 inch clearance around. Dampen concrete surfaces in contact with patching concrete and brush with a neat cement grout coating, or use concrete bonding agent. Place patching concrete before grout takes its initial set. Mix patching concrete of same materials to provide concrete of same type or class as original adjacent concrete. Place, compact and finish as required to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
 - 2. Repair isolated random cracks and single holes not over 1 inch in diameter by dry-pack method. Groove top of cracks, and chip out holes to sound concrete and clean of dust, dirt and loose particles. Dampen cleaned concrete surfaces and brush with a neat cement grout coating. Place dry-pack before cement grout takes its initial set. Mix dry-pack, consisting of one Part portland cement to 2 1/2 parts fine aggregate passing a No. 16 mesh sieve, using only enough water as required for handling and placing. Compact the dry-pack mixture in place and finish to match adjacent concrete. Keep patched areas continuously moist for not less than 72 hours.

3.14 DEFECTIVE WORK

- A. Remove and replace, where directed by the Project Representative, surfaces which show excessive

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damage, shrinkage cracks, or other deficiencies which are beyond acceptable repair.

- B. Remove and replace any slabs which do not exhibit proper drainage or finish requirements.
- C. Protect all concrete surfaces from damage. Damaged surfaces will be judged the same as defective Work.

END OF SECTION

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SECTION 033900 – CONCRETE CURING & SEALING

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Initial and final curing of various horizontal and vertical concrete surfaces.
- B. Sealing of interior concrete floor surfaces scheduled to have 'sealed' finish.

1.2 RELATED REQUIREMENTS

- A. Section 033000 - Cast-in-Place Concrete.

1.3 REFERENCE STANDARDS

- A. ACI 301 - Specifications for Structural Concrete for Buildings; American Concrete Institute International; Latest Edition.
- B. ACI 302.1R - Guide for Concrete Floor and Slab Construction; American Concrete Institute International; Latest Edition.

1.4 SUBMITTALS

- A. Product Data: Provide data on curing compounds and sealers, including compatibility of different products and limitations.

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with ACI 301 and ACI 302.1R.
- B. Contractor shall use ACI 305 Figure 2.1.5 to estimate the rate of evaporation of freshly poured slabs.
- C. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
- D. Defective Work: Contractor shall remove and replace at his own expense all defective work as adjudged by the Architect.

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1.6 JOB CONDITIONS

- A. Refer to Section 033000 Cast-in-Place Concrete for same and conform thereto as they apply to concrete curing and finishing work of this Section.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver curing materials in manufacturer's sealed packaging, including application instructions.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: For slabs, when the estimated evaporation rate calculated per ACI 305 Figure 2.1.5 per paragraph 1.05B above is greater than 0.2 psf/hour, provide a spray applied evaporation retarder immediately after concrete placement.
- B. Formed Surfaces Excluding Foundations: Apply a liquid membrane forming curing compound conforming to ASTM C309 Type 1 Class B specifications, per manufacturer's recommendations to all formed surfaces immediately after final form removal. Not required if formwork remains in place for more than 7 days.
- C. Curing Exterior Slabs - General: Unless otherwise specified, cure by one of the following methods:
 - 1. Provide pre-approved continuous wet cure method for a minimum of 14 days.
 - 2. Provide 'Ultracure Max' moisture retaining cover by Mctech Group, or approved, for a minimum of 14 days
- D. Curing Compound For Curing Interior Slabs to be Left Exposed and Sealed: Furnish one coat curing, sealing and hardening compound, Curecrete Distribution Inc. "Ashford Formula", or approved, applied at a rate of 200 sq.ft. per gallon.
- E. Sealer Top Coat For Interior Sealed Concrete Slab Finish: Furnish one coat of Advanced Floor Products "RetroPlate 99", or approved, applied at end of project.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that substrate surfaces are ready to be cured.

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3.2 CURING

A. General

1. The Contractor shall use all necessary precautions to keep cracking of all concrete work to an absolute minimum. Beginning immediately after placement, protect concrete from premature drying, excessively hot and cold temperatures, and mechanical injury.
2. Cure floor surfaces in accordance with ACI 308R.
3. Maintain curing procedures used for seven (7) days at minimum temperature of 50 degrees F.; if mean daily temperature drops below 40 degrees F. during this period, extend curing period an equal number of days or provide temporary heat or additional protection to maintain specified minimum temperature of air in contact with concrete.

B. Temperature, Wind & Humidity: When exterior concrete slab placements are subjected to high temperatures, wind and/or low humidity the Architect may require the use of the specified evaporation retarder to minimize plastic cracking. The compound may be required to be applied one or more times during the finishing operation. The initial application is usually made after the strike-off operation.

1. Cold Weather:

- a. When the mean daily temperature outdoors is less than 40 degrees F, maintain the temperature of the concrete between 50 degrees F and 70 degrees F for the required curing period.
- b. When necessary, provide a proper and adequate heating system capable of maintaining the required heat without injury due to concentration of heat.
- c. Do not use combustion heaters during the first 24 hours unless precautions are taken to prevent exposure of the concrete to exhaust gases which contain carbon dioxide.
- d. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
- e. Only the specified non-corrosive non-chloride accelerator shall be used. Calcium chloride, thiocyanates or admixtures containing more than 0.05% chloride ions are not permitted.
- f. Hot Weather: When necessary, provide wind breaks, fog spraying, shading, sprinkling, ponding, or wet covering with a light colored material, applying as quickly as concrete hardening and finishing operations will allow.
- g. Rate of Temperature Change: Keep the temperature of the air immediately adjacent to the concrete during and immediately following the curing period as uniform as possible and not exceeding a change of 5 degrees F in any one hour period, or 50 degrees F in any 24 hour period.

C. Curing Walls & Formed Surfaces

1. Where forms are exposed to the sun, minimize moisture loss by keeping forms wet until they can be removed safely.
2. In hot weather, immediately after forms have been removed, cure by continuous sprinkling or covering with absorptive mat or fabric kept continuously wet or use vapor mist bath. In freezing weather, protect in accordance with ACI 301.

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D. Curing Interior Slabs to be Left Exposed and Sealed:

1. Spray new slab surfaces with specified and selected liquid membrane-forming curing and sealing compounds specified above for respective applications, applied at not less than the manufacturer's specified and recommended rate and in accordance with manufacturer's written instructions.
2. After curing compound has fully dried per manufacturer's recommendations, Contractor shall cover such slab surfaces with protective sheeting as necessary to avoid damage due to subsequent construction work and prior to final finishing of such floor surfaces as specified below.

E. Curing Exterior Slabs

1. Cure with moisture retaining cover or spray slab surfaces with specified and selected liquid membrane-forming curing and sealing compounds specified above for respective applications, applied at not less than the manufacturer's specified and recommended rate and in accordance with manufacturer's written instructions.
2. After curing compound has fully dried per manufacturer's recommendations, Contractor shall cover such slab surfaces with protective sheeting as necessary to avoid damage due to subsequent construction work and prior to final finishing of such floor surfaces as specified below.

3.3 APPLIED FINISHES

- A. Sealer Top Coat Finish For Interior Slabs to be Left Exposed and Sealed: Just prior to Substantial Completion and following final cleaning in said spaces, spray new slab surfaces with specified sealer, applied at not less than the manufacturer's specified and recommended rate and in accordance with manufacturer's written instructions.

3.4 PROTECTION

A. Protection From Mechanical Injury

1. During the curing period, protect all concrete during period from all damaging mechanical disturbances, more especially load stresses, heavy shock and excessive vibration.
 - a. Protect finished concrete surfaces from damage from construction equipment, materials and methods, from application of curing procedures, and from rain and running water.
 - b. Do not permit traffic over unprotected floor surfaces.

END OF SECTION

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SECTION 061000 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes all rough carpentry associated with wood construction and all metal fasteners to be used in conjunction with rough carpentry including but not limited to the following:
 - 1. Wood blocking, cants, and nailers
 - 2. Wood furring
 - 3. Wood sleepers
 - 4. Plywood backing panels

1.2 RELATED WORK IN OTHER SECTIONS

- A. Section 062013 - Exterior Finish Carpentry

1.3 SPECIFIC STANDARDS

- A. American Plywood Association (APA), latest edition.
- B. American Wood Preservers' Association (APWA), latest edition.
- C. American Society for Testing and Materials (ASTM), latest edition.
- D. International Building Code (IBC), latest edition.

1.4 SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product.
 - 1. Include data for wood-preservative and fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements.
- B. Roof Trusses:
 - 1. Submit engineered truss design data including Shop Drawings and structural calculation for each type of roof truss. Truss design shall be stamped by a licensed Structural Engineer and indicate all design loadings, member forces, member sizes, lumber species, grades, and detail truss dimensions. Allow for solar collector assembly loads on southern roof plan.

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1.5 QUALITY ASSURANCE

- A. Definitions and Standards: Comply with Sections 014000 Quality Requirements, 014100 Regulatory Requirements, and 014200 References.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.

1. Factory mark each piece of lumber with grade stamp of grading agency.
2. For exposed lumber indicated to receive a stained or natural finish, mark grade stamp on end or back of each piece or omit grade stamp and provide certificates of grade compliance issued by grading agency.
3. Provide dressed lumber, S4S, unless otherwise indicated.
4. Provide lumber with moisture content of not more than 19% furnish moisture content certificates, if and when requested.
5. Ship and store lumber to protect from exposure to moisture; store in warm, dry place until incorporated into the work.

- B. Engineered Wood Products: Provide engineered wood products acceptable to Authorities Having Jurisdiction and for which current model code research or evaluation reports exist that show compliance with building code in effect for Project.

1. Roof Trusses:

- a. Roof Trusses shall be pre-engineered and manufactured roof truss system. Truss design shall be prepared and stamped by a licensed Engineer. Trusses shall be fabricated and supplied by a truss manufacturer experienced in the field. All other components as engineered.

2. Allowable Design Stresses: Provide engineered wood products with allowable design stresses, as published by the manufacturer that meets or exceeds those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency. Allow for solar collector assemblies on southern roof.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER

- A. Preservative Treatment by Pressure Process: AWPAC2.

1. Preservative Chemicals: Acceptable to Authorities Having Jurisdiction and containing no arsenic or chromium.

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- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent.
- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
- D. Application: Treat items indicated on Drawings, and the following:
 - 1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
 - 2. Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.
 - 3. Wood framing and furring attached directly to the interior of below-grade exterior masonry or concrete walls.

2.3 DIMENSION LUMBER FRAMING

- A. Maximum Moisture Content: 19 percent.
- B. Exposed Exterior Framing indicated to receive a stained or natural finish: Provide material hand-selected for uniformity of appearance and freedom from characteristics, on exposed surfaces and edges, that would impair finish appearance, including decay, honeycomb, knot-holes, shake, splits, torn grain, and wane.
 - 1. Species and Grade: Douglas fir; Select Structural No. 1 grade; WCLIB, or WWPA.
 - 2. Post: Douglas Fir.
 - 3. Glulam Beams: Douglas Fir

2.4 KIOSK LUMBER

- A. Kiosk Rafters and Beams: Douglas Fir, select for appearance, no wane, and pressure treated.
- B. Kiosk Posts: Douglas Fir, select for appearance, no wane, and pressure treated.
- C. 1x6 Kiosk Facia, Signboard Frame and front: Clear cedar.
- D. Kiosk Signboard Back: Marine plywood, exterior grade with one side finished.
- E. Kiosk Plywood Sheathing: Shall be Structural 1, Group 1 with outer plies unsanded and exterior glue. Finished side down.

2.5 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
 - 1. Blocking
 - 2. Nailers
 - 3. Cants

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4. Furring

B. For concealed boards, provide lumber from the following species and grades:

1. Western woods, Standard or better grade; WCLIB or WWPA.

2.6 PLYWOOD BACKING PANELS

A. Telephone and Electrical Equipment Backing Panels: DOC PS 1, Exposure 1, C-D Plugged, fire-retardant treated, in thickness indicated or, if not indicated, not less than 3/4-inch nominal thickness.

2.7 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified.

1. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.

B. Power-Driven Fasteners: NES NER-272.

C. Bolts: Steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and, where indicated, flat washers.

2.8 METAL FRAMING ANCHORS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Alpine Engineered Products, Inc.
2. Cleveland Steel Specialty Co.
3. Harlen Metal Products, Inc.
4. KC Metals Products, Inc.
5. Simpson Strong-Tie Co., Inc.
6. Southeastern Metals Manufacturing Co., Inc.
7. USP Structural Connectors.

2.9 MISCELLANEOUS MATERIALS

A. Sill-Sealer Gaskets: Glass-fiber-resilient insulation, fabricated in strip form, for use as a sill sealer; 1-inch nominal thickness, compressible to 1/32 inch; selected from manufacturer's standard widths to suit width of sill members indicated.

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PART 3 - EXECUTION

3.1 INSTALLATION

- A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit. Locate furring, nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.
- B. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.
- C. Framing Standard: Comply with AF&PA's "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- D. Framing with Engineered Wood Products: Install engineered wood products to comply with manufacturer's written instructions.
- E. Metal Framing Anchors: Install metal framing to comply with manufacturer's written instructions.
- F. Do not splice structural members between supports, unless otherwise indicated.
- G. Comply with AWWA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
- H. Securely attach rough carpentry Work to substrate by anchoring and fastening as indicated, complying with the following:
 - 1. NES NER-272 for power-driven fasteners.
 - 2. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.

END OF SECTION

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SECTION 061600 - SHEATHING

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Roof sheathing.
 - 2. Building paper.
 - 3. Sheathing joint-and-penetration treatment.
 - 4. Flexible flashing at openings in sheathing.

1.2 SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
 - 1. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated plywood complies with requirements.

1.3 QUALITY ASSURANCE

- A. Fire-Test-Response Characteristics: For assemblies with fire-resistance ratings, provide materials and construction identical to those of assemblies tested for fire resistance per ASTM E 119 by a testing and inspecting agency acceptable to authorities having jurisdiction.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Stack plywood and other panels flat with spacers between each bundle to provide air circulation. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 LUMBER

- A. Lumber Standard: Manufacture lumber to comply with PS 20 “American Softwood Lumber Standard” and with governing grading rules of WCLIB and/or WWPA.
- B. Dimension Lumber: All rough framing lumber shall be provided dressed, S4S, unless otherwise indicated. Nominal lumber sizes are indicated, except as required by detail dimensions. Provide sizes as required by PS 20 for moisture content specified for each use.

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C. Grade and species shall be as follows:

1. Wall Studs: Standard & Better, Doug-Fir, S4S.
2. Top and Bottom Plates: Standard & Better, Doug-Fir, S4S.
3. Bottom Sill Plates: Hem-Fir, Ground Contact Rated Pressure Treated.
4. Window and Door Headers: Standard & Better, Doug-Fir, S4S.

2.2 PLYWOOD SHEATHING

A. Roof Sheathing: 5/8 inch CDX plywood sheathing, 48/24.

1. Use Douglas Fir Select Dex 2 x 6 T&G over the porch on the south side of the welcome center.

B. Wall Sheathing: 1/2 inch APA rated plywood sheathing, 48/24, C-D exterior.

2.3 ATTACHMENTS FOR WOOD ENGAGING MASONRY OR CONCRETE

A. Approved type metal plugs or insets, spaced as directed. Wood plugs embedded in masonry or concrete are not permitted.

2.4 BUILDING FELT FOR WALLS

A. Use 30lb felt or approved equal.

2.5 FASTENER AND ANCHORS

A. Framing Anchors: Supply framing anchors in the sizes, types, and quantities indicated in the drawings and/or as required to satisfy building codes. Provide all manufacturer recommended nails and/or screws for installation. Framing anchors shall be “Simpson – Strong Tie” connector or approved equal. Exposed should be galvanized.

B. Nails, Spikes, Screws: Supply all nails, spikes, screws, and other miscellaneous fasteners in the sizes, types and quantities indicated in the drawings and/or as required to satisfy building codes.

C. Where rough carpentry is exposed to weather, provide galvanized fasteners.

2.6 OTHER MATERIALS

A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor to the approval of the Project Representative.

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PART 3 - EXECUTION

3.1 INSTALLATION, FRAMING

- A. Carefully lay out, cut, fit, and erect framing. Secure with sufficient nails, spikes, and bolts to ensure rigidity and permanence. Drive nails perpendicular to grain in lieu of toe-nailing, where feasible. Provide for installation and support of plumbing, heating, and ventilating Work. Provide support for electrical fixtures. Install Work to true lines, plumb, and level, unless indicated otherwise.

3.2 WOOD STRUCTURAL PANEL INSTALLATION

- A. General: Comply with applicable recommendations in APA Form No. E30K, "APA Design/Construction Guide: Residential & Commercial."
 - 1. Comply with "Code Plus" installation provisions in guide referenced in paragraph above.
- B. Fastening Methods: Fasten panels as indicated below:
 - 1. Wall and Roof Sheathing:
 - a. Nail to wood framing. Apply a continuous bead of glue to framing members at edges of wall sheathing panels.

3.3 WEATHER-RESISTANT SHEATHING-PAPER INSTALLATION

- A. See Section 074113 – Metal Roof Panels.
- B. Overlap horizontal joints 6”, vertical joints 12”.

3.4 FLEXIBLE FLASHING INSTALLATION

- A. Apply flexible flashing where indicated to comply with manufacturer’s written instructions.
 - 1. Lap seams and junctures with other materials at least 4 inches, except that at flashing flanges of other construction, laps need not exceed flange width.
 - 2. Lap flashing over weather-resistant building paper at bottom and sides of openings.

3.5 WORKMANSHIP

- A. Produce joints which are tight, true, and well nailed, with members assembled in accordance with the Drawings and with pertinent codes and regulations.

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- B. Lumber may be rejected by the Project Representative, whether or not it has been installed, for excessive warp, twist, bow, crook, mildew, fungus, or mold, as well as for improper cutting and fitting.

3.6 FIELD TREATMENT OF CUTS

- A. Field treat all cut or bored surfaces of pressure treated lumber with a heavy brush coating of approved preservative in accordance with AWWPA M4.

3.7 STORAGE AND PROTECTION

- A. Store and protect lumber, plywood, siding, and millwork from the weather.

END OF SECTION

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SECTION 062013 – EXTERIOR FINISH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Exterior columns and beams.
 - 2. Exterior trim.
 - 3. Interior Trim
 - 4. Ceilings.
 - 5. HardieSoffit panels.
 - 6. Siding – See Section 074646 “Mineral-Fiber Cement Siding.”

1.2 RELATED WORK IN OTHER SECTIONS

- A. Section 061000 - Rough Carpentry
- B. Section 074646 – Mineral-Fiber Cement Siding
- C. Section 099100 – Painting

1.3 SPECIFIC STANDARDS

- A. International Building Code (IBC), 2021

1.4 SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Lumber: DOC PS 20 and applicable grading rules of inspection agencies certified by ALSC's Board of Review.
- B. Softwood Plywood: DOC PS 1.

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2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

A. Preservative Treatment by Pressure Process:

1. Lumber: AWWPA C2. Kiln dry after treatment to a maximum moisture content of 19 percent.
2. Plywood: AWWPA C9. Kiln dry after treatment to a maximum moisture content of 18 percent.
3. Preservative Chemicals: Acceptable to Authorities Having Jurisdiction.
4. Application: All exterior lumber and plywood.

2.3 EXTERIOR COLUMNS AND BEAMS

A. Column Lumber:

1. Welcome Center:
 - a. 12" Timber column, shall be 12x12 KD DF #2 or better.

B. Beam Lumber:

1. Douglas fir, Select Structural No. 1 grade, WCLIB or WWPA.

2.4 EXTERIOR TRIM

A. Lumber Trim:

1. Species and Grade: Western red cedar, Tight Knot grain; NLGA, WCLIB, or WWPA.
2. Maximum Moisture Content: 19 percent.
3. Face Surface: Saw textured.

2.5 SOFFITS

- A. Type: Exterior, 5/8 inch HardieSoffit Panels.

2.6 SIDING

- A. Gable End: Use HardiePanel vertical siding with battens.
- B. Wall: Use HardiePanel vertical siding with battens.
- C. Building paper: Use 30lb felt.
- D. Rain Screen Battens: Use manufacturer's battens.
- E. Fasteners: Use stainless steel fasteners.

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2.7 MISCELLANEOUS MATERIALS

- A. Fasteners for Exterior Finish Carpentry: Provide nails or screws, in sufficient length to penetrate not less than 1-1/2 inches into wood substrate.
 - 1. For pre-finished items, provide matching pre-finished stainless-steel fasteners where face fastening is required.
 - 2. For applications not otherwise indicated, provide stainless-steel fasteners.
- B. Insect Screening for Soffit Vents: 1/8 inch stainless steel screened vents.
- C. Sealants: Latex, complying with ASTM C 834, Type P, Grade NF and with applicable requirements in Section 079200 -Joint Sealants, recommended by sealant manufacturer and manufacturer of substrates for intended application.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Prime lumber to be painted, including both faces and edges. Cut to required lengths and prime ends. Comply with requirements in Section 099100 - Painting.

3.2 INSTALLATION, GENERAL

- A. Install exterior finish carpentry level, plumb, true, and aligned with adjacent materials. Use concealed shims where necessary for alignment.
 - 1. Scribe and cut exterior finish carpentry to fit adjoining Work. Refinish and seal cuts as recommended by manufacturer.

3.3 TRIM INSTALLATION

- A. Install trim with minimum number of joints practical, using full-length pieces from maximum lengths of lumber available. Do not use pieces less than 24 inches long except where necessary.
 - 1. Use scarf joints for end-to-end joints.
 - 2. Stagger end joints in adjacent and related members.
- B. Fit exterior joints to exclude water. Cope at returns and miter at corners.

3.4 SIDING INSTALLTION

- A. Install siding with minimum number of joints practical, using full-length pieces from maximum lengths of lumber available. Do not use pieces less than 24 inches long except where necessary.
 - 1. Use manufacturer's process for end-to-end joints.
 - 2. Stagger end joints at least 32" in adjacent courses.

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END OF SECTION

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SECTION 071000 – DAMPPROOFING AND WATERPROOFING

PART 1 - GENERAL

1.1 WORK IN THIS SECTION

- A. Work includes polyethylene vapor barrier sheeting beneath concrete floor slab-on-grade as specified in this Section and indicated on the Drawings.

1.2 WORK IN OTHER SECTIONS

- A. Section 033000 - Cast-in-Place Concrete
- B. Section 061000 - Rough Carpentry

1.3 SUBMITTALS

- A. Product Data: Submit manufacturer's technical product data, installation instructions and recommendations for polyethylene sheeting and building wrap materials. Submit 8 1/2 inch x 11 inch product Samples.

1.4 JOB CONDITIONS

- A. Coordinate Work with that of other trades. Proceed with dampproofing Work only after substrate construction and penetrating Work have been completed and accepted by the Project Representative.

PART 2 – PRODUCTS

2.1 POLYETHYLENE SHEETING

- A. Polyethylene sheeting for cast-in-place concrete floor slab-on-grade shall be black polyethylene sheeting not less than 6 mils thick. Sheeting shall be resistant to decay and UV rays when tested in accordance with ASTM E 154.

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PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with manufacturer's instructions and technical specifications for installation of polyethylene sheeting and foundation waterproofing.
- B. Lap all polyethylene sheeting joints/seams with a minimum of six (6) inches overlap and seal with tape.

END OF SECTION

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SECTION 072100 - THERMAL INSULATION

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Perimeter insulation under slabs-on-grade.
 - 2. Slab-on-grade insulation
 - 3. Concealed building insulation.

- B. Related Sections:
 - 1. Section 033000 - Cast-In-Place Concrete

1.2 SPECIFIC STANDARDS

- A. International Building Code (IBC), current edition.

1.3 QUALITY ASSURANCE

- A. Upon completion of this portion of the Work, complete and post a certificate of insulation compliance in accordance with pertinent requirements of governmental Agencies Having Jurisdiction.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Provide the following building insulation as shown on the Drawings.

2.2 AUXILIARY INSULATING MATERIALS

- A. Eave Ventilation Troughs: Preformed, rigid fiberboard or plastic sheets designed and sized to fit between roof framing members and to provide cross ventilation between insulated attic spaces and vented eaves.

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PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Comply with insulation manufacturer's written instructions applicable to products and application indicated.
- B. Install insulation that is undamaged, dry, and unsoiled and that has not been left exposed at any time to ice, rain, and snow.
- C. Extend insulation in thickness indicated to envelop entire area to be insulated. Cut and fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement.
- D. Water-Piping Coordination: If water piping is located within insulated exterior walls, coordinate location of piping to ensure that it is placed on warm side of insulation and insulation encapsulates piping.
- E. For preformed insulating units, provide sizes to fit applications indicated and selected from manufacturer's standard thicknesses, widths, and lengths. Apply single layer of insulation units to produce thickness indicated unless multiple layers are otherwise shown or required to make up total thickness.

3.2 INSTALLATION OF PERIMETER AND UNDER-SLAB INSULATION

- A. Comply with provisions of the Uniform Plumbing Code, latest edition. Install all Work in accordance with standards, prescribed by local and/or State codes.
- B. On vertical surfaces, set insulation units in adhesive applied according to manufacturer's written instructions. Use adhesive recommended by insulation manufacturer.
- C. On horizontal surfaces, loosely lay insulation units according to manufacturer's written instructions. Stagger end joints and tightly abut insulation units. Seal joints between foam-plastic insulation units by applying adhesive, mastic, or sealant to edges of each unit to form a tight seal as units are shoved into place. Fill voids in completed installation with adhesive, mastic, or sealant as recommended by insulation manufacturer. Tape joints and seal each continuous area of insulation to surrounding construction to ensure concrete tight installation.

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3.3 INSTALLATION OF GENERAL BUILDING INSULATION

- A. Install fiberglass batt insulation in cavities formed by framing members according to the following requirements:
 - 1. Use insulation widths and lengths that fill the cavities formed by framing members. If more than one length is required to fill cavity, provide lengths that will produce a snug fit between ends.
 - 2. Place insulation in cavities formed by framing members to produce a friction fit between edges of insulation and adjoining framing members.
 - 3. Install eave ventilation troughs between roof framing members in insulated attic spaces at vented eaves.
 - 4. For wood-framed construction, install mineral-fiber blankets according to ASTM C 1320 and as follows:
 - a. With faced blankets having stapling flanges, secure insulation by inset, stapling flanges to sides of framing members.

- B. Stuff glass-fiber loose-fill insulation into miscellaneous voids and cavity spaces where shown. Compact to approximately 40 percent of normal maximum volume equaling a density of approximately 2.5 lb/cu. ft.

END OF SECTION

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SECTION 074113 - METAL ROOF PANELS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Standing-seam metal roof panels, roofing felt, and accessories.

B. Related Sections:

1. Division 22 – Plumbing.

1.2 PERFORMANCE REQUIREMENTS

A. Hydrostatic-Head Resistance: No water penetration when tested according to ASTM E 2140.

B. Wind-Uplift Resistance: Provide metal roof panel assemblies that comply with UL 580 for wind-uplift-resistance class indicated.

1. Uplift Rating: UL 90.

1.3 SUBMITTALS

A. Product Data:

1. Submit manufacturer's technical product data, installation instructions and recommendation for each type of roofing required. Include data substantiating that materials comply with requirements.
2. Submit manufacturer's warranty criteria for Project Representative's approval.

B. Samples:

1. Preceding to ordering products, submit Manufacturer's standard color Samples for Project Representative's selection.
2. Prior to starting Work, submit one (1) 12 inch long panel sample showing shape and a representative color chip for Project Representative's approval.

C. Shop Drawings: Show fabrication and installation layouts of metal roof panels; details of edge conditions, side-seam and end lap joints, panel profiles, corners, anchorages, trim, flashings, closures, and accessories; and special details. Distinguish between factory- and field-assembled Work.

D. Manufacturer Certificates: Signed by manufacturer certifying that roof panels comply with energy performance requirements specified in "Performance Requirements" Article.

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1. Submit evidence of meeting performance requirements.

1.4 QUALITY ASSURANCE

A. Installer Qualifications:

1. Installation of panels and accessories by installers with a minimum of two (2) years experience in metal roof panel projects.

B. Regulatory Agency Requirements:

1. Comply with the International Building Code and local Building Code requirements.
2. Combustion Characteristics: ASTM E 136.

C. Pre-installation Conference: Conduct conference at Project site.

1.5 WARRANTY

- A. Manufacturer's standard coating performance warranty, as available for specified installation and environmental conditions.

PART 2 - PRODUCTS

2.1 APPROVED MANUFACTURER

- A. BHP Steel Building Products USA, Inc. Skyline Roofing Standing Seam Metal Roofing System.

2.2 PANEL MATERIALS

- A. Panel Profile: Skyline Roofing with 1 inch high integral standing seams at 12 inch on center.

- B. Panel Gauge: Steel conforming to ASTM A-924/ASTM A-972, AZ 50, thickness 1.6 mil.

- C. Protective Coating: Zinalume conforming to ASTM A-924/ASTM A-972, AZ 50, thickness 1.6 mil.

- D. Finished: Silicone Modified Polyester (SMP) 12 inch.

- E. Color: Brown to match building in area (Verify with the Project Representative's prior to ordering).

F. Fabrication:

1. Unless otherwise shown on Drawings or specified herein, fabricate panels in continuous lengths and fabricate flashings and accessories in longest practical lengths.
2. Roofing panels shall be factory formed. Field-formed panels are not acceptable.

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2.3 ACCESSORIES

- A. Underlayment: Ice Dam Protection Membrane: ASTM D 1970, self-adhering rubberized asphalt membrane, internal reinforcement, and back plastic release film.
- B. Other Accessories: Per the manufactures installation directions with all exposed fasteners to match the color of the Metal Roof Panels.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Existing Conditions:
 - 1. Inspect installed Work of other trades and verify that such Work is complete to a point where the Work may continue.
 - 2. Verify that installation may be made in accordance with approved Shop Drawings and manufacturer's instructions.

3.2 PREPARATION

- A. Field Measurements:
 - 1. Field verify all dimensions prior to fabrication.
 - 2. If field measurements differ from Drawing dimensions notify Project Representative's prior to fabrication.
- B. Protection:
 - 1. Treat, or isolate with protection material, any contacting surfaces of dissimilar material to prevent electrolytic corrosion.
 - 2. Require workers who will be walking on roofing panels to wear clean, soft-soled Work shoes that will not pick-up stones or other abrasive material which could cause damage and discoloration.
 - 3. Protect Work of other trades against damage and discoloration.

3.3 UNDERLAYMENT INSTALLATION

- A. Underlayment
 - 1. Install ice and snow shield over entire deck surface. At hips, valleys, and ridges, install additional 36 inch (915 mm) width of underlayment, centered on the valley or ridge.
 - 2. On overhanging eaves that require more than a single 36-inch (915 mm) width of underlayment, overlap not less than 6 inches (150 mm), assuring that overlapped area is located on overhang, outside wall line.

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3.4 METAL ROOF PANEL INSTALLATION

A. Standing-Seam Metal Roof Panels:

1. Follow roof panel manufacturer's directions. Install panel seams vertically.
2. Lap panels away from prevailing wind direction.
3. Do not stretch or compress panel side-lap interlocks.
4. Secure panels without warp or deflection.
5. Fully engage interlocking seams.
6. Extend roof panels to overlap gutter openings 1 inch.
7. Remove strippable protective film, if used, immediately preceding panel installation.

B. Allowable Erection Tolerance:

1. Maximum alignment variation: 1/4 inch in 40 feet.

C. Flashing:

1. Follow manufacturer's directions and approved Shop Drawings.
2. Overlap roof panels at least 6 inches.
3. Install flashings to allow for thermal movement.

D. Cutting and Fitting:

1. Neat, square, and true. Torch cutting is prohibited where cut is exposed to final view.
2. Openings 6 inches and larger in any direction: Shop fabricate and reinforce to maintain original load capacity.
3. Where necessary to saw-cut panels, deburr and treat with galvanic paint.
4. Remove metal chips from surfaces adjoining cut to prevent rust specs from damaging the roofing surface.

E. PANEL DAMAGE

1. Panels or flashings that have severe paint and/or substrate damage shall be replaced.

3.5 ACCESSORY INSTALLATION

A. General: Install accessories with positive anchorage to building and weathertight mounting and provide for thermal expansion. Coordinate installation with flashings and other components.

1. Install components required for a complete metal roof panel assembly including trim, copings, ridge closures, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items.
2. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, and set units true to line and level as indicated. Install Work with laps, joints, and seams that will be permanently watertight and weather resistant.
3. Provide elbows at base of downspouts to direct water away from building.

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3.6 CLEANUP AND CLOSE OUT

A. Touch-up:

1. Touch-up damage paint surfaces with air dry touch-up paint provided by manufacturer. Follow directions carefully to minimize color irregularities.

B. Clean-up:

1. At completion of each days Work and at Work Completions sweep panels, flashing, and gutters clean. Do not allow fasteners, cuttings, filings, or scraps to accumulate.
2. Remove debris from Project Site upon Work Completion, or sooner if directed.

END OF SECTION

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SECTION 074646 – MINERAL FIBER CEMENT SIDING

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. Work in this Section includes all labor, materials, and equipment required for installation of mineral fiber cement siding.

PART 2 - PRODUCTS

2.1 EXTERIOR WALL AND GABLE SIDING

- A. Panel siding shall be JAMES HARDIE COMPANY Vertical Siding, Cedar Mill, primed.

2.2 EXTERIOR WALL BATTENS

- A. Siding battens shall be JAMES HARDIE COMPANY Batten Strips, 2 ½” wide x ¾” thick set at 12” O.C.

2.3 EXTERIOR TRIM

- A. Window trim, corner boards, and fascia shall be JAMES HARDIE COMPANY “Hardie Trim Boards” Rustic, primed, fiber cement, 5/4” thick.

PART 3 - EXECUTION

3.1 SIDING INSTALLATION

- A. Install Hardi products according to the manufacturer’s instructions. All joints install per manufacturer’s recommendations, over studs. Pre-drill holes on ends to prevent breakage. Caulk all joints and edges before painting.
- B. Exterior Trim: The runs shall be one piece when available with all runs less than 10 feet being one piece. The boards shall be fastened using stainless steel finish nails sized to properly secure the boards.

END OF SECTION

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SECTION 076000 – FLASHING AND SHEET METAL

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. Provide all materials, labor, tools, and services to install flashing, sheet metal items, roofing accessories, and building expansion joint materials for moisture protection as required for a complete weather-tight system.

1.2 GUARANTEE AND WARRANTIES

- A. Guarantee all sheet metal against leakage, physical deterioration, and mechanical failure for a period of 2 years. This is an extension of the normal 1-year guarantee specified elsewhere.
- B. Provide manufacturer's 20-year warranty on color coated materials.

1.3 SUBMITTALS

- A. Product data
 - 1. Submit manufacturer's product specifications, installation instructions, and general recommendations for specified sheet material and fabricated products.
- B. Samples
 - 1. Submit (2) 8" square samples of specified sheet materials to be exposed as finished surfaces.
 - 2. Submit (2) 12" long samples of prefabricated gutters and downspout with connection to gutter and mounting bracket.

PART 2 - PRODUCTS

2.1 FLASHING AND SHEET METAL

- A. Provide 29 gauge (unless noted otherwise on the drawings) galvanized steel conforming to ASTM A446, Grade A, hot dipped, commercial quality, galvanized coating.

2.2 METAL ACCESSORIES

- A. Provide sheet metal clips, straps, anchoring devices, and similar accessory units as required, matching, or compatible with material being installed, non-corrosive and of the size and gauge required for the application.

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PART 3 - EXECUTION

3.1 GENERAL

- A. Anchor Work securely, providing for thermal expansion. Conceal fasteners where possible, and install Work true to line and level. Install Work with laps, joints, and seams which will be permanently watertight and weatherproof.
- B. Protect galvanized and non-ferrous metal surfaces from corrosion or galvanic action by an application of a heavy bituminous paint on surfaces which will be in contact with concrete, masonry, or dissimilar metals. Do not allow paint to get onto visible masonry surfaces.

3.2 PROTECTION

- A. Protect materials against exposure to weather and corrosion. Exercise care in the handling of flashing and sheet metal to ensure that this Work and the Work of other trades is not damaged before, during, or after installation.

END OF SECTION

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SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. Provide all materials, labor, tools, and services to apply caulking or sealing of joints around tiles, windows, doors, and over frames, and any other spaces noted on the Drawings to be caulked or sealed.

1.2 SUBMITTALS

A. Product Data

- 1. Submit manufacturer's product specifications, handling/installation/curing instructions, and performance tested data sheets for each product required.

1.3 WARRANTY

- A. Special Installer's Warranty: Manufacturer's standard form in which Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

- 1. Warranty Period: Five (5) years from date of Substantial Completion.

- B. Special Manufacturer's Warranty: Manufacturer's standard form in which joint-sealant manufacturer agrees to furnish joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period.

- 1. Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. VOC Content of Interior Sealants: Provide sealants and sealant primers for use inside the weatherproofing system that comply with the following limits for VOC content when calculated according to 40 CFR 59, Part 59, Subpart D (EPA Method 24):

- 1. Architectural Sealants: 250 g/L.
- 2. Sealant Primers for Nonporous Substrates: 250 g/L.
- 3. Sealant Primers for Porous Substrates: 775 g/L.

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- B. Liquid-Applied Joint Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied joint sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.
 - 1. Suitability for Immersion in Liquids. Where sealants are indicated for Use I for joints that will be continuously immersed in liquids, provide products that have undergone testing according to ASTM C 1247. Liquid used for testing sealants is deionized water, unless otherwise indicated.
- C. Stain-Test-Response Characteristics: Where sealants are specified to be non-staining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.
- D. Suitability for Contact with Food: Where sealants are indicated for joints that will come in repeated contact with food, provide products that comply with 21 CFR 177.2600.

2.2 SILICONE JOINT SEALANTS

- A. Mildew-Resistant Silicone Joint Sealant: ASTM C 920.
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide Dow Corning, Building Sealant 756 SMS or comparable product by one of the following:
 - a. BASF Building Systems.
 - b. Dow Corning Corporation.
 - c. GE Advanced Materials - Silicones.
 - d. May National Associates, Inc.
 - e. Pecora Corporation.
 - f. Polymeric Systems, Inc.
 - g. Schnee-Morehead, Inc.
 - h. Sika Corporation; Construction Products Division.
 - i. Tremco Incorporated.
 - 2. Type: Single component (S).
 - 3. Grade: Non-sag (NS).
 - 4. Class: 50.
 - 5. Uses Related to Exposure: Non-traffic (NT).

2.3 URETHANE JOINT SEALANTS

- A. Urethane Joint Sealant: ASTM C 920.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. BASF Building Systems.

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- b. Bostik, Inc.
 - c. Lyntal, International, Inc.
 - d. May National Associates, Inc.
 - e. Pacific Polymers International, Inc.
 - f. Pecora Corporation.
 - g. Polymeric Systems, Inc.
 - h. Schnee-Morehead, Inc.
 - i. Sika Corporation; Construction Products Division.
 - j. Tremco Incorporated.
- 2. Type: Single component (S)
 - 3. Grade: Non-sag (NS).
 - 4. Class: 50.
 - 5. Uses Related to Exposure: Non-traffic (NT).

2.4 JOINT SEALANT BACKING

- A. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin). Backer diameter shall be 1/3 greater than width of joint to be filled and proper density, per manufacture's requirements, to control sealant depth and otherwise contribute to producing optimum sealant performance.
- B. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer.
- C. Joints greater than 3/8" shall be partially filled with polyethylene backer tubing prior to sealing.
- D. Material shall be non-staining to sealant.
- E. Depth of back-up material shall be such as to provide a sealant depth approximately 1/2 of width.

2.5 SEALANT

- A. GENERAL ELECTRIC silicone sealant or approved equal.

2.6 COLOR OF SEALANT

- A. Approximate color of adjacent surfaces, unless otherwise directed.

2.7 PRIMER

- A. As recommended by the manufacturer of the compound or sealant.

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2.8 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials.
- C. Masking Tape: Non-staining, non-absorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 MANUFACTURER'S INSTRUCTION

- A. Comply with manufacturer's printed instructions for handling, installation, finishing and curing of all sealants and caulk.

3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions.
 - 1. Remove laitance and form-release agents from concrete.
 - 2. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants.
- B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION

- A. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- B. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

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1. Do not leave gaps between ends of sealant backings.
 2. Do not stretch, twist, puncture, or tear sealant backings.
 3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- C. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- D. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
1. Place sealants so they directly contact and fully wet joint substrates.
 2. Completely fill recesses in each joint configuration.
 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- E. Tooling of Non-sag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
1. Remove excess sealant from surfaces adjacent to joints.
 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 3. Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.
- F. Acoustical Sealant Installation: Comply with ASTM C 919 and with manufacturer's written recommendations.
- G. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.4 JOINT-SEALANT SCHEDULE

- A. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal non-traffic surfaces.
1. Joint Locations:
 - a. All perimeter joints between walls and frames of doors.
 - b. All joints around penetration of exterior wall, soffits, and other parts of the exterior envelope of the building.
 - c. All joints between exterior exposed surface members, i.e.: soffit joints, exposed joints between column and beams, etc.
 2. Joint Sealant: Silicone.
- B. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal non-traffic surfaces.

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1. Joint Locations:
 - a. Joints between plumbing fixtures and adjoining walls, floors, and counters.
 - b. Other joints as indicated.
 2. Joint Sealant: Silicone.
- C. Joint-Sealant Color: Match surface color.
- D. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal non-traffic surfaces.
1. Joint Locations:
 - a. Perimeter joints of all exterior openings.
 - b. Tile control and expansion joints.
 - c. Louvers and vent in wall.
 - d. Other joints as indicated.
 2. Joint Sealant: Urethane.
 3. Joint-Sealant Color: Match surface color.
- E. Joint-Sealant Application: Interior ceiling surfaces.
1. Joint Location:
 - a. All ceiling moldings, fasteners, edges and divider joints.
 - b. Other joints as indicated.
 2. Joint Sealant: Silicone, or per Manufactures Recommendation
 3. See Section 095400 – Specialty Ceilings.

3.5 CURING AND PROTECTION

- A. Cure sealants in compliance with manufacturer's instructions and recommendations, to obtain high early bond strength, internal cohesive strength, and surface durability. Protect joint sealers during construction period, so that they will be without deterioration or damage (other than normal wear and weathering) at time of substantial completion.

3.6 FILLING JOINTS

- A. Preliminary
 1. Be sure that joints are clean and dry before filling, caulking, and sealing.
- B. Tubing
 1. Install tubing in joints in accordance with manufacturer's directions. Provide materials in lengths as long as practical. Stretch and force into joint with proper tool to uniform depth.

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3.7 PROTECTION

- A. Mask or use other appropriate techniques to protect surfaces adjacent to joint to be sealed or caulked.

3.8 WORKMANSHIP

- A. Apply silicone sealant in accordance with manufacturer's directions.
- B. Caulk joints before final coat of paint is applied, filling joints and voids solid. Superficial pointing with skin bead is not acceptable. Select appropriate caulking gun nozzle for the joint to be treated. When finished, remove excess compound and sealant leaving surfaces neat, smooth, and clean.

END OF SECTION

**FORT FLAGLER STATE PARK
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SECTION 081416 - FLUSH WOOD DOORS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes solid core doors as follows:
 - 1. Doors with wood-veneer face and varnish finishing.
 - 2. Factory fitting flush wood doors to frames and factory machining for hardware.

1.2 SUBMITTALS

- A. Product Data: For each type of door indicated. Include factory-finishing specifications.
- B. Shop Drawings: Indicate location, size, and handle of each door; elevation of each kind of door; construction details not covered in Product Data; location and extent of hardware blocking; and other pertinent data.
 - 1. Indicate dimensions and locations of mortises and holes for hardware.
 - 2. Indicate dimensions and locations of cutouts.
 - 3. Indicate doors to be factory finished and finish requirements.
- C. Samples: For each face material and finish.

1.3 QUALITY ASSURANCE

- A. Quality Standard: In addition to requirements specified, comply with NWWDA I.S.1-A, "Architectural Wood Flush Doors."

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Algoma Hardwoods, Inc.
 - 2. Ampco, Inc.
 - 3. Buell Door Company Inc.
 - 4. Chappell Door Co.
 - 5. Eagle Plywood & Door Manufacturing, Inc.
 - 6. Eggers Industries.

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7. Graham; an Assa Abloy Group Company.
8. Haley Brothers, Inc.
9. Ideal Architectural Doors & Plywood.
10. Ipik Door Company.
11. Lambton Doors.
12. Marlite.
13. Marshfield Door Systems, Inc.
14. Mohawk Flush Doors, Inc.; a Masonite Company.
15. Oshkosh Architectural Door Company.
16. Poncraft Door Company.
17. Vancouver Door Company.
18. VT Industries Inc.
19. Weyerhaeuser Company.
20. Frames – Hemlock double rabbet

2.2 DOOR CONSTRUCTION

- A. Interior Veneer-Faced Solid-Core Doors:
 1. Core: Solid Stave.
 2. Construction: Five or seven plies. Stiles and rails are bonded to core, then, entire unit abrasive planed before veneering.
 3. Construction: Seven plies, either bonded or non-bonded construction.
 4. Birch Veneer

2.3 FABRICATION

- A. Factory fit doors to suit frame-opening sizes indicated. Comply with clearance requirements of referenced quality standard for fitting unless otherwise indicated.
- B. Comply with requirements in NFPA 80 for fire-rated doors.
- C. Factory machine doors for hardware that is not surface applied.
- D. Openings: Cut and trim openings through doors in factory.
 1. Light Openings: Trim openings with moldings of material and profile indicated.

2.4 FACTORY FINISHING

- A. Finish doors at factory that are indicated to receive transparent finish. Field finish doors indicated to receive opaque finish.
- B. Transparent Finish:
 1. Grade: Premium.
 2. Finish: WWDA I.S.1-A System TR-4 conversion varnish.
 3. Finish: AWI System TR-4 conversion varnish.
 4. Finish: WIC System #1c. Varnish.

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5. Finish: Manufacturer's standard finish with performance comparable to AWI System TR-4 conversion varnish.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Hardware: For installation, see Division 08 - Openings, Section 087000 - Hardware.
- B. Installation Instructions: Install doors to comply with manufacturer's written instructions and the referenced quality standard, and as indicated.
- C. Job-Fitted Doors: Align and fit doors in frames with uniform clearances and bevels; do not trim stiles and rails in excess of limits set by manufacturer or permitted for fire-rated doors. Machine doors for hardware. Seal edges of doors, edges of cutouts, and mortises after fitting and machining.
- D. Factory-Fitted Doors: Align in frames for uniform clearance at each edge.
- E. Factory-Finished Doors: Restore finish before installation if fitting or machining is required at Project site.

END OF SECTION

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SECTION 081613 – FIBERGLASS DOORS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Fiberglass Reinforced Plastic (FRP) Doors.
 - 2. Fiberglass Resin Transfer Molded Door Frames.
 - 3. Hardware for FRP Doors.
 - 4. Provide all materials, labor, tools, and services required for the complete installation of new FRP Doors with frames, including all door hardware.

1.2 SUBMITTALS

- A. Product Data: Submit manufacturer's specifications for fabrication and installation, including data supporting that the products comply with these specifications.
- B. Shop Drawings: Submit details of each door design type, Conditions at openings, details of construction, location and installation requirements of finish hardware and reinforcements, and details of joints and connections. Show anchorage and accessory items.
- C. O&M Manual: Contractor to include in the Operation and Maintenance Manual complete information regarding manufacturer's technical information, specifications, installation instructions, maintenance/repair information, certifications, Shop Drawings, door schedules, and all other pertinent data regarding all products specified in this Section.

1.3 QUALITY ASSURANCE

- A. Referenced Standards
 - 1. Door Properties:
 - a. ASTM C 518 Standard test method for steady State thermal transmission properties by means of the heat flow meter apparatus.

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2. Laminate Properties:
 - a. ASTM D 882 Tensile Strength.
 - b. ASTM D 790 Flexural Strength.
 - c. ASTM D 2583 Barcol Hardness.
 - d. ASTM D 256 Impact Resistance.
 - e. ASTM D 792 Density/Specific Gravity of Laminate.
 - f. ASTM D 1761 Mechanical Fasteners.
 - g. ASTM E 84 Surface Burning Characteristics.
 - h. ASTM G 155 Gelcoat Xenon Arc light exposure test.
 - i. ASTM D 635 Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Self Supporting Plastics in a Horizontal Position.

3. Core Properties:
 - a. ASTM C 177 Thermal Properties.
 - b. ASTM D 1622 Density/Specific Gravity.
 - c. ASTM E 84 Surface Burning Characteristics.
 - d. WDMA TM-10 and TM-5 Firestop ASTM E 152 U.L. 10(b).

B. Qualifications

1. Manufacturer Qualifications: A company specialized in the manufacture of fiberglass reinforced plastic (FRP) doors and frames as specified herein with a minimum of 25 years documented experience and with a record of successful in-service performance for the applications as required for this Project.
2. Installer Qualifications: An experienced installer who has completed fiberglass door and frame installations similar in material, design, and extent to those indicated and whose Work has resulted in construction with a record of successful in-service performance.
3. Source Limitations: Obtain fiberglass reinforced plastic doors and resin transfer molded frames through one source fabricated from a single manufacturer, including fire rated fiberglass frames.
4. Source Limitations: Hardware and accessories for all FRP doors as specified in Section 087000 "Door Hardware" shall be provided and installed by the fiberglass door and frame manufacturer.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Each door and frame shall be delivered individually crated for protection from damage in cardboard containers, clearly marked with Project information, door location, specific reference number as shown on Drawings, and shipping information. Each crate shall contain all fasteners necessary for installation as well as complete installation instructions.

- B. Doors shall be stored in the original container on edge, out of inclement weather for protection against the elements.
 1. Handle doors pursuant to the manufacturer's recommendations as posted on outside of crate.

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1.5 WARRANTY

- A. Warranty all fiberglass doors and frames for a period of 25 years against failure due to corrosion. Additionally, warranty all fiberglass doors and frames on materials and workmanship for a period of 10 years, including warp, separation or delamination, and expansion of the core.

PART 2 - PRODUCTS

2.1 WELCOME CENTER DOORS

A. Acceptable Manufacturer:

1. Chem-Pruf Co., Ltd, P.O. Box 4560, Brownsville, Texas 78523.
 - a. Phone: 1-800-444-6924
 - b. Fax: (956) 544-7943.
 - c. Website: www.chem-pruf.com

B. Welcome Center FRP Frames:

1. Use FRP knock down frames 6 3/4"

C. Welcome Center Hardware:

1. Furnish and deliver all related hardware to the door and frame manufacturer. All hardware must be installed by the door and frame manufacturer.

PART 3 - EXECUTION

3.1 INSTALLATION CONDITIONS

A. Field Verification of Conditions:

1. Openings are correctly prepared to receive doors and frames.
2. Openings are correct size and depth in accordance with Shop Drawings or submittals.

B. Installer's Examination

1. Have the installer examine conditions under which construction activities of this Section are to be performed and submit a written report if conditions are unacceptable.
2. Transmit two copies of the installer's report to the architect within 24 hours of receipt.
3. Beginning construction activities of this Section before unacceptable conditions have been corrected is prohibited.

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3.2 INSTALLATION

- A. Install door-opening assemblies in accordance with shop drawings and manufacturer's printed installation instructions, using installation methods and materials specified in installation instructions.
- B. Field alteration of doors or frames to accommodate field conditions is strictly prohibited.
- C. Site tolerances: Maintain plumb and level tolerance specified in manufacturer's printed installation instructions.
- D. Fire labeled doors and frames must be installed in strict accordance with manufacturer's instructions and the latest revision of NFPA 80.

3.3 ADJUSTING

- A. Adjust doors in accordance with door manufacturer's maintenance instructions to swing open and shut without binding and to remain in place at any angle without being moved by gravitational influence.
- B. Adjust door hardware to operate correctly in accordance with hardware manufacturer's maintenance instructions.

3.4 CLEANING

- A. Clean surfaces of door opening assemblies and exposed door hardware in accordance with respective manufacturer's maintenance instructions.

3.5 PROTECTION OF INSTALLED PRODUCTS

- A. Protect door opening assemblies and door hardware from damage by subsequent construction activities until final inspection.

END OF SECTION

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SECTION 087000 – HARDWARE

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. Work includes all finish hardware, with suitable fastenings for complete Work, in accordance with the Drawings and specifications. Items not specifically mentioned, but necessary to complete the Work, shall be provided, matching in quality and finish the items specified.

1.3 SUBMITTALS

- A. Product Data: Submit catalog cut sheets for all finish hardware items.
- B. Schedule: Prepare and submit a complete and detailed finish hardware schedule for each door opening.

1.4 SUPPLIER

- A. Finish hardware shall be supplied by a recognized hardware distributor who has been furnishing hardware for a period of not less than 5 years.
- B. The distributor's organization shall employ a qualified architectural hardware consultant, or equivalent, and locksmiths who are available at all reasonable times during the course of construction to meet with the Engineer and/or Contractor for hardware or keying consultation.
- C. The supplier shall maintain a stock and parts inventory of all standard items supplied for future service to the Owner.

1.5 DELIVERY, STORAGE AND HANDLING

- A. All items shall be delivered to the Project site in manufacture's original packaging. Mark each hardware item with description and installation location in accordance with approved hardware schedule. Store and protect all hardware from damage.

PART 2 - PRODUCTS

2.1 DOOR HARDWARE

- A. Butt Hinges: Make: STANLEY, Stainless Steel
 - 1. Finish: US 26D satin chrome.
 - 2. Size: 4 1/2" x 4 1/2".

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3. Type: BB 4101A, N.R.P.
4. Acceptable Subs: STANLEY, HAGER.
 - a. Exterior out swinging door shall have non-removable pin feature (set screw in barrel; pin non-removable when door is closed.)

B. Locksets and Deadbolts:

1. Front Door

- a. Deadbolt: Schlage B660 heavy duty double cylinder, standard solid brass 6-pin cylinder, with Satin Chrome finish. Exterior keyed, interior thumb turn.
- b. Passage set: 8" exterior pull handle with plate, interior push plate, Satin Chrome finish.
- c. Signage: "THIS DOOR TO REMAIN UNLOCKED DURING BUSINESS HOURS" in 1" high contrasting letters.

2. Office Door

- a. Deadbolt: Schlage B660 heavy duty double cylinder, standard solid brass 6-pin cylinder, with Satin Chrome finish. Lobby side keyed, office side thumb turn.
- b. Lockset: Schlage ND10S RHO lever handle with Satin Chrome finish.
- c. Signage: "THIS DOOR TO REMAIN UNLOCKED DURING BUSINESS HOURS" in 1" high contrasting letters.

3. Restroom Door

- a. Lockset: Schlage AL series, exterior keyed lever, interior button, Satin Chrome finish.
- b. Signage: Unisex placard set on wall adjacent to door. See plan sheet 7 for details.

4. Storage Door

- a. Lockset: Schlage AL series, exterior keyed lever, interior turn button, Satin Chrome finish.

5. Employee Entrance Door

- a. Deadbolt: Schlage B660 heavy duty double cylinder, standard solid brass 6-pin cylinder, with Satin Chrome finish. Exterior keyed, interior thumb turn.
- b. Lockset: Schlage ND10S RHO lever handle with Satin Chrome finish.
- c. Signage: "EMPLOYEES ONLY" in 1" high contrasting letters.

C. Stops and Holders:

1. Make: BUILDERS BRASS WORKS
2. Type: BBW #245, TRIMCO #1255
3. Finish: 626 (US 26D)
4. Acceptable Subs: GLYNN-JOHNSON, CIPCO

D. Door Closers:

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1. Make: LCN
2. Type: Model 4110 - DEL, push side mounted closer with delay action feature. (ADA compliant)

E. Threshold:

1. Make: Pemko
2. Finish: Mill finish aluminum
3. Model No.: 171A FHSL

F. Sweep:

1. Make: Pemko
2. Finish: Clear anodized aluminum
3. Model No.: 18100CNB

G. Set Gasket:

1. Make: Pemko
2. Finish: Clear anodized aluminum
3. Model No.: S88D

PART 3 - EXECUTION

3.1 GENERAL REQUIREMENTS

- A. The Contractor shall be responsible for proper operation and fitting of under lock and key to store all finish hardware until installation is made. The hardware supplier shall mark each item of hardware as to description and location of installation in accordance with the approved hardware schedule.
- B. Exposed surfaces of hardware shall be covered and well-protected during installation so as to avoid damage to finishes.

3.2 PROTECTION

- A. The Contractor shall protect all exposed hardware surfaces during construction period from damage to products and finishes. Replace any damaged hardware items prior to final acceptance.

3.3 SPECIAL TOOLS

- A. Furnish special tools for installation and maintenance of hardware. Tools for maintenance and adjustment are to be delivered to the Owner upon completion of Work.

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3.4 KEYING

- A. All cylinder items shall be master-keyed into the Park Alike Group and grand-master-keyed. Provide one key for each lock. Keying information will be given to a licensed and bonded locksmith person only. The locksmith shall call Ryan Layton (509) 665-4313 to make keying arrangements.

3.5 INSPECTION AND ADJUSTMENT OF HARDWARE

- A. Adjust all hardware to operate correctly. Factory representatives for door closers, exit bolts and locksets shall be available, if necessary, to instruct the Contractor on the proper method of installation of their materials. They shall inspect and adjust their materials at the completion of Work and supply proper maintenance information and manuals.

END OF SECTION

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SECTION 092116 - GYPSUM BOARD ASSEMBLIES

PART 1 – GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Interior gypsum drywall for walls and ceilings for the welcome center.

1.2 SUBMITTALS

- A. Product Data: For product indicated.
- B. Samples: For each textured finish indicated and on same backing indicated for Work.

1.3 QUALITY ASSURANCE

- A. Sound Transmission Characteristics: For gypsum board assemblies with STC ratings, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by a qualified independent testing agency.
- B. Mockups: Before finishing gypsum board assemblies, install mockups of at least 4 sq. ft. in surface area to demonstrate aesthetic effects and qualities of materials and execution.
 - 1. Install mockups for the following applications:
 - a. Surfaces indicated to receive textured paint finishes.
 - 2. Simulate finished lighting conditions for review of mockups.
 - 3. Approved mockups may become Part of the completed Work if undisturbed at time of Substantial Completion.

PART 2 - PRODUCTS

2.1 PANEL PRODUCTS

- A. Panel Size, General: Provide in maximum lengths and widths available that will minimize joints in each area and correspond with support system indicated.
- B. Gypsum Wallboard: ASTM C 36.

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1. Type X 5/8 inch in thickness indicated and with long edges tapered.

2.2 TRIM ACCESSORIES

- A. Interior Trim: ASTM C 1047.

1. Bullnose Bead: Use at outside corners.

2.3 JOINT TREATMENT MATERIALS

- A. General: Comply with ASTM C 475.

- B. Joint Tape:

1. Interior Gypsum Wallboard: Paper.

- C. Joint Compound for Interior Gypsum Wallboard: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.

1. Prefilling: At open joints, rounded or beveled panel edges, and damaged surface areas, use setting-type taping compound.
2. Embedding and First Coat: For embedding tape and first coat on joints, flanges of trim accessories, and fasteners, use all-purpose compound.
 - a. Use setting-type compound for installing paper-faced metal trim accessories.
3. Fill Coat: For second coat, use all-purpose compound.
4. Finish Coat: For third coat, use all-purpose compound.
5. Skim Coat: For final coat of Level 5 finish, use all-purpose compound.

2.4 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written recommendations.

- B. Acoustical Sealant for Concealed Joints: Nondrying, non-hardening, non-skinning, non-staining, gunnable, synthetic-rubber sealant recommended for sealing interior concealed joints to reduce airborne sound transmission.

1. Available Products:

- a. Ohio Sealants, Inc.; Pro-Series SC-170 Rubber Base Sound Sealant.
- b. Pecora Corp.; BA-98.

2. Tremco, Inc.; Tremco Acoustical Sealant.

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2.5 TEXTURE FINISHES

- A. Primer: As recommended by textured finish manufacturer.
 - 1. Texture: Light-spatter.
 - a. Walls.
 - b. Ceilings.

PART 3 - EXECUTION

3.1 PANEL PRODUCT INSTALLATION

- A. Gypsum Board: Comply with ASTM C 840 and GA-216.
 - 1. Space screws a maximum of 12 inches o.c. for vertical applications.
 - 2. Space fasteners in panels that are tile substrates a maximum of 8 inches o.c.
 - 3. On ceilings, apply gypsum panels before wall/partition board application to the greatest extent possible and at right angles to framing, unless otherwise indicated.
 - 4. On partitions/walls, apply gypsum panels vertically (parallel to framing), unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.
 - a. Stagger abutting end joints not less than one framing member in alternate courses of board.
 - b. At high walls, install panels horizontally, unless otherwise indicated or required by fire-resistance-rated assembly.
 - 5. Single-Layer Fastening Methods: Apply gypsum panels to supports with steel drill screws.

3.2 FINISHING

- A. Installing Trim Accessories: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.
- B. Finishing Gypsum Board Panels: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration.
 - 1. Prefill open joints, rounded and damaged surface areas.
 - 2. Apply joint tape over gypsum board joints, except those with trim having flanges not intended for tape.
- C. Gypsum Board Finish Levels: Finish panels to levels indicated below, according to ASTM C 840, for locations indicated:

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1. Level 3

3.3 APPLYING TEXTURE FINISHES

- A. Surface Preparation and Primer: Prepare and apply primer to gypsum panels and other surfaces receiving texture finishes. Apply primer to surfaces that are clean, dry, and smooth.
- B. Texture Finish Application: Mix and apply finish using powered spray equipment, to produce a uniform texture matching approved mockup and free of starved spots or other evidence of thin application or of application patterns.
- C. Prevent texture finishes from coming into contact with surfaces not indicated to receive texture finish by covering them with masking agents, polyethylene film, or other means. If, despite these precautions, texture finishes contact these surfaces, immediately remove droppings and overspray to prevent damage according to texture finish manufacturer's written recommendations.

END OF SECTION 092116

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SECTION 096500 – RESILIENT TILE FLOORING

PART 1 – GENERAL

1.1 SUMMARY

A. Section Includes:

1. Solid vinyl floor tile.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

B. LEED Submittals:

1. Product Data for Credit EQ 4.1: For adhesives, including printed statement of VOC content and chemical components.

C. Shop Drawings: For each type of floor tile. Include floor tile layouts, edges, columns, doorways, enclosing partitions, built-in furniture, cabinets, and cutouts.

D. Samples: Full-size units of each color and pattern of floor tile required.

E. Maintenance data.

1.3 QUALITY ASSURANCE

A. Fire-Test-Response Characteristics: As determined by testing identical products according to ASTM E 648 or NFPA 253 by a qualified testing agency.

1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm.

1.4 PROJECT CONDITIONS

A. Maintain ambient temperatures within range recommended by manufacturer in spaces to receive floor tile.

B. Until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer.

C. Close spaces to traffic during floor tile installation.

D. Close spaces to traffic for 48 hours after floor tile installation.

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- E. Install floor tile after other finishing operation, including painting, have been completed.

PART 2 - PRODUCTS

2.1 SOLID VINYL FLOOR TILE

- A. Products: Subject to compliance with requirements, provide the following available products that may be incorporated into the Work include, but are not limited to the following:
 - 1. Armstrong World Industries, Inc.
- B. Tile Standard: Luxury Vinyl Tile.
 - 1. Class: Class I, monolithic vinyl tile.
 - 2. Type: Type A, smooth surface.
- C. Thickness: 0.10 inch.
- D. Size: 12 by 12 inches.
- E. Colors and Patterns: As indicated by manufacturer's designations.

2.2 INSTALLATION MATERIALS

- A. Trowelable Leveling and Patching Compounds: Latex-modified, Portland cement based or blended hydraulic-cement-based formulation provided or approved by manufacturer for applications indicated.
- B. Adhesives: Water-resistant type recommended by manufacturer to suit floor tile and substrate conditions indicated.
 - 1. Use adhesives that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 21.)
- C. Integral-Flash-Cove-Base Accessories:
 - 1. Cove Strip: 1-inch (25-mm) radius provided or approved by manufacturer.
 - 2. Cap Strip: Square metal.
 - 3. Corner: Metal inside and outside corners and end stops provided or approved by manufacturer.
- D. Floor Polish: Provide protective liquid floor polish products as recommended by manufacturer.

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PART 3 - EXECUTION

3.1 PREPARATION

- A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of resilient products.
- B. Concrete Substrates: Prepare according to ASTM F 710.
 - 1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
 - 2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.
 - 3. Alkalinity and Adhesion Testing: Perform tests recommended by manufacturer. Proceed with installation only after substrates pass testing.
 - 4. Moisture Testing: Perform tests recommended by floor covering manufacturer and as follows. Proceed with installation only after substrates pass testing.
 - a. Perform anhydrous calcium chloride test, ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. in 24 hours.
 - b. Perform relative humidity test using in situ probes, ASTM F 2170. Proceed with installation only after substrates have a maximum 75 percent relative humidity level measurement.
- C. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound and remove bumps and ridges to produce a uniform and smooth substrate.
- D. Do not install floor tiles or sheet vinyl until they are same temperature as space where they are to be installed at least 48 hours in advance of installation.
- E. Sweep and vacuum clean substrates to be covered by resilient products immediately before installation.

3.2 FLOOR TILE INSTALLATION

- A. Comply with manufacturer's written instructions for installing floor tile.
- B. Lay out floor tiles from center marks established with principal walls, discounting minor offsets, so tiles at opposite edges of room are of equal width. Adjust as necessary to avoid using cut widths that equal less than one-half tile at perimeter.
 - 1. Lay tiles square with room axis.
- C. Match floor tiles for color and pattern by selecting tiles from cartons in the same sequence as manufactured and packaged, if so numbered. Discard broken, cracked, chipped, or deformed tiles.
 - 1. Lay tiles with grain running in one direction.

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- D. Scribe, cut, and fit floor tiles to butt neatly and tightly to vertical surfaces and permanent fixtures including built-in furniture, cabinets, pipes, outlets, and door frames.
- E. Extend floor tiles into toe spaces, door reveals, closets, and similar openings. Extend floor tiles to center of door openings.
- F. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on floor tiles as marked on substrates. Use chalk or other nonpermanent, non-staining marking device.
- G. Adhere floor tiles to flooring substrates using a full spread of adhesive applied to substrate to produce a completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.
- H. Integral-Flash-Cove Base: Cove floor coverings 6 inches up vertical surfaces. Support floor coverings at horizontal and vertical junction by cove strip. Butt at top against cap strip.
 - 1. Install metal corners at inside and outside corners.

3.3 CLEANING AND PROTECTION

- A. Comply with manufacturer's written instructions for cleaning and protection of floor tile.
- B. Floor Polish: Remove soil, visible adhesive and surface blemishes from floor tile surfaces before applying liquid floor polish.
 - 1. Apply three coats.
- C. Cover floor tile until Substantial Completion.

END OF SECTION

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SECTION 099100 – PAINTING

PART 1 - GENERAL

1.1 WORK IN THIS SECTION

- A. This Section specifies painting interior and exterior surfaces of the building.

1.2 RELATED WORK IN OTHER SECTIONS

- A. Section 062013 – Exterior Finish Carpentry
- B. Division 8 – Openings

1.3 QUALITY ASSURANCE

A. Identification:

- 1. Paint shall be delivered to the Project in sealed containers that plainly show the designed product name, batch number, color, manufacture's directions, and manufacture's name; all of which shall be plainly legible at the time of use

B. Removal of Unacceptable Paint:

- 1. At no expense to the State, the Contractor shall remove unacceptable paint and repaint to the satisfaction of the Engineer. Unacceptable paint is any that is improper, impure, or on metal not properly cleaned.

- C. If the specified numbers of coats do not produce a finish acceptable to the Engineer the dry film thickness will be measured using suitable gauges. If the specified numbers of coats have not produced a combined dry film thickness of at least the sum of the thickness required per coat, the Contractor shall apply another full coat of finish paint.

PART 2 - PRODUCTS

2.1 PRODUCTS

A. Exterior Welcome Center:

- 1. Primer: 1 coat latex primer.
- 2. Base (body): Exterior Gateway Grey (Sherwin-Williams Paint Color #2086-46442)
- 3. Trim: Bar Harbor (Sherwin-Williams Paint Color #2272)

B. Interior Welcome Center:

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1. Primer: 1 coat latex primer.
2. Base: 2 coats interior latex enamel semi-gloss paint
Parker Paint "Shell White" 5770W.
3. Trim: Semitransparent wood stain.

C. Exterior Stains (Front Porch)

1. Semitransparent or Full Bodied Oil/Alkyd Stain: Factory-formulated oil- or oil/alkyd-resin-based semitransparent wood stain applied at spreading rate recommended by manufacturer having the following characteristics:
 - a. Semitransparent or Full Bodied; Type based upon coverage and final appearance as selected by the Engineer from submitted Samples or field mock-ups.
 - b. Penetrating type, not surface film type.
 - c. Shall not induce wood grain raising, swelling, warping or shrinking.
 - d. Suitable for use on previously stained but cleaned wood.
 - e. Water repellent.
 - f. Mildew resistant.
 - g. UV resistant and stable.
 - h. Formulated for the Northwest climate.
 - i. Excellent color retention.
 - j. Gloss level; flat to satin.
 - k. 1 or 2 coat system.
 - l. VOC; 550 grams per liter or less.
 - m. Five (5) year minimum service life before re-coat is required.
2. Manufacturer of Typical Product:
 - a. Olympic No. 718 Semi-Transparent Stains.
 - b. Preliminary color – Fir/Pine.
www.olympic.com

2.2 OTHER MATERIALS

- A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Engineer.

PART 3 - EXECUTION

3.1 CLEANING, PREPARATION, and PRE-TREATMENT

- A. Properly prepare all surfaces to receive specified or scheduled finishes. Application of first coat shall constitute acceptance of substrate by the painter.
- B. All surfaces shall be free of grease, oil, dirt and other foreign matter before painting. Clean galvanized surface with solvent or use commercial pre-treatment solution as required by manufacturer's instructions.
- C. Thoroughly clean all metal surfaces to the satisfaction of the Engineer using metal brushes,

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scrapers, or other means the Engineer requires to remove rust, scale, and dirt. Solvents may be used to remove oil and grease, and bristle or wood fiber brushes to remove loose dust.

3.2 PAINT FINISHES

- A. Apply paint according to the manufacturer's recommendations.
- B. Apply one coat of primer paint and two coats of finish paint.
- C. Each coat must be dry before the next coat is applied.
- D. All field applied coats shall be brushed on in parallel strokes to leave a smooth, even coating that adheres closely to the metal or previous coat. On surfaces that cannot be brushed, painters shall use sheepskin or other daubers approved by the Engineer.
- E. Bolts, the edges of plates, angles, and other rolled shapes shall receive an extra heavy coating. Painters shall Work the paint well into all joints and crevices. All areas named in this paragraph shall be painted lightly just before general painting. This light coating shall be recoated when the general coat is applied.
- F. Before it is removed from its containers, paint shall be stirred thoroughly by a mechanical mixer or other means. During application, it shall be stirred often enough to keep pigments in suspension.
- G. Paint shall be shipped from the factory at brushing consistency. Unless the Engineer approves in writing, the Contractor shall not add thinner.
- H. Paint thickness:
 - 1. A full wet coat free from runs and sags produces the proper film thickness. Dry film thickness shall be between 0.15 and 0.25 mils per coat.

3.3 WEATHER CONDITIONS

- A. Paint shall NOT be applied when:
 - 1. The air and metal are cooler than 50 Degrees Fahrenheit.
 - 2. Surfaces are damp or the air is misty.
 - 3. The Engineer believes the conditions are unsuitable.
 - 4. The metal is hot enough to cause the paint to blister and leave porous finish.

3.4 PROTECTION

- A. All adjacent surfaces and Work of other trades shall be protected at all times with drop cloths, barricades, or other forms as necessary.

END OF SECTION 099100

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SECTION 099600 – HIGH-BUILD GLAZED COATINGS

PART 1 - GENERAL

1.1 WORK IN THIS SECTION

- A. This Section specifies powder-coat painting of the exterior kiosk located at the building.

1.2 RELATED WORK IN OTHER SECTIONS

- A. None.

1.3 QUALITY ASSURANCE

- A. Identification:

- 1. Paint shall be pre-applied to aluminum frame members of kiosk as furnished by owner.

- B. Removal of Unacceptable Paint:

- 1. At no expense to the State, the Contractor shall remove unacceptable paint and repaint to the satisfaction of the Engineer. Unacceptable paint is any that is improper, impure, or on metal not properly cleaned.

- C. If the specified numbers of coats do not produce a finish acceptable to the Engineer the dry film thickness will be measured using suitable gauges. If the specified numbers of coats have not produced a combined dry film thickness of at least the sum of the thickness required per coat, the Contractor shall apply another full coat of finish paint.

1.4 MEASUREMENT AND PAYMENT

- A. Payment for Work specified in this Section shall be made under the appropriated bid item and shall include all labor, materials, tools, and equipment needed to complete all the Work under this Section. No other compensation will be made.

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PART 2 - PRODUCTS

2.1 PRODUCTS

- A. Aluminum Framing Members:
 - 1. Primer: None.
 - 2. Base (body): Exterior, Matte-Black
 - 3. Trim: Exterior, Matte-Black

- B. Manufacturer of Typical Product:
 - 4. Sherwin-Williams

2.2 OTHER MATERIALS

- A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Engineer.

PART 3 - EXECUTION

3.1 CLEANING, PREPARATION, and RE-APPLICATION of FINISH

- A. Properly prepare all surfaces to receive specified or scheduled finishes. Application of first coat shall constitute acceptance of substrate by the painter.

- B. All surfaces shall be free of grease, oil, dirt and other foreign matter before painting. Clean galvanized surface with solvent or use commercial pre-treatment solution as required by manufacturer's instructions.

- C. Thoroughly clean all metal surfaces to the satisfaction of the Engineer using metal brushes, scrapers, or other means the Engineer requires to remove rust, scale, and dirt. Solvents may be used to remove oil and grease, and bristle or wood fiber brushes to remove loose dust.

3.2 PAINT FINISHES

- A. Apply paint according to the manufacturer's recommendations.

- B. Apply one coat of primer paint and two coats of finish paint.

- C. Each coat must be dry before the next coat is applied.

- D. All field applied coats shall be brushed on in parallel strokes to leave a smooth, even coating that adheres closely to the metal or previous coat. On surfaces that cannot be brushed, painters shall use sheepskin or other daubers approved by the Engineer.

- E. Bolts, the edges of plates, angles, and other rolled shapes shall receive an extra heavy coating. Painters shall Work the paint well into all joints and crevices. All areas named in this

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paragraph shall be painted lightly just before general painting. This light coating shall be recoated when the general coat is applied.

- F. Before it is removed from its containers, paint shall be stirred thoroughly by a mechanical mixer or other means. During application, it shall be stirred often enough to keep pigments in suspension.
- G. Paint shall be shipped from the factory at brushing consistency. Unless the Engineer approves in writing, the Contractor shall not add thinner.
- H. Paint thickness:
 - 1. A full wet coat free from runs and sags produces the proper film thickness. Dry film thickness shall be between 0.15 and 0.25 mils per coat.

3.3 WEATHER CONDITIONS

- A. Paint shall NOT be applied when:
 - 1. The air and metal are cooler than 50 Degrees Fahrenheit.
 - 2. Surfaces are damp or the air is misty.
 - 3. The Engineer believes the conditions are unsuitable.
 - 4. The metal is hot enough to cause the paint to blister and leave porous finish.

3.4 PROTECTION

- A. All adjacent surfaces and Work of other trades shall be protected at all times with drop cloths, barricades, or other forms as necessary.

END OF SECTION 099600

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100600 – SCHEDULES FOR SPECIALTIES

PART 1 - GENERAL

1.1 WORK IN THIS SECTION

- A. Work includes all labor, materials, equipment and services necessary to provide depository safes, grab bars, mirrors, shelves and related materials and Work as indicated on the plans.

1.2 WORK IN OTHER SECTIONS

- A. Section 061000 – Rough Carpentry

1.3 SUBMITTALS

- A. Submit product catalog cuts and manufacturer's technical data for all specialty items.

PART 2 - PRODUCTS

2.1 PUBLIC-USE WASHROOM ACCESSORIES

- A. Basis-of-Design Product: The design for accessories is based on products indicated. Subject to compliance with requirements, provide the named product or a comparable product by one of the following:
 - 1. A & J Washroom Accessories, Inc.
 - 2. American Specialties, Inc.
 - 3. Bobrick Washroom Equipment, Inc.
 - 4. Bradley Corporation.
 - 5. General Accessory Manufacturing Co. (GAMCO).
- B. Toilet Tissue (Roll) Dispenser:
 - 1. To be furnished by Owner. Contractor shall install.
- C. Grab Bar:

“American Specialties,” 18 gauge type 304L stainless steel, 1 1/2” diameter, angle grab bars with concealed flanges, non-slip finish.
- D. Sanitary-Napkin Disposal Unit:
 - 1. Basis-of-Design Product: “American Specialties” Model 0852
 - 2. Mounting: Surface mounted

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3. Door or Cover: Hinged top lid with spring-tension trap door at bottom.
4. Receptacle: Removable.
5. Material and Finish: Stainless steel, No. 4 finish (satin).

E. Mirror Unit:

1. 18 inch x 36 inch with stainless steel trim and shelf

2.2 SANITARY NAPKIN RECEPTACLE

- A. "American Specialties", Polyethylene receptacle, wall mount. McMaster-Carr #2866K51, or similar.

2.3 RESTROOM SIGNS

- A. "Amera Products Company" 1-800-608-6568, Unisex handicap restroom sign with Braille, pictogram, text, 6" X 8" blue finish.

2.4 DEPOSITORY SAFE

- A. AMSEC's BWB series Depository safe, Model No. BWB3020-FL.
www.amsecusa.com/safe-b-rate-wide-body.htm

2.5 SECURITY SYSTEM

- A. System shall be Reolink RLK8-1200B4-A 12MP PoE Surveillance Kit with Smart Detection & Spotlights or approved equal. Exterior camera shall be weatherproof vandal-proof system.
- A. All operable doors and windows shall be hardwired.
- B. All hallways shall have motion detections sensors.

2.6 MAIL SLOT

- A. Provide "Protex Safe WDC-160 with Adjustable Chute"

2.7 TOWEL DISPENSER SHOP

- A. Shop: Use Georgia Pacific "SofPull"

2.10 FIRE EXTINGUISHER SHOP AND OFFICE

- A. Provide "Larson's Fire extinguisher cabinet 2409-R7, Anodized Aluminum with glass door and Buckeye 10ABC TALL extinguishers.

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PART 3 - EXECUTION

3.1 GRAB BARS

- A. Install grab bars in accordance with the manufacturer's recommendations. All parts shall be installed straight, level and plumb. All grab bars shall be installed in accordance with drawing above finished floor, with a clearance of 1 1/2" between finished wall surface and inner edge of the tubing. Provide blocking in wall for all grab bars.
- B. No evidence of drilling, cutting or patching shall be visible in the finished Work. All grab bars shall be able to withstand a downward pull of 300 pounds minimum.

3.2 MIRROR

- A. Install in accordance with manufacturer's recommendations.

3.3 TOILET TISSUE DISPENSER AND NAPKIN RECEPTACLES

- A. Install on walls/toilet partitions with vandal proof hardware at the locations indicated, or where directed by the Project Representative. Tissue dispensers shall be located such that tissue roll is at 19" (min.) above finished floor and at approximately 12" in front of toilet.
- B. Napkin waste receptacles shall be mounted with top of unit approximately 4" below grab bar and immediately to right or left of toilet.

3.4 RESTROOM SIGNS

- A. Install in accordance with drawings and all ADA regulations.

3.5 DEPOSITORY SAFES

- A. Install in accordance with manufacturer's recommendations.

3.6 SECURITY CAMERA

- A. Install in accordance with manufacturer's recommendations.

3.7 SECURITY SYSTEM

- A. Install in accordance with manufacturer's recommendations.

3.8 NYALIC

- C. A. Treat all stainless steel surfaces after assembly.

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END OF SECTION

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SECTION 104310 – ARCHITECTURAL SIGNAGE

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Panel signs
 - 2. Metal information sign

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of Work.
- B. Verify that items, including anchor inserts, provided under other sections of Work are sized and located to accommodate signs.
- C. Examine supporting members to ensure that surfaces are at elevations indicated or required to comply with authorities having jurisdiction and are free from dirt and other deleterious matter.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. General: Locate signs and accessories where indicated, using mounting methods of types described and in compliance with the manufacturer's written instructions.
 - 1. Install signs level, plum, with sign surfaces free from distortion and other defects in appearance.
- B. Wall-Mounted Panel Signs: Attach panel signs to lumber siding surfaces using flat-head screws. Pre-drill signs as necessary.
 - 1. Height: 60" from top of the sign to finish floor
 - 2. Location: Coordinate location with Architect

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- C. Metal information Signs: Attach information signs to plywood sheathing using flat-head screws. Coordinate with siding installation.
 - 1. Height and location: see drawings.
 - 2. Obtain approval from the district before installing signs.
 - 3. Coordinate with Lumber siding installation, including sequences.

3.3 CLEANING AND PROTECTION

- A. After installation, clean soiled sign surfaces according to the manufacturer's written instructions. Protect signs from damage until acceptance by the Owner.

END OF SECTION

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SECTION 104320 – EXTERIOR SIGNS AND SIGNPOSTS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. The work of this section consists of furnishing and installing exterior signs and signposts.

1.2 REFERENCES

- A. Americans with Disabilities Act
- B. WSDOT Standard Specifications for Road, Bridge, and Municipal Construction current edition
- C. American Welding Society (AWS) Standard Welding Procedure Specifications
- D. WSDOT Standard Specifications for Road, Bridge, and Municipal Construction current edition
- E. ASTM A123 – Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
- F. ASTM B209 - 10 Standard Specification for Aluminum and Aluminum Alloy Sheet and Plate
- G. ASTM D4956 - 11a Standard Specification for Retroreflective Sheeting for Traffic Control
- H. ASTM A500 / A500M - 10a Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes
- I. ASTM A666-10 Standard Specification for Annealed or Cold-Worked Austenitic Stainless-Steel Sheet, Strip, Plate, and Flat Bar.
- J. ASTM A588/A588M-10 Standard Specifications for High-Strength Low-Alloy Structural Steel, up to 50 ksi (345 MPa) Minimum Yield Point, with Atmospheric Corrosion Resistance.
- K. ASTM A606/A606M-09a Standard Specifications for Steel, Sheet and Strip, High Strength, Low Alloy, Hot Rolled and Cold Rolled, with Improved Atmospheric Corrosion Resistance.
- L. ASTM B209M - 10 Standard Specification for Aluminum and Aluminum Alloy Sheet and Plate
- M. ASTM D1730 - 09 Standard Practices for Preparation of Aluminum and Aluminum-Alloy Surfaces for Painting
- N. ASTM D3451-05 Standard Guide for Testing Coating Powders and Powder Coatings
- O. ASTM D7378-10 Standard Practice for Measurement of Thickness of Applied Coating Powders to Predict Cured Thickness

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- P. ASTM D7396 - 08 Standard Guide for Preparation of New, Continuous Zinc-Coated (Galvanized) Steel Surfaces for Painting

1.3 SUBMITTALS

- A. Manufacturer's Product Data: Submit manufacturer's product data indicating compliance with specifications for the following:
 - 1. Reflective Sheeting, including manufacturer's full range of colors for selection by WSP
 - 2. Stainless steel
 - 3. Finish: Powder coating, including manufacturer's full range of colors for selection by WSP
 - 4. Primer and Paint: Manufacturer's product data and full range of colors for selection by Owner
 - 5. Fasteners
- B. Shop Drawings: Show materials, dimensions, fasteners, blockings, joints, assembly and installation details for:
 - 1. Entry Sign
 - 2. Aluminum WSP shield
 - 3. Stainless steel symbols for camping, restrooms, picnicking, trail.
 - 4. Wayfinding Signs
- C. Samples: Actual material illustrating thickness, color, and finish:
 - 1. Entry Sign Letters: as per the Drawings
 - 2. Wayfinding Signs: 4"x4" Sample of powder coated aluminum with vinyl letter attached
 - 3. Traffic Signs: 4"x4" Sample of powder coated aluminum with vinyl letter attached
- D. Graphic Proofs
 - 1. Submit graphic proof for each sign to be fabricated indicating overall dimensions, text size, spacing, font, colors, and attachments.
- E. Installer qualifications
 - 1. Submit firm profile and references from three projects of similar size and complexity as this project.

1.4 QUALITY ASSURANCE

- A. Fabricator/installer qualifications: Engage an installer with a minimum of 5 years of experience fabricating and installing signs of similar scope and complexity to this project.
- B. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."
 - 1. Welders and welding operators performing work on bottom-flange, demand-critical welds

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shall pass the supplemental welder qualification testing, as required by AWS D1.8. FCAW-S and FCAW-G shall be considered separate processes for welding personnel qualification.

1.5 STORAGE AND HANDLING

- A. Protect signs from damage during transportation. Store all materials off ground under protective covering.

PART 2 - PRODUCTS

2.1 POSTS

- A. Galvanized Steel: Hollow Steel Sections, in sizes indicated on drawings with closed top, drilled to accept fasteners, hot dip galvanized.

2.2 SIGNS

- A. Small Wayfinding, Traffic, and ADA Signs:
 - 1. UNUSED
- B. Entry Sign
 - 1. Entry Sign:
 - a. Wooden panel as per the Drawings and 062013 Exterior Finish Carpentry.
- C. Hardware: Per WSDOT Standard Specifications table 9-28.11, material type to match sign.
- D. Powder Coating: Exterior grade thermoset polyester-epoxy powder coating
- E. Artwork
 - 1. UNUSED

PART 3 - EXECUTION

3.1 WAYFINDING, TRAFFIC, AND ADA SIGNS:

- A. Preinstallation review: Stake locations of signs and obtain approval from WSP prior to installation.
- B. Posts

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1. Install plumb and rotated so that face of sign is turned 3% toward direction of travel.
2. Crown top of concrete footing to shed water.

C. Signs

1. Install plumb and level with face of sign turned 3% toward direction of travel.
2. Attach signs to posts with tamper-proof stainless-steel fasteners. Install nylon or dielectric washers to separate dissimilar metal types.

3.2 ENTRY FEATURE

A. Installation:

1. Relocate existing sign.
2. Install signs plumb and so text is level. Brace and secure in place until concrete and masonry are fully cured and capable of supporting sign.
3. Install fasteners with nylon washers separating dissimilar metal types.
4. Fasten with bolts and nuts so no more than two threads are exposed.
5. Clean signs of all debris.

END OF SECTION

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SECTION 107500 - FLAGPOLE

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes ground-set flagpole made from aluminum.

1.2 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Provide flagpole capable of withstanding the effects of wind loads, determined according to NAAMM FP 1001, "Guide Specifications for Design of Metal Flagpoles."
 - 1. Base flagpole design on three polyester flags of maximum standard size suitable for use with flagpole.
 - 2. Basic Wind Speed: 90 mph as indicated; 3-second gust speed at 35 feet aboveground.

1.3 SUBMITTALS

- A. Product Data: For each type of flagpole and lighting required.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. American Flagpole; a Kearney-National Inc. Company.
 - 2. Baartol Company Inc. (The)
 - 3. Concord Industries, Inc.
 - 4. Eder Flag Manufacturing Company, Inc.
 - 5. Ewing International.
 - 6. Lingo Inc.; Acme Flagpole Division.
 - 7. Michigan Flagpole Inc.
 - 8. Morgan-Francis Div.; Original Tractor Cab Co., Inc.
 - 9. Pole-Tech Company Inc.

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2.2 FLAGPOLE

- A. Flagpole Construction, General: Construct flagpole in one piece if possible. If more than one piece is necessary, provide flush hairline joints using self-aligning, snug-fitting, internal sleeves.
- B. Exposed Height: 35 feet.
- C. Aluminum Flagpole: Provide 35 feet commercial internal halyard Cam CLEAT tapered flagpole. 6063-T6 solid aluminum tubing with uniform conical taper.
- D. Foundation Tube: Galvanized corrugated-steel foundation tube, 0.064-inch minimum nominal wall thickness. Provide with 3/16-inch steel bottom plate and support plate; 3/4-inch diameter, steel ground spike; and steel centering wedges all welded together. Galvanize steel parts, including foundation tube, after assembly. Provide loose hardwood wedges at top of foundation tube for plumbing pole. Provide flashing collar of same material and finish as flagpole.
- E. Cast-Metal Shoe Base: For anchor-bolt mounting; provide with anchor bolts.

2.3 FLAGPOLES LIGHTING

- A. Lighting, General:
 - 1. The Flagpoles Co. Item No. #IG35WLED, Commercial, 120 volt, square, in ground flagpole lighting kits.
- B. Housing:
 - 1. Compression molded, fiberglass reinforced polyester composite. Color impregnated bronze composite which will not flake or peel when scratched.
- C. Lens Ring:
 - 1. Compression molded composite ring.
- D. Lens & Gasket:
 - 1. CX -Crown Clear.
- E. Aiming:
 - 1. 15 degree angle either side of vertical rotation. 360 degree inside of housing.
- F. Socket:
 - 1. Medium base socket.

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G. Lamp:

1. LED 35 Watts.

H. Desi-Pak:

1. Desi-Pak included to prevent moisture build up inside of lens.

I. Conduit Sealant:

1. 2 Part Epoxy included to seal & pot conduit entries.

2.4 FITTINGS

- A. Finial Ball: Manufacturer's standard flush-seam ball, sized as indicated or, if not indicated, to match flagpole-butt diameter; finished to match flagpole.
- B. Internal Halyard, Winch System: Manually operated winch with control stop device and removable handle, stainless-steel cable halyard, and concealed revolving truck assembly with plastic-coated counterweight and sling. Provide flush access door secured with cylinder lock. Finish truck assembly to match flagpole.
- C. Internal Halyard, Cam Cleat System: 5/16-inch diameter, braided polypropylene halyard; cam cleat; and concealed revolving truck assembly with plastic-coated counterweight and sling. Provide flush access door secured with cylinder lock. Finish truck assembly to match flagpole.
- D. Halyard Flag Snaps: Provide six swivel chrome plated swivel bronze snap hooks per halyard.
- E. Elastomeric Joint Sealant: Single-component urethane or single-component neutral-curing silicone joint sealant complying with requirements in Division 07- Section "Joint Sealants" for Use NT (nontraffic) and for Use M, G, A, and, as applicable to joint substrates indicated, O joint substrates.

2.5 FINISHES

- A. Aluminum: Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.
 1. Class I, Clear Anodic Finish: AA-M12C22A41 (Mechanical Finish: nonspecular as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class I, clear coating 0.018 mm or thicker) complying with AAMA 611.

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PART 3 - EXECUTION

3.1 FLAGPOLE

- A. General: Install flagpole and lighting as shown on drawings, and according to manufacturer's written instructions.
- B. Prepare uncoated metal flagpole that are set in foundation tubes by painting below-grade portions with a heavy coat of bituminous paint.

END OF SECTION

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SECTION 122113 - HORIZONTAL LOUVER BLINDS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Horizontal louver mini blinds with aluminum slats.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.

PART 2 - PRODUCTS

2.1 HORIZONTAL LOUVER BLINDS, ALUMINUM SLATS

- A. Products: Subject to compliance with requirements, provide one of the following:
 - 1. Hunter Douglas.
 - 2. Levolor, a Newell Rubbermaid Company.
- B. Slats: Aluminum; alloy and temper recommended by producer for type of use and finish indicated; with crowned profile and radiused corners.
 - 1. Width: 1 inch.
 - 2. Finish: One color selected by Project Representative from Manufacturer's standard colors.
 - a. Ionized Coating: Antistatic, dust-repellent, baked polyester finish.
 - b. Reflective Coating: Manufacturer's special coating enhancing the reflection of solar energy on the outside-facing slat surface.
- C. Headrail: Formed steel or extruded aluminum; long edges returned or rolled; fully enclosing operating mechanisms on three sides and end plugs.
- D. Bottom Rail: Formed-steel or extruded-aluminum tube, with plastic or metal capped ends.
- E. Ladders: Evenly spaced to prevent long-term slat sag.
 - 1. For Blinds with Nominal Slat Width 1 Inch or less: Braided string.
- F. Lift Cords: Manufacturer's standard.

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- G. Tilt Control: Enclosed worm-gear mechanism, slip clutch or detachable wand preventing over rotation, and linkage rod.
- H. Lift Operation: Manual.
- I. Valance: Manufacturer's standard.
- J. Mounting: End mounting.
- K. Hold-Down Brackets and Hooks or Pins: Manufacturer's standard.
- L. Side Channels and Perimeter Light Gap Seals: Manufacturer's standard.
- M. Colors, Textures, Patterns, and Gloss: As selected by Owner from manufacturer's full range.

2.2 HORIZONTAL LOUVER BLIND FABRICATION

- A. Concealed Components: Non-corrodible or corrosion-resistant-coated materials.
 - 1. Lift-and-Tilt Mechanisms: With permanently lubricated moving parts.
- B. Unit Sizes: Obtain units fabricated in sizes to fill window and other openings as follows:
 - 1. Blind Units Installed between (inside) Jambs: Width equal to 1/4 inch per side or 1/2 inch total, plus or minus 1/8 inch, less than jamb-to-jamb dimension of opening in which each blind is installed. Length equal to 1/4 inch, plus or minus 1/8 inch, less than head-to-sill dimension of opening in which each blind is installed.
 - 2. Blind Units Installed outside Jambs: Width and length as indicated, with terminations between blinds of end-to-end installations at centerlines of mullion or other defined vertical separations between openings.
- C. Installation Brackets: Designed for easy removal and reinstallation of blind, for supporting headrail, valance, and operating hardware, and for hardware position and blind mounting method indicated.
- D. Installation Fasteners: No fewer than two fasteners per bracket, fabricated from metal noncorrosive to blind hardware and adjoining construction; type designed for securing to supporting substrate; and supporting blinds and accessories under conditions of normal use.
- E. Color-Coated Finish:
 - 1. Metal: For components exposed to view, apply manufacturer's standard baked finish.
- F. Component Color: Provide rails, cords, ladders, and exposed-to-view metal, and plastic matching or coordinating with slat color, unless otherwise indicated.

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PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, operational clearances, and other conditions affecting performance.
 - 1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install horizontal louver blinds level and plumb and aligned with adjacent units according to manufacturer's written instructions, and located so exterior slat edges in any position are not closer than 1 inch to interior face of glass. Install intermediate support as required to prevent deflection in headrail. Allow clearances between adjacent blinds and for operating glazed opening's operation hardware if any.
- B. Flush Mounted: Install horizontal louver blinds with slat edges flush with finish face of opening if slats are tilted open.
- C. Jamb Mounted: Install headrail flush with face of opening jamb and head.
- D. Head Mounted: Install headrail on face of opening head.
- E. Recessed: Install headrail concealed within blind pocket.
- F. Adjust horizontal louver blinds to operate smoothly, easily, safely, and free of binding or malfunction throughout entire operational range.
- G. Clean horizontal louver blind surfaces after installation, according to manufacturer's written instructions.

END OF SECTION

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SECTION 129300 – SITE FURNISHINGS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work Included: Provide all labor, materials (unless noted as furnished by Owner) and equipment to furnish and install the following:
 - 1. Fixed Bollards
 - 2. All other items noted on the plans

1.2 QUALITY ASSURANCE

- A. Manufacturer's Instructions: Adhere to manufacturer's instructions for product handling, installation and operations.

1.3 SUBMITTALS

- A. Submit the following for all products:
 - 1. Manufacturer's product data
 - 2. Manufacturer's installation instructions

PART 2 - PRODUCTS

2.1 GENERAL

- A. Comply with Specifications and manufacturer's data. Where these may be in conflict, the more stringent requirements govern.

2.2 FIXED BOLLARD

- A. Fix Bollard:
 - 1. H.S. steel tube, galvanized and as per the Drawings.
 - 2. See drawings for installation.
- B. Removable Bollard:
 - 1. Removable bollard, as per typical State Parks standard.
 - 2. See welcome center drawings for installation.

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PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify installation conditions as satisfactory to receive work of this Section. Do not install until unsatisfactory conditions are corrected. Beginning work constitutes acceptance of conditions as satisfactory. Verify location with Owner, prior to installation.

3.2 INSTALLATION

- A. Protect site furnishings from scratches, dents or other damage during handling and installation.
- B. Install all equipment and site furniture in accordance with Specifications, Drawings and manufacturer's directions. Where these may be in conflict, the more stringent requirements govern.

END OF SECTION

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SECTION 220000 – PLUMBING

PART 1 – GENERAL

1.1 SUMMARY

- A. This Section covers the installation of all plumbing from the main shutoff valve located 1 foot beyond exterior slabwork. This Section includes all plumbing fixtures for the building as described hereinafter and/or as shown on the Drawing and includes, but is not limited to the following:
1. Domestic cold water system
 2. Domestic hot water system
 3. Domestic tempered water system
 4. Waste and vent system
 5. Plumbing fixtures

1.2 RELATED SECTIONS:

- A. Section 033000 - Cast-in-Place Concrete
- B. Section 061000 - Rough Carpentry

1.3 QUALITY ASSURANCE

- A. Regulatory Requirements
1. Comply with provisions of the Uniform Plumbing Code, latest version. Install all Work in accordance with standards, prescribed by local and/or State codes.

PART 2 – PRODUCTS

2.1 DOMESTIC WATER SYSTEM PIPING/TUBING

- A. All aboveground piping shall be PEX Type A, B or C, that complies with ASTM F-875 and ASTM F-877, or copper tubing, Type K or L that complies with ASTM B-88.
1. Use PEX pipe in straight 20 foot lengths color in order to maintain a straight and clean appearance of all exposed pipe.
 2. Use PEX pipe color code for cold and hot water installations.
 - a. Blue for cold water.
 - b. Red for hot water.

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2.2 DOMESTIC WATER METER

A. Manufacturer:

1. Daniel L Jerman Co.

B. Water Meter:

1. DLJ Multi-Jet, sized to match building water main.
2. Dry contact (reed) or solid state pulse output.
3. Complies with International Standard ISO 4064

2.3 PROPANE PIPING AND REGULATOR

- A. All propane piping above grade shall be Schedule 40 black steel pipe. Regulator shall be REGO regulated LV-4403, 2-stage regulator, 3/4 inch inlet/outlet.

2.4 FITTINGS AND UNIONS

A. All fittings shall be as follows:

1. For PEX pipe use cold expansion polymer fittings with PEX reinforcement rings that complies with ASTM F-1960, cold expansion metal fitting with PEX reinforcement rings that complies with ASTM F-1960.
2. For copper pipe use Type M, hard drawn fittings for solder or brazed connections.

- B. Unions to be of same size and type as pipe being joined. Provide unions where specified in the plans and at all valves, meters, equipment, etc., to accommodate removal and replacement of all equipment. Steel unions shall be galvanized and provide dielectric break unions where connections of dissimilar metal piping occur.

2.5 GATE VALVES (INTERIOR BUILDING)

- A. 125 psi, cold water rated, iron body, bronze or brass mounted, double disc, inside screw, rising stem as manufactured by RED-WHITE, JENKINS, or CRANE. Provide shut-off valve at each fixture supply line in pipe chase to allow shutoff of individual fixtures. Size valves to match pipe size.

2.6 BALL VALVES

- A. Bronze body and trim, full port three piece construction, burna-N ring seal, operating handle nut to be stainless steel, operating torque at rated pressure to be 25 foot-pounds or less, threaded connections.

1. Manufacturers: RED-WHITE, JENKINS, OR CRANE

2.7 CHECK VALVES

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- A. Check valves shall be CRANE No. 37, bronze swing check valve.

2.8 ESCUTCHEONS

- A. Escutcheons shall be provided on all exposed piping passing through floors, walls, and ceilings, and sized to fit the pipe, or, if insulated, to fit the insulation. Deep escutcheons shall be used where the sleeve and/or fittings extend past to the finished surface. Escutcheons 2" and smaller shall be plastic.

2.9 PRESSURE REGULATOR

- A. Pressure regulator shall be WILKINS Model 500 XLYSBR, water pressure reducing valve 2" nominal size with reduced pressure range of 25 – 75 psi.

2.10 WATER HAMMER ARRESTOR

- A. Water hammer arrestors shall be ZURN WH2950 (WILKENS) arrestors, size as indicated.

2.11 HOSE BIBBS AND BACKFLOW PREVENTER

- A. Interior hose bibs shall be CHICAGO #293, 1/2 inch with loose T handle.
- B. Interior wall hydrant, 3 in. MFR#: HY 430 shall be WATTS ZORO #:G3415151 with hydrant key, zinc, 3-1/4 in L, ZURN, ZORO #: G4627271, MFR #: P1300-PART-13-KEY.
- C. Exterior hose bib shall be ARROWHEAD #465-08LF freeze-proof with integral vacuum breaker.
- D. Backflow preventers shall be WATTS No. 8C.

2.12 TEMPERATURE GAUGE

- A. Temperature gauge shall be MCMMASTER-CARR bimetal thermometer Model #3946k11. Gauge shall have 3 inch face, bottom connection, 2 1/2 inch stem, 1/2 inch NPT threaded connection. Temperature Range 0 to 200 or 50 to 240 inches.

2.13 THERMOSTATIC MIXING VALVE

- A. Mixing valve shall be Watts 0206003.

2.20 WATER CLOSET (WELCOME CENTER)

- A. Toilet: Toilet shall be TOTO DRAKE two piece elongated toilet CST744SL-white. The elongated bowl shall be 12" rough-in. Toilet shall be made of vitreous china. Toilet shall be 1.6 gpf. ADA compliant with 16-1/2" high bowl.

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- B. Seat: Seats shall be white, split front, plastic. Brevia seat with cover.

2.21 LAVATORY FAUCET (WELCOME CENTER)

- A. Lavatory faucet shall be T & S Brass and Bronze Works, Inc., Model B-0805 Series.
- B. Angle Stops: KOHLER K-7607 polished chrome angle supply and stop (loose key type.)
- C. Drain & Trap: KOHLER K-13885 offset drain with open strainer (13"). KOHLER, cast brass adjustable "P" trap with tubing outlet, under sink protectors, and cleanout plug as shown on Drawings detail.

2.22 UTILITY SINK (WELCOME CENTER)

- A. Provide "Swanstone White Composite Laundry Sink" wall hung sink with two handle faucet with swing spout.

2.23 STOP AND DRAIN VALVES

- A. Provide drain valves with vacuum breakers at low points of the supply lines to toilet areas, hot water heaters and cold water supply to shower facilities to allow for complete drainage and winterization of building plumbing systems.

PART 3 – EXECUTION

3.1 GENERAL

- A. Drawings are diagrammatic, and not intended to show in detail all features of Work. Take measurements. Do all cutting on the job. Drawings do not attempt to show exact details of all piping. No extra payments allowed where obstructions in Work of other trades or Work under this Contract require off sets in piping. Check locations of piping to determine that it clears all openings and structural members, that it may be properly concealed, and that it clears lighting fixtures and plumbing fixtures having fixed locations. Take all working measurements from building. Verify against those shown on Drawings. If they are found to vary from the latter, report same to the Project Representative at once for drawing adjustments before proceeding with the Work.

3.2 PIPING METHODS

- A. Piping shall be installed parallel to walls and risers and shall be straight and plumb. Piping in finished areas shall be concealed except as noted otherwise and except for runouts in local connections. Piping shall be carefully laid out and installed to allow sufficient space for installation and maintenance of the system. All domestic hot and cold water piping shall be graded so that it can be drained through a fixture or hose bibb, including all down loops. All drainage and waste lines shall be sloped as required by code or a minimum of 1/8" per foot, whichever is greater or as otherwise shown on the Drawings. All piping, including waste and

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vent piping, shall be installed to allow provisions for expansion and contraction and shall have approved anchoring.

1. Pipe joint (threaded)

- a. All changes in size shall be made with reducing fittings. No bushings shall be used. All joints shall be tight and piping reamed to full size to insure smooth flow. All joints to be made with compatible materials per applicable codes. Pipe nipples with the unthreaded Section 1 inch or less in length shall be cut from extra heavy pipe. Close nipples shall not be used. All changes in direction shall be made with fittings and no pipe bending will be permitted except for soft temper copper. Ream each end of steel or wrought iron pipe for screwed joint connections to full pipe diameter. Remove all burrs on copper tubing. Fittings shall comply with ASA dimensions and shall be galvanized where specified with the respective system. Street elbows shall not be used. Ells shall be long radius.

2. Pipe joints (soldered)

- a. All copper tubing used in domestic water systems shall be assembled with SIL FOS or equal silver base hard solder sweat fittings except connections to valves and controls shall be made with 95/5 tin-antimony solder. All joints between copper and iron or steel shall be made with EPCO, or equal, dielectric unions.

3.3 SLEEVES

- A. Sleeves of black steel to be provided where pipes pass through masonry walls or concrete floors. Where seepage is likely to occur, pipe sleeves to be caulked. Sleeves through floors subject to water shall project 1/2 inch above finished floor. After pipe has been installed, fill area around pipe with mastic.

3.4 PLATES

- A. All piping passing through finished walls, floors, and ceilings shall be fitted with nickel or chrome-plated plates, set with screws for holding plate in position.

3.5 CLEANOUTS

- A. Provide cleanouts at base of each soil and waste stack, at changes in direction of piping, at intervals of not over 50 feet in straight lines, and elsewhere as may be required. Cleanouts shall be of the same size as the pipe. The cleanouts shall be located in accessible locations. Check all mechanic apparatus for location prior to installing. Floor cleanouts shall have flush brass cleanout plate. Exposed floor area cleanouts made absolutely flush with finished floor without any projection.

3.6 FLASHING

- A. On roofs, all pipes penetrating the roof shall pass through pipe flashing jacks.

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3.7 TESTING

A. Domestic water lines

1. Test all hot and cold water pipe lines for leaks at a minimum pressure of 125 psi for 1 hour. All pipe, valves, fittings, and tanks shall be water tight under the test. Repair any leaks and repeat tests until system is water tight. Make final test in presence of the Project Representative. All pressure lines shall be under working pressure at the time of final inspection.

B. Drainage lines

1. All drainage lines shall be tested with water or air pressure of not less than 5 pounds per square inch for 15 minutes with no loss in pressure and shall be witnessed by the Project Representative. Repair any leaks and repeat rest until the lines pass the test requirements.

3.8 FUMIGATION (DOMESTIC WATER LINES)

- A. Before putting system into service, disinfect all portions of the domestic water system with a dosage of 50 parts chlorine per million parts of water. Flush sections of the system to be disinfected at adequate velocity to remove solids and contaminated materials. Introduce chlorine mixture into the system in such a manner which will ensure uniform distribution. Retain the mixture in the system for a minimum of 24 hours. Following chlorination, thoroughly flush system until no chlorine can be detected.

3.10 WATER HEATERS

- A. Heaters shall be installed per the manufacturer's recommendation and the building codes. The heaters shall be manifolded in pairs and valved so that one (1) heater can be removed with the other heater operating. All inlet and outlet plumbing shall be installed with equal number of bends and pipe lengths to provided balanced flow conditions.

END OF SECTION

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SECTION 221300 – FACILITY SANITARY SEWAGE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and General Provisions of the Contract, including General Conditions and Division No. 1 Specifications Sections, apply to this Section.

1.2 SUMMARY

- A. Sanitary Sewage Systems: This Section includes but is not limited to the following:
 - 1. Sanitary sewage system piping and appurtenances from a point 5 feet outside the building to the point of utility connection including trenching and backfill.
 - 2. Lift Station.
- B. Key Abbreviations: The following Abbreviations apply to this Section:
 - 1. ILM Identification Line Marker.
 - 2. PA Pumping Assembly.
 - 3. PVC Polyvinyl Chloride.
- C. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division 31 - Earthwork for materials and methods of trench excavation and backfill made a Part of this Section.

1.3 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Firms regularly engaged in manufacture of sanitary sewage system's products of types, materials, and sizes required, whose products have been in satisfactory use in similar service for not less than 5 years.
- B. Code Compliance: Comply with applicable portions of Uniform Plumbing Code, the State Department of Ecology criteria for Sewage Works Design and the current edition of standard specifications for Road, Bridge, And Municipal Construction published by the Washington State Department of Transportation and the American Public Works Association of Washington pertaining to selection and installation of sanitary sewage system's materials and products.

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1.4 SUBMITTALS

- A. Product Data: Submit manufacturer's technical information, specifications, installation instructions, certifications, and other data to show compliance with these Contract Specifications. Submit for pipe, fittings, cleanouts, locator tape, and pump station equipment.
- B. Record Drawings: At Project closeout, submit record Drawings of installed sanitary sewage piping and products, in accordance with requirements of Division 1.
- C. Maintenance Data: Submit maintenance data and parts lists for sanitary sewage system materials and products. Include this data, Shop Drawings, and record Drawings in maintenance manual; in accordance with requirements of Division 1.
- D. O&M Manual: Contractor to include in Operation & Maintenance Manual, complete information regarding manufacturer's technical information, specifications, installation instructions, maintenance/repair information, certifications, and all other pertinent data regarding all pipe, fittings, fabric, and valve boxes detailed in this Section. Reference Specification Section 013300 – Submittal Procedures for additional requirements for this Work item.
- E. Describe completely the function of each system and its sequence of operation. Manufacturer's data sheets are helpful but are not sufficient in themselves. O&M manual shall instruct the park manager as to function, operation, maintenance and adjustment of each piece of equipment and each system provided at the conclusion of the job.

PART 2 - PRODUCTS

2.1 IDENTIFICATION LINE MARKER (ILM)

- A. The Contractor shall provide minimum 2" wide green plastic warning tape with a metallic foil core for each underground sewer line. This tape shall run continuous from terminal to terminal without splices. The tape shall be capable of being located by a pipe finder and carry a signal of a pipe locating device. This tape shall be similar to the TERRA TAPE "D" or equal. Printing on the warning tape shall read: "CAUTION: SEWERLINE BURIED BELOW".
- B. In addition to the marker tape, each sewer line shall have a 12 gauge copper locator wire.
- C. Manufacturer: Subject to compliance with requirements, provide identification markers of one of the following:
 - 1. Allen systems, Inc.
 - 2. EMED Co., Inc.
 - 3. Seton Name Plate Corp.
 - 4. Or approved equal.

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2.2 PIPES AND PIPE FITTINGS

- A. General: Provide pipes of one of the following materials, of weight/class indicated. Provide pipe fittings and accessories of same material and weight/class as pipes, with joining method as indicated.
- B. Polyvinyl Chloride Sewer Pipe (PVC): SDR 35, ASTM D 3034, and ASTM D 1784.
- C. Fittings: PVC, ASTM D 3034, elastomeric joints complying with ASTM D 3212 using elastomeric seals complying with ASTM F 477.

2.3 LIFT STATION

- A. Provide Liberty Pro Series Model 370 XB with Liberty 18” Riser. Provide pump controls, panel and alarm.

PART 3 - EXECUTION

3.1 INSTALLATION OF IDENTIFICATION LINE MARKER

- A. During back-filling/top-soiling of sanitary sewage systems, install continuous underground-type plastic line marker, located directly over buried line at 6 inches to 8 inches below finished grade.

3.2 INSTALLATION OF PVC PIPE AND PIPE FITTINGS

- A. Install piping in accordance with governing authorities having jurisdiction, except where more stringent requirements are indicated, within these specifications.
- B. Inspect piping before installation to detect apparent defects. Mark defective materials with white paint and promptly remove from site.
- C. Lay piping beginning at low point of system, true to grades and alignment indicated, with unbroken continuity of invert.
- D. Place bell ends or groove ends of piping facing upstream.
- E. Install gaskets in accordance with manufacturer’s recommendations for use of lubricants, cements, and other special installation requirements.
- F. PVC Pipe: Install in accordance with manufacturer’s installation recommendations, and in accordance with ASTM D 2321. Pipe bedding shall be 3/8 inch minus pea gravel, minimum sand equivalent 50.

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- G. Cleaning Piping: Clear interior of piping of dirt and other superfluous material as Work progresses. Maintain swab or drag in line and pull past each joint as it is completed. Place plugs in ends of uncompleted conduit at end of day or whenever Work stops.
- H. Flush lines between manholes if required to remove collected debris.
- I. Joint Adapters: Make joints between types of pipe with standard manufactured adapters and fittings intended for that purpose. Connection to manholes when using PVC, sewer pipe shall be made with PVC manhole adapters.
- J. Trenching and Backfill: Trenching and backfill for construction of the sanitary sewer is specified in Division 31-Earthwork.

3.4 TAP CONNECTIONS

- A. Make connections to existing piping and underground structures, so that finished Work will conform as nearly as practicable to requirements specified for new Work.

3.5 BACKFILLING

- A. Conduct backfill operations of open-cut trenches closely following laying, jointing, and bedding of pipe, and after initial inspection and testing are completed. To minimize local area traffic interruptions, allow no more than 100 feet between pipe laying and point to complete backfilling.

3.6 TESTING PRESSURE SEWERS FOR ACCEPTANCE

- A. Preparation for Testing
 - 1. The Contractor shall flush out all pipe sections to be tested with clean water prior to commencing any pressure testing.
- B. Pressure Test Method
 - 1. All pressure pipe systems shall be hydrostatically tested for leaks at a pressure of 25 psi for a period of two hours. Pressure loss in excess of 5 psi during the two-hour test period shall be cause for rejection. Once the pipe system is brought up to test pressure and the test begun, no additional pressurization is allowed for the test duration. Test pressure shall be measured at the highest point in the pipe system tested. The system shall be isolated by capping and/or with closed valves. All pipe, valves, fittings, etc., shall be watertight under the test pressure for the full duration of the test.
 - 2. Any leakage caused by defective workmanship or materials shall be repaired and the line shall again be tested to full compliance at the Contractor's expense. The test pressure shall be applied at the low end of the Section of pipe being tested. Air in the pipe shall be vented at all high points.
 - 3. All field equipment for testing as above described shall be furnished and operated by the Contractor, subject to approval by Engineer. Precautions shall be taken to prevent any damage caused by cleaning and testing. Any damage resulting shall be repaired by the

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Contractor at their own expense.

C. Preliminary Tests

1. The Contractor shall conduct preliminary tests and assure himself that the Section to be tested is in an acceptable condition before requesting the Engineer to witness the test.

3.7 UTILITY CROSSINGS

- A. Where crossings are required with domestic water and sanitary sewer lines, no joint shall be laid closer to the crossing than 1/2 the length of a standard length of pipe, and where practical at the crossing, there shall be a 36" vertical separation. Where a 36" vertical separation between the lines cannot be maintained, the drainline shall be inserted into a 20' length of 4" class 160 PVC water pipe, which will act as a protective "conduit" and keep the exposed drainline joints 10 feet away from the crossed line. The drainline shall be cut as necessary to place a joint at the ends of the conduit, not inside. Where the necessary length of conduit is more than 20 feet, the Contractor shall glue "bridging" pieces to the sewer pipe to prevent sag in the line.

3.8 FIELD QUALITY CONTROL

- A. Testing: Perform testing of completed piping in accordance with local authorities having jurisdiction and/or APWA Standards.

END OF SECTION

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SECTION 223413 – INSTANTANEOUS, TANKLESS, DOMESTIC WATER HEATERS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section covers installation of instantaneous water heaters including complete wall mounting, hot and cold water piping hookup, and related items of Work.
- B. Related Sections:
 - 1. Section 220000-Plumbing.
 - 2. Division 33-Utilities.

1.2 SUBMITTALS

- A. Product Data: Submit water heater manufacturer's product data, catalogs, specifications, and detailed installations instructions.

1.3 QUALITY ASSURANCE

- A. Regulatory Requirements:
 - 1. Comply with provisions of the International Plumbing Code, current edition. Install all Work in accordance with standards, prescribed by local and/or State codes.

PART 2 - PRODUCTS

2.2 WATER HEATERS

- A. Electric instantaneous water heater shall be Powerstream Model RP7 Water Heater shall have an adjustable heat setting selector. Heater shall be 240 volts, 15 amps.

2.4 RELIEF VALVE

- A. 3/4 inch Bronze Pressure Relief Valve suitable for water heater application. Size valve for pressure and temperature limits per application codes.

PART 3 - EXECUTION

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3.1 WALL MOUNTING

- A. Water heaters shall be walls mounted inside the plumbing chase of the restroom building as indicated on the plans.
- B. All water heaters are to be mounted on and supported from a 3/4 inch CD-X plywood backboard assembly fabricated and secured to masonry wall, as shown in the plans.
- C. Provide for code required clearances between top of heater units and existing ceiling and as indicated in the plans.

3.2 WATER HEATER INSTALLATION

- A. Install water heaters in strict accordance with manufacturer's instructions and recommendations, UPC requirements, and the plans.
- D. Provide unions on all connecting piping to allow water heater removal.
- E. Vent pressures relief valve to building exterior or building floor drain/mop basin.

3.4 START-UP AND OPERATION

- A. Following testing, inspection and approval of completed water heater installations, perform fill, start-up and operation procedures for both heaters to demonstrate proper operation and performance in the presence of the Project Representative. Correct any/all deficiencies or problems encountered, to the satisfaction of the Project Representative.
- B. Follow manufacturer's fill, start-up and operating instructions.

3.5 MANUFACTURER'S LITERATURE

- A. Encase a copy of the manufacture in plastic and attach to water heater of future reference.

END OF SECTION

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SECTION 233700 – AIR OUTLETS AND INLETS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section covers Work necessary for the construction of air outlet and inlet systems for the buildings.

PART 2 - PRODUCTS

2.2 VENTILATOR FANS

- A. Toilet room exhaust fans shall be Nutone, Fan; Model QTXEN110.

PART 3 - EXECUTION

3.1 GENERAL

- A. The Contractor shall provide an air outlet for the toilet rooms through individual Exhaust Fans, as shown in the Drawings.

END OF SECTION

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SECTION 260500 – COMMON WORK RESULTS FOR ELECTRICAL

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Raceways
 - 2. Building wire and connectors
 - 3. Supporting devices for electrical components
 - 4. Electrical identification
 - 5. Electrical-metering components
 - 6. Concrete equipment bases
 - 7. Electrical demolition
 - 8. Cutting and patching for electrical construction
 - 9. Specific Heating and Ventilation Equipment to be furnished under this specification.

1.2 SUBMITTALS

- A. Product Data: For electrical-metering components.
- B. Shop Drawings: Dimensioned plans and sections or elevation layouts and single-line diagram of electricity-metering component assemblies specific to this Project.
- C. Submit signed off copies of all electrical construction permits, indicating final acceptance by the local permitting agency.

1.3 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70 (NEC, latest edition) Article 100, by a testing agency acceptable to Authorities Having Jurisdiction, and marked for intended use.
- B. Comply with NFPA 70 (NEC, latest edition) and as amended by the Revised Code of Washington (RCW).

1.4 COORDINATION

- A. Coordinate chases, slots, inserts, sleeves, and openings for electrical supports, raceways, and cable with general construction Work.
- B. Sequence, coordinate, and integrate installing electrical materials and equipment for efficient flow of the Work. Coordinate installing large equipment that requires positioning before closing in the building.

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- C. Coordinate electrical service connections to components furnished by utility companies.
- D. Coordinate location of access panels and doors for electrical items that are concealed by finished surfaces.
- E. Where electrical identification devices are applied to field-finished surfaces, coordinate installation of identification devices with completion of finished surface.

PART 2 - PRODUCTS

2.1 SPECIFIC ITEM REQUIREMENTS

- A. Welcome Center Interior Light Fixtures: Lithonia Lighting, CPANL, CATALOG No. CPANL 2X4 40/50/60LM 50K M2, suspension with wall switch WSX-D sensor switch except for the mudroom.
- B. Welcome Center Exterior Light Fixtures: Use “Cascadia LED wallpack light outdoor security fixtures, SKU No. W006676902 with photocell dusk to down wallpack light.
- C. Welcome Center Track Lights: Suspender 36 inch 2-Bar In-Line linear LED Lighting System – Aimable Cylinder / Flood Lens from Sonneman Lighting. Model No. SLS0158.
- D. Motion Detector – Provide WATT STOPPER WPIR CI-200 Passive Infrared Sensors with B120E-P Power Packs and S120-P Slave Pack.
- E. Power Receptacles - Flush mounted specification grade, 120-volt, duplex receptacles. Receptacles shall be ground fault interrupting type and shall be U.L. Listed and white finish. Device covers shall be stainless steel type, smooth finish.
- F. Hand Dryers – “Xcelerator” Model XL-W.
- G. Light Switches - Switches shall be specification grade toggle switches rated 20 Amp, 120 volt, UL listed. Finish shall be white. Covers shall be stainless steel type with smooth finish; Leviton, Hubble or G.E.
- H. Service Panel “CS” – Use Square D or Cutler hammer 200 AMP 30 Space surface mount service panel.
- I. Ceiling Fans – Provide HUNTERFAN Model No. 25867, 52” blade size, 36” extension downrods.
- J. Exhaust Fan – Provide BROAN Model No. 678 side discharge fans. Ventilator shall have compact steel housing finished with electrically-bonded epoxy paint. Grille to be with polymeric. Motor assembly shall be removable and permanently lubricated. RPM shall not exceed 1725. Air delivery shall be no less than 50 CFM and sound levels no greater than 2.5 Sones.

2.2 SMOKE ALARM

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1. Silent Knight 4 Zone Panel
2. Battery (2 at each location)
3. Smoke Detector
4. Horn/Strobe

2.3 HEATER

- A. Use Cadet 240V, 1000W wall heater with internal thermostat.

2.4 RACEWAYS

- A. Use PVC conduit, junction boxes, and fittings to reduce the amount of metal parts subject to corrosion.
- B. Use PVC expansion fittings at all locations where surface mounted PVC conduit enters/exits the concrete slab.
- C. Use PVC expansion fittings where expansion of the conduit is calculated to be more the 1/4 inch, per NAFP 70 (NEC latest edition).

2.5 WIRES, CABLES, AND CONNECTIONS

- A. Conductors, No. 10 AWG and Smaller: Solid or stranded copper.
- B. Conductors, Larger than No. 10 AWG: Stranded copper.
- C. Insulation: Thermoplastic, rated 600 V, 75 Degrees Celsius minimum, THHN-THWN, or USE depending on application.
- D. Wire Connectors and Splices: Units of size, ampacity rating, material, type, and class suitable for service indicated.

2.6 SUPPORTING DEVICES

- A. Material: Cold-formed steel, with corrosion-resistant coating or PVC, approved for use per NFPA 70 (NEC latest edition) requirements.
- B. Metal Items for Use Outdoors or in Damp Locations: Hot-dip galvanized steel.
- C. Slotted-Steel Channel: Flange edges turned toward web, and 9/16-inch- (14-mm-) diameter slotted holes at a maximum of 2 inches (50 mm) o.c., in webs. Strength rating to suit structural loading.
- D. Slotted Channel Fittings and Accessories: Recommended by the manufacturer for use with the type and size of channel with which used.
 1. Materials: Same as channels and angles, except metal items may be stainless steel.

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- E. Raceway and Cable Supports: Manufactured clevis hangers, riser clamps, straps, threaded C-clamps with retainers, ceiling trapeze hangers, wall brackets, and spring-steel clamps or click-type hangers.
- F. Pipe Sleeves: ASTM A 53, Type E, Grade A, Schedule 40, galvanized steel, plain ends.
- G. Expansion Anchors: Threaded carbon-steel wedge or sleeve type.
- H. Toggle Bolts: All-steel springhead type.
- I. Powder-Driven Threaded Studs: Heat-treated steel.

2.7 ELECTRICAL IDENTIFICATION

- A. Identification Device Colors: Use those prescribed by ANSI A13.1, NFPA 70, and these Specifications.
- B. Colored Adhesive Marking Tape for Raceways, Wires, and Cables: Self-adhesive vinyl tape, not less than 1 inch wide by 3 mils thick (25 mm wide by 0.08 mm thick).
- C. Tape Markers for Conductors: Vinyl or vinyl-cloth, self-adhesive, wraparound type with preprinted numbers and letters.
- D. Color-Coding Cable Ties: Type 6/6 nylon, self-locking type. Colors to suit coding scheme.
- E. Underground Warning Tape: Permanent, bright-colored, continuous-printed, vinyl tape compounded for permanent direct-burial service, and with the following features:
 - 1. Not less than 6 inches wide by 4 mils thick (150 mm wide by 0.102 mm thick).
 - 2. Embedded continuous metallic strip or core.
 - 3. Printed legend that indicates type of underground line.
- F. Engraved-Plastic Labels, Signs, and Instruction Plates: Engraving stock, melamine plastic laminate punched or drilled for mechanical fasteners 1/16-inch (1.6-mm) minimum thickness for signs up to 20 sq. in. (129 sq. cm) and 1/8-inch (3.2-mm) minimum thickness for larger sizes. Engraved legend in black letters on white background.
- G. Warning and Caution Signs: Preprinted; comply with 29 CFR 1910.145, Chapter XVII. Colors, legend, and size appropriate to each application.
 - 1. Interior Units: Aluminum, baked-enamel-finish, punched or drilled for mechanical fasteners.
 - 2. Exterior Units: Weather-resistant, nonfading, preprinted, cellulose-acetate butyrate with 0.0396-inch (1-mm), galvanized-steel backing. 1/4-inch (6-mm) grommets in corners for mounting.
- H. Fasteners for Nameplates and Signs: Self-tapping, stainless-steel screws or No. 10/32 stainless-steel machine screws with nuts and flat and lock washers.

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2.8 GROUNDING SYSTEM

- A. Ground all equipment, including switchboards, transformers, conduit systems, motors, and other apparatus, by conduit or conductor to an independent grounding electrode. Make ground rods accessible for inspection. Ground conductors shall be installed in all conduits. Use of the conduit raceway as an equipment grounding path is not acceptable.

2.9 NETWORK CABINET RACK

- A. 12 RU 19 inch rack.

2.10 OTHER MATERIALS

- A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor.

PART 3 - EXECUTION

3.1 ELECTRICAL EQUIPMENT INSTALLATION

- A. Headroom Maintenance: If mounting heights or other location criteria are not indicated, arrange and install components and equipment to provide maximum possible headroom.
- B. Materials and Components: Install level, plumb, and parallel and perpendicular to other building systems and components, unless otherwise indicated.
- C. Equipment: Install to facilitate service, maintenance, and repair or replacement of components. Connect for ease of disconnecting, with minimum interference with other installations.
- D. Right-of-Way: Give to raceways and piping systems installed at a required slope.

3.2 RACEWAY APPLICATION

- A. Outdoor Installations:
 - 1. Exposed: RNC.
 - 2. Concealed: RNC.
 - 3. Underground, Single Run: RNC.
 - 4. Underground, Grouped: RNC.
 - 5. Connection to Vibrating Equipment: LFMC.
 - 6. Boxes and Enclosures: NEMA 250, Type 3R or Type 4, unless otherwise indicated.
- B. Indoor Installations:
 - 1. Exposed: RNC.
 - 2. Concealed in Walls or Ceilings: RNC.
 - 3. In Concrete Slab: RNC.

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4. Connection to Vibrating Equipment: FMC; except in wet or damp locations: LFMC.
5. Boxes and Enclosures: NEMA 250, Type 1, unless otherwise indicated or required by code.

3.3 RACEWAY AND CABLE INSTALLATION

- A. Conceal raceways and cables, unless otherwise indicated, within finished walls, ceilings, and floors.
- B. Keep legs of raceway bends in the same plane and keep straight legs of offsets parallel.
- C. Use RMC elbows where RNC turns out of slab.
- D. Install pull wires in empty raceways. Use No. 14 AWG zinc-coated steel or woven polypropylene or monofilament plastic line with not less than 200 pounds (90-kg) tensile strength. Leave at least 24 inches of slack at each end of pull wires.
- E. Connect motors and equipment subject to vibration, noise transmission, or movement with a maximum of 72-inches flexible conduit. Install LFMC in wet or damp locations. Install separate ground conductor across flexible connections.

3.4 WIRING METHODS FOR POWER, LIGHTING, AND CONTROL CIRCUITS

- A. Application: Use wiring methods specified below to the extent permitted by applicable codes as interpreted by Authorities Having Jurisdiction.
- B. Concealed Feeders in Concrete: Insulated single conductors in raceway.
- C. Exposed Branch Circuits: Insulated single conductors in raceway.
- D. Concealed Branch Circuits in Ceilings Walls Gypsum Board Partitions: Insulated single conductors in raceway.
- E. Concealed Branch Circuits in Concrete: Insulated single conductors in raceway.
- F. Underground Feeders and Branch Circuits: Insulated single conductors in raceway.
- G. Remote-Control Signaling and Power-Limited Circuits, Classes 1, 2, and 3: Insulated conductors in raceway unless otherwise indicated.

3.5 WIRING INSTALLATION

- A. Make splices and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.

3.6 ELECTRICAL SUPPORTING DEVICE APPLICATION

- A. Damp Locations and Outdoors: Hot-dip galvanized materials or nonmetallic, slotted channel

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system components.

- B. Dry Locations: Steel materials.
- C. Strength of Supports: Adequate to carry present and future loads, times a safety factor of at least four with, 200 pounds minimum design load for each support element.

3.7 SUPPORT INSTALLATION

- A. Support parallel runs of horizontal raceways together on trapeze- or bracket-type hangers.
- B. Size supports for multiple raceway or cable runs so capacity can be increased by a 25 Percent minimum in the future.
- C. Support individual horizontal single raceways with separate, malleable-iron pipe hangers or clamps except use spring-steel fasteners for 1-1/2-inch and smaller single raceways above suspended ceilings and for fastening raceways to slotted channel and angle supports.
- D. Install sleeves for cable and raceway penetrations of concrete slabs and walls unless core-drilled holes are used. Install sleeves for cable and raceway penetrations of masonry and fire-rated gypsum walls and of all other fire-rated floor and wall assemblies. Install sleeves during erection of concrete and masonry walls.
- E. Secure electrical items and their supports to building structure, using the following methods unless other fastening methods are indicated:
 - 1. Wood: Wood screws or screw-type nails.
 - 2. Gypsum Board: Toggle bolts. Seal around sleeves w/joint compound, both sides of wall.
 - 3. Masonry: Threaded expansion anchors approved for masonry with machine screws and bolts. Seal around sleeves with mortar, both sides of wall.
 - 4. New Concrete: Concrete inserts with machine screws and bolts.
 - 5. Existing Concrete: Expansion bolts or threaded studs driven by powder charge and provided with lock washers.
 - 6. Structural Steel: Spring-tension clamps.
 - 7. Light Steel Framing: Sheet metal screws.
 - 8. Fasteners for Damp, Wet, or Weather-Exposed Locations: Stainless steel.
 - 9. Light Steel: Sheet-metal screws.
 - 10. Fasteners: Select so load applied to each fastener does not exceed 25 Percent of its proof-test load.

3.8 IDENTIFICATION MATERIALS AND DEVICES

- A. Install at locations for most convenient viewing without interference with operation and maintenance of equipment.
- B. Coordinate names, abbreviations, colors, and other designations used for electrical identification with corresponding designations indicated in the Contract Documents or required by codes and standards. Use consistent designations throughout Project.

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- C. Self-Adhesive Identification Products: Clean surfaces before applying.
- D. Tag and label circuits designated to be extended in the future. Identify source and circuit numbers in each cabinet, pull and junction box, and outlet box. Color-coding may be used for voltage and phase identification.
- E. Install continuous underground plastic markers during trench backfilling, for exterior underground power, control, signal, and communication lines located directly above power and communication lines. Locate 6 to 8 inches below finished grade. If width of multiple lines installed in a common trench or concrete envelope does not exceed 16 inches, overall, use a single line marker.
- F. Install warning, caution, and instruction signs where required to comply with 29 CFR 1910.145, Chapter XVII, and where needed to ensure safe operation and maintenance of electrical systems and of items to which they connect. Indoors install engraved plastic-laminated instruction signs with approved legend where instructions are needed for system or equipment operation. Install metal-backed butyrate signs for outdoor items.
- G. Install engraved-laminated emergency-operating signs with white letters on red background with minimum 3/8-inch- high lettering for emergency instructions on power transfer, load shedding, and other emergency operations.

3.9 FIRESTOPPING

- B. Fire-and Smoke-Barrier Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at pipe penetrations. Seal pipe penetrations with fire-stop materials approved for the use.

3.10 CUTTING AND PATCHING

- A. Cut, channel, chase, and drill floors, walls, partitions, ceilings, and other surfaces required to permit electrical installations. Perform cutting by skilled mechanics of trades involved.
- B. Repair, refinish and touch up disturbed finish materials and other surfaces to match adjacent undisturbed surfaces.

3.11 PREPARATION

- A. Coordinate as necessary with other trades to assure proper and adequate provision in the Work of those trades for interface with Work in this Section.
- B. Electrical system Drawings are diagrammatic and do not necessarily show exact locations of conduit, ducts, and equipment unless specifically dimensioned. Diagrams must not be used for obtaining linear runs of wiring or conduit.
- C. Cutting into structural parts of the building will not be permitted without expressed prior approval of the Engineer. Any damage shall be repaired to the satisfaction of the Engineer and all cost thereof shall be borne by the Contractor.

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3.12 TESTING AND INSPECTION

- A. Provide all personnel and equipment to make the required tests and secure the required approvals from the Engineer and governmental agencies having jurisdiction.
- B. In the Engineer's presence test all parts of the electrical system and prove that all such items provided under this Section function electrically in the required manner. Contractor is to notify the Engineer two (2) days before the testing.
- C. When materials and/or workmanship is found to not comply with the specified requirements, within three (3) days after receipt of notice of such non-compliance remove the non-complying items from the job site and replace them with items complying with the specified requirements, all at no additional cost to the Owner.

3.13 PROJECT COMPLETION

- A. Upon completion of the Work of this Section, thoroughly clean all exposed portions of the electrical installation removing all traces of soil, labels, grease, oil, and other foreign material, and using only the type cleaner recommended by the manufacturer of the item being cleaned.

END OF SECTION

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SECTION 260923 - LIGHTING CONTROL DEVICES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following lighting control devices:
 - 1. Time switches.
 - 2. Outdoor photoelectric switches.
 - 3. Indoor occupancy sensors.
- B. See Division 26, Section - 262726 "Wiring Devices" for manual light switches.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Field quality-control test reports.
- C. Operation and maintenance data.

1.3 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

PART 2 - PRODUCTS

2.1 TIME SWITCHES

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. **TORK**
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
- C. Basis-of-Design Product: Subject to compliance with requirements, provide **TORK; TORK Digital Model DZS200A w/ Astronomic Option** or a comparable product by one of the following:

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1. Area Lighting Research, Inc.; Tyco Electronics.
2. Grasslin Controls Corporation; a GE Industrial Systems Company.
3. Intermatic, Inc.
4. Leviton Mfg. Company Inc.
5. Lightolier Controls; a Genlyte Company.
6. Lithonia Lighting; Acuity Lighting Group, Inc.
7. Paragon Electric Co.; Invensys Climate Controls.
8. Square D; Schneider Electric.
9. TORK.
10. Touch-Plate, Inc.
11. Watt Stopper (The).

D. Comparable product requirements:

1. Shall be a 2 channel digital time switch.
2. Dry contact configuration shall be single pole double throw (SPDT).
3. Clock input power shall be 120V AC.
4. Contact rating shall be 120V AC NO: 20A NC: 10A.
5. Controller shall program in AM/PM format.
6. Controller shall program in one minute resolution.
7. Display shall be of LCD type.
8. Controller shall be capable of 99 set points; separate scheduling for each day of the week.
9. Controller shall have 365 day holiday capabilities with 24 single dates and 4 seasons of unlimited duration.
10. Different daily schedules shall be programmable within each season.
11. Controller shall have Daylight Saving or Standard time.
12. Controller shall have automatic Leap Year correction.
13. Schedules shall be retained for 40 years without power.
14. Controller shall have 30 day backup for real time using field replaceable 9V lithium battery.
15. Controller shall be capable of manual override ON of OFF to the next scheduled event using 1 button for each channel.
16. Unit shall have NEMA Type 3 indoor/outdoor enclosure as standard.
17. Controller shall be capable of having 2 different pulse durations 1-99 seconds, user settable and assignable to each channel.
18. Controller shall be capable of having astronomic on one or both channels with 1-99 minutes, plus or minus offset from Sunrise or Sunset.

2.2 INDOOR OCCUPANCY SENSORS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 1. Watt Stopper (The).
- C. Basis-of-Design Product: Subject to compliance with requirements, provide the product indicated on Drawings.

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- D. General Description: Wall- or ceiling-mounting, solid-state units with a separate relay unit.
1. Operation: Unless otherwise indicated, turn lights on when covered area is occupied and off when unoccupied; with a time delay for turning lights off, adjustable over a minimum range of 1 to 15 minutes.
 2. Sensor Output: Contacts rated to operate the connected relay, complying with UL 773A. Sensor shall be powered from the relay unit.
 3. Relay Unit: Dry contacts rated for 20-A ballast load at 120- and 277-V ac, for 13-A tungsten at 120-V ac, and for 1 hp at 120-V ac. Power supply to sensor shall be 24-V dc, 150-mA, Class 2 power source as defined by NFPA 70.
 4. Mounting:
 - a. Sensor: Suitable for mounting in any position on a standard outlet box.
 - b. Relay: Externally mounted through a 1/2-inch (**13-mm**) knockout in a standard electrical enclosure.
 - c. Time-Delay and Sensitivity Adjustments: Recessed and concealed behind hinged door.
 5. Indicator: LED, to show when motion is being detected during testing and normal operation of the sensor.
 6. Bypass Switch: Momentary override of the on/off function in case of sensor failure.
 7. Automatic Light-Level Sensor: Adjustable from 2 to 200 fc (21.5 to 2152 lx); keep lighting off when selected lighting level is present.
- E. PIR Type: Ceiling mounting; detect occupancy by sensing a combination of heat and movement in area of coverage.
1. Detector Sensitivity: Detect occurrences of 6-inch- (150-mm-) minimum movement of any portion of a human body that presents a target of not less than 36 sq. in. (232 sq. cm).
 2. Detection Coverage (Room): Detect occupancy anywhere in a circular area of 1000 sq. ft. (93 sq. m) when mounted on a 96-inch- (2440-mm-) high ceiling.
 3. Detection Coverage (Corridor): Detect occupancy within 90 feet (27.4 m) when mounted on a 10-foot- (3-m-) high ceiling.

2.3 LIGHTING CONTACTORS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Watt Stopper (The).
- B. Basis-of-Design Product: Subject to compliance with requirements, provide the product indicated on Drawings.
1. Use a power pack/contact relay per manufacturer's requirements.

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2.4 CONDUCTORS AND CABLES

- A. Power Wiring to Supply Side of Remote-Control Power Sources: Not smaller than No. 12 AWG. Comply with requirements of NFPA 70 and local codes.
- B. Classes 2 and 3 Control Cable: Comply with manufacturer's requirements, NFPA 70, and local codes.
- C. Class 1 Control Cable: Comply with manufacturer's requirements, NFPA 70, and local codes.

PART 3 - EXECUTION

3.1 SENSOR INSTALLATION

- A. Install and aim sensors in locations to achieve not less than 90 percent coverage of areas indicated. Do not exceed coverage limits specified in manufacturer's written instructions.
- B. When requested within 12 months of date of Substantial Completion, provide on-site assistance in adjusting sensors to suit actual occupied conditions. Provide up to two visits to Project during other than normal occupancy hours for this purpose.

3.2 CONTACTOR INSTALLATION

- A. Mount electrically held lighting contactors with elastomeric isolator pads, to eliminate structure-borne vibration, unless contactors are installed in an enclosure with factory-installed vibration isolators.

3.3 WIRING INSTALLATION

- A. Wiring Method: Comply with manufacturer's requirements, NFPA 70, and local codes.
- B. Wiring within Enclosures: Comply with NECA 1. Separate power-limited and non-power-limited conductors according to conductor manufacturer's written instructions.
- C. Size conductors according to lighting control device manufacturer's written instructions, NFPA 70, and local codes.
- D. Splices, Taps, and Terminations: Make connections only on numbered terminal strips in junction, pull, and outlet boxes; terminal cabinets; and equipment enclosures.

3.4 IDENTIFICATION

- A. Identify components and power and control wiring:
 - 1. Identify controlled circuits in lighting contactors.

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3.5 FIELD QUALITY CONTROL

- A. Perform the following field tests and inspections and prepare test reports:
 - 1. After installing time switches and sensors, and after electrical circuitry has been energized, adjust and test for compliance with requirements.
 - 2. Operational Test: Verify operation of each lighting control device, and adjust time delays.

- B. Lighting control devices that fail tests and inspections are defective work.

END OF SECTION

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SECTION 262726 - WIRING DEVICES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Receptacles, receptacles with integral GFCI, and associated device plates.
 - 2. Snap switches.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Operation and Maintenance Data: For wiring devices to include in all manufacturers' packing label warnings and instruction manuals that include labeling conditions.

1.3 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. Comply with NFPA 70.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers' Names: Shortened versions (shown in parentheses) of the following manufacturers' names are used in other Part 2 articles:
 - 1. Cooper Wiring Devices; a division of Cooper Industries, Inc. (Cooper).
 - 2. Hubbell Incorporated; Wiring Device-Kellems (Hubbell).
 - 3. Leviton Mfg. Company Inc. (Leviton).
 - 4. Pass & Seymour/Legrand; Wiring Devices & Accessories (Pass & Seymour).

2.2 STRAIGHT BLADE RECEPTACLES

- A. Convenience Receptacles, 125 V, 20 A: Comply with NEMA WD 1, NEMA WD 6 configuration 5-20R, and UL 498.

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1. Products: Subject to compliance with requirements, provide one of the following:

- a. Cooper; 5351 (single), 5352 (duplex).
- b. Hubbell; HBL5351 (single), CR5352 (duplex).
- c. Leviton; 5891 (single), 5352 (duplex).
- d. Pass & Seymour; 5381 (single), 5352 (duplex).

2.3 GFCI RECEPTACLES

A. General Description: Straight blade, with line-load terminals. Comply with NEMA WD 1, NEMA WD 6, UL 498, and UL 943, Class A, and include indicator light that is lighted when device is tripped.

B. Duplex GFCI Convenience Receptacles, 125 V, 20 A:

1. Products: Subject to compliance with requirements, provide one of the following:

- a. Cooper.
- b. Pass & Seymour; 2084.
- c. Leviton.
- d. Hubbell.

2.4 SNAP SWITCHES

A. Comply with NEMA WD 1 and UL 20.

B. Switches, 120/277 V, 20 A:

1. Products: Subject to compliance with requirements, provide one of the following:

- a. Cooper; 2221 (single pole), 2222 (two pole), 2223 (three way), 2224 (four way).
- b. Hubbell; CS1221 (single pole), CS1222 (two pole), CS1223 (three way), CS1224 (four way).
- c. Leviton; 1221-2 (single pole), 1222-2 (two pole), 1223-2 (three way), 1224-2 (four way).
- d. Pass & Seymour; 20AC1 (single pole), 20AC2 (two pole), 20AC3 (three way), 20AC4 (four way).

2.5 WALL PLATES

A. Single and combination types to match corresponding wiring devices.

1. Plate-Securing Screws: Metal with head color to match plate finish.
2. Material for Finished Spaces: 0.035-inch- (**1-mm**) thick, satin-finished stainless steel.
3. Material for Unfinished Spaces: Smooth, high-impact thermoplastic or galvanized steel.
4. Material for Damp Locations: Thermoplastic, or cast aluminum, with spring-loaded lift cover, and listed and labeled for use in "wet locations."

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- B. Wet-Location, Weatherproof Cover Plates: NEMA 250, complying with type 3R weather-resistant, die-cast aluminum, or thermoplastic with lockable cover.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with NECA 1, including the mounting heights listed in that standard, unless otherwise noted.
- B. Coordination with Other Trades:
 - 1. Take steps to insure that devices and their boxes are protected. Do not place wall finish materials over device boxes and do not cut holes for boxes with routers that are guided by riding against outside of the boxes.
 - 2. Keep outlet boxes free of plaster, drywall joint compound, mortar, cement, concrete, dust, paint, and other material that may contaminate the raceway system, conductors, and cables.
 - 3. Install device boxes in brick or block walls so that the cover plate does not cross a joint unless the joint is troweled flush with the face of the wall.
 - 4. Install wiring devices after all wall preparation, including painting, is complete.
- C. Conductors:
 - 1. Do not strip insulation from conductors until just before they are spliced or terminated on devices.
 - 2. Strip insulation evenly around the conductor using tools designed for the purpose. Avoid scoring or nicking of solid wire or cutting strands from stranded wire.
 - 3. The length of free conductors at outlets for devices shall meet provisions of NFPA 70, Article 300, without pigtails.
 - 4. Existing Conductors:
 - a. Cut back and pigtail, or replace all damaged conductors.
 - b. Straighten conductors that remain and remove corrosion and foreign matter.
 - c. Pigtailling existing conductors is permitted provided the outlet box is large enough.
- D. Device Installation:
 - 1. Replace all devices that have been in temporary use during construction or that show signs that they were installed before building finishing operations were complete.
 - 2. Keep each wiring device in its package or otherwise protected until it is time to connect conductors.
 - 3. Do not remove surface protection, such as plastic film and smudge covers, until the last possible moment.
 - 4. Connect devices to branch circuits using pigtails that are not less than 6 inches (**152 mm**) in length.
 - 5. When there is a choice, use side wiring with binding-head screw terminals. Wrap solid conductor tightly clockwise, 2/3 to 3/4 of the way around terminal screw.
 - 6. Use a torque screwdriver when a torque is recommended or required by the manufacturer.

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7. When conductors larger than No. 12 AWG are installed on 15- or 20-A circuits, splice No. 12 AWG pigtails for device connections.
8. Tighten unused terminal screws on the device.
9. When mounting into metal boxes, remove the fiber or plastic washers used to hold device mounting screws in yokes, allowing metal-to-metal contact.

E. Receptacle Orientation:

1. Install ground pin of vertically mounted receptacles down, and on horizontally mounted receptacles to the right.

F. Device Plates: Do not use oversized or extra-deep plates. Repair wall finishes and remount outlet boxes when standard device plates do not fit flush or do not cover rough wall opening.

G. Arrangement of Devices: Unless otherwise indicated, mount flush, with long dimension vertical and with grounding terminal of receptacles on top. Group adjacent switches under single, multi-gang wall plates.

3.2 FIELD QUALITY CONTROL

A. Perform tests and inspections and prepare test reports.

1. Test Instruments: Use instruments that comply with UL 1436.
2. Test Instrument for Convenience Receptacles: Digital wiring analyzer with digital readout or illuminated LED indicators of measurement.

B. Tests for Convenience Receptacles:

1. Line Voltage: Acceptable range is 105 to 132 V.
2. Percent Voltage Drop under 15-A Load: A value of 6 percent or higher is not acceptable.
3. Ground Impedance: Values of up to 2 ohms are acceptable.
4. GFCI Trip: Test for tripping values specified in UL 1436 and UL 943.
5. Using the test plug, verify that the device and its outlet box are securely mounted.
6. The tests shall be diagnostic, indicating damaged conductors, high resistance at the circuit breaker, poor connections, inadequate fault current path, defective devices, or similar problems. Correct circuit conditions, remove malfunctioning units and replace with new, and retest as specified above.

END OF SECTION

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SECTION 265600 – SITE ELECTRICAL

PART 1 - GENERAL

1.1 SUMMARY OF WORK

- A. The work shall include providing all labor, materials, tools, and equipment necessary for the electrical systems complete and fully operational in every respect. This includes, but is not limited to, the following:
1. Provisions for primary electrical service.
 2. Provisions for incoming communications service.
 3. Secondary electrical service complete.
 4. Wiring\Cabling including conduit, junction boxes, handholes, trenching, grounding etc.
 5. Main service pedestal, electrical panels, and circuit breakers.
 6. Campsite power pedestals.
 7. RV receptacle pedestals.
 8. Testing of the entire system.

1.2 RELATED DOCUMENTS

- A. All Sections of the Project Manual are hereby referenced.

1.3 CODES AND ORDINANCES

- A. All equipment furnished and work performed shall be in accordance with national, state and city electrical codes, established safety codes and other applicable local codes and ordinances.

1.4 EXAMINATION OF SITE AND DOCUMENTS

- A. The bidder is required to examine carefully the site of the proposed work, the proposal, plans and specifications and contract forms before submitting a bid. Upon submission of a bid, it is mutually agreed that the bidder is aware of all conditions which will affect his work.

1.5 CLEAN-UP

- A. Upon substantial completion of the work and before final approval and payment, the contractor shall, at his own expense, remove from the site and adjoining property, and dispose of all surplus and discarded materials, rubbish, temporary buildings, equipment, and debris which may have accumulated during the execution of the work. All fixtures and equipment shall be left thoroughly cleaned and in proper operating condition.

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1.6 WORKMANSHIP

- A. All workmanship shall be the best approved method of the trade.

1.7 MATERIAL LIST AND DRAWINGS

- A. The successful Contractor shall submit to the Engineer, WITHIN 14 CALENDAR DAYS after award of the Contract, a list of all material to be furnished. In addition, six copies of shop drawings of electrical pedestals, campsite power pedestals, power panels, and all other major equipment shall be furnished to the Engineer for approval before ordering. Submittals will be "Approved for Design Only". This shall mean the Engineer has reviewed said submittal and finds no objection (except as noted) to the inclusion of the items into the construction, if it complies with contract drawings and specifications as to quantities, space requirements, dimensions, non-interference with other trades and other affected contract requirements.

1.8 RECORD DRAWINGS

- A. Work done shall be recorded as actually installed. One set of prints showing this shall be furnished to the Engineer at the completion of the work and shall be available for inspection during the work. A separate marked up print of the site plan shall be provided showing all underground conduits in their actual installed locations with precise dimensions to existing elements.

1.9 GUARANTEE

- A. The Contractor shall guarantee his workmanship and the materials and equipment he furnishes for a period of one year after the date of physical completion of the project. Any item which fails during the guarantee period because of defects in material or workmanship shall be promptly and properly replaced by the Contractor after notification from the Owner.

PART 2 - MATERIALS AND EQUIPMENT

2.1 DESCRIPTION

- A. All materials and equipment shall be new, of proven quality and be a standard product of a reputable manufacturer. Storage at the job site shall be in a manner which will prevent any damage or corrosion.

2.2 CONDUIT AND FITTINGS

- A. All raceways above grade shall be rigid galvanized steel with zinc protected threads. Fittings shall be of the same material with hot dipped galvanized finish. Field cut threads shall be protected and damaged galvanizing repaired per the conduit manufacturer's recommendations.

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- B. Conduit used in underground runs shall be Schedule 40 heavy wall rigid PVC, UL labeled with fittings of the same material.
- C. The conduits shall be capped during construction by means of manufactured seals to prevent entrance of water and debris. The conduits shall be cleaned before pulling of the wire. Spare conduits shall include a nylon pull rope.

2.3 JUNCTION BOXES AND HANDHOLES

- A. Junction boxes for the underground circuit runs shall be concrete with steel frame and bolt down steel cover designed to withstand a 20,000-pound static load. Non traffic rated boxes shall be suitable for use in driveway and parking lot applications designed to withstand a 20,000-pound static load. Covers shall be labeled “Electric” or “Communication”. They shall be as manufactured by Fogtite or similar. The handhole shall be in accordance with the following table.

<u>Type</u>	<u>Part Number</u>	<u>Size</u>
II	J11A TYPE II NON-SKID	17" x 28" x 18"
III	SEATTLE TYPE III NON-SKID	32" x 44" x 18"

- B. Each conduit entering the box shall be neatly upswept and shall terminate not less than 5 inches or more than 10 inches below the lid.
- C. All junction boxes shall be set on a 6-inch free draining, compacted pea gravel base and be leveled to match grade. The lid shall be set flush with finish grade. Conduits into the junction boxes and service cabinet foundations shall have bell ends installed. Sufficient slack wire shall be provided to enable the splice to be raised a minimum of 18 inches outside of the box.

2.4 CONDUCTORS

- A. All wire and cable shall conform to the NEC and meet applicable ICEA specifications. Conductors shall be copper, No. 12 AWG or larger and all conductors No. 10 or larger shall be stranded. Insulation shall be Type THHN/THWN, 600 Volt minimum rated 75° C. and be color coded in a consistent manner. Each conductor shall be identified by Circuit and Phase Number at every handhole and junction box by a PVC wiring marking sleeve.
- B. Splices below grade shall be made with compression type connectors, be plastic tie-wrapped and made watertight with an epoxy splice kit, heat shrinkable medium wall flexible Polyolefin tubing or similar products.
- C. Splices above grade shall made with screw type connectors and be plastic tie wrapped.

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2.5 PEDESTAL PANELS

- A. A CT compartment and a 13-terminal instrument rated meter base (277/4W/3 Element/ED Form 9S) shall be provided in the switchboard as shown on the Drawings. This equipment shall be in accordance with PUD metering department requirements.
- B. A transformer shall be provided as required for supplying power to the low voltage panel. It shall be rated as shown on the drawings, 480 - 120/208-volt, three phase with 6 - 2.5% 2 + 4 Taps, Cutler Hammer Type CX-6 or equal.
- C. A low voltage panel shall be provided. It shall be rated 120/208-volt three phase four wire bussed for 200 amps. The breakers shall be series rated and shall be Cutler Hammer Type CH and CHB or equal of Square D or Siemens. The Panels shall be Cutler Hammer Type PB or equal.

PART 3 - INSTALLATION METHODS

3.1 PRIMARY SERVICE

- A. The existing primary electrical service shall be extended. The Contractor shall provide all trenching, trench backfilling and restoration.

3.2 VAULTS

- A. The Contractor shall provide excavation, bedding, backfill and restoration for all power vaults, pad mount transformer lids and communication vaults shown on the drawings.
- B. The Contractor shall coordinate all work and scheduled power outages with the Owner.

3.3 SECONDARY SERVICES

- A. The Contractor shall provide trenching, wire and conduit as shown on the drawings, trench backfilling and restoration from the transformer to the welcome center. The Contractor shall provide conductors sufficient in length to be attached to the transformers left coiled in the vault.
- B. The Contractor shall coordinate all work and scheduled power outages with the Owner.

3.4 GROUNDING

- A. Provide a complete grounding system with grounding continuity throughout the system. Ground rods shall be copper clad 3/4" by 10'. Ground wire shall be bare stranded copper.

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3.5 DEPTH OF BURIAL

- A. All underground runs for the electrical distribution system shall be a minimum of 24 inches below grade.

3.6 TRENCHING, EXCAVATION AND BACKFILLING

- A. Provide all trenching, excavation and backfilling required for the installation of items included in this Contract. Provide a plastic Marker Tape the entire length of all underground conduit runs. The Marker Tape shall be 3" minimum width, bright red or yellow color installed a minimum of 12" above the top conduit run.
- B. Contact the Owner before trenching in any area. In trenching through sodded areas, remove the sod and replace after backfilling and compaction. In trenching through non- sodded earth areas, the Contractor shall compact to 90%, dress with topsoil and reseed with an approved grass seed. Underground runs through asphalt or concrete areas shall be neatly cut, the backfill fully tamped to 95% compaction and the area repaired to match the existing.

3.7 MARKING OF DEVICES

- A. Permanent labels shall be provided for all Control Devices Panel Schedules and One Line Diagrams. Engraved phenolic nameplates shall be provided for all time clock channels, override switches and similar devices as previously specified. Plastic laminated sheets showing the panel schedules and one-line diagrams shall be placed in each panel. If the panels and other equipment are installed in exact accordance with the Drawings, the Panel Schedules and One Line Diagrams from the Drawings may be duplicated and placed in plastic laminated sheets. If only minor variations are made, those items may be modified and used. Otherwise, new panel schedules and one-line diagrams shall be provided.

3.8 TESTING

- A. Each circuit shall be tested with a megohm meter. A reading in excess of two (2) megohms shall be deemed satisfactory. The Contractor shall provide a written report of the results of his testing. The written report shall be provided to the Engineer prior to final acceptance of the project. Testing and operation of the entire system shall be performed. The Contractor shall provide manpower and equipment as necessary to correct any defects as may be directed by the Engineer.

END OF SECTION

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SECTION 310000 – EARTHWORK GENERAL REQUIREMENTS

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

- A. Perform all excavating, trenching and fill as shown on Drawings, as specified herein, and as otherwise required to complete Work of this Contract. Provide all materials, labor and equipment necessary to complete Work of this Division.
- B. Visit site. Note all conditions as to character and extent of Work involved.
- C. Make any and all required notifications and comply with all applicable Federal, State, and local ordinances.
- D. Contractor shall be solely responsible for making all excavations in safe manner. Provide appropriate measures to retain excavation side slopes and prevent rock falls to ensure that persons working in or near excavation are protected. Install and maintain shoring, sheeting, bracing and sloping necessary to support sides of excavation, and to prevent any movement which may damage adjacent pavements, utilities or structures, or endanger life and health. Install and maintain shoring, sheeting, bracing, sloping, and barricading as required by OSHA and other applicable governmental regulations and agencies.

1.2 TESTING

- A. Contractor shall be responsible for testing of all fill material to make sure it complies with specifications. Contractor shall provide Engineer and Owner copy of all test results at least one week prior to commencing fill work. Cost of testing fill material shall be paid for by Contractor.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

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SECTION 310516 - AGGREGATES FOR EARTHWORK (UTILITIES)

PART 1 – GENERAL

1.1 SUMMARY

- A. Scope: Provide and install aggregate materials of the types and sizes noted in this section where required by applicable codes, good standard engineering practice, and the approved site design.
- B. Section Includes:
 - 1. Coarse aggregate materials and fine aggregate materials for use, related to utilities, throughout the site as indicated on plans.
- C. Related Sections:
 - 1. Section 312333 – Utility Excavation & Backfill.

1.2 REFERENCES

- A. American Society for Testing and Materials:
 - 1. ASTM C 88-13 - A Standard Test method for soundness of aggregates by use of sodium sulfate or magnesium sulfate.
 - 2. ASTM D422-63(2007) - A Standard Test method used for gradation analysis.
 - 3. ASTM D4318-10e1 – A Standard Test method used for determination of plasticity index.

1.3 SUBMITTALS

- A. Submittals shall meet the requirements under Section 013300 – Submittal Procedures.
- B. Samples to be visually confirmed by Project Representative prior to verification testing.
 - 1. Gravel Backfill for Pipe Zone Bedding: Fifty to sixty pounds (50 – 60 lb) (Two Samples).
 - 2. Bank Run Gravel for Trench Backfill: Fifty to sixty pounds (50 – 60 lb) (Two Samples).
 - 3. Pea Gravel for Drains: Fifty to sixty pounds (50 – 60 lb) (Two Samples).
 - 4. ASTM C-33 Sand: Fifty to sixty pounds (50 – 60 lb) (Two Samples).
 - 5. Drain Rock: Fifty to sixty pounds (50 – 60 lb) (Two Samples).
- C. Quality Control Submittals:
 - 1. Gravel Backfill for Pipe Zone Bedding: Name and location of source, stockpile number, and sieve test results.
 - 2. Bank Run Gravel for Trench Backfill: Name and location of source, stockpile number, and sieve test results.

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3. Other Aggregates: Name and location of source, stockpile number, and applicable test results.
4. Excavation Procedure: Submit a lay out drawing or detailed outline of intended excavation procedure for Project Representative's information. This submittal will not relieve the Contractor of responsibility for the successful performance of intended excavation methods.

1.4 QUALITY ASSURANCE

- A. Furnish each aggregate material from single source throughout the Work.

PART 2 - PRODUCTS

2.1 GENERAL

- A. All aggregate and backfill material shall be approved and certified weed free, before use and be free of cinders, ashes, ice, frozen soil, large hard clods, organic debris, or other deleterious items.

2.2 AGGREGATE MATERIALS (FLEXIBLE PIPE)

- A. Gravel Backfill for Pipe Zone Bedding: Gravel backfill for pipe bedding shall consist of crushed, processed, or naturally occurring granular material. It shall be free from various types of wood waste or other extraneous or objectionable materials. It shall have such characteristics of size and shape that it will compact and shall meet the following Specifications for grading and quality:

Pipe Zone Bedding Grading

Sieve Size	Percent Passing
1-1/2"	99-100
1"	75-100
5/8"	50-100
No. 4	20-80
No. 40	3-24
No. 200	10.0 max.
Sand Equivalent	35 min.

*All percentages are by weight.

If, in the opinion of the Project Representative, the native granular material is free from wood waste, organic material, and other extraneous or objectionable materials, but otherwise does not conform to the Specifications for grading and Sand Equivalent, it may be used for pipe bedding for rigid pipes, provided the native granular material has a maximum dimension of 1-1/2 inches.

- B. Bank Run Gravel for Trench Backfill: Trench backfill material shall consist of granular material, either naturally occurring or processed. It shall be essentially free from various types of wood waste or other extraneous or objectionable materials. It shall have such characteristics of size and

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shape that it will compact readily. The maximum particle size shall not exceed 2 inches and shall meet the following Specifications for grading and quality:

Trench Backfill Grading

Sieve Size	Percent Passing
2"	75-100
No. 4	22-100
No. 200	0-10
Dust Ratio	2/3 max.
Sand Equivalent	30 min.

*All percentages are by weight.

2.3 PEA GRAVEL FOR DRAINS

- A. Pea gravel material shall be rounded to sub-rounded material that is non-plastic. A minimum of 70 percent by weight must have at least one fractured face and shall meet the following Specifications for grading and quality:

Trench Backfill Grading

Sieve Size	Percent Passing
3/8"	95-100
No. 4	0-30
No. 8	0-15
No. 200	0-2

2.4 SOURCE QUALITY CONTROL

- A. All Aggregates shall be from a pit approved by the Project Representative.

PART 3 - EXECUTION

3.1 EXCAVATION

- A. Stockpile excavated material meeting requirements for aggregate materials.
- B. Remove excess excavated materials not intended for reuse from site.
- C. Place aggregate at locations as described on the contact plans.

3.2 STOCKPILING

- A. Stockpile materials at locations designated by Project Representative.

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- B. Stockpile in sufficient quantities to meet Project schedule and requirements.
- C. Separate different aggregate materials with dividers or stockpile individually to prevent mixing.
- D. Direct surface water away from stockpile site to prevent erosion or deterioration of materials.

3.3 STOCKPILE CLEANUP

- A. Remove stockpile; leave area in clean and neat condition. Grade site surface to prevent Free-standing surface water.

END OF SECTION

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SECTION 311000 - SITE CLEARING AND STRIPPING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Protecting existing vegetation to remain Per Section 015639 Temporary Tree and Plant Protection.
2. Protect from harm any existing structures, utilities, and other objects not designated for removal.
3. Removing existing vegetation, as shown in the Drawings.
4. Selective clearing and grubbing.
5. Stripping and stockpiling topsoil.

1.2 MATERIAL OWNERSHIP

- A. Except for stripped topsoil and other materials indicated to be stockpiled or otherwise remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

1.3 SUBMITTALS

- A. Submit: Clearing procedures and operational sequence with stockpile areas and construction access routes identified for review and acceptance by Project Representative. Include:
1. Permits for transport and approved disposal of debris as required by State and local codes.
 2. Daily reports that state quantity of soil and topsoil stripped and stockpiled or removed.

1.4 PROJECT CONDITIONS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.
1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
 2. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction.
- B. Protection of Existing Elements:
1. Protection of Existing Conditions: Provide, erect, and maintain fencing and barricades, coverings, or other types of protection necessary to prevent damage to existing

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pavements, plants and lawn areas, structures, utilities, or other existing site improvements indicated to remain in place. Restore any improvements damaged by this work to their original condition, as acceptable to the Engineer.

2. Monuments: Carefully maintain benchmarks, monuments, and other reference points. If disturbed or destroyed, replace as directed at no cost to the Project Representative.

- C. Salvable Improvements: All Cedar trees greater than 6-inch in diameter within the clearing limits shall be felled, delimed, cut to 12' length and stacked as directed by the Project Representative. All debris from this salvage shall be disposed of.

- D. Utility Locator Service: The Contractor is responsible for the verification of all utility locations. The Contractor shall meet with location service to locate all known utilities. The Contractor shall coordinate with applicable utility service companies for electrical and water connections. Notify utility locator service for area where Project is located before site clearing.

- E. Do not commence site clearing operations until temporary erosion- and sedimentation-control and plant-protection measures are in place.

- F. Objectionable Noises: Limit the use of air tools and other noisy equipment as much as possible. Conform with local governing requirements regarding Noise Control.

- G. The following practices are prohibited within protection zones:
 1. Storage of construction materials, debris, or excavated material.
 2. Parking vehicles or equipment.
 3. Foot traffic.
 4. Erection of sheds or structures.
 5. Impoundment of water.
 6. Excavation or other digging unless otherwise indicated.
 7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.

1.5 SITE ACCESS

- A. Access route shall be from Flagler Rd.

- B. Provide a project staging, access, and material storage plan, within ten (10) days of notice to proceed.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Satisfactory On-Site Soil Material: Requirements for satisfactory stripped soil material which may be stockpiled for onsite use are specified in Division 31, Section 312000 "Earth Moving."

- B. Satisfactory On-Site Stripped Topsoil: dark brown to brown, silty sand containing variable organics, gravel and cobble, screened for constituents greater than 2" diameter.

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PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify with Project Representative that clearing and site improvement, removal and relocation may safely and appropriately begin.
- B. Obtain required permits and permission from local governing authorities and Project Representative prior to commencing work.

3.2 PREPARATION

- A. Remove trees, roots, and excess soil as required for new construction and as indicated. Removal operation shall be performed in a manner to protect property.
- B. Locate and clearly identify trees, shrubs, and other vegetation to remain or to be relocated.
- C. Protect existing site outside of work areas from damage during construction.
 - 1. Restore damaged areas to their original condition, as acceptable to Owner.

3.3 TEMPORARY EROSION AND SEDIMENTATION CONTROL

- A. Provide erosion and sedimentation control as per Section 312500 Erosion and Sedimentation Control and as specified herein.
- B. Provide temporary erosion and sedimentation-control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to erosion- and sedimentation-control Drawings and requirements of authorities having jurisdiction.
- C. Sprinkle water over excavated material and stripped areas as necessary to limit dust to the lowest practical level. Do not use water to the extent of causing flooding, contaminated runoff, or icing.
- D. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.
- E. Keep street, access drive, and site drains open for drainage at all times. Mud and sediment build-up shall be removed as directed by the Project Representative.
- F. Open pits and holes caused as a result of demolition work shall be kept free of standing water.
- G. Inspect, maintain, and repair erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
- H. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

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3.4 TREE AND PLANT PROTECTION

- A. General: Protect trees and plants remaining on-site according to requirements in Division 01, Section 0156 39 Temporary Tree and Plant Protection.
- B. Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations, in a manner approved by Project Representative.

3.5 EXISTING UTILITIES

- A. Locate, identify, disconnect, and seal or cap utilities indicated to be removed or abandoned in place.
 - 1. Arrange with utility companies to shut off indicated utilities.
- B. Interrupting Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
 - 1. Notify Project Representative not less than two days in advance of proposed utility interruptions.
 - 2. Do not proceed with utility interruptions without Project Representative's written permission.
 - 3. Verify disconnection, if applicable, of all appropriate services. The Contractor shall pay for all fees and costs associated with utility disconnects, capping, line, and meter removal.

3.6 CLEARING AND GRUBBING

- A. All vegetation within clearing and grubbing limits not marked for tree removal shall be considered brush.
- B. Remove obstructions, trees, shrubs, and other vegetation to the limits. Designated clear, grub and grade limits for structures shall not exceed the limits shown in the Drawings. Protect existing trees identified for protection, where within the clearing limits, carefully clearing and grubbing understory vegetation as per Project Representative's direction.
 - 1. Remove stumps, roots, obstructions, and debris to a depth of 24 inches below exposed subgrade.
 - 2. Use only hand methods for grubbing within protection zones.
 - 3. All debris generated in performing this item of Work shall be disposed of by the Contractor in a Contractor furnished disposal site.
- C. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.
 - 1. Place fill material in horizontal layers not exceeding a loose depth of 8 inches and compact each layer to a density equal to adjacent original ground.

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3.7 TOPSOIL STRIPPING

- A. Remove vegetation before stripping topsoil.
- B. Stripping: Topsoil should be stripped from all areas designated for development (i.e. footings, slabs-on-grade, and vehicular pavement sections). Stripped topsoil can be stockpiled and is only suitable for use in landscape areas.
- C. Strip topsoil to depth of up to 12 inches in a manner to prevent intermingling with underlying subsoil or other waste materials.
- D. Stockpile topsoil away from edge of excavations without intermixing with subsoil. Grade and shape stockpiles to drain surface water. Cover after 48 hours of no use during dry season and 24 hours of no use in wet season to prevent windblown dust and erosion by water.
- E. Obtain Project Representative approval for stockpile locations.

3.8 SITE IMPROVEMENTS

- A. Remove existing above- and below-grade improvements as indicated and necessary to facilitate new construction.

3.9 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Remove surplus soil material, unsuitable topsoil, and waste materials including trash and debris, and legally dispose of them off Owner's property.
- B. The refuse resulting from clearing shall be disposed of by the Contractor in a manner consistent with all government regulations. Debris hauled off-site shall not be deposited in any stream or body of water, or any street or alley, or upon any private property except by written consent of the private property owner. Maintain hauling routes clean and free of any debris resulting from the work of this Section.
- C. Separate recyclable materials produced during site clearing from other non-recyclable materials. Store or stockpile without intermixing with other materials and transport them to recycling facilities. Do not interfere with other Project Work.

3.10 CLEAN UP

- A. Clean trucks and other equipment as required before entering access drive and roads. Clean drives and roads daily or as required to avoid dust, unsightly appearance, or water quality impacts.

END OF SECTION

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SECTION 311100 – SITE PREPARATION AND DEMOLITION

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This Section includes site preparation and demolition work, as indicated on the Drawings. Work includes but is not limited to the following:
 - 1. Save and protect all existing vegetation not specified for removal, clearing or grubbing as per Section 015639 Temporary Tree and Plant Protection.
 - 2. Remove asphalt and concrete paving & slabs, concrete foundation, and other items, as shown on plans.
 - 3. Protect from harm any existing structures, and other objects not designated for removal
 - 4. Abandon existing water line, cut and cap, as per the Plans. Recycle and (approved) disposal of all demolished material from the site.
 - 5. Protection of all utilities

1.2 GENERAL

- A. The extent and location of demolition are indicated on the Drawings. The work includes removal, wholly or in part, and satisfactory disposal of all objects that are designated for removal and disposal as indicated on the Drawings, or in this Specification. Items that interfere with the work will be removed and disposed of whether indicated for removal or not.
- B. The demolition work, as shown on the Drawings, is for guidance only and to indicate typical general construction features. However, such information may not be complete, and Contractors must visit the site to verify the quantity and details of demolition work. Lack of complete details on the contract Drawings will not be considered as grounds for any additional compensation.

1.3 SUBMITTALS

- A. Submit: Clearing procedures and operational sequence with stockpile areas and construction access routes identified for review and acceptance by Project Representative. Include:
 - 1. Permits for transport and approved disposal of debris as required by State and local codes
 - 2. Daily reports that state quantity of concrete and asphalt removed.

1.4 EXISTING CONDITIONS

- A. Protection of Existing Conditions: Provide, erect and maintain fencing and barricades, coverings, or other types of protection necessary to prevent damage to existing pavements, plants and lawn areas, structures, utilities, or other existing site improvements indicated to remain in place. Restore any improvements damaged by this work to their original condition, as acceptable to the Engineer.

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- B. The Contractor is responsible for the verification of all utility locations. The Contractor shall meet with location service to locate all known utilities. The Contractor shall coordinate with applicable utility service companies for electrical and water connections.
- C. Verify disconnection, if applicable, of all appropriate services. The Contractor shall pay for all fees and costs associated with utility disconnects, capping, line, and meter removal.
- D. Do not shut off or cap utilities without prior notice. Coordinate work with Division 1 requirements and general conditions. Maintain street and site drains and sewers open for free drainage. Provide catch basin protection.
- E. Objectionable Noises: Limit the use of air hammers and other noisy equipment as much as possible. Conform with local governing requirements regarding Noise Control.
- F. Maintain vehicular and pedestrian traffic routes:
 - 1. Ensure minimum interference with paths, streets, parking lots, and adjacent facilities, and walls
 - 2. Do not close or obstruct streets, paths, easements, or passageways without permission from authorities having jurisdiction
 - 3. If required by governing authorities, provide alternate routes around closed or obstructed traffic ways
- G. Protection of Existing Elements:
 - 1. Protect all existing utilities to remain
 - 2. Monuments: Carefully maintain benchmarks, monuments, and other reference points. If disturbed or destroyed, replace as directed at no cost to the Project Representative.
 - 3. Protect at all times existing sensitive areas as shown in the Plans, Critical Areas Report and as directed.

1.5 SITE ACCESS

- A. Access route shall be from Flagler Rd.
- B. Provide a project staging, access, and material storage plan, within ten (10) days of notice to proceed.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

- 3.1 EXAMINATION - Verify with Project Representative that clearing and site improvement, removal and relocation may safely and appropriately begin.
 - B. Obtain required permits and permission from local governing authorities and Project Representative prior to commencing work.

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3.2 DEMOLISH STRUCTURES

- A. Remove items, as well as all other to be demolished, as shown on plans.

3.3 REMOVAL OF CONCRETE AND ASPHALT

- A. Break up or saw cut concrete, reinforcing bar, and asphalt paving as shown on the drawings. Demolish and dispose of paving materials. Concrete shall be demolished into pieces no smaller than 8" and no larger than 24". Some of the demolished concrete and asphalt may be used as base material under proposed asphalt drive, with Project Representative's approval. If accepted for use as base material, the demolished concrete and/or asphalt must meet base material size and compaction requirements per the Drawings.

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3.4 DRAINAGE

- A. Keep street, access drive, and site drains open for drainage at all times. Mud and sediment build-up shall be removed as directed by the Project Representative.
- B. Open pits and holes caused as a result of demolition work shall be kept free of standing water.

3.5 DISPOSAL OF MATERIALS

- A. The refuse resulting from clearing and demolition shall be disposed of by the Contractor in a manner consistent with all government regulations. Debris hauled off-site shall not be deposited in any stream or body of water, or any street or alley, or upon any private property except by written consent of the private property owner. Maintain hauling routes clean and free of any debris resulting from the work of this Section.

3.6 CLEAN UP

- A. Clean trucks and other equipment as required before entering access drive and roads. Clean drives and roads daily or as required to avoid dust, unsightly appearance, or water quality impacts.

END OF SECTION

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SECTION 312000 — EARTH MOVING

PART 1 - GENERAL

1.1 SUMMARY

Work includes but is not limited to the following:

- A. Excavation and Fill
 - 1. Subgrade Preparation
 - 2. Excavation
 - 3. Dewatering
 - 4. Fill
 - 5. Compaction
- B. Materials
 - 1. Coarse aggregate materials
 - 2. Fine aggregate materials
 - 3. Granular Material
 - 4. Importing any materials required to complete the work
 - 5. Removing materials from the site which are more than that required
- C. Coordinating earthwork operations with other work of the project

1.2 REFERENCES

- A. Local utility standards when working within 24 inches of utility lines
- B. Washington State Department of Transportation Standard Specifications for Road, Bridge, and Municipal Construction latest edition
- C. Local Code and ordinances
- D. Local Drainage Manual, Current Edition
- E. American Association of State Highway and Transportation Officials:
 - 1. AASHTO M147 – Standard Specification for Materials for aggregate and soil aggregate subbase, base, and surface courses
 - 2. AASHTO T180 – Standard Specification for Moisture density relations of soils using a 4.54-kg (10lbs) rammer and a 457-mm (18inch) drop
- F. ASTM International:
 - 1. ASTM C136 – Standard Test Method for sieve analysis of fine and coarse aggregates

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2. ASTM D698 – Standard Test Methods for laboratory compaction characteristics of soil using standard effort (6,000 ft – lbf/ft³ (2,700 kN-m/m³))
3. ASTM D1557– Standard Test Method for laboratory compaction characteristics of soil using standard effort (12,400 ft – lbf/ft³ (600 kN-m/m³))
4. ASTM D2487 –Standard Classification of soils for engineering purposes (Unified Soil Classification System)
5. ASTM D4318 – Standard Test Method for liquid limit, plastic limit and plasticity index of soils

1.3 DEFINITIONS

- A. Utility: Any buried pipe, duct, conduit, cable, or vault

1.4 SUBMITTALS

- A. Section 013300 - Submittal Procedures: Requirements for submittals
- B. Excavation Protection Plan: Describe sheeting, shoring, and bracing materials and installation required to protect excavations and adjacent structures and property; include structural calculations to support plan, if required.
- C. Product Data: Submit data for geotextile fabric, indicating fabric and construction.
- D. Samples: Submit, in air-tight containers, 10 lb. sample of each type of fill to testing laboratory
- E. Materials Source: Submit the name of imported fill materials suppliers
- F. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.5 JOB CONDITIONS

- A. Carefully maintain benchmarks, monuments, and other reference points. If disturbed or destroyed, replace as directed at the Contractor's expense.
- B. Where soil is encountered that is not in conformance with the density specifications contained herein and must be removed to depths greater than those indicated or specified, such excavating and additional filling, if not as a result of the Contractor's negligence, will be paid for as extra in accordance with contract conditions relative to changes in work.
- C. The Contractor is advised that underground utilities exist in the construction area. The drawings show the general locations. Prior to beginning construction, the Contractor shall check and verify the location and elevation of all known lines. The Contractor shall promptly repair any damage to existing utilities as a result of construction operation at no expense to the Owner.
- D. Coordinate all traffic control with the Project Representative to maintain vehicular and pedestrian traffic during construction operations. Use flagmen, barricades, warning signs, and other approved devices to maintain safety and cause the least disruption to traffic.
- E. Provide excavation plan and list of proposed equipment and methods within 20 days of contract execution, including a schedule of earthwork activities.

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1.6 QUALITY ASSURANCE

- A. The Contractor is responsible for checking the quality of work and shall perform compaction and density tests on request of the Project Representative to verify compliance with these specifications. The Contractor shall employ, at their expense, a testing lab acceptable to the Project Representative as identified in the General Conditions, to perform such soil tests as specified herein. Five copies of the test results, signed and sealed by a registered Professional Engineer, shall be submitted to the Project Representative for review.
- B. All test results must indicate conformance to this specification before proceeding with related work. If, in the opinion of the Project Representative, subgrade, or fills which have not been placed are below specified density, the Contractor shall provide additional compaction and testing at his expense. The Project Representative shall have the authority to accept or reject any or all testing agencies, testing methods, or locations selected by the Contractor. The Contractor shall provide three (3) days advance notice to the Project Representative when tests are required to be performed.
- C. Furnish each aggregate material from a single source throughout the Work.
- D. Perform work in accordance with the Drawings, State and County standards, and the most recent edition of the WSDOT Standard Specifications for Road, Bridge, and Municipal Construction.

1.7 QUALIFICATIONS

- A. Prepare excavation protection plan under the direct supervision of Professional Engineer experienced in the design of this Work and licensed in the State of Washington.

1.8 FIELD MEASUREMENTS

- A. Verify field measurements prior to fabrication.

1.9 COORDINATION

- A. General Conditions: Coordination and project conditions
- B. Verify Work associated with lower elevation utilities is complete before placing higher elevation utilities

PART 2 - PRODUCTS

2.1 FILL MATERIALS:

- A. The expectation is that a portion of the fill materials will be brought on-site to achieve park grades. Materials associated with the concrete, asphalt, crushed rock paving, storm drainage and utilities, and landscaping are described in the related sections.
- B. Backfill and Granular Structural Fill Materials:

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1. Imported backfill and granular structural fill shall conform to WSDOT Specification 9-03.14(1) - Gravel Borrow.
2. Backfill Material: Parking lot, driveway and other structural fill shall be on-site material cut free from organics. On-site mineral soil, if used for structural fill, should be moisture conditioned and screened for constituents greater than 6 inches in diameter. Mineral soil fill shall be capable of compaction to 95%. Use imported granular fill if compaction not possible during wet weather work. See Summary of Geotechnical Engineering Services Tech Memo (Geotechnical Memorandum) for additional site soil use and structural fill requirements.
3. Planting Area Subgrades Material: Satisfactory sandy loam soil materials with less than 7% passing the No. 200 sieve, free of rock or gravel larger than 6 inches in any dimension, debris, waste, frozen materials, vegetable, and other deleterious matter. On site stripped topsoil may be used. Bulk import fill subject to Project Representative approval.
4. Stockpiled topsoil, stripped from on site as per Section 311000 Site Clearing and Stripping, may be used for site preparation in landscape restoration areas, as per Section 329000 Landscaping.

2.2 ALLOWABLE VARIANCE:

- A. An accumulated variance on specified sieve analysis of up to 5 percentage points is acceptable provided no single screen varies by more than 1.5 percentage points above or below the range specified above.

2.3 GEOTEXTILE FABRIC

- A. Shall be a non-woven geotextile composed of polypropylene fibers, formed into a stable network such that the fibers retain their relative position.
- B. Fabric shall be inert to biological degradation and resists naturally encountered chemical, alkalis and acid.
- C. Geotextile fabric shall be Mirafi 160N or approved equal.

PART 3 - EXECUTION

3.1 PROTECTION OF EXISTING FACILITIES

- A. Utilities: The Contractor shall protect from damage private and public utilities. Verify the locations of underground utilities, call for Locates a minimum of 48 hours prior to excavation.
- B. Pavement: The Contractor shall protect from damage all pavement or paved areas, including curbs and walks intended to remain. The Contractor shall be responsible for replacement if damage occurs to pavement or curbs.
- C. Access Streets and Roadways: Provide wheel cleaning stations to clean wheels and undercarriage of trucks before leaving the site, as necessary to prevent dirt from being carried onto easement

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drive and public streets. If streets are fouled, they must be cleaned immediately in conformance with Washington State Parks and all governing requirements and regulations.

- D. Repair and/or replacement of damaged facilities will be accomplished at the Contractor's expense.

3.2 EXCAVATION PREPARATION

- A. Call for Locate not less than 48 hours before performing Work
 - 1. Request underground utilities to be located and marked within and surrounding construction areas
- B. Identify required lines, levels, contours, and datum locations
- C. Protect utilities indicated to remain from damage
- D. Protect existing paving and other surfaces to remain
- E. Protect plant life, lawns, and other features remaining as a portion of final landscaping
- F. Protect benchmarks, survey control points, well casing, water service, pipe stub-outs, and existing above-ground features to remain from excavating equipment and vehicular traffic
- G. Maintain and protect above, and below-grade utilities indicated to remain
- H. Establish temporary traffic control and detours when trenching is performed in the public right-of-way. Relocate controls and reroute traffic as required during the progress of Work.

3.3 EXCAVATION

- A. General: Removal of materials beyond indicated subgrade elevations or dimensions without specific direction of Project Representative is not authorized. Unauthorized excavation, as well as remedial work directed by the Project Representative, shall be at the Contractor's expense. Correct areas over excavated as directed by the Project Representative.
- B. Stripping: For topsoil stripping refer to Section 311000 Site Clearing and Stripping.
- C. All grades shown on Drawings are finish grades. Over excavate as necessary when backfilling with earthen, rock, or soil materials.
- D. 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 material excavated. Maintain sides of slopes of excavations in a safe condition until completion of backfilling.
- E. Dewatering: Zones of perched groundwater may be encountered during the wet season. Temporary excavations should be dewatered to allow construction to be completed in the dry. Prevent surface and subsurface water from flowing into upland excavations and from flooding project site. Establish and maintain temporary drainage ditches and other diversions outside excavation limits to convey rainwater and water removed from excavations to collecting or run-

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off areas. If required, line ditches and sumps with coarse-grained material that acts as a filter. Do not use trench excavations as temporary drainage ditches. Methods of dewatering must be designed, monitored and maintained by the Contractor and approved by the Project Representative.

- F. Material Storage: Stockpile satisfactory excavated materials where directed, until required for backfill or fill. Place, grade and shape stockpiles for proper drainage.
 - G. Dispose of excess soil material, large cobbles and boulders and waste materials as herein specified
 - H. Remove completely any existing “natural” obstructions in areas to be occupied by construction elements or other new work
 - I. Remove surficial plant material as per Demolition, Site Preparation and Clearing plan.
 - J. Layout: Layout of all work shall be surveyed and staked as required. Maintain all benchmarks, control monuments and stakes, whether newly established or previously existing. Protect from damage and dislocation. If necessary, to disturb existing benchmarks, re-establish in a safe place. Notify Project Representative a minimum of three days prior to excavation of work areas. The Project Representative shall inspect the staking and layout of work.
 - K. Excavation for Concrete and Asphalt: Cut surface under the pavement to comply with cross-section, profile, elevations and grades as indicated. Depth of base material, if any, shall be taken into consideration.
 - L. Excavate subsoil to accommodate footings, slabs-on-grade, and site structures. Excavation of footing subgrades, compaction, import of base material, and compaction shall be executed as specified in preparation for installation of concrete formwork (Division 03 Concrete).
 - M. Compact disturbed load-bearing soil in direct contact with foundations to original bearing capacity; perform compaction in accordance with applicable building code(s)
 - N. Slope banks with a machine to the angle of repose or less until shored
 - O. Do not interfere with 45 degree bearing splay of foundations
 - P. Grade top perimeter of excavation to prevent surface water from draining into excavation
 - Q. Trim excavation. Remove loose matter.
 - R. Notify Project Representative of unexpected subsurface conditions
 - S. Remove and dispose of excess and unsuitable excavated material from the site
 - T. Repair or replace items indicated to remain if damaged by excavation
- 3.4 BACKFILL AND FILL
- A. General: Place specified fill material in 4-inch to 12-inch lifts to required subgrade elevations for each area classification per paragraph 2.1 of this Section

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- B. Backfill excavations as promptly as work permits, but not until the completion of the following:
 - 1. Removal of shoring and bracing, and backfilling of voids with satisfactory materials
 - 2. Removal of trash and debris

- C. Placement and Compaction: Place backfill and fill materials in layers not more than 12 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers. All compaction shall be by mechanical methods. Do not place backfill for fill material on surfaces that are muddy, frozen, or contain frost.

3.5 COMPACTION

- A. Complete the compaction of subgrade soils and crushed surfacing under and around structures in accordance with applicable building code(s) and Drawings and as defined herein.

- B. General: Control soil compaction during construction, providing minimum percentage of density specified for area classification.

- C. Percentage of Maximum Density Requirements: Compact soil to not less than the following percentages for maximum dry density and within 3 percent of optimum moisture content for soils which exhibit a well-defined moisture density relationship (cohesive soils) determined in accordance with ASTM D698; and not less than the following percentages of relative density; determined in accordance with ASTM 2049, for soils which will not exhibit a well-defined moisture density relationship (cohesionless soils).
 - 1. Structural Fill- 95%
 - 2. Concrete Paving
 - a. Subgrade soil – 95%
 - b. Import aggregate base material - 95%

 - 3. Subgrade soils in planting areas:
 - a. shrub bed & meadow areas - 65%

 - 4. Import aggregate base material in asphaltic concrete paving areas - 95%.
 - 5. Concrete footing excavations:
 - a. subgrade soil - 95%
 - b. import aggregate base material - 95%

 - 6. Crushed Rock Trail
 - a. Subgrade soils - 92% to a firm and unyielding condition
 - b. Crushed rock paving for trails - 95%

 - 7. Granular fill - 95%
 - 8. Base Aggregate for Concrete Footings and Slabs - 95%
 - 9. Mineral Soil Fill - 95%

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10. Water Storage Tank Foundation – backfill material and soil bearing pressure as per Geotechnical Memorandum. (See Appendix A)

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

3.6 STOCKPILING

- A. Stockpile in sufficient quantities to meet Project schedule and requirements
- B. Separate different aggregate materials with dividers or stockpile individually to prevent mixing
- C. Direct surface water away from the stockpile site to prevent erosion or deterioration of materials

3.7 STOCKPILE CLEANUP

- A. Remove stockpile, leave area in clean and neat condition. Grade site surface to prevent freestanding surface water.

3.8 WET WEATHER WORK

- A. The ground surface in and surrounding the construction area shall be sloped as much as possible to promote run-off of precipitation away from work areas, and to prevent ponding of water.
- B. Cover work areas or slopes with plastic, execute sloping, ditching, sumps, dewatering, and others as necessary to permit proper completion of the work. Stockpiles of soil shall be covered with plastic sheeting, properly weighted down.
- C. Earthwork should be accomplished in small sections to minimize exposure to wet conditions. That is, each section should be small enough so the removal of unsuitable soils and placement and compaction of clean structural fill can be accomplished on the same day. The size of construction equipment may have to be limited to prevent soil disturbance. It may be necessary to excavate soils with a backhoe, or equivalent, located so that equipment does not traffic over the excavated area. Minimize subgrade disturbance caused by equipment traffic.
- D. No soil should be left uncompacted and exposed to moisture. A smooth-drum vibratory roller, or equivalent, should roll the surface to seal out as much water as possible.
- E. In-place soils or fill soils that are or become wet and unstable, and/or too wet to suitably compact, should be removed and replaced with clean, granular soil.
- F. Excavation and placement of structural fill material should be observed by a geotechnical engineer (or representative) experienced in earthwork, to determine that all work is being accomplished in accordance with the project specifications.
- G. Grading and earthwork should not be accomplished during periods of heavy, continuous rainfall.

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3.9 TRENCHING

- A. Remove lumped subsoil, boulders, and rock 4-inch diameter and greater. Remove larger material as directed by the Project Representative.
- B. Trenching for utility lines shall comply with Section 312333 Utility Excavation & Backfill.
- C. Stockpile excavated material in the area designated on-site as shown on the drawings, or as approved by the Project Representative.

3.10 SHEETING AND SHORING

- A. Sheeting and shoring for trenching and excavation for utility lines shall comply with Section 312333 Utility Excavation & Backfill.

3.11 TRENCH BACKFILLING

- A. Trench backfilling for utility lines shall comply with Section 312333 Utility Excavation & Backfill.

3.12 TOLERANCES

- A. Section 014000 - Quality Requirements.
- B. Top Surface of Backfilling: Plus or minus 1 inch from required elevations
- C. Top Surface of General Backfilling: Plus or minus 1 inch from required elevations

3.13 SUBGRADE PREPARATION

- A. General: The subgrade shall be shaped to true and even lines to assure a uniform thickness of the base course required under paved areas, as shown on the drawings. The surface of the subgrade shall not be more than three-fourths inch (3/4") above or below the subgrade elevation shown on drawings.
- B. Control soil compaction during subgrade preparation and construction, providing a minimum percentage of density specified for area classification.
- C. Backfill areas of unsuitable excavation and/or over excavation with material as directed by the Project Representative and compact to density requirements for subsequent fill material.
- D. Refer to 3.5 COMPACTION for subgrade compaction requirements.

3.14 SUBGRADE CERTIFICATION

- A. The Contractor shall coordinate all testing of subgrade conditions for embankment, utility, and structure installation with the Project Representative as necessary to obtain certification from the geotechnical testing service of conformance of subgrade to contract requirements. As described in the General Conditions Contractor shall confirm with the Project Representative that subgrade

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certification requirements have been met prior to placement of embankment or construction of utility systems.

- B. If subgrade certification requirements have not been met prior to placing materials over subgrade, the Contractor shall remove all such materials as necessary to meet subgrade certification requirements.

3.15 BACKFILLING

- A. All trench backfill per Trenching specification
- B. General: Place specified fill material in 4 inch to 12-inch lifts to required subgrade elevations, for each area classification per paragraph 3.01 of this section
- C. Backfill excavations as promptly as work permits, but not until the completion of the following:
 - 1. Removal of shoring and bracing, and backfilling of voids with satisfactory materials
 - 2. Removal of trash and debris
- D. Placement and Compaction: Place backfill and fill materials in layers not more than 12 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers. All compaction shall be by mechanical methods. Do not place backfill for fill material on surfaces that are muddy, frozen, or contain frost.
- E. Make gradual grade changes. Blend slope into level areas.
- F. If structural fill is required, specified fill material shall be placed in six-inch lifts and compacted to a minimum density of ninety percent (95%) at optimum moisture content

3.16 GRADING

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

3.17 FILTER FABRIC PLACEMENT

- A. Filter fabric shall not be visible after the placement of materials

3.18 FIELD QUALITY CONTROL

- A. Section 014000 - Quality Requirements

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- B. Request inspection of bearing surfaces by Project Representative before installing subsequent work
- C. Section 017700 - Closeout Procedures: Field inspecting, testing, adjusting, and balancing
- D. Perform laboratory material tests in accordance with ASTM D1557
- E. Perform in-place compaction tests in accordance with the following:
 - 1. Density Tests: ASTM D2922
 - 2. Moisture Tests: ASTM D3017
- F. When tests indicate Work does not meet specified requirements, remove Work, replace, compact, and retest.

3.19 PROTECTION OF FINISHED WORK

- A. Prevent displacement or loose soil from falling into excavation; maintain soil stability
- B. Protect the bottom of excavations and soil adjacent to and beneath foundation from freezing
- C. Protect structures, utilities and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth operations
- D. Reshape, and re-compact fills subjected to vehicular traffic during construction.

3.20 MAINTENANCE

- A. Protection of graded areas: Protect newly graded areas from traffic and erosion. Keep free of trash and debris. Repair and re-establish grades in settled, eroded and rutted areas to specified tolerances.
- B. Reconditioned compacted areas: Where completed areas are disturbed by subsequent construction operations or adverse weather, scarify surface, reshape, and compact to required density prior to further construction.

3.21 DISPOSAL OF EXCESS AND WASTE MATERIALS

- A. Remove from the Owner's property all waste material, including unacceptable excavated material, trash, and debris, and dispose of it off-site in a legal manner. Provide dump receipts from an approved dumpsite.

END OF SECTION

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SECTION 312319 - DEWATERING

PART 1 - GENERAL

1.1 PERFORMANCE REQUIREMENTS

- A. Dewatering Performance: Design, provide, test, operate, monitor, and maintain dewatering system of sufficient scope, size, and capacity to control hydrostatic pressures and to lower, control, remove, and dispose of ground water and permit excavation and construction to proceed on dry, stable subgrades.

1.2 SUBMITTALS

- A. Shop Drawings: For dewatering system. Show arrangement, locations, and details of wells and well points; locations of risers, headers, filters, pumps, power units, discharge lines, piezometers, and flow-measuring devices; and means of discharge, control of sediment, and disposal of water.
- B. Delegated-Design Submittal: For dewatering system indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.3 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning dewatering. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Pre-installation Conference: Conduct conference at Project site.

1.4 PROJECT CONDITIONS

- A. Construction Season: Construction of this Project will take place during the winter months. The coastal weather in the Project vicinity likely will make dewatering for trenching activities needed.
- B. During dewatering, regularly resurvey benchmarks, maintaining and accurate log of surveyed elevations for comparison with original elevations. Promptly notify the Project Representative if changes in elevations occur or if cracks, sags, or other damage is evident in adjacent construction.

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PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Provide temporary grading to facilitate dewatering and control of surface water.
- B. Monitor dewatering systems continuously.
- C. Protect and maintain temporary erosion and sedimentation controls, which are specified in Section 015000 "Temporary Facilities and Controls" and Section 311000 "Site Clearing and Stripping" during dewatering operations.
- D. Install dewatering system utilizing wells, well points, or similar methods complete with pump equipment, standby power and pumps, filter material gradation, valves, appurtenances, water disposal, and surface-water controls.
 - 1. Space well points or wells at intervals required to provide sufficient dewatering.
 - 2. Use filters or other means to prevent pumping of fine sands or silts from the subsurface.
- E. Before excavating below ground-water level, place system into operation to lower water to specified levels. Operate system continuously until drains, sewers, and structures have been constructed and fill materials have been placed or until dewatering is no longer required.
- F. Provide an adequate system to lower and control ground water to permit excavation, construction of structures, and placement of fill materials on dry subgrades. Install sufficient dewatering equipment to drain water-bearing strata above and below bottom of foundations, drains, sewers, and other excavations.
 - 1. Do not permit open-sump pumping that leads to loss of fines, soil piping, subgrade softening, and slope instability.
- G. Reduce hydrostatic head in water-bearing strata below subgrade elevations of foundations, drains, sewers, and other excavations.
- H. Maintain piezometric water level a minimum of 24 inches (600 mm) below surface of excavation.
- I. Provide standby equipment on site, installed and available for immediate operation, to maintain dewatering on continuous basis if any Part of system becomes inadequate or fails. If dewatering requirements are not satisfied due to inadequacy or failure of dewatering system, restore damaged structures and foundation soils at no additional expense to Owner.
 - 1. Remove dewatering system from Project site on completion of dewatering. Plug or fill well holes with sand or cut off and cap wells a minimum of 36 inches (900 mm) below overlying construction.

END OF SECTION

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SETION 312333 - UTILITY EXCAVATION & BACKFILL

PART 1 – GENERAL

1.1 DESCRIPTION

- A. The work of this section includes trenching, excavation and backfill for the construction and installation of utility lines. All utility line installation shall be open cut.

1.2 REFERENCES

- A. Washington State Department of Transportation Standard Specifications for Road, Bridge and Municipal Construction (Latest Edition)
- B. ANSI D6.1-94 - Manual on Uniform Traffic Control Devices for Streets and Highways.
- C. ASTM D422-63 - Standard Test Method for Particle-Size Analysis of Soils.
- D. ASTM D698-91 - Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft).
- E. ASTM D1556-90e1 - Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method.
- F. ASTM D2922-96e1 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
- G. ASTM D3017-96e1 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).
- H. ASTM D4253-93 - Standard Test Methods for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table.
- I. ASTM D4254-91 - Standard Test Method for Minimum Index Density and Unit Weight of Soils and Calculation of Relative Density.
- J. ASTM D4318 - Standard Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
- K. ASTM D4533 - Standard Test Method for Trapezoidal Tearing Strength of Geotextiles.
- L. ASTM D4632 - Standard Test Method for Grab Breaking Load and Elongation of Geotextiles.
- M. ASTM D4751 - Standard Test Method for Determining Apparent Opening Size of a Geotextile.

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- N. 29 CFR 1910 - OSHA, Occupational Safety and Health Standards.
- O. 29 CFR 1926 - OSHA, Safety and Health Regulations for Construction.

1.3 SUBMITTALS

- A. As specified in Submittal Procedures - Section 013300.
- B. Written procedure for trench/excavation dewatering and disposal of fluidized materials removed.
- C. Written description of barricading, shoring, cribbing, bracing, and sloping precautions.
- D. Provide results of analysis for bedding and select backfill gradation and plasticity index prior to use of these materials on the project. This initial submittal will not preclude requirement for in- place tests.

1.4 PROJECT CONDITIONS

- A. Arrange construction sequences to provide the shortest practical time that the trenches will be open to avoid hazard to the public, and to minimize the possibility of trench collapse.

1.5 EXCAVATION CLASSIFICATION

- A. Regardless of the nature of material excavated, all excavation will be considered unclassified.

1.6 PRESERVATION OF NATURAL FEATURES

- A. Temporary Tree and Plant Protection - Section 015639

1.7 HAND EXCAVATION

- A. Project Representative will direct the performance of hand excavation if any, within areas that are considered as sensitive by State Parks.

1.8 GROUNDWATER

- A. Based on site soil excavation/observations, groundwater may be encountered on this project. The Contractor shall be responsible for the control, removal, and disposal of any groundwater that may be encountered in the course of excavating and backfilling trenches, placing pipe, or constructing any other improvements associated with this project, in accordance with Section 312319 Dewatering.

PART 2 - PRODUCTS

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2.1 GENERAL

- A. All backfill material shall be approved and certified weed free, before use and be free of cinders, ashes, ice, frozen soil, large hard clods, organic debris, or other deleterious items. Trench excavation materials may be used as approved.

2.2 BACKFILL MATERIAL

- A. Bedding material shall comply with Section 310516 - Aggregates for Earthwork.
- B. Excavated trench material may be used as trench backfill when approved by Project Representative. Where native material is deemed unsuitable, import backfill material shall comply with Section 310516 - Aggregates for Earthwork. In areas where the utility trench is located within the existing roadway corridor, final trench restoration shall be completed in accordance with the project plans.
- C. Furnish required bedding and backfill materials as indicated in the Drawings and provided in other sub-sections to which this work relates.

2.3 UTILITY LINE MARKING

- A. All utilities shall be marked for location and identified by marking tapes, as specified in Section 330526 - Utility Line Identification Marking.

PART 3 - EXECUTION

3.1 EXISTING UTILITIES

- A. Care is to be taken while excavating adjacent to existing utilities. Hand excavation work is required for making connections to existing utilities.

3.2 FIELD QUALITY CONTROL

- A. Testing required to determine compliance for the work of this section shall be the responsibility of the Contractor, at no additional expense to the Government.
- B. ASTM D698-91 shall be used to determine maximum density and ASTM D1556-90 or ASTM D2922-96 shall be used to determine in-place density.
- C. The Contractor shall perform at least two (2) tests on placed backfill material. Additional testing may be required at the discretion of the Contracting Officer.

3.3 TRENCH EXCAVATION

- A. Excavation for pipe shall be in open cut. The trench shall be as wide as necessary for sheeting and bracing and the proper performance of the work up to the maximum width permitted by the

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typical cross-sections shown on the Drawings. The sides of the trenches shall be near vertical. The bottom of the trench shall be constructed to the grades and shapes indicated on the Drawings. Should the Contractor desire to use other equivalent methods, they shall submit their method of construction to the Contracting Officer for approval prior to its use.

- B. Take care not to over excavate. Accurately grade the bottom of the trenches to provide uniform bearing and support for each section of the pipe at every point along its entire length, except for the portion of the pipe sections where it is necessary to excavate for bell holes and for the proper sealing of pipe joints, and as hereinafter specified. Dig bell holes and depressions for joints after the trench bottom has been graded, and, in order that the pipe rest on the bedding for as nearly its full length as practicable, bell holes and depressions shall be only of such length, depth and width as required for properly making the joint. Remove stones as necessary to avoid point bearing.
 - 1. Rocky Trench Bottom: Where ledge rock, hard pan, boulders, or sharp-edged materials are encountered, over-excavate a minimum depth of six (6) inches below the bottom of the utility exterior wall to permit adequate bedding preparation. The installed utility shall have at least 6 inches of clearance from any rock protrusion.
- C. Backfill and compact over excavations to ninety-five (95) percent relative compaction with bedding material. There shall be no additional payment to the Contractor for over excavations not directed by the Project Representative. Remove unsatisfactory material encountered below the grades shown as directed by the Project Representative and replace with bedding material. Payment for removal and replacement of such unsatisfactory material directed by the Project Representative shall be made in accordance with the provisions of the General Conditions.
- D. Grade trenches so that they are uniformly sloped between the pipe elevations shown on the Drawings. Comply with the minimum and maximum trench widths shown on the Drawings. Notify the Project Representative if the trench width exceeds the maximum allowable width for any reason.
- E. Open Trench Limitations: The Project Representative shall have the authority to limit the amount of trench to be opened or left open at any one time. An open trench shall be defined as any trench which has not been completely backfilled and satisfactorily compacted.
- F. Provide ladders for access to the trench by construction and inspection personnel.

3.4 SHORING AND SHEETING

- A. Construct and maintain all shoring, sheeting, and slope lay-back necessary to protect the excavation, as needed for the safety of the employees and as required by applicable State and Federal laws.
- B. For trenches over five (5) feet deep, provide suitable barricades for worker protection. When work area is left open and unattended by Contractor, provide suitable barricades for public safety, regardless of trench depth.
- C. For trenches over four (4) feet deep, provide suitable exit means in accordance with applicable provisions of OSHA.

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- D. Do not remove timber or sheeting if it is in a compacted zone. Instead, trim it off at a safe level above that zone.
- E. As directed, remove all other sheeting and shoring when safe to do so.

3.5 BACKFILLING

- A. Compaction:
 - 1. Use vibratory compactors for sand and gravel (non-cohesive soils).
 - 2. Use mechanical tampers for sand and gravel containing a significant portion of fine-grained material, such as silt and clay (cohesive soils).
 - 3. Hand tamp around pipe or cable to protect the lines until adequate cushion is attained.
 - 4. Puddling or water flooding for consolidation of backfill or compaction by wheel rolling with construction equipment will not be permitted.
- B. Bedding: Compact the Bedding material to ninety-five (95) percent of maximum density, at a moisture content determined to be suitable for such density. See part D below for additional details.
- C. Utility Installation: Shape the trench bottom to ensure uniform contact with the full length of the installed line and remove any sharp-edged materials that might damage the line. Compaction shall be maintained beneath the line.
- D. Trench Backfill: Fill by hand placement around the utility to just over half depth and compact in a manner to ensure against lateral or vertical displacement. Place backfill to six (6) inches above the utility line by hand placement in not more than six (6) inch layers. Compact each layer to ninety-five (95) percent of maximum density, at a moisture content determined to be suitable for such density.
- E. Backfill: Place and compact the specified material as follows:
 - 1. Vehicular Traffic Areas: Fill and compact in six (6) inch maximum loose layers to ninety-five (95) percent of maximum density, at moisture content determined to be suitable for such density.
 - 2. Pedestrian Natural Terrain Areas: Fill and compact in six (6) inch maximum layers to ninety-five (95) percent of maximum density, at moisture content determined to be suitable for such density.
 - 3. If the Project Representative determines that the nature of the ground in which the trench lies precludes compaction of the backfill to the specified density, the backfill shall be compacted to the maximum practicable density.

3.6 SURFACE FINISH WORK

- A. Open and Seeded Areas: Grade all disturbed areas to a finish ordinarily obtained from a blade grader, with no abrupt changes in grade or irregularities that will hold water.
- B. Drainage Ditches: Restore drainage ditches to appropriate line and grade, using approved surface erosion prevention techniques.

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- C. Concrete, Pavement and Gravel Areas: Restore areas to as good or better condition. Provide cutback for trenches.
- D. Clean-Up: Prior to final inspection and acceptance, remove all rubbish and excess material for disposal as approved, and leave area in a neat, satisfactory condition

END OF SECTION

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SECTION 312500 – EROSION AND SEDIMENTATION CONTROL

PART 1 – GENERAL

1.1 DESCRIPTION

- A. The work in this Section includes those items necessary for erosion and sedimentation control on the project site.

1.2 REFERENCES

- A. Refer to and comply with the applicable permits for the project work. Copies of applicable permits to be obtained shall be the responsibility of the Contractor.
- B. Washington State Department of Transportation (WSDOT) Standard Specification for Road, Bridge and Municipal Construction (Standard Specifications).

1.3 EROSION AND SEDIMENT CONTROL PRACTICES

- A. Erosion and sedimentation control measures shall be utilized throughout the construction site to prevent erosion during construction and after construction until vegetation is established.
- B. Erosion and sedimentation control measures shall be appropriate to the site. The following general practices shall be used where applicable:
 - 1. Use of temporary vegetation, mulch or other cover to protect areas during construction will require approval by the Project Representative.
 - 2. Utilize coir logs to trap sediment. Any seed, or temporary vegetation used on site will require approval by the Project Representative.
 - 3. Reduce volume and velocity of water crossing disturbed areas by utilizing diversion dams, berms, or other facilities approved by the Project Representative.
- C. Uncover the smallest practical area of land.

1.4 SUBMITTALS

- A. Quality Assurance/Control – Contractor shall prepare an erosion and sediment control plan for all project areas.

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PART 2 - PRODUCTS

2.1 HIGH VISIBILITY FENCING

- A. High Visibility Fencing shall comply with the requirement of the WSDOT Standard Specifications Section 9-14.6(8)

PART 3 - EXECUTION

3.1 GENERAL

- A. The coir logs, high visibility fencing, and other erosion control measures shall be established prior to exposing any erodible material. Site grading and drainage operations are to be conducted in a manner to prevent or lessen excessive soil erosion of the construction site work area. Appropriate soil control measures shall be implemented down slope from each drainage area where excavation is to occur.

3.2 TEMPORARY PROTECTION OF THE SOIL

- A. Temporary soil protection shall be provided and maintained by the Contractor over the winter after the initial growing season.
- B. The following methods shall be used at the locations shown on the plans unless directed to otherwise by the Project Representative.
 - 1. High Visibility Fencing
- C. After project work is completed, High Visibility Fencing shall be removed.
- D. The temporary erosion control system installed shall be properly maintained as directed by the Project Representative to control siltation at all times during the life of the contract. If the Contractor fails to maintain the temporary erosion control systems as directed by the Project Representative, the Project Representative may at the expiration of the period of forty eight (48) hours, after having given written notice, proceed to maintain the system as deemed necessary, and the cost thereof shall be deducted from any compensation due, or which may become due the Contractor under this contract. The Contractor is responsible for compliance with all requirements of the permits related to the project.

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3.3 ADDITIONAL CONTROL MEASURES

- A. Any soil loss control measures, in addition to those outlined in these documents and deemed necessary by the Governing Authority shall be implemented immediately. The Contractor shall notify the Project Representative immediately upon notification from the Governing Authority that additional control measures will be required.

END OF SECTION

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SECTION 320000 – EXTERIOR IMPROVEMENTS GENERAL REQUIREMENTS

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

- A. Provide and install all exterior improvements shown on Drawings and specified herein.
- B. Coordinate Work with other trades to avoid interferences, ensure proper grades and to provide for utility connections. Coordinate with State Parks staff to minimize disruption to park activities and to maintain access to facilities during hours of operation.
- C. Refer to other Divisions of these Specifications for earthwork and site utilities.

1.2 SUBMITTALS

- A. Submit for review by Architect manufacturer's and supplier's literature and specifications including cut sheets, mix proportions, plant descriptions and data on manufactured products and related accessories.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

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SECTION 321000 — BASES, BALLASTS, AND ASPHALT PAVING

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Furnish all material, labor, services and related items required to complete work indicated on Drawings and specified herein. The items of work to be performed shall include but may not be limited to:
1. Preparatory Coats
 2. Asphalt Paving
 3. Asphalt Paving Wearing Courses
 4. Flexible Paving Surface Treatments
 5. Seal Coats
 6. Asphalt Paving Joint Sealants
 7. Asphalt patching
 8. Installation of tack coat and fabric, and the import, placement and compaction of asphaltic concrete pavement

1.2 SUMMARY

- A. Section includes:
1. Asphalt concrete paving, wearing, binder and base course
 2. Surface sealer

1.3 REFERENCES

- A. This Section references the current edition of the following documents. They are a part of this Section as specified and modified. In the case of conflict between the requirements of this Section and those of the listed documents, the requirements of this Section shall prevail.
1. Standard Specifications for Municipal Public Works Construction, Washington State Chapter, American Public Works Association, latest edition
 2. American Society of Testing and Materials (ASTM)
 3. WSDOT Standard Specifications for Road, Bridge, and Municipal Construction (Latest Edition)
 4. Asphalt Institute:
 - a. AI MS-2 Mix Design Methods for Asphalt Concrete and Other Hot-Mix Types
 - b. AI MS-19 Basic Asphalt Emulsion Manual
 5. ASTM International:

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- a. ASTM D946 Standard Specification for Penetration-Graded Asphalt Cement for Use in Pavement Construction
 - b. ASTM D3381 Standard Specification for Viscosity-Graded Asphalt Cement for Use in Pavement Construction
6. AASHTO M17 Mineral Filler for Bituminous Paving Mixtures

1.4 SUBMITTALS

- A. The Contractor shall submit to the Engineer written materials containing the following information:
1. Section 013300 - Submittal Procedures: Requirements for submittals
 2. Product Data: Submit product information and job mix design for asphalt paving
 3. Materials to be used and the proposed method of application and procedures
 4. Sterilant: Submit to the Engineer three (3) copies of the manufacturers. Material Safety Data Sheet (MSDS) for polybochlorate, for approval prior to delivery to the project site(s).
 5. Fabrics: Submit manufacturers product specifications and recommended installation procedures to the Engineer for approval prior to delivery to the project site.
 6. Fine Aggregate for Class B Paving Asphalt: The Contractor shall submit to the Engineer for approval prior to delivery to the project site(s), a single ½ cubic foot sample in a secure container. Affix to the container the supplier name, address, and telephone number, batch number (if applicable), date, and sieve analysis.
 7. Document that products are on the WSDOT Qualified Products List

1.5 QUALITY ASSURANCE

- A. Perform work in accordance with WSDOT Standard Specifications
- B. Mixing Plant: Conform to WSDOT Standard Specifications
- C. Obtain materials from the same source throughout.
- D. Maintain one copy of each document on site.
- E. Test Reports
1. Testing shall be done under the supervision of the Contractor and in accordance with the General and Supplementary Conditions of the Contract. A certified testing agency or licensed laboratory must perform the tests. The Engineer may require the execution of tests described below at the Contractors expense. Two copies of the results of each test shall be submitted to the Engineer for approval prior to the continuation of the work to be tested unless otherwise directed.

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AGENCY	TEST
ASTM C131	Test Method for Resistance to Degradation of Small-Size Coarse Aggregate
ASTM D155	Test Method for Moisture Density Relations of Soils and Soil-Aggregate Mixtures Using 10-lb (4.54 kg) Rammer and 18-in (457 mm) Drop
WSDOT Test	Method of Test for Determination of Method 705 Degradation Value
WSDOT Test	Maximum Specific Gravity of Bituminous Paving Mixtures Method 113
Other tests as may be referenced elsewhere in this Section	

1.6 QUALIFICATIONS

- A. The Contractor must be experienced in work of the highest professional quality and have facilities and personnel adequate for the work specified. Contractor must acquaint themselves with all other work related to site improvements and other work.
- B. Installer: Company specializing in performing work of this Section with a minimum of five years documented experience.

1.7 ENVIRONMENTAL REQUIREMENTS

- A. Refer to General Conditions
- B. Place materials in accordance with the weather limitations in WSDOT Standard Specifications Section 5-04.3(16).

PART 2 - PRODUCTS

2.1 STERILANT

- A. Polybochlorate, produced by U.S. Borax

2.2 BASE

- A. Aggregate for base for all **Base Bid asphalt paving**: Crushed Surfacing Base Course (CSBC) conforming to WSDOT Standard Specifications Section 9-03.9(3)
- B. Aggregate for base for all **Add Alternate asphalt paving for all Asphalt Pedestrian Paths/Trails**:

5/8" Minus Crushed Rock, fractured all sides. Gradation shall be:

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SIEVE	PERCENT PASSING
5/8" square sieve	100%
1/2" square sieve	90-100%
1/4" square sieve	45-66%
US No. 40 sieve	10-25%
US No. 200 sieve	7% maximum

- C. All materials shall meet the material requirements specified in Section 5-04.2 of the WSDOT Standard Specifications.

2.3 ASPHALT PAVING MIX

- A. Use dry material to avoid foaming. Mix uniformly.
- B. Binder Course: Asphalt Treated Base (ATB) in accordance with WSDOT Standard Specifications Section 4-06.
- C. Wearing Course: Asphalt mix shall be HMA Class 1/2-inch in accordance with WSDOT Standard Specifications. Asphalt binder shall be PG 64-22 in accordance with WSDOT Standard Specifications.
- D. Mix Temperature: In accordance with WSDOT Standard Specifications.

2.4 SURFACE SEALER – SEAL COATS

- A. Cationic emulsified asphalt shall meet the requirements of ASTM D8099/D8099B-17. Seal coat products shall meet the requirements of WSDOT Standard Specifications Section 9-02.1(6)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify existing conditions before starting work
- B. Verify compacted subgrade is dry and ready to support paving and imposed loads
- C. Verify gradients and elevations of the base are correct

3.2 BARRIERS

- A. The Contractor shall erect and maintain barricades, canopies, guards, and warning signs to the extent required by law and as is prudent for the protection of the public and protection of the work

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3.3 BASE

- A. Prepare aggregate base in accordance with Section 4-04.3 of the WSDOT Standard Specifications.
- B. In areas used for vehicular access during phased construction, maintain and restore aggregate base as required to meet specified requirements.

3.4 NEW ASPHALTIC CONCRETE PAVEMENT (INCLUDING PATCHING)

- A. In areas of new paving, or where existing paving has been removed during the demolition phase of work, new asphaltic concrete paving shall be placed over compacted base aggregate.
- B. Place base aggregate as required to attain a total depth of 6 inches (or 4 inches, where indicated in Drawings) and compact to 95 percent density.
 - 1. Patching: If existing base material does not meet requirements for density, the Contractor shall remove the existing base material in the areas to be patched and install new base aggregate to a depth of 6 inches and compact to 95 percent density.
 - 2. New asphaltic concrete pavement: Place 6 inches (or 4 inches, where indicated in Drawings) of base aggregate and compact to 95 percent density
- C. Install new Class B asphalt per paragraph 3.07. The minimum asphalt thickness (for vehicular paving) shall be 2 1/2 inches. The maximum thickness shall be 3 1/2 inches. See the Drawings for asphalt thicknesses depending on design application.
 - 1. New asphalt patching shall meet the grade of adjacent existing asphaltic concrete paving (to remain). Edges of new and existing pavement shall be flush without ridges or gaps.
 - 2. New walkway pavement edges shall be tapered to meet the existing or proposed grade.

3.5 SURFACE PREPARATION AND STERILANT

- A. All new areas to be paved shall be sterilized with a minimum of twenty (20) pounds polyborchlorate per 1,000 square feet of surface, mixed with water and applied with sprayer after installation of the base aggregate material is completed.

3.6 PREPARATION - TACK COAT

- A. Apply tack coat in accordance with WSDOT Standard Specifications.
- B. All new asphaltic concrete pavement patching shall be allowed sufficient time to cure before applying the tack coat. All pavement shall be cleaned prior to beginning tack coat application.
- C. The asphalt tack coat shall be installed uniformly in controlled amounts throughout the area to receive paving fabric. Apply tack coat at the rate of 0.20 - 0.30 gallons per square yard (optimum application rate is 0.25 gallons per square yard) using a mechanical distributor meeting the requirements of WSDOT Standard Specifications Section 5-04.3(5)A. Tack coat application rates may be monitored by the Engineer to verify compliance with this paragraph.

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- D. The allowable temperature range for tack coat material is 290 - 325 degrees Fahrenheit.
- E. Where the new asphaltic concrete abuts a curb or gutter, cold pavement joint, trimmed meet line, or any metal surface, a thin tack coat of asphalt shall be applied on the vertical face of the abutting surface by hand painting prior to paving. The application on the contact surfaces shall be thin and uniform to avoid an accumulation of excess asphalt in puddles. The Contractor shall not apply the tack coat on vertical contact surfaces above the finished height of the asphalt concrete being placed. Tack coat to extend three inches beyond the edge of the fabric area.

3.7 PREPARATION – SEAL COAT

- A. Pavements surfaces shall be prepared for application of a seal coat in accordance with WSDOT Standard Specifications Section 5-02.3(2)B and 5-02.3(2)C.
- B. Prior to application of seal coats, all cracks shall be repaired in accordance with WSDOT Standard Specifications Section 5-02.3(2)E
- C. Application of the emulsified asphalt seal coat shall be performed in accordance with WSDOT Standard Specifications Section 5-02.3(3)

3.8 PLACING ASPHALTIC PAVEMENT

- A. Placement:
 - 1. A course of asphaltic concrete shall be installed to the lines and grades as indicated on the drawings
 - 2. The hot plant mix shall have an installation temperature of 275-300 degrees
 - 3. Compaction thickness shall be as shown on Drawings but in no case shall the compacted thickness be less than two inches (2")
 - 4. Compaction shall be by rolling with a powered steel wheel tandem roller weighing not less than three (3), and not more than five (5) tons; the finish roller weighing not less than one (1) ton
 - 5. The hot plant mix shall be spread by methods and in a manner to produce a uniform density and thickness to meet a tolerance of one-fourth inch (1/4") in ten feet (10') measured in any direction
 - 6. If binder course specified, place to compacted thickness as indicated in Drawings. Place asphalt binder course within 24 hours of applying primer or tack coat
 - 7. Place asphalt within 24 hours of applying primer or tack coat, or within 24 hours of placing and compacting binder course.
 - 8. Compact each course by rolling to specified density in accordance with WSDOT Standard Specification 5-04.3(10) Compaction. Do not displace or extrude pavement from position.
 - 9. Hand compact in areas inaccessible to rolling equipment.
 - 10. Perform rolling with consecutive passes to achieve even and smooth finish without roller marks.
- B. Curing and Cleaning:
 - 1. New asphalt pavement must be completely cured (minimum of seven days of warm, dry

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weather, longer if cold or damp), prior to application of any materials.

2. Pavement needs to be clean and free of all foreign matter.
3. A high-pressure washer, air broom or hand sweeper shall be used; removal of grease and oil requires the use of a strong detergent. After using detergents, the surface must be thoroughly flushed with water.

3.9 TOLERANCES

- A. Flatness: In accordance with WSDOT Standard Specifications Section 5-04.3(13) Surface Smoothness.
- B. Scheduled Compacted Thickness: Within 1/4 inch.
- C. Variation from Indicated Elevation: Within 1/4 inch.

3.10 FIELD QUALITY CONTROL

- A. Section 014000 - Quality Requirements: Field inspecting, testing, adjusting, and balancing.
- B. Take samples and perform tests in accordance with WSDOT Standard Specifications Section 5-04.3(10) B Control.

3.11 PROTECTION OF FINISHED WORK

- A. Immediately after placement, protect pavement from mechanical injury and do not permit vehicular traffic until the surface temperature is less than 140 degrees F, and in no case sooner than six hours after placing or per WSDOT Standard Specifications, whichever is more stringent.

END OF SECTION

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SECTION 321300 - CONCRETE PAVING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Furnish all material, labor, services, and related items required to complete concrete paving work indicated on drawings and/or specifications. The items of work to be performed shall include but are not necessarily limited to:
1. Concrete Paving
 2. Concrete Paving Joint Sealants
 3. Aggregate base course
 4. Sitework: Including concrete pads, walkways, curbs, ramps, and associated work

1.02 REFERENCES

- A. This Section references the latest revisions of the following documents. They are a part of this Section as specified and modified. In the case of conflict between the requirements of this Section and those of the listed documents, the requirements of this Section shall prevail.
1. Standard Specifications for Municipal Public Works Construction, Washington State Chapter, American Public Works Association, latest edition
 2. American Concrete Institute (ACI) Specifications for Structural Concrete for Buildings, ACI 301, or latest edition
 3. ACI Recommended Practice for Selecting Proportions for Concrete, or latest edition
 4. ACI Recommended Practice for Cold Weather Concreting, ACI 306, or latest edition
 5. ACI Recommended Practice for Hot Weather Concreting, ACI 605, or latest edition
 6. ACI Recommended Practice for Concrete Formwork, ACI 347, or latest edition.
 7. American Society of Testing and Materials (ASTM)

1.03 SUBMITTALS

- A. The Contractor shall submit to the Project Representative materials containing the following information:
1. Procedures to be used in the construction regarding the responsibility of the Contractor and all sub-contractors involved
 2. Furnish samples, manufacturer's product data, test reports, and materials certifications as required in reference sections for concrete products, expansion joints, fillers, sealants, etc.

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1.04 QUALITY ASSURANCE

- A. Concrete mix, design, and testing shall comply with requirements of applicable Division 3 for concrete mix design sampling and testing, and quality control, and as herein specified.
- B. Notify Project Representative a minimum of 48 hours prior to concrete pour, for inspection of forms, etc.

PART 2 - PRODUCTS

2.01 AGGREGATE BASE COURSE

- A. Aggregate for base for all Base Bid asphalt paving: Crushed Surfacing Base Course (CSBC) conforming to WSDOT Standard Specifications Section 9-03.9(3)

2.02 DRAIN ROCK

- A. Sizes as follows: 1/2"-1-1/4" mix, or as noted on plans.

2.03 FORMS

- A. Steel, wood, or other suitable material of size and strength to resist movement during concrete placement. Use straight forms, free of defects. Use flexible spring steel forms or laminated boards to form curved edges.
- B. For footings and concrete slabs: Fabricate forms of MDO plywood, metal or plastic as judged best suited for shapes. Construct with a minimum of joints, sufficiently tight to prevent leakage.

2.04 FORM RELEASE AGENT

- A. Release agent with non-staining and non-interference characteristic with bonding capabilities of paints, plasters, adhesives, other surface coatings or materials. Contractor shall guarantee proper bonding of such subsequent coatings or materials applied over concrete.

2.05 STEEL REINFORCEMENT

- A. Reinforcing bars to be deformed steel bars, ASTM A 615, Grade 40

2.06 EPOXY COATED STEEL REINFORCING BAR

- A. Coating of epoxy-coated rebar must be per AASHTO M284
- B. Steel reinforcing bar

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2.07 EPOXY GROUT

- A. Epoxy grout shall be a 2- component epoxy resin-based system, per ASTM C881
- B. Shall be a Type I or Type IV bonding agent used for bonding hardened concrete to hardened concrete and other materials

2.08 EXPANSION JOINT MATERIALS

- A. Joint Filler: Preformed non-extruding resilient material; ASTM D1752, Type I, ¼-inch wide by depth required to bring top surface within ¾ inch of slab surface or as noted on the plans.
- B. Joint Sealer: Self-leveling polyurethane; ASTM C920, Type M, Grade SL, Class 25. Single component, self-leveling, sanded premium-grade polyurethane sealant with an accelerated curing capacity. Sealer can be used in concrete joint 24 hours after the concrete pour, and in damp concrete applications. Meet Federal Specification TT-S-00230C, Type 1, Class A. Meet ASTM C-920, Type S, Grade P, Class 25, use T, M, A, G, I – Provide sand to cover sealer.

2.09 EXPANSION JOINT AND COLD JOINT DOWELS

- A. Construct Speed Dowel joints at modules not larger than 20' -0" x 20' -0"
- B. Dowel schedule to match rebar schedule and at a minimum spacing of 18" OC. Dowels shall be smooth steel, free of dirt, grease, and oils. Size per the drawings. Encase 50 percent of each dowel in a speed dowel plastic sleeve to allow the parallel movement of each dowel. Verify steel dowel to speed dowel tolerance to ensure a snug fit.
 - 1. Provide and install Greenstreak speed dowel or approved equal. Contact Greenstreak at (800) 325-9504 or <http://www.greenstreak.com>

2.10 CONCRETE MATERIALS

- A. Comply with requirements of applicable Division 3 sections for concrete materials, admixtures, bonding materials, curing materials, and others as required.
- B. Concrete shall be 2500 PSI minimum compressive strength at 28 days.
- C. See structural notes on drawings

2.11 CONCRETE SEALER

- A. Clear non-glossy sealer for concrete flatwork. Protectosil Aqua-Trete SG or approved equal

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PART 3 - EXECUTION

3.01 BARRIERS

- A. The Contractor shall erect and maintain barricades, canopies, guards, lights, and warning signs to the extent required by law and as is prudent for the protection of the public and protection of the work

3.02 SURFACE PREPARATION

- A. Establish subgrade at elevations required to achieve the slopes and finish grade elevations designated on the drawings. The Contractor shall schedule the Project Representative for a subgrade inspection prior to the installation of the concrete.
- B. Compact subbase to 95 percent compaction using a mechanical roller or compactor. Remove loose material from the compacted subbase surface immediately before placing concrete. Proof roll prepared sub base to check for unstable areas and need for additional compaction. Do not begin paving work until such conditions have been corrected and are ready to receive paving.

3.03 FORM CONSTRUCTION

- A. Set forms to required grades and lines, rigidly braced and secured. Install a sufficient quantity of forms to allow continuous progress of work and so that forms can remain in place at least 24 hours after concrete placement.
- B. Check completed formwork for grade and alignment to following tolerances:
 - 1. Top of forms not more than 1/8 inch in 10 feet
 - 2. Vertical face on the longitudinal axis, not more than 1/4" in 10 feet
- C. Apply adequate release agent to form to ensure clean ease of removal from cured concrete
- D. Clean forms after each use and coat with form release agent as often as required to ensure separation from concrete without damage. Release agents must be approved in writing by the manufacturer of concrete sealers specified herein.

3.04 REINFORCEMENT

- A. Locate, place, and support reinforcement as specified in Division 3 sections, unless otherwise indicated

3.05 CONCRETE PLACEMENT

- A. Comply with requirements of Division 3 sections for mixing and placing concrete and as specified herein

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- B. Do not place concrete until checking the subbase and forms for line and grade. Moisten sub-base, if required to provide a uniform dampened condition at time concrete is placed.
- C. Give notice of intention to place concrete to the Project Representative at least 48 hours before an intended pour.

3.06 FORMWORK REMOVAL

- A. Remove all formwork after proper curing of concrete. Protect surfaces of concrete during removal operations.
- B. Formwork not supporting the weight of concrete may be removed after cumulatively curing at not less than 50 degrees F for 24 hours after placing concrete. The concrete must be sufficiently hard so as not to be damaged by form removal operations and provided curing and protection operations are maintained.

3.07 REUSE OF FORMWORK

- A. Clean and repair surfaces of forms to be reused in work. Split, frayed, delaminated, or otherwise damaged form-facing materials will not be acceptable for reuse. Apply new form-coating material as necessary, as specified for new formwork.

3.08 REPAIR OF SURFACE DEFECTS

- A. General: Conform to ACI 301, Chapters 9 and 13. After removal of forms, repair or patch concrete not formed as shown, out of alignment or level beyond required tolerances or that shows surface defects, to condition as verified by Project Representative. Immediately after form removal, patch all tie holes and repairable defective areas.
- B. Remove honeycombed areas to sound concrete, but not less than 1” minimum depth. Dampen area and to 6” width around same; let evaporate only to loss of sheen. Provide a bond of neat cement and water slurry well brushed into the area to be patched. Provide patching mixture of 1:2 (cement:sand) or verified proprietary patching mixture or color to match adjacent surfaces; use water quantity only as required for mixing and placing. Leave patched surface slightly high; after one hour, float to level with the adjacent surface. Keep patched areas damp for seven days.

3.09 JOINTS

- A. Refer to ACI 302 “Guide for Concrete Floor and Slab Construction,” most recent edition, for work under this Section.
- B. Construct expansion, control, and cold joints true to line with face perpendicular to the surface of the concrete
- C. Cold and Contraction Joints
 - 1. Provide cold and control joints, dividing the concrete areas as indicated on the Drawings

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2. Form control joints and cold joints in fresh concrete by grooving the top portion with a recommended cutting tool and finishing edges with a jointer. Place a tooled joint first.
3. Form control joints and cold joints in hardened concrete using powered saws equipped with shatterproof abrasive or diamond rimmed blades. Cut joints into curing concrete as soon as the surface will not be torn, abraded, or otherwise damaged by cutting action.
4. Construction (cold) and sawcut contraction (control) joints in locations indicated on the plans.
5. Perform jointing with a new diamond tip circular saw.
6. Joint Width: Per plans. Do not exceed 3/16-inch in width.
7. Depth of sawcuts: 1/4 depth of slab.
8. Sawcut joints in a straight line or as noted on the plans with no overcutting, and with face perpendicular to the concrete surface.
9. Use a hand tool to sawcut up to vertical edges such as walls, steps, curbs, and columns. No cutting into vertical surfaces will be allowed.

D. Expansion Joints:

1. Provide pre-molded joint filler for expansion joints abutting concrete curbs, catch basins, manholes, inlets, structures, walks, and other fixed objects, unless otherwise indicated.
2. Locate expansion joints, as noted on drawings.
3. Groove top portion with a recommended cutting tool and finishing edges with a jointer.
4. Extend joint fillers full width and depth of joint and not less than 1/2 inch or more than 1 inch below finished surface where the joint sealer is indicated. Furnish joint fillers in one-piece lengths for the full width being placed, wherever possible. Where more than one length is required, lace or clip joint filler sections together. Protect the top edge of joint filler during concrete placement with a metal or plastic temporary strip. Remove protection after the concrete has been placed on both sides of the joint before sealant is applied.
5. Joint Sealer: Install sealer per manufacturer recommendation. Seed sealer with sand to cover the surface.

3.10 CONCRETE FINISHING

- A. After striking off and consolidating concrete, smooth surface by screening and floating, use hand methods only where mechanical floating is not possible. Adjust floating to compact surface irregularities and refloat repaired area to provide a continuous smooth finish.
- B. After completion of floating and troweling when excess moisture or surface sheen has disappeared, complete finishing as follows:
 1. Install tool grid as indicated on the plan
 2. Do not remove forms for 24 hours after concrete placement. After form removal, clean ends of joints and point up any minor honeycombed areas. Remove and replace areas or sections with major defects, as directed by the Project Representative.
 3. Light broom finish after the concrete has reached 75% strength or after the concrete has reached a minimum 2000 psi. The Project Representative shall approve the sample broom finish area.
 4. Provide specified finish after the concrete has reached 75% strength or after the concrete has reached a minimum 2000 psi. The Engineer shall approve the sample finish area. Once

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the time of finishing is determined through testing, all subsequent finish shall be done at the same concrete age for uniformity of appearance.

3.11 CURING

- A. Protect and cure finished concrete paving, complying with applicable requirements of Division 3 sections. Use curing and sealing compound or approved moisture curing method.
- B. Sealer: After the flatwork is completely dry, apply a clear, non-yellowing acrylic sealer to the surface uniformly according to the manufacturer's recommendation. Submit sealer for approval by the Project Representative.

3.12 PROTECTION

- A. Protect freshly placed concrete from premature drying and excessive cold or hot temperature. Maintain without drying at a relatively constant temperature for the time necessary for hydration of cement and proper hardening. Protect from vandalism.
- B. Protect all concrete during the curing period from all damaging mechanical disturbances, especially load stresses, heavy shock, and excessive vibration. Protect finishes from all damage.

3.13 TOLERANCES

- A. The surface elevation, in the finished condition, shall not deviate more than 1/8" from specified elevations. Trueness measurement to be taken from 10' long straight edge placed in all directions.

3.14 CLEAN-UP

- A. Repair and replace broken or defective concrete as directed by the Project Representative
- B. Protect concrete from damage until acceptance of work. Exclude traffic from the pavement for at least fourteen (14) days after placement. When construction traffic is permitted, maintain pavement as clean as possible by removing surface stains and spillage of materials as they occur.
- C. Sweep concrete pavement and wash free of stains, discolorations, dirt, and other foreign material just prior to final inspection.

END OF SECTION

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SECTION 321713 – PARKING BUMPERS

PART 1 – GENERAL

1.1 DESCRIPTION OF WORK

- A. This section consists of parking bumpers and anchorage.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Parking bumpers

1. Parking bumpers shall be precast concrete, conforming to the following:
 - a. Nominal size
 - 1) 5 inches high, 9 inches wide, 6 feet long
 - b. Cement
 - 1) ASTM C150, Portland Type I, normal, white color
 - c. Concrete materials
 - 1) ASTM C33 aggregate, water, and sand
 - d. Reinforcing steel
 - 1) ASTM A615/A615M, deformed steel bars, unfinished finish, strength and size commensurate with precast unit design
 - e. Air entrainment admixture
 - 1) ASTM C260
 - f. Concrete mix
 - 1) Minimum 5,000 psi, 28-day strength, air entrained to 5 percent to 7 percent.
 - g. Use rigid molds, constructed to maintain precast units uniform in shape, size, and finish. Maintain consistent quality during manufacture.
 - h. Embed reinforcing steel, and drill or sleeve for 2 dowels.

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- i. Cure units to develop concrete quality, and to minimize appearance blemishes such as non-uniformity, staining, or surface cracking.
 - j. Minor patching in place is acceptable, providing appearance of units is not impaired.
- B. Dowels shall be hot dip galvanized 5/8 inch bolts with mushroom heads, 18 inches long.

PART 3 – EXECUTION

3.1 INSTALLATION

- A. Install units without damage to shape or finish. Replace or repair damaged units.
- B. Install units in alignment with adjacent work.
- C. Fasten units in place with 2 dowels per unit.

END OF SECTION

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SECTION 321723 – PAVEMENT MARKINGS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. The work includes constructing pavement markings and traffic control signage for the parking areas as indicated on the drawings.

1.2 STANDARD SPECIFICATIONS

- A. All work shall conform with the current edition of Standard Specifications and Standard Plans for Road, Bridge and Municipal Construction, as published by the Washington State Department of Transportation (WSDOT), unless otherwise indicated herein.
- B. The Contractor shall have one copy of the Standard Specifications and Standard Plans at the job site.
- C. The Standard Specifications apply only to performance and materials and how they are to be incorporated into the work. The legal/contractual relationship sections and the measurement and payment sections do not apply to this document.

PART 2 - PRODUCTS

2.1 PAINT

- A. Paint for pavement markings shall comply with Section 9-34 of the WSDOT Standard Specifications. The paint shall be factory mixed, quick drying and nonbleeding. Colors shall be as indicated on the drawings.

2.2 PLASTIC

- A. Plastic for pavement markings shall be one of the following:
 - 1. Plastic - Pressure Sensitive Marking Material

MANUFACTURER	NAME BRAND	QUANTITY
Prismo Universal Co.	Prismo Brand	60 mil
Prismo Universal Co.	Prismo Brand	90 mil
3M Company	Stamark 5730 Series	60 mil
3M Company	Stamark 350 Series	60 mil

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3M Company	Stamark 380 Series	60 mil
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- a. Plastic pressure sensitive marking materials are not allowed on bituminous surface treatment (BST) pavement.

2. Plastic - Extruded Materials

MANUFACTURER	IDENTIFICATION	QUANTITY
Lafrentz Road Service Ltd.	Lafrentz Thermoplastic	125 mil
Pave-Mark Corporation	Pave-Mark Hydrocarbon	125 mil
Pave-Mark Corporation	Pave-Mark Alkyd	125 mil
* Swedish A.B. Cleanosol	Cleanosol IT	125 mil

* Approved for installation in Western Washington only

- B. Colors shall be white or as indicated on the drawings.

2.3 SIGNS

- A. Washington State Disabled Parking signs shall be as specified in 104320 Exterior Signs and Signposts.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Pavement markings installation shall conform with Section 8-22.3 of the WSDOT Standard Specifications, except that the Contractor shall be responsible for all layout and control points, striping shall not deviate more than 1/4-inch in 10 feet from a straight line and striping shall not be more than 1-inch from the specified locations. Paint striping shall only be applied after the pavement has been allowed to cure 14 days minimum, when the pavement is clean and dry and when the temperature is above 50 degrees F.
- B. Signs shall be located and installed as shown on the plans. All signposts shall be plumb and all signs shall be level, as specified in 104320 Exterior Signs and Signposts.

END OF SECTION

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SECTION 323234 – REINFORCED SOIL RETAINING WALLS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work shall consist of designing, furnishing and construction of a KEYSTONE Stone Pro RockFace unit retaining wall system in accordance with these specifications and in reasonably close conformity with the lines, grades, design and dimensions shown on the plans. No alternate wall systems will be considered
- B. Work includes preparing foundation soil, furnishing and installing leveling pad, unit facing system, unit drainage fill and reinforced backfill to the lines and grades shown on the construction
- C. Work includes furnishing and installing geogrid soil reinforcement of the type, size, location and lengths designated on the construction drawings.

1.2 DEFINITIONS

- A. Structural Geogrid – a polymeric material formed by a regular network of connected tensile elements with apertures of sufficient size to allow interlocking with surrounding soil, rock or earth and function primarily as reinforcement.
- B. Reinforced Backfill – compacted 12” minimum aggregate that is placed within the reinforced soil volume as outlined on the plans.
- C. Retained Soil – the soil mass behind the reinforced backfill
- D. Foundation Soil – the soil mass below the leveling pad and reinforced backfill.
- E. Leveling pad – crushed stone, sand and gravel or unreinforced concrete material placed to provide a level surface for placement of the Keystone concrete unit.

1.3 PERFORMANCE REQUIREMENTS

- A. The walls are designed using the performance requirements and design criteria noted in the contract plans.
- B. The contract plans show completed wall designs, with the type of block, geogrid type, geogrid maximum spacings, backfill requirements, etc. Substitute wall systems will be considered if they meet the performance requirements for the walls.

1.4 SUBMITTALS

- A. Product Data: For concrete blocks and soil reinforcement from manufacturers. The soil reinforcement data will include connection strength test data with the concrete blocks.

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- B. Material Certificates: Also called Manufacturer's Certificate of Compliance; for materials as required by WSDOT SS 6-13.3(2).
- C. Geogrid layout: Contractor to provide wall elevation drawings with the geogrid layout shown, meeting the maximum spacing requirements as noted on the plans.
- D. Design Submittal: If an alternate wall system is reviewed and approved, Contractor to provide analysis data and working drawings signed and sealed by a qualified professional engineer responsible for their preparation showing compliance with performance requirements and design criteria noted in the contract plans.

1.5 QUALITY ASSURANCE

- A. Pre-Construction Meeting: Review of wall design and construction requirements.
- B. Designer Qualifications: A professional engineer registered in the state of Washington.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Delivery, storage, and handling will be according to manufacturer's instructions.

PART 2 - PRODUCTS

2.1 CONCRETE BLOCKS

- A. Regal Stone Pro RockFace retaining wall units shall conform to the following architectural requirements
 1. Face color - concrete gray, unless otherwise specified. The Owner may specify standard manufacturers' color.
 2. RockFace Face finish - hard split in a generally convex, rustic configuration. Other face finishes will not be allowed without written approval of Owner.
 3. Bond configuration - running with bonds nominally located at midpoint in vertically adjacent units.
 4. Exposed surfaces of units shall be free of chips, cracks or other imperfections when viewed from a distance of 20 feet (6 m) under diffused lighting.
- B. Keystone concrete units shall conform to the requirements of ASTM C1372 - Standard Specifications for Segmental Retaining Wall Units.
- C. Keystone concrete units shall conform to the following structural and geometric requirements measured in accordance with ASTM C140 Sampling and Testing Concrete Masonry Units:

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1. Compressive strength: ≥ 3000 psi (21 MPa).
 2. Absorption: $\leq 8\%$ for standard weight aggregates.
 3. Dimensional tolerances: $\pm 1/8$ " (3 mm) from nominal unit dimensions not including rough split face.
 4. Unit Size: 8" (203 mm) (H) x 18" (457 mm) (W) approximate x 12" (304 mm)(D) minimum
- D. The concrete blocks will be Standard units. See plans for elevation view to determine number and sizes of blocks.
- E. Blocks will be cast according to manufacturer's requirements.

2.2 GEOGRID SOIL REINFORCEMENT

- A. Geosynthetic reinforcement shall consist of geogrids manufactured for soil reinforcement applications and shall be manufactured from high tenacity polyester yarn or high density polyethylene. Polyester geogrid shall be made from high tenacity polyester filament yarn with a molecular weight exceeded 25,000 g/m and with a carboxyl end group value less than 30. Polyester geogrid shall be coated with an impregnated PVC coating that resists peeling, cracking and stripping.
- B. The maximum design tensile load of the geogrid shall not exceed the laboratory tested ultimate strength of the geogrid/facing unit connection divided by a factor of safety of 1.5. The connection strength testing and computation procedures shall be in accordance with ASTM D6638 Connection Strength between Geosynthetic Reinforcement and Segmental Concrete Units

2.3 REINFORCED BACKFILL

- A. Reinforced backfill shall be free of debris and meet the following gradation tested in accordance with ASTM D-422

<u>Sieve Size</u>	<u>Percent Passing</u>
1 1/2 inch	100
3/4 inch	75 – 100
No. 40	0 – 10
No. 200	0 – 5

Plasticity Index (PI) < 15 and Liquid Limit < 40 , per ASTM D4318

- B. Soils not meeting the above criteria, including highly plastic clays and organic soils, shall not be used in the reinforced backfill soil mass.

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- C. Backfill shall be placed within the cores of, between, and behind the units as indicated on the design drawings.

2.4 CRUSHED SURFACING

- A. Crushed surfacing shall meet the following requirements for grading and quality when placed in hauling vehicles for delivery to the roadway or during manufacture and placement into a temporary stockpile. The exact point of acceptance will be determined by the Engineer.

SIEVE SIZE	PERCENT PASSING	
	C.S.B.C.	C.S.T.C.
1" square	80 - 100	--
3/4" square	--	100
5/8" square	50 - 80	--
1/2" square	--	80 - 100
U.S. No. 4	25 - 45	46 - 66
U.S. No. 40	3 - 18	8 - 24
U.S. No. 200	7.5 maximum	10.0 maximum
% fracture	75 minimum	75 minimum
Sand equivalent	40 minimum	40 minimum

2.5 SHEAR AND REINFORCEMENT PIN CONNECTORS

1. Shear and reinforcement pin connectors shall be 1/2-inch (12 mm) diameter thermoset isophthalic polyester resin pultruded fiberglass reinforcement rods to provide connection between vertically and horizontally adjacent units and geosynthetic reinforcement, with the following requirements:
 1. Flexural Strength in accordance with ASTM D4476: 128,000 psi (882 MPa) minimum.
 2. Short Beam Shear in accordance with ASTM D4475: 6,400 psi (44 MPa) minimum.
2. Shear and reinforcement pin connectors shall be capable of holding the geogrid in the proper design position during grid pre-tensioning and backfilling.

2.6 DRAINAGE PIPE

- A. If required, drainage pipe shall be perforated or slotted PVC pipe manufactured in accordance with ASTM D3034 or corrugated HDPE pipe manufactured in accordance with AASHTO M252.

2.7 GEOTEXTILE FILTER FABRIC

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- A. When required, geotextile filter fabric shall be a needle-punched non-woven fabric that meets the requirements of ASSHOT M288.

- B. Geotextile fabric shall be used between reinforced backfill and retained soil mass.

PART 3 - EXECUTION

3.1 EXCAVATION AND FOUNDATION PREPARATION

- A. Contractor shall excavate to the lines and grades shown on the construction drawings. The Owner or Contractors QA/QC representative shall inspect the excavation and test the foundation soils and approve prior to placement of the leveling pad material or fill soils. Any over-excavation required to remove unsuitable soils shall be oversized from the front of the leveling pad and back of the geogrid reinforcement.

- B. Over-excavation and replacement of unsuitable soils and replacement with approved compacted fill will be compensated as agreed upon with the Owner.

3.2 LEVELING PAD INSTALLATION

- A. Leveling pad material shall be placed to the lines and grades shown on the construction drawings to a minimum thickness of 6 inches (150 mm) and extend laterally a minimum of 6 inches in front and behind the Keystone wall unit.

- B. Soil leveling pad materials shall be compacted to a minimum of 95% of Standard Proctor density per ASTM D697 or 92% Modified Proctor density per ASTM D1557.

- C. Leveling pad shall be prepared to insure full contact with the base surface of the concrete units.

3.3 CONCRETE BLOCK INSTALLATION

- A. First course of units shall be placed on the leveling pad at the appropriate line and grade. Alignment and level shall be checked in all directions and ensure that all units are in full contact with the base and properly seated.

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- B. Place the front of units side-by-side. Do not leave gaps between adjacent units. Layout of corners and curves shall be in accordance with manufacturer's recommendations.
- C. Install shear/connecting pins per manufacturer's recommendations.
- D. Place and compact drainage fill within and behind wall units. Place and compact reinforced backfill soil behind drainage fill.
- E. Maximum stacked vertical height of wall units, prior to drainage fill and backfill placement and compaction, shall not exceed two courses.

3.4 STRUCTURAL GEOGRID INSTALLATION

- A. Geogrid shall be installed with the highest strength direction perpendicular to the wall alignment.
- B. Geogrid reinforcement shall be placed at the strengths, lengths and elevations shown on the construction drawings, or as directed by the engineer.
- C. The geogrid shall be laid horizontally on compacted backfill and attached to the Keystone wall unit pins and within 1 inch of the face of the units. Place the next course of Keystone units over the geogrid. The geogrid shall be pulled taut and anchored prior to backfill placement on the geogrid.
- D. Geogrid reinforcements shall be continuous throughout their embedment lengths and placed side-by-side to provide 100% coverage at each level. Spliced connections between shorter pieces of geogrid or gaps greater than 2 inches between adjacent pieces of geogrid are not permitted

3.5 REINFORCED BACKFILL AND RETAINED SOIL PLACEMENT.

- A. Reinforced backfill and retained soil shall be placed, spread and compacted in such a manner that minimizes the development of slack in the geogrid and installation damage to the geogrid.
- B. Reinforced backfill and retained soil shall be placed and compacted in lifts not to exceed 6 inches (150 mm) where hand operated compaction equipment is used, or 8 – 10 inches (200 to 250 mm) where heavy compaction equipment is used. Lift thickness shall be decreased to achieve the required density, as needed.
- C. Reinforced backfill and retained soil shall be compacted to a minimum of 95% of Standard Proctor density per ASTM D697 or 92% Modified Proctor density per ASTM D1557. The moisture content of the reinforced backfill material during compaction shall be uniformly

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distributed throughout each layer and shall be dry of optimum by 0 to 3 percentage points of moisture.

- D. Only hand operated compaction equipment shall be allowed within 3 feet (1 M) from the back of the Keystone concrete units.
- E. Tracked construction equipment shall not be operated directly upon the geogrid reinforcement. A minimum fill thickness of 6 inches (150 mm) is required prior to operation of tracked vehicles over the geogrid. Tracked vehicle turning should be kept to a minimum to prevent tracks from displacing the fill and damaging or displacing the Keystone units or geogrid.
- F. Rubber tired equipment may pass over geogrid reinforcement at slow speeds, less than 10 MPH. Sudden braking and turning shall be avoided.

END OF SECTION

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SECTION 329000 – LANDSCAPING

PART 1 - GENERAL

1.1 WORK DESCRIPTION

A. Provide trees, shrubs, and ground cover, as shown and specified. Work includes the following:

1. Planting Preparation

a. Soil Preparation

- 1) Store salvaged topsoil
- 2) Install salvaged topsoil
- 3) Establish plants
- 4) Mulch

2. Turf and Grasses

a. Hydro-Seeding

3. Plants

- a. Plants
- b. Ground Covers
- c. Shrubs
- d. Trees

1.2 REFERENCED STANDARDS

- A. General: Any material specified by reference to the number, symbol, or title of a specific standard, such as commercial, federal specification, a trade association standard or other similar standards, shall comply with the requirements in the latest revision thereof and any amendment with supplement thereto in effect on the date of invitation for bids, except as limited to type, class or grade, when modified in such reference.
- B. Plant Materials: All plant material shall meet the American Association of Nurserymen Standard ANSI Z60.1 latest edition. Plant names shall conform to the most recent edition of “Standardized Plant Names” as adopted by the American Joint Committee of Horticulture Nomenclature.
- C. Agricultural Chemist: Qualified, experienced public or private soils testing laboratory, capable of providing test results as specified and approved by the Owner.

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1.3 TIME

- A. Place seed during periods that are normal for such work as determined by the season, weather conditions, and accepted practice.
- B. Critical Planting Dates:
 - 1. All planting to be completed fall. Planting can take place between September 15th through November 15th if the ground is not frozen.
 - 2. All seeding to be completed between September 20th through October 15th.

1.4 PROJECT CONDITIONS

- A. Work notification: Notify Project Representative at least seven (7) working days prior to the installation of plant material.
- B. Protect existing utilities, paving, and other facilities from damage caused by planting operations. Confine work to designated areas.
- C. Prepare soil and place seed during periods that are normal for such work as determined by the season, weather conditions, and accepted procedures.
- D. Plant trees, shrubs, and groundcovers, only during acceptable periods. See 1.3.
- E. Coordinate planting work with soil preparation.
- F. Existing conditions:
 - 1. Carefully examine the site before submitting a bid. Be informed as to the nature and location of the Work, general and local conditions including climate, adjacent properties and utilities, the conformation of the ground, the nature of subsurface condition, the character of equipment and facilities needed prior to and during the execution of the Work.

PART 2 - PRODUCTS

2.1 TOPSOIL

- A. Topsoil
 - 1. Acceptable Sources:
 - a. Use on-site stockpile

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2.2 SOIL AND SOIL AMENDMENTS

- A. Stripped On-Site Soil: Strip and stockpile clean on-site soil from designated areas as directed by Project Representative. Remove all vegetation, including roots prior to stripping. Remove all excess topsoil from the site as required.

2.3 BACKFILL SOIL MIX

- A. Backfill soil mix for plantings shall be “Topsoil” as indicated above.

2.4 WOOD FIBER MULCH

- A. “Conwed Fibers Hydromulch 1000 with Triflo” as manufactured by PROFILE PRODUCTS LLC, or an approved equal.

2.5 MULCH (HOG FUEL)

- A. Mulch shall be ground wood, brush and/or stumps of Fir, Hemlock, Pine, and Alder chips ranging in size 3” – 5” long by ½ inch by 1 inch in diameter. Mulch shall not be shavings and contain ground leaves.
- B. Mulch shall be processed to reduce weed seed, pathogens, and deleterious material, and shall not contain paint, petroleum products, herbicides, fungicides, or other chemical residues that would be detrimental to animal/plant life. There shall zero presence of deleterious material such as, not but limited to, plastic, glass, metal, or rocks.

2.6 SEED MIX

- A. Seed shall be labeled in accordance with U.S. Department of Agriculture rules and regulations under the Federal Seed Act in effect on the date of the bids. Seed shall be furnished in sealed standard containers unless exception is granted in writing by the Project Representative. Seed which has become wet, moldy, or otherwise damaged in transit or storage will not be acceptable. The minimum percentage by weight of germination and percent purity in each lot of seed shall be the highest available.
- B. The seed mix shall be “DOT Multipurpose” as produced by SUNMARK SEEDS or equal.

2.7 PLANT MATERIALS

- A. Genera, species, and variety, quantity, size, and conditions shall be as indicated on the Drawings and Plant Material Listing.
- B. All grafts or budding on trees shall be at ground level except higher grafts of budding with compatible trunk, and the Project Representative may approve branch growth characteristics.

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PART 3 - EXECUTION

3.1 TREE PROTECTION

- A. Refer to 311100 Site Preparation, Demolition and Tree Protection

3.2 INSPECTION

- A. Finish grading shall be inspected and approved by the Project Representative prior to planting. Verify that planting bed grades and layout are in accordance with those indicated on the Project Grading and Drainage, and Layout Drawings before proceeding with Work.
- B. Soil conditions:
 - 1. Source from existing stockpile topsoil and place in the areas of new plantings, see 3.5
 - 2. Planting work shall not begin until soil and planting conditions are satisfactory and have been approved by the Project Representative
 - 3. Verify that rough finish grades, slopes of planting areas are acceptable to the Project Representative prior to commencing work of this Section
 - 4. Work required under this Section will not begin until conditions are satisfactory
- C. Locate all utilities prior to the commencement of work. Take all necessary precautions to avoid disturbing or damaging sub-surface elements. If subsurface elements are uncovered, promptly notify the Owner.

3.3 PLANT LAYOUT

- A. Contractor shall locate plants by staking with stakes and flags as indicated on the drawings or as approved by the layout of plants in the field. If obstructions are encountered that are not shown on the drawings, do not proceed until alternate locations have been selected by the Project Representative.

3.4 PLANTING OF TREES, SHRUBS, AND GROUNDCOVERS

- A. Plant trees and shrubs upright
- B. Excavate all planting holes twice the spread of the tree, shrub, or groundcover root ball or root system
- C. Place 8" minimum lightly compacted layer of backfill soil mix under root system of each tree and shrub. Loosen planting hole subsurface to a depth of 4-6 inches prior to placement.
- D. Loosen and remove burlap from around at least upper 1/2 of root ball, remove excess burlap.
- E. Cut off cleanly all broken or frayed roots

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- F. Place and compact backfill of stockpile soil carefully to avoid injury to roots; fill all voids. When hole is nearly filled, completely fill with water and allow water to soak away. Fill holes to finish grade and prepare for other work indicated.
- G. Mulch after planting is completed. See 3.5

3.5 MULCHING

- A. Mulch shrub and groundcover planting beds with a 4-inch layer of mulch material within two days after planting. Cover entire bed areas, apply evenly and rake out smooth. Where individual trees are planted greater than 4 feet from another plant, provide a mulch circle, minimum 3 feet in diameter, around each tree. Plants located less than 4 feet apart shall be considered to be in planting beds.

3.6 SEEDED AREAS

- A. Seed all areas as indicated on the plans.
- B. Preparation: Use recycle stockpile topsoil to depth of 4", remove stones over 1", all sticks, roots, rubbish, and extraneous matter. All areas to be seeded shall be graded to a smooth even surface. Roll, rake, remove ridges, and fill depressions as required to drain.
- C. Perform seeding operations when the soil is dry and when winds do not exceed 5 miles per hour velocity.
- D. Apply seed by hydroseeding or with a rotary or drop type distributor. Install seed evenly by sowing equal quantities in 2 directions, at right angles to each other.

3.7 INSTALLATION

- A. Excavate circular plant pits with scarified vertical sides, except for plants specifically indicated to be planted in beds. Provide planting pits at least twice the diameter of the root system or container. Depth of pit shall accommodate the entire root system. Scarify the bottom and sides of the pit to a depth of four inches.
- B. Place specified planting soil for use around the balls and roots of the plants
- C. Set plant material in the planting pit to proper grade and alignment. Set plants upright, plumb. Set crown of plant material at the finish grade. No filling will be permitted around trunks or stems or above grafts on grafted trees. Backfill the pit with specified soil. Do not use frozen or muddy mixtures for backfilling. Form a ring of soil around the edge of each planting pit to retain water.
- D. After balled and burlapped plants are set, water the soil mixture around bases of balls and fill all voids.
 - 1. Remove all burlap, or plastic wrapping materials, twine, and wires, and wire baskets from root balls, or to lower ½ of the root ball as directed by Project Representative.

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2. If burlap has been chemically treated (having a green color), remove from the planting pit, if possible, without disturbing or breaking up rootball.
- E. Space ground cover plants in accordance with indicated dimensions. Adjust spacing as necessary to evenly fill planting beds with the indicated quantity of plants.
- F. Spread and arrange the roots of bare-rooted plants in their natural position. Work in specified planting soil. Do not mat roots together. Cut all broken and frayed roots before backfilling with remaining specified planting soil.
- G. Bark Mulch: Cover shrub and groundcover planting beds with a 4-inch layer of bark mulch within two days after planting. Provide continuous coverage for the entire tree and shrub bed areas. Apply evenly, keeping all plant material free from coverage. Provide a minimum of 36" diameter mulch ring around each tree and shrub.

3.8 SEED INSTALLATION

- A. All seeded areas shall be hydro seeded (or hand seeded, if re-seeding is necessary), as specified at rates indicated under materials. Verify the extent and location of seeded areas with Project Representative.
- B. All seeded areas that do not show a prompt catch of grass, within 7 to 10 days after seeding, shall be re-seeded (as originally specified) at ten-day intervals until an acceptable stand of grass is assured.
- C. Seed areas shall be hydro seeded with hydro-mulch, fertilizer, tacking agent, and moisture retention agent applied at rates specified in this section.
- D. If required for re-seeding, hand seeded areas shall be top dressed after seeding with 1/4" to 1/2" Growco for mulch.

3.9 MAINTENANCE

- A. Keep premises free of weeds during the Contract period. Grub out weeds, including roots and crown, and remove from site.
- B. Maintenance shall include:
 1. Re-set settled plants to proper grade and position. Restore planting saucer and adjacent material and remove dead material.
 2. Correct defective work as soon as possible after deficiencies become apparent and weather and season permit.
 3. Water trees, plants, and ground cover beds within the first twenty-four (24) hours of initial planting.

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3.10 ACCEPTANCE

- A. Inspection to determine acceptance of planted areas will be made by the Project Representative, Contractor's request. Provide notification at least ten (10) working days before the requested inspection date.
 - 1. Planted areas will be accepted, provided that all requirements, including the maintenance period, have been complied with, and plant materials are alive and in a healthy, vigorous condition.
- B. Upon acceptance of maintenance period State Parks will assume plant maintenance.

3.11 CLEAN UP AND MAINTENANCE

- A. Perform cleaning during the installation of the work and upon completion of the work. Remove from the site all excess materials, soil, debris, and equipment. Repair damage resulting from planting operations.
- B. Keep premises reasonably free from accumulation of debris
- C. At completion of each area of work, remove all debris, equipment and surplus material
- D. Furnish temporary equipment such as tools, hose or other water equipment, and other equipment required for performance of maintenance work
- E. Maintenance of trees, shrubs, and ground cover plantings:
 - 1. Contractor shall assume full responsibility for the maintenance of all landscaping until such time as Contractor receives notice from the Owner that such landscaping has reached physical completion
 - 2. Irrigate when necessary to avoid drying out of plant materials and as required to promote healthy growth during the contract period
- F. Maintenance of seeded areas:
 - 1. Protect and maintain by watering, reseeding, weeding and repairing as required to establish thick, weed free, uniform stand of grass for 21 calendar days beginning after installation of seeded areas
 - 2. No mowing of wet meadow mix is required

END OF SECTION

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SECTION 330000 – UTILITIES GENERAL REQUIREMENTS

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

- A. Provide all site utilities shown on Drawings and specified herein.
- B. Coordinate Work with utilities providing service and State Parks staff to complete all required connections and to minimize periods of service interruptions.
- C. Refer to other Divisions of these Specifications for utility work within building.
- D. Refer to Earthwork Division of these Specifications for trenching requirements.
- E. Refer to civil and electrical drawings for description of utility Work and materials not included in this Division of Specifications.

1.2 SUBMITTALS

- A. Submit for review by Architect manufacturer's literature, cut sheets and data on utility products, piping and related accessories.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

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SECTION 330001 – PIPE & PIPE FITTINGS: GENERAL STATEMENT

PART 1 - GENERAL

1.1 DESCRIPTION

- A. The work in this Section includes utility piping systems, plumbing piping systems, pipe pressure testing, and pipe cleaning.

1.2 REFERENCES

- A. American National Standards Institute (ANSI)
 - 1. B16.5, Pipe Flanges and Flanged Fittings
- B. American Society for Testing and Materials (ASTM)
 - 1. A53, Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless
 - 2. A74, Standard Specification for Cast Iron Soil Pipe Fittings
 - 3. A106, Standard Specification for Seamless Carbon Steel Pipe for High Temperature Service
 - 4. A197, Standard Specification for Cupola Malleable Iron
 - 5. A234, Standard Specification for Pipe Fittings of Wrought Carbon Steel Alloy Steel for Moderate and Elevated Temperatures
 - 6. A269, Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service.
 - 7. A518, Corrosion – Resistant High – Silicon Iron Castings
 - 8. A774, As-Welded Wrought Austenitic Stainless Steel Fittings for General Corrosive Service at Low and Moderate Temperatures
 - 9. A778, Welded, Unannealed Austenitic Stainless Steel Tubular Products
 - 10. B86, Standard Specification for Zinc
 - 11. B88, Standard Specification for Seamless Copper Water Tube
 - 12. B306, Copper Drainage Tube CDWV
 - 13. C76, Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe
 - 14. C361, Standard Specification for Reinforced Concrete Low Head Pressure Pipe
 - 15. C443, Joints for Circular Concrete Sewer and Culvert Pipe, Using Rubber Gaskets
 - 16. C564, Rubber Gaskets for Cast Iron Soil Pipe and Fittings
 - 17. C924, Standard Practice for Testing Concrete Sewer Lines by Low Air Pressure Test Methods
 - 18. C1103, Standard Practice for Joint Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines
 - 19. D1248, Polyethylene Plastics Molding and Extension Materials
 - 20. D1785, Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120

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21. D2241, Standard Specification for Poly (Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR Series)
22. D2466, Socket Type PVC Plastic Pipe Fittings, Schedule 40
23. D2467, Standard Specification for Socket-Type Poly (Vinyl Chloride)
24. D2997, Standard Specification for Centrifugally Cast Thermosetting Plastic Pipe
25. D3034, Standard Specification for Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings
26. D3350–Continuous Outdoor Use (UV)
27. D4101, Polypropylene Plastic Injection and Extrusion Materials
28. F1417, Installation Acceptance of Plastic Gravity Sewer Lines Using Low Pressure Air
29. F438, Standard Specification for Socket-Type Chlorinated Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40
30. F439, Standard Specification for Socket-Type Chlorinated Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedule 80
31. F441, Standard Specification for Chlorinated Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40 and 80
32. F679, Standard Specifications for Poly (Vinyl Chloride) (PVC) Large-Diameter Plastic Gravity Sewer Pipe and Fittings
33. F794, Standard Specification for Poly (Vinyl Chloride) (PVC) Rubber Gravity Sewer Pipe and Fittings based on Controlled Inside Diameter
34. F1417, Standard Test Method for Installation Acceptance of Plastic Gravity Sewer Lines Using Low Pressure Air
35. F2164, Standard Practice for Field Leak Testing of Polyethylene (PE) Pressure Piping Systems Using Hydrostatic Pressure.
36. F2206 -- Standard Specification for Fabricated Fittings of Butt-Fused Polyethylene (PE) Plastic Pipe, Fittings, Sheet Stock, Plate Stock, or Block Stock

C. American Water Works Association (AWWA)

1. C104, Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water
2. C110, Ductile Iron and Gray Iron Fittings, three (3) inch through forty-eight (48) inch for Water and Other Liquids.
3. C111, Rubber Gasket Joints for Ductile Iron and Gray Iron Pressure Pipe and Fitting
4. C115, Flanged Ductile Iron Pipe with Threaded Flanges
5. C151, Ductile Iron Pipe, Centrifugally Cast, in Metal Molds or Sand-Lined Molds for Water or Other Liquids
6. C153/A21.53 -- American National Standard for Ductile-Iron Compact Fittings, three (3) inch through twenty-four (24) inch and fifty-four (54) inch through sixty-four (64) inch, for Water Service.
7. C200, Steel Water Pipe 6 inch and Larger
8. C203, Coal Tar Protective Coatings and Linings for Steel Water Lines – Enamel and Tape – Hot Applied
9. C205, Cement Mortar Lining and Coating for Steel Water Pipe four (4) inch and Larger, Shop Applied
10. C207, Steel Pipe Flanges for Waterworks Service – Sizes four (4) inch through one hundred forty-four (144) inch
11. C208, Dimensions for Fabricated Steel Water Pipe Fittings
12. C210, Liquid Epoxy Coating Systems for the Interior and Exterior of Steel Water Pipelines
13. C214, Tape Coating Systems for the Exterior of Steel Water Pipelines
14. C600-99, Installation of Ductile-Iron Water Mains and Their Appurtenances

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15. C605-94, Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for Water
16. C606, Grooved and Shouldered Joints
17. C651, Disinfection of Water Mains
18. C900, Polyvinyl Chloride (PVC) Pressure Pipe four (4) inch through twelve (12) inch for Water
19. C905, Polyvinyl Chloride (PVC) Water Transmission Pipe, Nominal Diameters fourteen (14) inch through thirty-six (36) inch
20. C906 – Polyethylene (PE) Pressure Pipes and Fitting (Revised to Incorporate PE4710)
21. M11, Steel Pipe – A Guide for Design and Installation
22. Cast Iron Soil Pipe Institute (CISPI)
23. CISPI301, Hubless Cast Iron Sanitary System with No Hub Pipe and Fittings
24. CISPI310, Coupling for Use in Connection with Hubless Cast Iron and Fittings for Sanitary and Stormdrain, Waste, and Vent Piping Applications

D. Plastic Pipe Institute – Handbook of PE Pipe, 2nd Edition.

1. To include Technical Reports and Technical Notes (http://www.plasticpipe.org/publications/pe_handbook.html)
 - a. Technical Notes #46, “Guidance for Field Hydrostatic Testing of High Density Polyethylene Pressure Pipelines: Owner’s Considerations, Planning, Procedures, and Checklists TN-46/2013”.

E. National Electric Manufacturer’s Association (NEMA)

1. ICS6, Enclosures for Industrial Controls and Systems

F. National Fire Protection Association (NFPA)

1. 54, National Fuel Gas Code

1.3 SUBMITTALS

A. Shop Drawings consistent with Submittal Procedures – Section 013300 and including:

1. Schedule showing pipe type, size, schedule of pipe, appurtenances, type of linings and coatings, cathodic protection.
2. Copies of any manufacturer’s written directions regarding material handling, delivery, storage and installation
3. Technical product data on piping appurtenances

B. Certifications and Testing consistent with Quality Requirements – Section 014000 and including:

1. Certification that products used meet standards referenced
2. Notification of time and date of piping pressure tests
3. Copies of pressure test results on all piping systems

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PART 2 - PRODUCTS

2.1 MATERIALS

- A. Furnish piping, fittings and appurtenances in accordance with the Contract Documents.
- B. Pipe sizes indicated are nominal inside diameter.
- C. Use straight, round pipe.
- D. For temporary piping not specifically addressed, utilize materials, joints and fittings equal to those specified for similar applications of permanent construction.

2.2 COMPONENTS AND ACCESSORIES

- A. Couplings Restraint
 - 1. Provide mechanical restraint for all couplings.
 - 2. Assure couplings and restraint match test pressure rating of piping system.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Prior to installation, inspect and verify condition of piping and appurtenances. Installation constitutes installer's acceptance of product condition for satisfactory installation.

3.2 PREPARATION

- A. Correct defects or conditions which may interfere with or prevent a satisfactory installation.

3.3 DELIVERY, STORAGE, AND HANDLING

- A. Protect pipe coating during handling using methods recommended by manufacturer. Use of bare cables, chains, hooks, metal bars or narrow skids in contact with coated pipe is not permitted.
- B. Prevent damage to pipe during transit. Repair abrasions, scars, and blemishes. If repair of satisfactory quality cannot be achieved, replace damaged material immediately.

3.4 EXTERIOR PIPING ERECTION/INSTALLATION/APPLICATION

- A. Unless otherwise shown on the Drawings, provide a minimum of thirty (30) inches earth cover over exterior buried piping systems and appurtenances conveying water, fluids, or solutions subject to freezing.

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B. Laying Pipe in Trench

1. Excavate and backfill trench in accordance with Utility Excavation & Backfill – Section 312333.
2. Clean each pipe length thoroughly and inspect for compliance to Specifications.
3. Grade trench bottom and excavate for pipe bell and lay pipe on trench bottom or bedding material.
4. Provide gasket or joint material according to manufacturer's directions after joints have been thoroughly cleaned and examined.
5. Except for first two (2) joints, before making final connections of joints, two (2) full sections of pipe shall have been previously installed with earth tamped alongside of pipe of final bedding material placed.
6. Lay pipe in only suitable weather with good trench conditions. Never lay pipe in water except where approved by Project Representative.

C. Lining-up Push-on Joint Piping

1. Lay piping on route lines shown on Drawings.
2. Deflect from straight alignments or grades by vertical or horizontal curves.
3. Maximum offset between extended centerlines of any two (2) adjacent pipe lengths is in strict accordance with the pipe manufacturers published literature on deflections and offsets.
4. Provide special bends when specified or where required alignment exceeds allowable deflections stipulated.
5. Provide shorter lengths of pipe in such length and number that angular deflection of any joint, as represented by specified maximum deflection, is not exceeded.

D. Anchorage and Blocking

1. Provide reaction blocking, anchors, joint harnesses, or other acceptable means for preventing movement of piping caused by forces at buried or exposed piping tees, wye branches, plugs, or bends.
2. Size thrust block as detailed on the Drawings.
3. Place concrete blocking so that it extends from fitting into solid undisturbed earth wall. Concrete blocks shall not cover pipe joints.
4. Provide bearing area of concrete in accordance with details on Drawings.
5. Provide insulating components where dissimilar metals are joined together.

3.5 INTERIOR PIPING INSTALLATION

A. Lining-up Push-on Joint Piping

1. Lay piping as shown on Drawings.
2. Install pipe in straight alignments and parallel or perpendicular to walls and surrounding pipe to the greatest extent possible.

B. Anchorage and Blocking

1. Provide hangers to properly support pipe.

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2. Provide anchors, joint harnesses, or other acceptable means for preventing movement of piping caused by forces at piping tees, plugs, or bends.
3. Provide insulating components where dissimilar metals are joined together.

3.6 CONNECTIONS WITH EXISTING PIPING

- A. Where connection between new work and existing work is made, use suitable and proper fittings to suit conditions encountered.
- B. Perform connections with existing piping at time and under conditions which will least interfere with service to those affected by such operation.
- C. Undertake connections in fashion which will disturb existing system as little as possible.
- D. Utilize suitable equipment and facilities to dewater, drain, and dispose of liquid removed without damage to adjacent property.
- E. Where connections to existing systems necessitate employment of past installation methods not currently part of trade practice, utilize necessary special piping components.

3.7 FIELD QUALITY CONTROL

- A. General
 1. Utilize pressures, media, and pressure test durations as specified on Piping Schedules and provided under project specifications for applicable pipe material.
 2. Isolate equipment which may be damaged by the specified pressure test conditions.
 3. Perform pressure test using calibrated pressure gauges and calibrated volumetric measuring equipment to determine leakage rates. Select each gauge so that the specified test pressure falls within the upper half of the gauge's range. Notify Project Representative twenty-four (24) hours prior to each test.
 4. Completely assemble and test new piping systems prior to connection to existing pipe systems.
 5. Acknowledge satisfactory performance of test and inspections in writing to Project Representative prior to final acceptance.
 6. Provide all necessary equipment and perform all work required in connection with the test and inspections.
 7. Bear the cost of all testing and inspecting, locating and remedying of leaks and any necessary retesting and reexamination.

3.8 CLEANING AND DISINFECTION

- A. Cleaning
 1. Clean interior of piping systems thoroughly before installing.
 2. Maintain pipe in clean condition during installation.
 3. Before joining piping, thoroughly clean and wipe joint contact surfaces and then properly dress and make joint.

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4. Immediately prior to pressure testing, clean and remove grease, metal cuttings, dirt, or other foreign materials which may have entered the system.
5. At completion of work and prior to final acceptance, thoroughly clean work installed under these specifications. Clean equipment, fixtures, pipe, valves, and fittings of grease, metal cuttings, and sludge which may have accumulated by operation of system, from testing, or from other causes. Repair any stoppage of discoloration or other damage to parts of building, its finish, or furnishings, due to failure to properly clean piping system, at contractor's expense.

B. Disinfection

1. Flush and disinfect system in accordance with Disinfecting Water Utility Distribution - Section 331300.

END OF SECTION

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SECTION 330526 – UTILITY LINE IDENTIFICATION MARKING

PART 1 - GENERAL

1.1 DESCRIPTION

- A. The work of this Section includes furnishing and installing utility line marking tape in the water or sanitary sewer utility trench.

1.2 SUBMITTALS

- A. As specified in Submittal Procedures - Section 013300.
- B. Samples: twenty-four inch (24”) strips of tape.
- C. Certification that the materials used in the tape fabrication meet the requirements of this Section.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Capable of being inductively detected electronically.
- B. Construction: Two (2) layers of impervious plastic film not less than four inches (4”) wide. Total thickness of tape shall not be less than 0.005 inch (five (5) millimeters) plus or minus ten percent (10%) manufacturing tolerances.
 - 1. Film: Inert plastic. Each film layer shall be not less than 0.0005 inch thick (one half (0.5) millimeters).
 - 2. Adhesive: Compatible with foil and film.
- C. Imprint: One inch (1”) or larger bold black letters.
- D. Legend: Identify buried utility line tape with imprint such as “CAUTION: WATER LINE BELOW” or “CAUTION: SANITARY SEWER LINE BELOW.” Repeat identification at approximately twenty-four inch (24”) intervals.
- E. Background Color: APWA color code and as specified below:

Color	Utility
Safety Red	Electric
High Visibility Safety Yellow	Gas, Oil, Steam, Dangerous Materials

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Safety Alert Orange	Telephone, Communications, Cable Television
Safety Precaution Blue	Water System, Irrigation
Safety Green	Sanitary Sewer, Storm Sewer
Safety Brown	Force Mains, Reclaimed Water, and Effluent Lines

- F. Manufacturer: Lineguard, Inc., Wheaton, Illinois; Reef Industries, Inc., Houston, Texas; Thor Enterprises, Inc., Sun Prairie, Wisconsin; or approved equal.

PART 3 - EXECUTION

3.1 GENERAL

- A. Install tape in backfill directly over each buried utility line as shown. Place tape during final backfilling. Bury tape approximately twelve (12) inches above the crown of the pipe.

END OF SECTION

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SECTION 331100 – WATER UTILITY DISTRIBUTION PIPING

PART 1 - GENERAL

1.1 DESCRIPTION

- A. The work covered in this Section includes furnishing, installing and cleaning piping systems and fittings for project water lines, to include water service lines, valves, miscellaneous products, accessories and appurtenant items.

1.2 SUBMITTALS

- A. See Submittal Procedures – Section 013300 for submittal procedures.
- B. Product Data: Provide data on pipe materials, pipe fittings, expansion joint fittings, flex fittings, valves, and all other accessory products needed for complete installation. Provide manufacturer's catalog information and manufacturer's certification. Indicate valve and data ratings.
- C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- D. Project Record Documents: Record actual locations of pipe lines, valves, connections, thrust restraints, and invert elevations. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities. Contractor records and drawings shall be submitted with as-built submittals. Contractor to maintain as-built throughout the project duration during construction on-site.

PART 2 - PRODUCTS

2.1 PIPE

- A. Polyvinyl Chloride (PVC) Pipe:
 - 1. PVC Pipe (4 Inches and Over): PVC pipe for water mains shall meet the requirements of ANSI/AWWA C900 or C905. PVC pipe shall have the same outside dimensions as ductile iron pipe. PVC pipe for distribution pipelines shall be a minimum of SDR 18. Pipe shall be listed by Underwriters' Laboratories, Inc.

PVC pipe shall be considered flexible conduit. Joints shall meet the requirements of ASTM D3139 using a restrained rubber gasket conforming to ASTM F477. Solvent welded pipe joints are not permitted.
- B. Polyethylene (PE) Pipe:
 - 1. PE Pipe (4 inches and Over): PE pressure pipe for water mains shall meet the requirements of ANSI/AWWA C906. Pipe materials shall be high-density polyethylene PE3408

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conforming to a minimum cell class 345464 C, D or E per ASTM D3350. Pipe diameter shall be either iron pipe size per Table 3 and Table 5 of ANSI/AWWA C906. Pipe pressure class shall be as listed in Table 9 of ANSI/AWWA C906 for DR 9 PE3408 material.

2. PE Tubing: PE tubing shall meet the requirements of AWWA C901. Tubing shall be high molecular mass with a 200 psi rating. Tubing used for ¾ and 1 inch shall be either SIDR 7 (iron pipe size) or SDR 9 (copper tube size). Tubing used for 1-1/2 and 2 inches shall be SDR 9 (copper tube size).

C. Galvanized Steel Pipe (4 inches and Under):

1. Steel pipe less than 4 inches in diameter must conform to ASTM A 53, schedule 40 and must be hot dip galvanized inside and out, including the couplings. The pipe sections must be coupled by malleable iron screw coupling per ANSI Specification B16.3.

D. Ductile Iron Pipe:

1. Ductile iron pipe shall meet the requirements of AWWA C151. Ductile iron pipe shall have a cement mortar lining and a 1-mil thick seal coat meeting the requirements of AWWA C104. Ductile iron pipe to be joined using bolted flanged joints shall be Special Thickness Class 53. All other ductile iron pipe shall be Special Thickness Class 50, minimum Pressure Class 350.
2. Nonrestrained joints shall be either rubber gasket type, push on type, or mechanical type meeting the requirements of AWWA C111
3. Joints: rubber gasket, push-on type, or mechanical conforming to AWWA C111.

2.2 FITTINGS, BOLTS, & GASKETS

- A. Ductile Iron Pipe and Polyvinyl Chloride (PVC) Pipe (4 inches and Over): Fittings for ductile iron and PVC pipe shall meet the requirements of AWWA C110 or AWWA C153. Joints shall meet the requirements of AWWA C111. Fittings shall be cement mortar lined, meeting the requirements of AWWA C104. Gaskets for flat faced or raised faced flanges shall be 1/8-inch-thick neoprene having a durometer of 60 plus or minus 5 or 1/16 cloth inserted. The type, material, and identification mark for bolts and nuts shall be provided.
- B. Polyethylene (PE) Pipe (4 inches and Over): Fittings for PE pipe shall meet the requirements of ANSI/AWWA C906. Pipe material shall be high-density polyethylene PE3408 conforming to minimum cell class 345464 C, D or E per ASTM D3350. Pipe diameter shall be either iron pipe size per Table 3 and 5 of ANSI/AWWA C906 or ductile iron pipe size per Table 7 and Table 8 of ANSI/AWWA C 906. Pipe pressure class shall be as listed in Table 9 of ANSI/AWWA C 906 for DR 9 PE3408 material.
- C. Galvanized Steel Pipe (4 inches and Under): Fittings for steel pipe 4 inches and under shall be malleable iron threaded type with a pressure rating of 150 psi. Dimensions shall meet the requirements of ANSI B16.3. Threading shall meet the requirements of ANSI B2.1. Material shall meet requirements of ASTM A47M, Grade 32510. Fittings shall be banded and hot-dip galvanized inside and out.
- D. Service Fittings:

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1. Saddles: Saddles shall be ductile iron, bronze, or stainless steel. Saddles shall be single strap and may be either AWWA tapered thread or female iron pipe thread outlet. Saddles used on PVC pipe shall be formed for PVC pipe and have flat, stainless steel straps.
2. Corporation Stops: Corporation stops shall be made of bronze or brass alloy. Corporation stops shall have either AWWA tapered thread or male iron pipe thread inlet and outlet connections compatible with either copper or polyethylene tubing. Thread patterns for the saddle outlet and corporation stop inlet shall be the same.
3. Fittings used for service connections shall be made of bronze or brass alloy. Fittings used for polyethylene tubing shall be either compression or stab type. Stab type fittings shall utilize an internal grip ring and O ring seal. Stainless steel liners shall be used when utilizing compression fittings on polyethylene tubing.

E. Bolts, Nuts and Washers:

1. Bolts, nuts and washers used for securing fittings shall be of similar materials. Steel bolts shall meet the requirements of ASTM A 307 or ASTM 568 for carbon steel or ASTM F 593 or ASTM F 738 for stainless steel. Nuts shall meet the requirements of ASTM A 563 for carbon steel or ASTM F 594 or ASTM F 836 for stainless steel. Iron bolts and nuts shall meet the requirements of ASTM A 536, grade 65-45-12.

2.3 VALVES

- A. Valves: Manufacturer's name and pressure rating marked on valve body.
- B. Gate Valves Three (3) Inches and Over: Refer to Section 331216

2.4 HOSE BIBS (RV CONNECTIONS)

- A. Hose Bib: Arrowhead 365LF with integral vacuum breaker or approved equivalent.
- B. Water Shroud: Millbank or approved equivalent
- C. Riser Pipe: 3/4" Schedule 40 galvanized steel.
- D. Adapter: Galvanized steel to polyethylene pipe.

2.5 BEDDING AND COVER MATERIALS

- A. Bedding and Backfill: As specified in Utility Excavation & Backfill – Section 312333.

2.6 ACCESSORIES

- A. Concrete for Thrust Restraints: Concrete type specified in Cast-In-Place Concrete – Section 033000.
- B. Joint Restraint:

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1. The restraining of ductile iron pipe, fittings, and valves shall be accomplished by the use of either a bolted or boltless system. Any device utilizing round point set screws shall not be permitted.
2. Restraint Devices for PVC Pipe shall incorporate a series of serrations on the inside diameter to provide positive restraint, exact fit, 360 degree contact and support of the pipe wall.
3. Restraint Devices shall be manufactured of high strength ductile iron, ASTM A536, Grade 65-45-12 or ASTM A36 structural steel.
4. Bolts and connecting hardware shall be of high strength low alloy material in accordance with ANSI/AWWA C111/A21.11
5. Restraint Devices for PVC Pipe shall have a water working pressure rating equivalent to the full rated pressure of the PVC Pipe on which they are installed, with a minimum two to one (2:1) safety factor in any nominal pipe size.
6. Notarized certification from the manufacturer of the restraint device shall be provided with submittals.
7. Restrain Devices for mechanical Joint or Push-On fittings shall be Uni-Flange 1300 (series) or approved equal.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that water main and main line tee size, location, and invert are as indicated.
- B. The contractor shall inspect each pipe and fitting prior to installation to ensure that there are no damaged portions of the pipe. Pipe damage prior to completion of the project shall be repaired or replaced by the Contractor.
- C. Handling: Pipe, fittings and accessories shall be carefully inspected before and after installation and those found defective shall be rejected. Pipe and fittings shall be free from fins and burrs. Before being placed in position, pipe, fittings, and accessories shall be cleaned, and shall be maintained in a clean condition. Proper facilities shall be provided for lowering sections of pipe into trenches. Under no circumstances shall pipe, fittings or any other material be dropped or dumped into trenches.
- D. Storage: Pipe should be stored, if possible, at the job site in unit packages provided by the manufacturer. Caution should be exercised to avoid compression damage or deformation to bell ends of the pipe. Pipe should be stored in such a way as to prevent sagging or bending and protected from exposure to direct sunlight by covering with an opaque material while permitting adequate air circulation above and around the pipe. Gaskets should be stored in a cool, dark place out of the direct rays of the sun, preferably in original cartons.
- E. Assure exposed piping is sufficiently supported to bear weight of valve when it is installed.

3.2 PREPARATION

- A. Cut pipe ends square, ream pipe ends to full pipe diameter, remove burrs.

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- B. Remove scale and dirt on inside and outside before assembly.
- C. Prepare pipe connections to equipment with flanges or mechanical joints.

3.3 TRENCHING

- A. See Utility Excavation & Backfill – Section 312333 for additional requirements.
- B. Hand trim excavation for accurate placement of pipe to elevations indicated.
- C. Form and place concrete for pipe thrust restraints at each change of pipe direction. Place concrete to permit full access to pipe and pipe accessories. Provide required square foot of thrust restraint bearing on subsoil as indicated on the drawings.
- D. Backfill around sides and to top of pipe with backfill material, tamp in place and compact, then complete backfilling.

3.4 DELIVERY, STORAGE, PROTECTION AND HANDLING

- A. Deliver and store valves in shipping containers with labeling in place. Inspect for damage.
- B. Provide temporary protective coating on cast iron and steel valves.
- C. Provide temporary end caps and closures on piping and fittings. Maintain in place until installation.
- D. Deliver and store piping covered to protect piping from ultraviolet (UV) exposure.
- E. Protect piping systems from entry of foreign materials by temporary covers, completing sections of the work, and isolating parts of the completed system.

3.5 INSTALLATION - PIPE

- A. Maintain separation of non-potable water main from potable water sources in accordance with State code.
- B. Establish elevations of buried piping to ensure not less than three (3) feet of cover over pipe; or as indicated on the drawings and as directed by the Project Representative.
- C. Install pipe to indicated elevation to within tolerance of one (1) inch.
- D. Install HDPE pipe and fittings to AWWA C906, ASTM F2206 and PPI Handbook of PE Pipe 2nd edition including Technical Reports and Notes.
- E. Install ductile iron piping and fittings to AWWA C600.
- F. Install PVC pressure piping and fittings to ASTM D2774.
- G. Install pipe lines to line and grade indicated.

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- H. Install pipe to allow for expansion and contraction without stressing pipe or joints.
- I. Install trace wire above top of pipe.
- J. All ductile iron sleeves, fittings, and valves with mechanical joints shall be restrained with an approved Restraining Device (Joint Restraint).
- K. Prepare exposed, unfinished pipe, fittings, supports, and accessories ready for finish painting.
- L. Install bell and spigot pipe with bell end upstream.
- M. Install valves with stems upright or horizontal, not inverted.
- N. Install above ground water piping to the most current version of ASME B31.9, ASME B31.3, and ASME 31.4.
- O. Inserts:
 - 1. Provide inserts for placement in concrete formwork.
 - 2. Provide inserts for suspending hangers or supporting posts from reinforced concrete slabs and sides of reinforced concrete structures.
 - 3. Provide hooked rod to concrete reinforcement section for inserts carrying pipe over four (4) inches.
- P. Pipe Hangers and Supports:
 - 1. Install in accordance with ASME B31.996.
 - 2. Support horizontal piping as scheduled.
 - 3. Wall and Footing Support for Pipe Sizes four (4) inches and over: Welded steel bracket and wrought steel clamp and/or sleeve.

3.6 INSTALLATION - VALVES

- A. Set valves on concrete block or other acceptable solid bearing.
- B. Center and plumb valve box, where required, over valve operating nut. Set box cover flush with finished grade.

3.7 CONNECTIONS TO EXISTING WATER LINES

- A. Connection to existing water lines shall be made where and as indicated on the drawings and as directed by the Project Representative. The sizes of pipe, fittings, valves and appurtenant items required to make connection shall correspond to the sizes of existing pipe and of project pipe.
- B. Excavate to existing pipe line at point of connection; determine actual conditions of existing pipe and all fittings and appurtenant items required to make the connection; and have all materials needed on site prior to any shut down or cutting into existing pipe lines.
- C. Connections which involve cutting into existing pipe lines include: cutting and removing sections of existing pipe and fittings as required; cleaning and preparing ends of existing pipe as required

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for connection; furnishing and installing all new pipe, fittings and valves required to make the connection of project pipe to the existing pipe as indicated; and all appurtenant work required to complete the connection.

- D. Connection to existing pipe line shall be made at such times and within the time limits and according to the directions as agreed upon between the Contractor and the Project Representative.
- E. Cut and plug existing pipe lines where indicated and as directed by the Project Representative.
 - 1. Existing pipe locations on plans are approximate and shall be verified by Contractor.
 - 2. Existing pipe to be abandoned shall be:
 - a. Cut with a neat, straight edge.
 - b. Drained of water or residue. De-chlorination of treated water may be necessary if chlorine residual exceeds acceptable limits, prior to discharging to drains or natural drainage ways.
 - c. Capped with similar material in accordance with manufacturer specifications or cap shall be glued or sealed.
 - d. In instances where pipe dimensions/material is not common, or corroded beyond a visible level, pipe shall be plugged a minimum of twelve (12) inches with approved non-shrink grout.
 - e. Excavation shall be backfilled, compacted, and the surface shall be restored.
 - 3. In some instances, to avoid conflicts with new construction, a small section of pipe to be abandoned may need to be removed. Contractor shall dispose of pipe in an approved manner. Broken pipes and cut ends shall not be buried in backfill.

3.8 APPLICATION

- A. Install gate valves for shut-off and to isolate tanks, or part of system.

3.9 CLEANING

- A. Clean interior of piping systems thoroughly before installing.
- B. Maintain pipe in clean condition during installation.
- C. Before joining piping, thoroughly clean and wipe joint contact surfaces and then properly dress and make joint.
- D. Immediately prior to pressure testing, clean and remove grease, metal cuttings, dirt, or other foreign materials which may have entered the system.
- E. At completion of work and prior to final acceptance, thoroughly clean work installed under these specifications. Clean fixtures, pipe, valves, and fittings of grease, metal cuttings, and sludge which may have accumulated by operation of system, from testing, or from other causes.

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3.10 FIELD QUALITY CONTROL

- A. Piping Test: Conduct piping tests before joints are covered and after concrete thrust blocks have hardened sufficiently. Fill pipeline 24 hours before testing and apply test pressure to stabilize system. Use only potable water.
- B. Hydrostatic Tests:
1. Water main appurtenances and service connections shall be tested in sections of convenient length under a hydrostatic pressure equal to 150 psi in excess of that under which they will operate or in no case shall the test pressure be less than 225 psi. Pumps, gauges, plugs, saddles, corporation stops, miscellaneous hose and piping, and measuring equipment necessary for performing the test shall be furnished and operated by the Contractor.
 2. Sections to be tested shall normally be limited to 1,500 feet. The pipeline shall be backfilled sufficiently to prevent movement of the pipe under pressure. Thrust blocks shall be in place and time allowed for the concrete to cure before testing. Where permanent blocking is not required, the Contractor shall furnish and install temporary blocking and remove it after testing.
 3. The mains shall be filled with water and allowed to stand under pressure a sufficient length of time to allow the escape of air and allow the lining of the pipe to absorb water. The Contracting Agency will furnish the water necessary to fill the pipelines for testing purposes at a time of day when sufficient quantities of water are available for normal system operation. The test shall be accomplished by pumping the main up to the required pressure, stopping the pump for 15 minutes, and then pumping the main up to the test pressure again. During the test, the section being tested shall be observed to detect any visible leakage.
 4. A clean container shall be used for holding water for pumping up pressure on the main being tested. This makeup water shall be sterilized by the addition of chlorine to a concentration of 50 mg/l. The quantity of water required to restore the pressure shall be accurately determined by pumping through a positive displacement water meter. The meter shall be approved by the Engineer. Acceptability of the test will be determined as follows:
 - a.
$$L = \frac{SD\sqrt{P}}{266,400}$$

L = allowable leakage (gallons/hour)
D = nominal diameter of the pipe (inches)
P = test pressure during the leakage test (psi)
S = gross length of pipe tested (feet)
 - a. The quantity of water lost from main shall not exceed the number of gallons per hour as determined by the above formula.
 - b. There shall not be an appreciable or abrupt loss in pressure during the 15-minute test period
 5. Any visible leakage detected shall be corrected by the Contractor regardless of the allowable leakage specified above. Should the tested section fail to meet the pressure test successfully as specified, the Contractor shall, at no additional expense to the Contracting Agency, locate and repair the defects and then retest the pipeline.
 6. Defective materials or workmanship, discovered as a result of hydrostatic field test, shall be replaced by the Contractor at no additional expense to the Contracting Agency. Whenever it is necessary to replace defective material or correct the workmanship, the

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hydrostatic test shall be re-run at the Contractor's expense until a satisfactory test is obtained.

3.11 DISINFECTION OF WATER PIPING SYSTEM

- A. Flush and disinfect system in accordance with Disinfecting Water Utility Distribution - Section 331300.

END OF SECTION

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SECTION 331216 – WATER UTILITY DISTRIBUTION VALVES

PART 1 - GENERAL

1.1 DESCRIPTION

- A. The work in this Section includes water distribution valves and valve boxes.

1.2 REFERENCES

- A. American Water Works Association:
 - 1. AWWA C509 - Resilient-Seated Gate Valves for Water-Supply Service.
 - 2. AWWA C550 - Protecting Epoxy Interior Coating for Valves and Hydrants.
- B. National Sanitation Foundation (NSF International):
 - 1. NSF 61 - Drinking Water System Components - Health Effects

1.3 SUBMITTALS

- A. Section 013300 - Submittal Procedures: Requirements for submittals.
- B. Product Data: Submit data on pipe materials, pipe fittings, valves and accessories.
- C. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

1.4 CLOSEOUT SUBMITTALS

- A. Section 017700 - Closeout Procedures
- B. Project Record Documents: Record actual locations of valves.
- C. Provide Operation and Maintenance Data for valves; include illustrations, installation instructions, maintenance instructions and parts lists.
- D. Manufacturer's Certificates: Submit Statement of Compliance, supporting data, from material suppliers attesting that valves and accessories provided meet or exceed AWWA Standards and specification requirements.

1.5 QUALITY ASSURANCE

- A. Perform work in accordance with the project plans, AWWA, State Park, State, and County standards.

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1.6 QUALIFICATIONS

- A. Manufacturer: company specializing in manufacturing Products specified in this section with minimum three years of experience.
- B. Installer: Company specializing in performing work of this section with minimum three years of experience.

1.7 ENVIRONMENTAL REQUIREMENTS

- A. Section 016000 – Product Requirements.
- B. Conduct operations not to interfere with, interrupt, damage, destroy, or endanger integrity of surface or subsurface structures or utilities, and landscape in adjacent areas.

PART 2 - PRODUCTS

2.1 RESILIENT WEDGE GATE VALVES

- A. Manufacturers:
 - 1. Mueller Company
 - 2. Kennedy Valve Co.
 - 3. M&H Valve Co.
 - 4. Clow Eddy - Iowa
 - 5. American Flow Control
- B. Furnish materials in accordance with the project plans, AWWA, State Parks, State, and County standards.
- C. Resilient Wedge Gate Valves: AWWA C509; iron body, bronze or ductile iron.
 - 1. Resilient seats.
 - 2. Stem: Non-rising bronze stem.
 - 3. Operating Nut: Square; open counterclockwise unless otherwise indicated.
 - 4. Ends: Flanged, mechanical joint or bell end connections.
 - 5. Coating: AWWA C550; interior/exterior.
 - 6. Sizes 12 inch diameter and smaller: 200 psig.

2.2 VALVE BOXES

- A. 12 inch diameter valves and smaller: Domestic cast iron, two-piece, screw type, as manufactured by Tyler Union or approved equivalent.
- B. Cast iron lid, marked "Water".
- C. Valve boxes and lids shall be traffic (H-20) rated.

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2.3 COMBINATION AIR RELEASE / AIR VACUUM VALVES

- A. Valves must comply with ANSI / AWWA C512. Install in accordance with contract Drawings unless otherwise approved.

2.4 ACCESSORIES

- A. Concrete for Thrust Restraints: Concrete thrust blocks to be installed as specified in Drawings.

2.5 MAINTENANCE MATERIALS

- A. Section 017700 - Closeout Procedures: Requirements for maintenance materials.
- B. Furnish two (2) tee wrenches (valve keys) to Owner; required length.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verification of existing conditions before starting work.
- B. Determine exact location and size of valves from Drawings; obtain clarification and directions from Project Representative prior to execution of work.
- C. Verify invert elevations of existing work prior to excavation and installation of valves.

3.2 PREPARATION

- A. Identify required lines, levels, contours and datum locations.
- B. Locate, identify, and protect utilities to remain from damage.
- C. Do not interrupt existing utilities without permission and without making arrangements to provide temporary utility services.
 - 1. Notify Project Representative not less than 3 days in advance of proposed utility interruption.
 - 2. Do not proceed without written permission from the Project Representative.
- D. Perform trench excavation, backfilling and compaction in accordance with Section 312333 - Utility Excavation and Backfill.

3.3 INSTALLATION

- A. Install valves in conjunction with pipe laying; set valves plumb.

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- B. Provide buried valves with valve boxes installed flush with finished grade.
- C. Install Work in accordance with the project plans, AWWA, State Parks, State, and County standards.

3.4 DELIVERY, STORAGE AND HANDLING

- A. Section 016000 – Product Requirements: Requirements for transporting, handling, storing and protecting products.
- B. Prepare valves and accessories for shipment according to AWWA Standards and seal valve and ends to prevent entry of foreign matter into product body.
- C. Store products in areas protected from weather, moisture, or possible damage; do not store products directly on ground; handle products to prevent damage to interior or exterior surfaces.

3.5 DISINFECTION OF DOMESTIC WATER PIPING SYSTEM

- A. Flush and disinfect system in accordance with Section 331300 – Disinfecting Water Utility Distribution.

3.6 FIELD QUALITY CONTROL

- A. Section 014000 - Quality Requirements
- B. Section 017700 - Closeout Procedures: Field inspecting, testing, adjusting, and balancing.
- C. Perform pressure test on site water distribution system in accordance with Section 331100 - Water Utility Distribution Piping.

END OF SECTION

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SECTION 331300 – DISINFECTING WATER UTILITY DISTRIBUTION

PART 1 – GENERAL

1.1 DESCRIPTION

- A. Section includes disinfection of potable water distribution and transmission system; and testing and reporting results.

1.2 REFERENCES

- A. Washington State Department of Health.
- B. American Water Works Association:
 - 1. AWWA B300 – Hypochlorites.
 - 2. AWWA B301 - Liquid Chlorine.
 - 3. AWWA B302 - Ammonium Sulfate.
 - 4. AWWA B303 - Sodium Chlorite.
 - 5. AWWA C600 - Installation of Ductile-Iron Water Mains and Their Appurtenances.
 - 6. AWWA C651 - Disinfecting Water Mains.

1.3 CLOSEOUT SUBMITTALS

- A. Section 017700 - Closeout Procedures
- B. Disinfection Report:
 - 1. Type and form of disinfectant used.
 - 2. Date and time of disinfectant injection start and time of completion.
 - 3. Test locations.
 - 4. Name of person collecting samples.
 - 5. Initial and 24 hour disinfectant residuals in treated water in ppm for each outlet tested.
 - 6. Date and time of flushing start and completion.
 - 7. Disinfectant residual after flushing in ppm for each outlet tested.
- C. Bacteriological Report:
 - 1. Date issued, project name, and testing laboratory name, address, and telephone number.
 - 2. Time and date of water sample collection.
 - 3. Name of person collecting samples.
 - 4. Test locations.
 - 5. Coliform bacteria test results for each outlet tested.
 - 6. Certify water conforms, or fails to conform, to bacterial standards of the Washington State Department of Health.

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1.4 QUALITY ASSURANCE

- A. Perform Work in accordance with AWWA C651.
- B. Perform Work in accordance with the project plans, State Parks, State, and County standards.

1.5 QUALIFICATIONS

- A. Water Treatment: Company specializing in disinfecting potable water systems specified in this section with minimum three years of experience.
- B. Testing Firm: Company specializing in testing potable water systems, certified by the State of Washington.

PART 2 – PRODUCTS

2.1 DISINFECTION CHEMICALS

- A. Chemicals: AWWA B300, Hypochlorite, AWWA B301, Liquid Chlorine, AWWA B302, Ammonium Sulfate, or AWWA B303, Sodium Chlorite.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Verification of existing conditions before starting work.
- B. Verify piping system has been cleaned, inspected, and pressure tested.
- C. Perform scheduling and disinfecting activity with start-up, water pressure testing, adjusting and balancing, demonstration procedures, including coordination with related systems.

3.2 INSTALLATION

- A. Provide and attach required equipment to perform the Work of this section.
- B. Perform disinfection of water distribution system and installation of system and pressure testing. Refer to Section 331100 Water Utility Distribution Piping.
- C. Introduce treatment into piping system.
- D. Maintain disinfectant in system for 24 hours.
- E. Flush, circulate, and clean until required cleanliness is achieved.
- F. Replace permanent system devices removed for disinfection.

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3.3 FIELD QUALITY CONTROL

- A. Section 014000 - Quality Requirements.
- B. Section 017700 - Closeout Procedures.
- C. Disinfection, Flushing, and Sampling:
 - 1. Disinfect pipeline installation in accordance with AWWA C651.
 - 2. Upon completion of retention period required for disinfection, flush pipeline until chlorine concentration in water leaving pipeline is no higher than that generally acceptable for domestic use.
 - 3. Legally dispose of chlorinated water. When chlorinated discharge may cause damage to environment, apply neutralizing chemical to chlorinated water to neutralize chlorine residual remaining in water.
 - 4. After final flushing and before pipeline is connected to existing system, or placed in service, employ an approved independent testing laboratory to sample, test and certify water quality suitable for human consumption.

END OF SECTION

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SECTION 333100 – SANITARY SEWER PIPING

PART 1 - GENERAL

1.1 DESCRIPTION

- A. The Work under this Section includes providing all labor, materials, tools and equipment necessary for furnishing and installing sanitary sewer pipe, in accordance with these Specifications and in reasonably close conformity with the lines and grades shown on the Drawings or established by the Project Representative.
- B. This Work includes furnishings and installing connecting bands, branch connections, elbows or other fittings, and all appurtenances required to complete the sanitary sewer.

1.2 SUBMITTALS

- A. Sanitary Sewer Pipe: Material certifications stating conformance with the requirements of this Section.

PART 2 - PRODUCTS

2.1 PIPE (PRESSURIZED)

- A. Polyvinyl Chloride (PVC) Schedule 40 and 80 Pipe: All PVC Schedule 40 and 80 pipe shall be manufactured from Type I, Grade I Polyvinyl Chloride compound with Cell Classification of 12454 per ASTM D1784. The pipe shall be manufactured in strict compliance to ASTM D1785 and D2665 (where applicable), consistently meeting and/or exceeding the Quality Assurance test requirements with regard to material, workmanship, burst pressure, flattening, and extrusion quality. The pipe shall carry the National Sanitation Foundation (NSF) seal of approval for potable water applications.
- B. Polyethylene (PE) Pipe: PE pipe shall meet the requirements of AWWA C901. Tubing shall be high molecular mass. Pipe used shall be SDR 11.

2.2 PIPE (GRAVITY)

- A. Polyvinyl Chloride (PVC) PIPE: PVC gravity sewer pipe shall be solid wall conforming to ASTM D3034 SDR35. Joints shall conform to ASTM D3212 using elastomeric gaskets conforming to ASTM F477.

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2.3 COMBO AIR-VAC STATION

- A. Sewage rated air-vacuum release valve. Orenco Model ARV21, ARV40, or approved equal. Install in accordance with contract Drawings.

PART 3 - EXECUTION

3.1 CONSTRUCTION

- A. Bedding and backfill shall conform to the requirements of Section 312333 - Utility Excavation and Backfill.
- B. Sheeting and bracing required for trenches shall meet OSHA requirements.
- C. Before lowering into the trench, the pipe shall be inspected for defects. All cracked, chipped, or broken pipe shall be discarded. The ends and interior of the pipe shall be clean. Belled ends shall be laid upgrade. Handling of the pipe shall be accomplished in a manner that will not damage the pipe. The joint shall be made in the manner recommended by the manufacturer. Care shall be taken not to buckle or disturb previously laid pipe.
- D. Pipe shall be laid accurately to the line and grade.
- E. Pipe shall be cleaned of all foreign matter, and water shall be kept out of trenches until joints have been completed. When Work is not in progress, open ends of pipe and fittings shall be securely closed to keep foreign matter and animals from entering.
- F. Each joint shall be inspected to ensure that it is properly made before backfilling is done. Care shall be taken to prevent any dirt or foreign matter from entering the open end of the pipe. Where it is necessary to cut pipe, such cuts shall be neatly made in an approved manner. The laid pipe shall be true to line and grade and, when completed, the sewer shall have a smooth and uniform invert. No section of gravity sewer, including service connections shall have an adverse grade which would pond water in the invert of the sewer.
- G. Pressure test gravity pipe using a low-pressure air test in accordance with ASTM F1417.
- H. Pressure test pressure rated pipe to 200 psi. Repair leaks and re-test
 - 1. Coordinate all pipe installation and testing with State Parks to ensure all inspection and testing requirements are met.
 - 2. After completion of pipeline installation, including backfill, but prior to final connection to existing system, conduct hydrostatic pressure and leakage test in accordance with AWWA C600.
 - 3. Provide equipment required to perform leakage and hydrostatic pressure tests.
 - 4. No pipeline will be approved when pressure test varies by more than 5 psi at completion of hydrostatic pressure test.
 - 5. Before applying test pressure, completely expel air from section of piping under test. Provide corporation cocks so air can be expelled as pipeline is filled with water. After air

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has been expelled, close corporation cocks and apply test pressure. At conclusion of tests, remove corporation cocks and plug resulting piping openings.

6. No pipeline installation will be approved when leakage is greater than that determined by the following formula:

$$L = (SD\sqrt{P})/133,200 \quad \text{where:}$$

L = Allowable leakage in gallons per hour

S = Length of pipe tested in inches

D = Nominal diameter of pipe in inches

P = Average test pressure in pounds per square inch (gauge)

- I. Connections to existing sewer mains shall be made so that no projections or rough surfaces occur within the pipe.
- J. All sewer mains shall be installed to the criteria for the separation of water mains and sanitary sewers set forth in the Washington Administrative Code (WAC) and the Department of Ecology's Criteria for Sewage Works Design (Orange Book – latest edition). Any deviations from such requirements must be approved by State Parks.

END OF SECTION

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SECTION 337000 – ELECTRICAL UTILITIES

PART 1 - GENERAL

1.1 WORK IN THIS SECTION

- A. Work in this Section involves providing the electrical utility system to Welcome Center from existing primary vault. It includes installation of underground electrical conduit, fittings, and adapters to include all related trenching, backfill and compaction; testing; and surface restoration. Construction of electrical utility will require open trenching.

1.2 WORK IN OTHER SECTIONS

- A. Section 014000 - Quality Requirements.
- B. Division 31 - Earthwork.

PART 2 - PRODUCTS

2.1 RIGID METALIC CONDUIT (RMC)

- A. All steel conduits shall be hot dipped galvanized steel conduit, threaded and coupled. Conduit shall meet the current requirements of NFPA 70. All conduit fittings and factory elbows shall be standard threaded galvanized malleable iron and listed for such use by an approved testing company, as stated in the NFPA 70.

2.2 PVC CONDUIT AND FITTINGS

- A. All rigid nonmetallic conduit and fittings shall be Polyvinyl Chloride (PVC) Schedule 40, conforming NFPA 70, and shall be listed and approved for the use by an approved testing company, as stated in the NFPA 70.

2.3 HDPE CONDUIT AND FITTINGS

- A. All HDPE conduit for electrical installation shall meet the requirements of the NFPA 70 and be listed for such use by and approved testing company, as stated in the NFPA 70
- B. All fittings shall be approved by HDPE conduit manufacturer as suitable for use with approved electrical HDPE conduit.

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2.4 WARNING TAPE/TRACER WIRE (UTILITIES)

- A. The Contractor shall provide 6 inches wide plastic with a metalized foil core warning tape for all underground utilities. This tape shall run continuous from terminal to terminal without splices. The tape shall be capable of being located by a conduit finder and carry a signal of a conduit locating device. This tape shall be similar to the TERRA TAPE "D" or equal. Printing on the warning tape shall note the type of line buried below and shall also have the word "Caution" prominently shown. Color coding shall be red for electrical utility.
- B. The Contractor shall provide solid #12 insulated copper tracer wire or all underground utilities. The wire shall run continuous from terminal to terminal without splices.

PART 3 - EXECUTION

3.1 CONDUIT INSTALLATION

- A. All conduits shall be installed in conformance with the manufacturer's recommended procedures and the NFPA 70, for the particular conduit being installed.
- B. Conduit shall be well bedded throughout its length, true to line and grade and not supported by the joints. No conduit shall be laid when the temperature drops below freezing, unless specifically authorized by the Project Representative.
- C. All trenches containing conduit shall remain open until inspected by the Project Representative and the electrical inspection authority having jurisdiction. No conduit shall be partially backfilled between joints only prior to an inspection.
- D. PVC conduit ends shall be squarely cut, all burrs removed, and reamed inside to provide a smooth flow line. Prior to joining PVC conduit and fittings, the outside of the conduit and the inside of the fittings shall be cleaned with an approved PVC conduit cleaner, and then be doped with welding solvent. All joints shall be chemically welded with Solvent Cement immediately following doping operation. Cement both conduit pieces to be joined and then join them quickly. If joint cannot be made up to full depth of socket, cut out and discard. Wipe off excessive cement.
- E. All bends shall be RMC, threaded and joined to PVC conduit by adaptor. All conduits shall be well-reamed and burrs removed before assembly.

3.2 TRANSFORMER CONNECTION

- A. The primary power system is owned by the park. The Contractor shall provide buildings secondary power connection to the transformer.
- B. All connections to the existing transformer shall be made per National Electrical Code and/or NFPA 70, depending on which jurisdiction may apply.

END OF SECTION