



DESIGN STANDARDS FOR PARK AND TRAIL DEVELOPMENT

NOVEMBER 2011



Bellingham Parks & Recreation Department

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FORWARD¹

These Standards are not intended to supersede City/State/Federal laws or codes or generally accepted design practices of professional consultants. It is meant to be used on City of Bellingham Parks' projects only. Bellingham Parks shall not be held responsible if these standards are used for other purposes.

If the user of this manual identifies any conflict between these Standards and City or other governing codes, he/she shall notify the Parks Project Manager and seek a resolution, which complies with City codes and thereafter is acceptable to the Bellingham Parks.

The complete *Design Standards for Park and Trail Development* (herein referred to as the “Standards”) includes the *Instructions, Standard Details, Design Standard Narratives, Design Standard Specifications, and Forms*. These parts complement each other in describing the complete Standards. Any requirement in one part binds as if stated in all parts. The user of these Standards shall provide any work or materials clearly implied in the Standards even if the Standard does not mention it specifically.

Engineering design and judgment is needed for all details on all projects. All designs, including the standards in this manual, shall be carefully engineered to ensure that drainage, hardware, footing sizes, etc are adequate for the site specific application. This includes all retaining walls retaining soil over 4 feet in height, stairs, handrails, and other structures.

The design environment changes rapidly, and often without warning to the practitioner. Flexibility is permitted to encourage independent design that is tailored to particular situations. When flexibility is applied, and critical dimensions of a proposed design do not meet the *Design Standards* criteria, additional documentation is required to record the decision making process and must be approved by Parks before implemented.

The fact that new or modified design criteria are added to the *Design Standards* through the revision process does not imply that existing features are deficient or inherently dangerous. Nor does it suggest or mandate immediate engineering review or initiation of new projects.

Cost-effective and environmentally conscious design is emphasized.

The complexity of Park and Trail design requires the designer to make fundamental tradeoff decisions that balance competing considerations. Although weighing these considerations adds to the complexity of design, it accounts for the needs of a particular project and the relative priorities of various projects and programs.

Updating the manual is a continuing process and revisions are issued periodically. The most current standard applies and must immediately take precedent over all previously released versions.

Questions, observations, and recommendations are invited.

Notes:

1 The wording of this *Forward* has been adapted from the WSDOT Design Manual and the Seattle Parks Design Standards website.



TABLE OF CONTENTS

SECTION 1 GENERAL INSTRUCTIONS

00000.01	Instructions for Consultants
00000.02	Instructions for Developers
00000.03	Survey and Mapping Design Standards
00000.04	Drafting Standards
00000.05	Checklist Guide for Park Project Managers
00000.06	Parks and Recreation Organizational Chart
00000.07	Flow Chart for Review of Projects on Park Land
00000.08	Private Project on Park Property Checklist
00000.09	Sample MOU Private Projects on Park Property
00000.10	Requirements for Trail Rights-of-Way
00000.11	Requirements for Shared Access Right-of-Ways

SECTION 2 STANDARD DETAILS

Division 2 – Site Work

02270.01	Slope Protection (cribbing, stakes, whalers)
02270.02	Swale
02505.01	Typical Trail - Shared Use Path Limestone
02505.02	Narrow Trail Crushed Surfacing Limestone
02505.03	Trail Clearing
02505.04	Trail with Railroad Ballast
02510.01	Asphalt Trail Section
02630.01	Culvert Under Trail
02840.01	Fold-Down Bollard
02840.02	Barriers – Rock
02840.03	Wood Guardrail Typical Elevation and Section
02840.04	Wood Guardrail Foundation and Post Base
02840.05	Sign Post Direct Bury
02840.06	Two-Rail Fence
02840.07	Park Bollard Location
02870.01	Typical Park Bench
02870.02	Typical Park Bench Arm Rest
02870.03	Concrete Pad for Picnic Table
02870.04	Bike Rack Saddle Type
02870.05	Clean Pet Bag Holder
02881.01	Concrete Playground Header
02950.01	Tree Planting in Open Space

TABLE OF CONTENTS (continued)

SECTION 2 STANDARD DETAILS (continued)

Division 2 – Site Work

02950.02	Tree Planting in Open Space – Pole Sizing Chart
02950.03	Shrub Planting
02950.04	Tree and Shrub Planting on Slopes
02950.05	Ground Cover Planting
02950.06	Tree Protection Fence
02950.07	Tree Protection Detail

Division 3 – Concrete

03300.01	Prefabricated Concrete Step and Handrail
03300.02	Prefabricated Concrete Step and Rock Placement
03300.03	Prefabricated Concrete Step and Sidewall Placement
03300.04	Prefabricated Concrete Step
03300.05	Cast-in-Place Concrete Stair without Concrete Curb Wall
03300.06	Cast-in-Place Concrete Stair with Concrete Curb Wall

Division 5 - Metals

05120.01	Pedestrian Bridge General Design & Notes
05120.02	Pedestrian Bridge Abutment and Section
05520.01	Metal Handrail

Division 10 - Specialties

10430.01	Neighborhood Sign – Single Sided (Elevation View)
10430.02	Neighborhood Sign – Single Sided (Plan View)
10430.03	Neighborhood Sign – Frame/Sign Assembly
10430.04	Neighborhood Sign – Double Sided (Elevation View)
10430.05	Neighborhood Sign – Double Sided (Plan View)
10430.06	Trailhead/Interpretive Sign
10430.07	Park Boundary Marker
10430.08	Not Used
10430.09	Native Growth Protection Area Sign
10430.10	Stay on Trail Sign*
10430.11	Pet Waste Sign
10430.12	Grant Placard Placement

TABLE OF CONTENTS (continued)**SECTION 3 DESIGN STANDARDS – NARRATIVE FORMAT**

Division 0 – General

00700.00 General Provisions

Division 1 – General Requirements

01000.00 General Construction Requirements

01001.00 General Requirements When Working Near Railway

01025.00 Measurement and Payment

01524.00 Construction Waste Management

Division 2 – Site Work

02231.00 Tree Protection

02550.00 Paths – Limestone Trail

02791.00 Playground Surface Systems - Fall Surfacing*

02810.00 Irrigation Systems

02832.00 Retaining Walls

02881.00 Playground Equipment & Structures - Playground Design*

02870.00 Site Furnishings

02900.00 Landscaping

02930.00 Greenway Restoration Plants

02936.00 Restoration Seeding

02963.00 Sports Field Mix

Division 6 – Wood and Plastics

06100.00 Rough Carpentry

06610.00 Fiberglass Reinforced Plastic (FRP) Pedestrian Grating

Division 7 – Thermal and Moisture Protection

07410.00 Preformed Roofing Panels

Division 8 – Doors and Windows

08111.00 Standard Steel Doors and Frames

08712.00 Door Hardware

Division 9 – Finishes

09911.00 Exterior Painting

09965.00 Anti-Graffiti Coating

Division 10 – Specialties

10160.00 Toilet Partitions

10200.00 Louvers and Vents

10431.00 Signs

10801.00 Toilet and Bath Accessories

TABLE OF CONTENTS (continued)**SECTION 3 DESIGN STANDARDS – NARRATIVE FORMAT (continued)**

Division 15 – Mechanical

15440.00 Plumbing Fixtures

15650.00 Electric Heating Equipment

Division 16 – Electrical

16050.00 Basic Electrical Materials and Methods

16511.00 Interior Lighting

16521.00 Exterior Lighting

SECTION 4 STANDARD SPECIFICATIONS – CSI MASTERSPEC FORMAT**

Division 1 – General Requirements

01000 Standard Specifications

01010 Statement of Work

01025 Measurement and Payment

01100 Base Bid / Additive Alternates

01310 Schedules and Reports

01400 Quality Control

01410 Testing

01630 Substitutions

01700 Project Closeout

01710 Cleaning

01720 Project Record Documents

01740 Warrantees and Bonds

Division 2 – Site Work

02055 On-Site Soils

02100 Site Preparation

02231 Tree Protection

02300 Earthwork*

02315 Excavation and Trenching

02510 Asphalt Concrete Paving and Surfacing

02800 Site Improvements

02810 Irrigation System

02900 Landscaping

Division 3 – Concrete

03300 Cast-in-Place Concrete

TABLE OF CONTENTS (continued)

SECTION 5 FORMS

Certificate of Final Completion
Certification of Substantial Completion
Change Order
Design Change Notice
Force Account Daily Report
Meeting Agenda
Pay Estimate
Planting Bond – Assignment of Funds in Lieu of Bond & Instructions
Planting Bond – Surety Bond & Instructions
Preconstruction Meeting Agenda
Request for Information
Request for Approval of Material
Submittal Log
Submittal Transmittal
Substitution Request Form
Weekly Statement of Working Days

Notes:

* Indicates Design Standards currently in development and not yet included in this edition.

** The Standard Specifications CSI Masterspec format are sample specifications. Site specific requirements must be coordinated with the Park Project Manager on a site-by-site basis. The specification must be edited as applicable for each project on a case-by-case basis.



SECTION 1 - INSTRUCTIONS FOR CONSULTANTS

These instructions have been developed to assist Consultants with their work on parks and trails built for public use and that will be maintained by the City.

The Consultant is reminded that these Standards shall not to supersede City/State/Federal laws or codes or generally accepted design practices of professional consultants. These Standards are meant to be used on City of Bellingham Parks' projects only. Bellingham Parks shall not be held responsible if these standards are used for other purposes.

The Consultant shall understand most work designed on public property for the public's use requires that plans be prepared and stamped by an architect, engineer, landscape architect and/or land surveyor registered in the State of Washington (RCW 18.08, 18.43, or 18.96).



SECTION 1 - INSTRUCTIONS FOR DEVELOPERS

These instructions have been developed to assist the developer with their work on parks and trails built for public use and that will be maintained by the City. Due to the large volume of information contained in these standards, the following instructions have been developed to help the developer reference frequently used standards and specifications. The developer shall be reminded that these Standards are not intended to supersede City/State/Federal laws or codes or generally accepted design practices of professional consultants. It is meant to be used on City of Bellingham Parks' projects only. Bellingham Parks shall not be held responsible if these standards are used for other purposes.

The developer shall understand that some designs require the expertise of an architect and/or engineer. Most all work designed on public property for the public's use requires that plans be prepared and stamped by an architect, landscape architect and/or engineer registered in the State of Washington.

Additional General Instructions and Recommendations:

1. It is highly recommended that developers schedule a pre-design meeting with the Parks Design and Development Division before developing a design on or near Park property.



SECTION 1 – SURVEY AND MAPPING DESIGN STANDARDS

These instructions have been developed to assist surveyors with their work on parks and trails built for public use and that will be maintained by the City of Bellingham Parks Department.

The surveyor is reminded that these Standards shall not to supersede City/State/Federal laws or codes or generally accepted design practices of professional consultants. These Standards are meant to be used on City of Bellingham Parks' projects only. In the event that public street right-of-ways are involved the surveyor shall comply with applicable City of Bellingham standards and procedures for public rights-of-way (reference Public Works Development Guidelines and Improvement Standards, latest edition). Bellingham Parks shall not be held responsible if these standards are used for other purposes.

The surveyor shall understand that most work designed on public property for public use requires that plans be prepared and stamped by an architect, engineer, landscape architect and/or land surveyor registered in the State of Washington (RCW 18.08, 18.43, or 18.96).

1. **Survey work intended as a Public Record of Survey (ROS):** Work intended to create a ROS shall incorporate the following general requirements:
 - a. All work shall be overseen by a licensed surveyor. Surveys shall be signed and sealed by a surveyor registered in the State of Washington.
 - b. Survey documents and procedures shall be meet City, State and Federal laws.
 - c. Survey drawings shall be prepared to meet the requirements of Park Design Standard No. 00000.04 to the greatest extent possible.
 - d. For all boundary surveys, park boundary markers shall be installed in accordance with Park Design Standard Detail 10430.07. Park boundary markers will be supplied by the Park Project Manager.
 - e. The surveyor shall call for a utility locate and incorporate utility locations on the final ROS. The Park Project Manager may provide any known information pertaining to as-built features or legal encumbrances.
 - f. The surveyor shall provide a hard copy of the draft ROS for review and comment by the Park Project Manager before the final survey is recorded.
 - g. The surveyor shall include 3 hard copies and one electronic copy (AutoCad2004 format) of the survey as a final deliverable to the Park Project Manager. Contours shall be embedded into the AutoCAD drawing file.
 - h. The survey shall include disclosure and depiction of pertinent legal encumbrances affecting physical use of the surveyed lands by Auditor's File Numbers, including but not limited to, covenants and easements.

- i. The survey shall include all surficial improvements and evidence of repeated ingress and egress, including but not limited to concrete surfaces, buildings, fences, walls, foundations, trails and established vehicle routes (whether by right or apparent encroachment) and existing survey monuments.
 - j. The survey shall include disclosure and depiction of boundaries of all public lands contained within the mapped area of the ROS.
 - k. Topographic or hydrographic information included in a ROS at the direction of the Parks Project Manager shall be in accordance with Section B of Design Standard No. 00000.03.
2. **Special Mapping Work**: Contracted work intended to create a graphic record (topographic, hydrographic, critical area, and landscape data) of as-built features and site conditions in reference to property lines and for use in project planning shall include the following unless instructed otherwise by the Park Project Manager.
- a. Land contours in horizontal intervals of 5 foot accuracy, unless directed otherwise by the Park Project Manager.
 - b. Vertical and horizontal labels shall be based on the City of Bellingham Datum. (Horizontal datum shall be NAD 83/98 and vertical datum shall be NAVD 88.)
 - c. Diameter of all trees that are 8" diameter or larger measured at 5 feet above adjacent ground surface. Witness type trees of distinct location, species and size should be labeled.
 - d. Thalwegs of creeks, streams or intermittent channels.
 - e. Ordinary High Water Marks of all water features
 - f. Flow lines
 - g. Wetland edges and buffers.
 - h. Large rocks and other notable physical land features including ruins of built features.
 - i. Toe and top of significant slopes and slopes defining or affecting critical area boundaries
 - j. Spot elevations on specific positions.
 - k. Horizontal and vertical control points used for the work, including existing monuments and benchmarks used.
 - l. Any additional landscape information specifically requested by the Park Project Manager.
 - m. All located utilities, including irrigation, both above and below ground including, but not limited to, pipes, valves, vaults/boxes, shut-offs, and other similar features.
 - n. Curb and gutter elevations.
 - o. Locations of all stormwater features including catch basins, grate inlets, and culverts, rim and invert elevations.
 - p. Property lines and parcel numbers.
 - q. Right-of-Way lines and easement boundaries or physical extent.
 - r. All surficial improvements and evidence of repeated use, including but not limited to, concrete surfaces, buildings, fences, walls, foundations, trails and vehicle passages (whether by right or encroachment) and existing survey monuments.
 - s. Pertinent legal information, including but not limited to, easement or covenant recording numbers.
 - t. Any additional built feature information specifically requested by the Park Project Manager.



SECTION 1 – DRAFTING STANDARDS

1. Version: All drawings shall be saved to AutoCAD 2009
2. Consultants contracted for capital projects shall use the drawing layering system, sheet numbering system, and line types consistent with the United States National CAD Standards.
3. Plotting guidelines, colors and line weights: Colors and line weights for layers shall be defined as follows:

<u>Layer Color</u>		<u>Plotted Line Weight</u>
Dark Gray	Color 8	0.005
Light Gray	Color 9	0.005
Yellow	Color 2	0.050
Blue	Color 5	0.070
Red	Color 1	0.100
Magenta	Color 6	0.150
Green	Color 3	0.180
Cyan	Color 4	0.200
White/Black	Color 7	0.400 (use object line weight, but generally the heaviest)
Orange	Color 20	0.500 (for match lines)

4. Colors assigned to layer names and objects: Shall be determined by Parks Project Manager.
5. Layers: All layers should be color dependent and shall be set to print in black according to the layer line weight table above.
6. Plotting: Provide plot files as part of project deliverables. Plot files shall include both full size and half size plot files.
7. Contours and Drawing Objects: Do not use ‘modeler’ contours. All contours and objects created in LandCAD and CivilCAD shall be “exploded” in the final AutoCAD drawings delivered to Parks.
8. Font: General font style shall be Simplex
9. Standard Template & Title Block: As determined by the Park Project Manager, which may include use of the Park Standard Template.

10. Units: As determined by Park Project Manager
11. Standard Sheet Size: Unless specified otherwise, full size plots (1:1) shall be set on 24x36 paper with 1 inch borders all around. Half size (2:1) plots shall be set on 11x17 paper with minimum 1/2" borders all around.
12. Readability of Paper Plot: Information needed to describe the purpose of the drawing shall be fully legible. Paper plots shall be plotted so as no line data is lost when reproduced with standard photocopies.
13. X-referencing: Permanently bind all 'x-refs' to drawing file prior to delivery.
14. Do not rotate the UCS in model space. Rotation in viewport only is allowed. North shall always be in the upward direction on all drawings.
15. Objects in model space shall always be drawing at a 1:1 ratio. Do not change or scale objects in model space.
16. General text shall not have annotative properties. Dimstyles shall be annotative.



SECTION 1 – CHECKLIST GUIDE FOR PARK PROJECT MANAGERS

This guideline includes recommended steps for use in designing and constructing capital projects. This checklist is intended as a guideline only for use by Park Project Managers. Not all items listed in this design checklist apply to every project. This project checklist is not inclusive of all city, state, and federal requirements and is intended only to be used as a guideline for items that may not otherwise be addressed by any other standard during the project planning and design process.

Project Name: _____

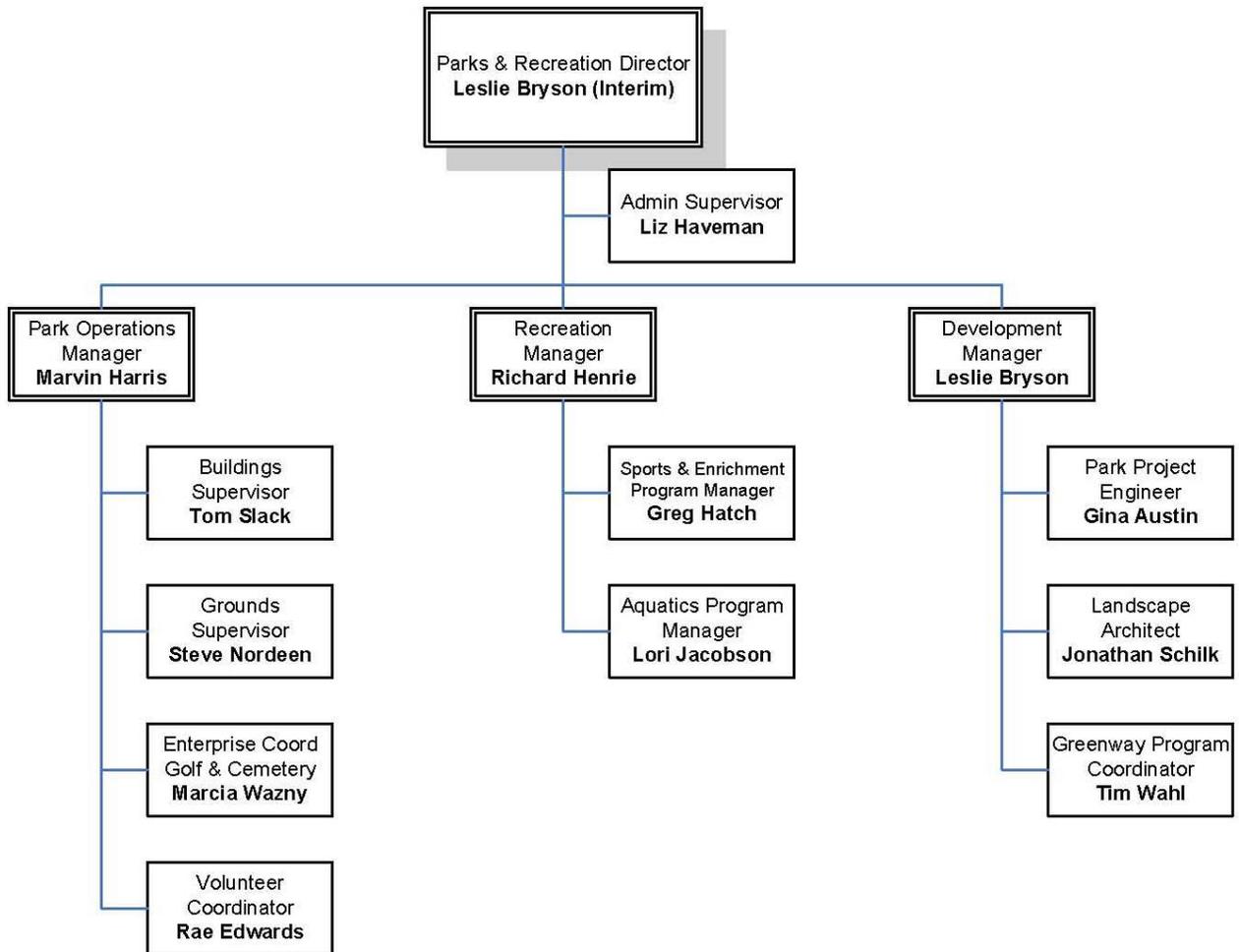
Task No.	Task	Check if Complete or Mark "N/A" if Not Applicable	Date Completed
1.	Schedule project assignment and scoping meeting with Park Design & Development Manager	<input type="checkbox"/>	_____
2.	Schedule project kick off meeting with Park staff and managers (Operations, Design & Development, Recreation)	<input type="checkbox"/>	_____
3.	Hire design consultant in accordance with City of Bellingham Purchasing policy and State Law	<input type="checkbox"/>	_____
4.	Contact permit center and request names of permit review team	<input type="checkbox"/>	_____
5.	Submit preliminary design documents to Park Design & Development Manager for review. Incorporate review comments before submitting to Park Director for review	<input type="checkbox"/>	_____
6.	Submit preliminary design documents to Park Director for review. Incorporate review comments before submitting to other departments for review	<input type="checkbox"/>	_____

Task No.	Task	Check if Complete or Mark "N/A" if Not Applicable	Date Completed
7.	Circulate 30% drawings, specifications and reports to Park staff, other divisions and departments for preliminary review and comment	<input type="checkbox"/>	_____
8.	Conduct public meeting	<input type="checkbox"/>	_____
9.	Issue press release and notify residents within 500 feet of project site	<input type="checkbox"/>	_____
10.	Post informational sign at project site	<input type="checkbox"/>	_____
11.	Review project plans and specifications for any of the following as applicable: <input type="checkbox"/> Park design standards <input type="checkbox"/> Reserved parking for staff vehicles <input type="checkbox"/> Construction schedule compatible with planting season <input type="checkbox"/> Construction start and end time coordinated with dry season <input type="checkbox"/> Utility conflicts	<input type="checkbox"/>	_____
12.	Notify Park Administration staff of proposed construction schedule. Check park reservations for conflicts	<input type="checkbox"/>	_____
13.	Circulate 90% drawings, specifications and reports to Park Staff, other divisions, and departments for second and final review	<input type="checkbox"/>	_____
14.	Schedule pre-application meeting with permit center staff	<input type="checkbox"/>	_____
15.	Present project to Park Board and/or Arts Commission for approval	<input type="checkbox"/>	_____
16.	Submit project plans and specifications for permit approvals	<input type="checkbox"/>	_____
17.	Provide capital project update to City Council	<input type="checkbox"/>	_____

Task No.	Task	Check if Complete or Mark "N/A" if Not Applicable	Date Completed
18.	Request bid number from Purchasing Department and advertise project for bid, small works roster, or request for quotes	<input type="checkbox"/>	_____
19.	Complete project bid award checklist for lowest responsive and responsible bidder	<input type="checkbox"/>	_____
20.	Prepare City Council agenda bill for bid award	<input type="checkbox"/>	_____
21.	Send prepared contract paperwork to contractor for execution	<input type="checkbox"/>	_____
22.	Schedule site clearing walkthrough with Park Arborist	<input type="checkbox"/>	_____
23.	Conduct preconstruction meeting with contractor, Park Staff, and other city departments	<input type="checkbox"/>	_____
24.	Conduct final punch list walkthrough with contractor, Park Staff, and other city departments	<input type="checkbox"/>	_____
25.	Complete contractor project checklist and required closeout paperwork	<input type="checkbox"/>	_____
26.	Conduct "post-mortem" project debrief with Park Operations staff	<input type="checkbox"/>	_____

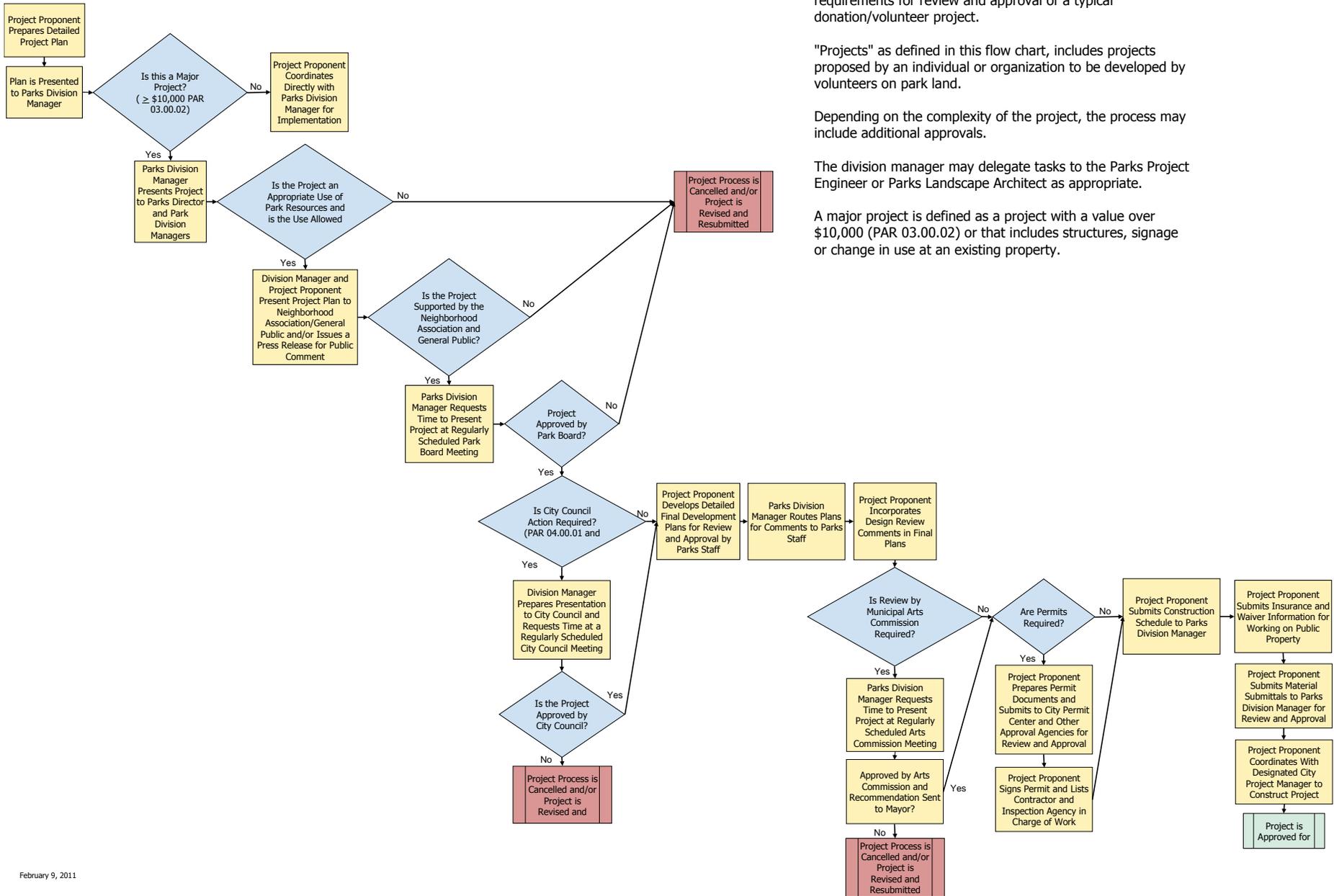


SECTION 1 – PARKS AND RECREATION ORGANIZATIONAL CHART



Flow Chart for Review of Donation Projects on Park Land

Design Standard No. 00000.07



Notes:

The process included in this flow chart outlines the general requirements for review and approval of a typical donation/volunteer project.

"Projects" as defined in this flow chart, includes projects proposed by an individual or organization to be developed by volunteers on park land.

Depending on the complexity of the project, the process may include additional approvals.

The division manager may delegate tasks to the Parks Project Engineer or Parks Landscape Architect as appropriate.

A major project is defined as a project with a value over \$10,000 (PAR 03.00.02) or that includes structures, signage or change in use at an existing property.



SECTION 1 – PRIVATE PROJECTS ON PARK PROPERTY CHECKLIST

Project Title: _____

This form shall be completed by the Park Project Manager. Items checked below by the Park Project Manager are required by Project Proponent:

1. Preliminary Project Approvals

- Department Managers
- Park Board
- Arts Commission
- City Council

2. Design and Permitting Phase

- Meet with staff/project manager
 - Determine Project Requirements
 - Develop Memorandum of Understanding
- Survey
 - Topographic and boundary
- Geotechnical Investigation
- Cultural Resources Investigation
- Wetland delineation
- Identify electrical needs
- Stormwater
- Structural
- Department/Agency Coordination
 - Planning/Building Services
 - SEPA
 - CAO
 - Clearing/grading
 - Building Permit
 - Public Works
 - Stormwater
 - Public Facilities Permit (if in right of way)
 - Legal
 - Insurance, bond, licensing, agreement
 - WDFW
 - HPA

- Department/Agency Coordination (continued from previous page)
 - USACE
 - Wetland mitigation
 - Tribes

- Parks Department Plan Approval
 - 60% Design Completion
 - Pre Permit Approval
 - Final, stamped plans approved for construction

3. Construction Phase

- Utility Locates
- Preconstruction Meeting
 - Identify Site Supervisor/point of contact
 - Schedule
- Inspections
- Punch List
- Final Inspection



SECTION 1 – SAMPLE MOU PRIVATE PROJECTS ON PARK PROPERTY

PARKS AND RECREATION MEMORANDUM OF UNDERSTANDING

[PROJECT NAME]

[PROJECT NAME]

ATTN: [PROJECT CONTACT]

[CONTACT STREET ADDRESS]

[CITY, STATE ZIP]

City of Bellingham

ATTN: Parks Department

3424 Meridian Street

Bellingham, Washington 98225

Re: Memorandum of Understanding (“MOU”) for [PROJECT NAME]

This MOU confirms that the City of Bellingham (the “City”) intends to participate and cooperate with **[PROJECT DESCRIPTION]** (the “Project”) at **[PROJECT LOCATION]**, in the location shown and per the plans, incorporated into Exhibit “A” attached to this MOU and incorporated herein by this reference.

Any changes, additions or modifications to this MOU should be memorialized in a properly executed writing.

The parties hereto acknowledge that the character of work undertaken in the Project is the type that should require the parties to be adequately insured and each party has assessed its own risks and will carry insurance as it deems appropriate and necessary.

The provisions of this MOU are not intended to create, nor shall they be in any way interpreted or construed to create a binding contract, a joint venture, employer/employee relationship, partnership, or any other similar relationship between the parties.

[PROJECT PROPONENT NAME] understands and acknowledges by its signature below that the failure to meet any Project milestone contained herein may, in the City's discretion, result in termination of the Project and **[PROJECT PROPONENT NAME]** acknowledges and accepts that risk.

The City's participation in the Project detailed in Exhibit "A" is expressly limited to the availability of funds for such participation and in the event that funding is withdrawn, reduced or limited in any way after the date of this MOU due to City budgetary constraints, and prior to its normal completion, the City may summarily terminate its participation in, and cooperation with the Project (thereby possibly terminating the Project as well) notwithstanding the existence of this MOU or any provisions hereof.

By signing below, the parties acknowledge that they have agreed to defend and indemnify the other from all claims or suits brought against the other by their own employees, contractors or subcontractors arising from the Project except to the extent that any such claim or suit is the result of the negligent act or omission of the party against whom the claim or suit is brought.

Please sign at the bottom of this page and return the original to the City address above. The City looks forward to working with you.

Sincerely,

Director of Parks and Recreation

Agreed and accepted by:

[PROJECT PROPONENT NAME]

By: _____

Title: _____

EXHIBIT "A"—SCOPE OF THE PROJECT

Installation of a [PROJECT NAME]

Statement of Purpose:

[PROJECT PROPONENT NAME HERE] (PP), a volunteer citizens group located in Bellingham, WA, desires to install a permanent [PROJECT DESCRIPTION/NAME], "the project", in [PROJECT LOCATION], which is owned and operated by the City of Bellingham. The purpose of this MOU is to set forth the roles and responsibilities of the City and [PROJECT PROPONENT].

Responsible Party Key

[“PP”= PROJECT PROPONENT NAME; “PR”= City of Bellingham Parks and Recreation Dept.; “J”= Joint responsibility.]

Task 1. Funding

- 1.1. PP shall raise all funds and donations to support the project.
- 1.2. PP must partner with a non-profit umbrella group to hold funds for the project.
- 1.3. PP shall raise a minimum of [PROJECT DOLLAR AMOUNT], or all funds necessary to complete the project, in donations of money, materials or pro-bono services toward the installation prior to the start of construction. A detailed accounting of funds and commitments shall be submitted 15 days prior to the start of work.
- 1.4. In the event the project is not completed within [XX] calendar days from the start of construction, the City shall have access to any remaining funds held by the [NON-PROFIT NAME], to make the site safe by either completing the project, or removing materials and restoring the area to its original condition.

Task 2. Planning and Design

- 2.1. PP shall initiate final site planning in coordination with constituent group and Bellingham Parks Department.
- 2.2. PP shall develop final plans for PR review and approval by [INSERT DATE HERE].
- 2.3. PP shall select a Contractor, with COB approval by [INSERT DATE HERE]. The Contractor shall be licensed and bonded in the State of Washington and also hold a City of Bellingham Business License.
- 2.4. PL shall comply with state and local environmental regulations during construction, and obtain all necessary permits and approvals prior to starting work.

Task 3. Renovation Work and Completion

- 3.1 Prior to the start of construction, the Contractor shall submit proof of insurance at the rates specified below and shall name the City as an additional insured:
 - [INSERT DOLLAR AMOUNT HERE] million Commercial General
 - [INSERT DOLLAR AMOUNT HERE] Worker's Compensation
 - [INSERT DOLLAR AMOUNT HERE] Automobile
- 3.2 Prior to starting construction, PP shall schedule a Pre-Construction meeting at the site with the contractor, Parks inspector, Parks Landscape Architect and others as deemed necessary, during regular City Business Hours.
- 3.3 Construction shall be limited to Monday-Friday 7 am- 7 pm, except as otherwise authorized in writing by the City.
- 3.4 PP [MAY or MAY NOT] use City provided water and electricity as available at the adjacent facility, but not during hours that the facility is rented by other parties. The City shall provide PL a list of facility reservations. All hoses and lines shall be secured so that the general public is protected from all safety hazards.
- 3.5 PP shall complete installation of the project and all associated work, including landscape restoration by end of business [INSERT DATE HERE]. Unless otherwise specified, all work shall be in compliance with City of Bellingham Parks and Public Works Standards.
- 3.6 PP shall assume all maintenance of the landscape restoration and of the project until such time as final acceptance by the City. The City's maintenance of the project is subject to available budget.

3.7 PP shall arrange for and coordinate all inspections required by regulating agencies.

Task 4. Opening and Operation of the [PROJECT NAME HERE]

4.1 PP shall reserve the site through the City's Facility reservation system for any special events to be held at the [PROJECT NAME HERE]. The Facility Reservation, will include, at a minimum, reservation of the [INSERT DESCRIPTION OF SITE FACILITIES HERE] for the duration of the special event.

4.2 Ongoing, volunteer maintenance of the [PROJECT NAME HERE] is encouraged, however, following the initial construction period, power equipment cannot be used by volunteers.



REQUIREMENTS FOR TRAIL RIGHTS-OF-WAY (ROW)

These requirements set minimum standards for the dedication or conveyance of easement rights or land for trail construction and operation. These requirements may apply to developed areas and to areas intended for future development.

These standards are intended to provide a pleasing trail experience for users, to allow buffers and setbacks from constructed features on adjoining land, and to allow sufficient space for trail construction, maintenance, repair, landscaping and public enjoyment.

The minimum standards set forth herein are for trails located where buildable space is limited, typically involving private development, and trails located immediately adjacent to building sites. In other locations and in open space areas, larger greenways are desired to enhance the trail and park experience.

These standards shall not supersede City, County, State, or Federal laws or codes. These standards are meant to be used only for City of Bellingham Parks & Recreation projects or voluntarily by other City of Bellingham departments.

These minimum standards shall apply to all newly defined trail right-of-way purchases and dedication approvals. Exceptions may be granted in special circumstances as determined by the Parks & Recreation Department.

1. Easements, Dedications, and Rights-of-Way For Undeveloped Trails Shall Be a Minimum of 30 Feet Wide

- a. The width of right-of-way shall be a minimum of thirty (30) feet wide to ensure access in typical terrain and to provide for trail turning radii.
- b. A wider right-of-way may be required for:
 - i. steeply sloped areas
 - ii. stormwater facilities associated with the trail
 - iii. guardrails
 - iv. park benches and landings
 - v. other trail amenities such as signing
- c. The actual width of the trail surfacing shall be as approved by the Parks and Recreation Department.

- d. Exceptions to these requirements are as follows:
- i. Narrower right-of-way dimensions may be allowed by the Parks and Recreation Department if clearances between existing structures and property lines are less than specified herein and no other practicable alternative exists.
2. **Trail Rights-of-Way Shall Allow for Crime Prevention Through Environmental Design (CPTED) Guidelines**
- a. Trail rights of way shall take into account sight distance, landscaping, proximity to surrounding development and associated amenities so that trails may be designed and developed using CPTED principles through the professional judgments of design personnel.
3. **Trail Rights-of-Way Shall Allow for Buffering from Other Development (ref. Figure 1)**
- a. The minimum setback from the easement boundary to the outside edge of buildings and other structures shall be ten (10) feet minimum.
 - b. The minimum setback from the easement boundary to the outside edge of fences or freestanding walls shall be five (5) feet minimum.
 - c. The minimum setback from the outside edge of trail surface to the easement boundary shall be five (5) feet.
 - d. Exceptions to this setback requirement may include structures and amenities associated with the trail or trail experience such as pedestrian guardrails, handrails, benches, and other desirable site features.
 - e. Other special consideration and increased setbacks may be needed on a case-by-case basis depending on the use and occupancy of neighboring structures as determined by the Parks and Recreation Department.

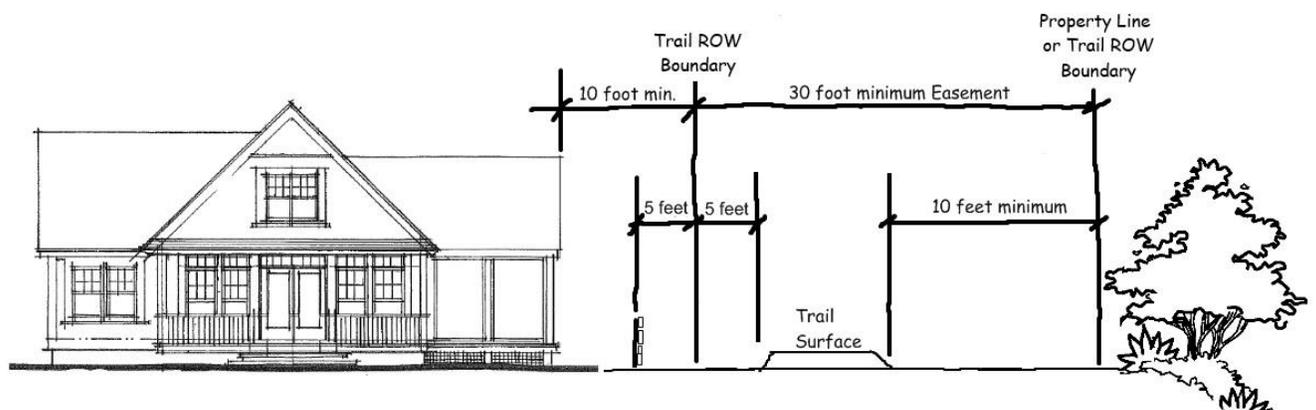


Figure 1 - Example of Minimum Trail Setbacks from Buildings, Other Structures, and Property Lines

4. Trails Shall Be Set Back From Property or Easement Boundary Lines

- a. The minimum setback from the edge of property or easement boundary lines to the edge of trail surfacing shall be ten (10) feet, except where the trail within said right-of-way crosses a property line to connect to other trails.
- b. Exceptions to this setback may be considered in cases where perpetual development restrictions prohibit development of adjacent land next to the trail right-of-way.

5. Right-of-Way For Trails Shall be Located Outside of Critical Areas

- a. Right-of-way for trail development shall not be located within wetlands, streams, steep slopes or other critical areas or their associated buffer setbacks, as defined in BMC 16.55.
- b. Exceptions may include trails that are mitigated, permitted and approved by City, County, State, and Federal permitting regulatory agencies and scheduled for development before permits expire.
- c. Exceptions may also be approved if additional suitable property is dedicated to the City for mitigation.

6. Right-of-Ways Established for Trails and Dedicated to the City Outside Publicly Purchased Park and Greenway Tracts Shall be Surveyed by Property Owner

- a. Surveys shall include property lines, overlapping or coextensive rights-of-way for non-trail uses, underground, surface and overhead structures, and other information disclosing features affecting trail construction and operation.
- b. Surveys shall include a minimum of 5 foot contour spacing unless otherwise specified.
- c. Surveys shall include critical area delineations and buffer setbacks.
- d. Survey coordinates for easement boundaries shall be provided to the Parks and Recreation Department in a form acceptable to the Department.
- e. As requested by the Parks and Recreation Department, park standard boundary markers may be installed by the surveyor along easement or right-of-way boundary and corners at a spacing not to exceed 100 feet, but may be spaced closer due to limited sight lines between markers.

7. Trail Right-of-Ways Should be Established Exclusively for Public Access as the Primary Use When Possible

- a. Exceptions may be allowed if no other practicable alternative exists and multiple easement uses must be accommodated within a coextensive or overlapping configuration.



REQUIREMENTS FOR SHARED ACCESS RIGHT-OF-WAYS

This standard is intended to apply to trail improvements within an easement or street right-of-way that is shared with vehicle access to a maintenance facility, single family dwelling, or commercial property.

This standard provides the minimum requirements at a typical trail section. This standard is to be used in conjunction with other Parks and Recreation design standards. Other Park Standards may apply, which may include requirements for landscaping at trail entrance, other signage, trail cross section, slopes, and others details as determined by the Park Project Manager.

The standard included herein permits exceptions to AASHTO and WSDOT provisions for trail separation from vehicles if any of the following apply:

1. Shared driveway to a single residence, business or maintenance facility
2. Extreme low volume and dead-end road (daily traffic of less than 100 vehicles per day)

If none of the above applies, the trail shall be designed to WSDOT and AASHTO minimum standards for shared use paths.

Where exceptions to the AASHTO and WSDOT provisions are allowed by the Park Project Manager, the following shall apply:

1. The minimum requirements for shared trail access shall be as shown in Figure 1, 2 and 3 of this standard. Reference other Park design standards for typical details that may also apply.
2. Park standard way-finding signs shall be placed at the entrance and terminus of all trails and at all trail intersections. Location of way-finding post shall be set back 3 feet adjacent to the trail.
3. All pavement markings shall be per current City of Bellingham Public Works and current MUTCD standards.
4. Where determined by the Park Project Manager, 3-man rock shall be placed along the trail or at trail entrances as landscaping features and to deter unauthorized vehicle access.
5. Street standard "No Parking" signs shall be placed at intervals and locations determined by the Park Project Manager.
6. If a landscaping buffer is provided, the design of the landscaping buffer plants, grading, and other details shall be preapproved by the Park Project Manager during the conceptual design phase. A street tree permit may also be required.

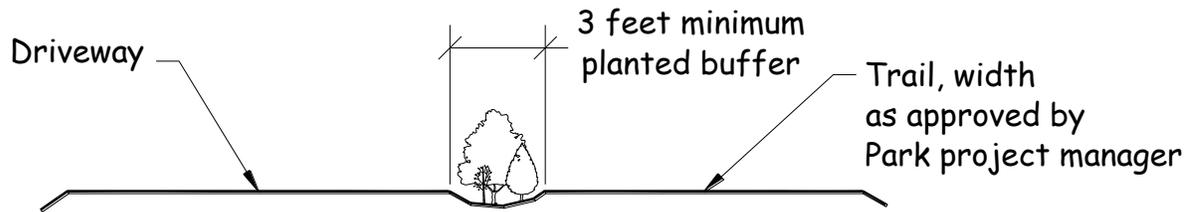


Figure 1 - Trail with landscape buffer

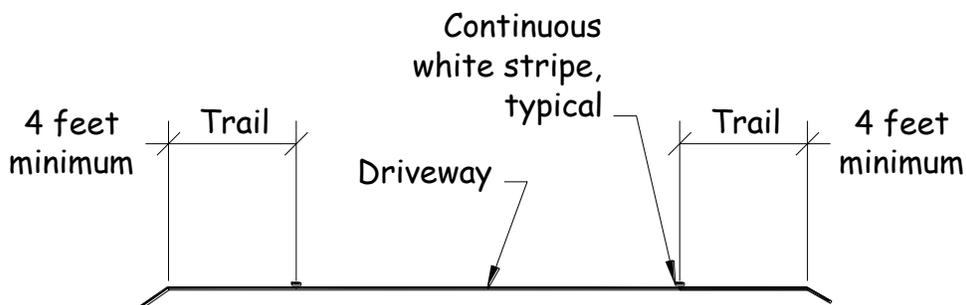


Figure 2 - Paved trail with no buffer

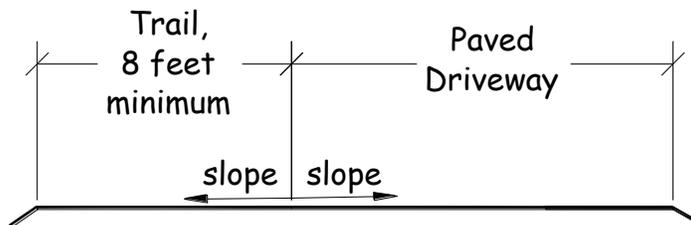
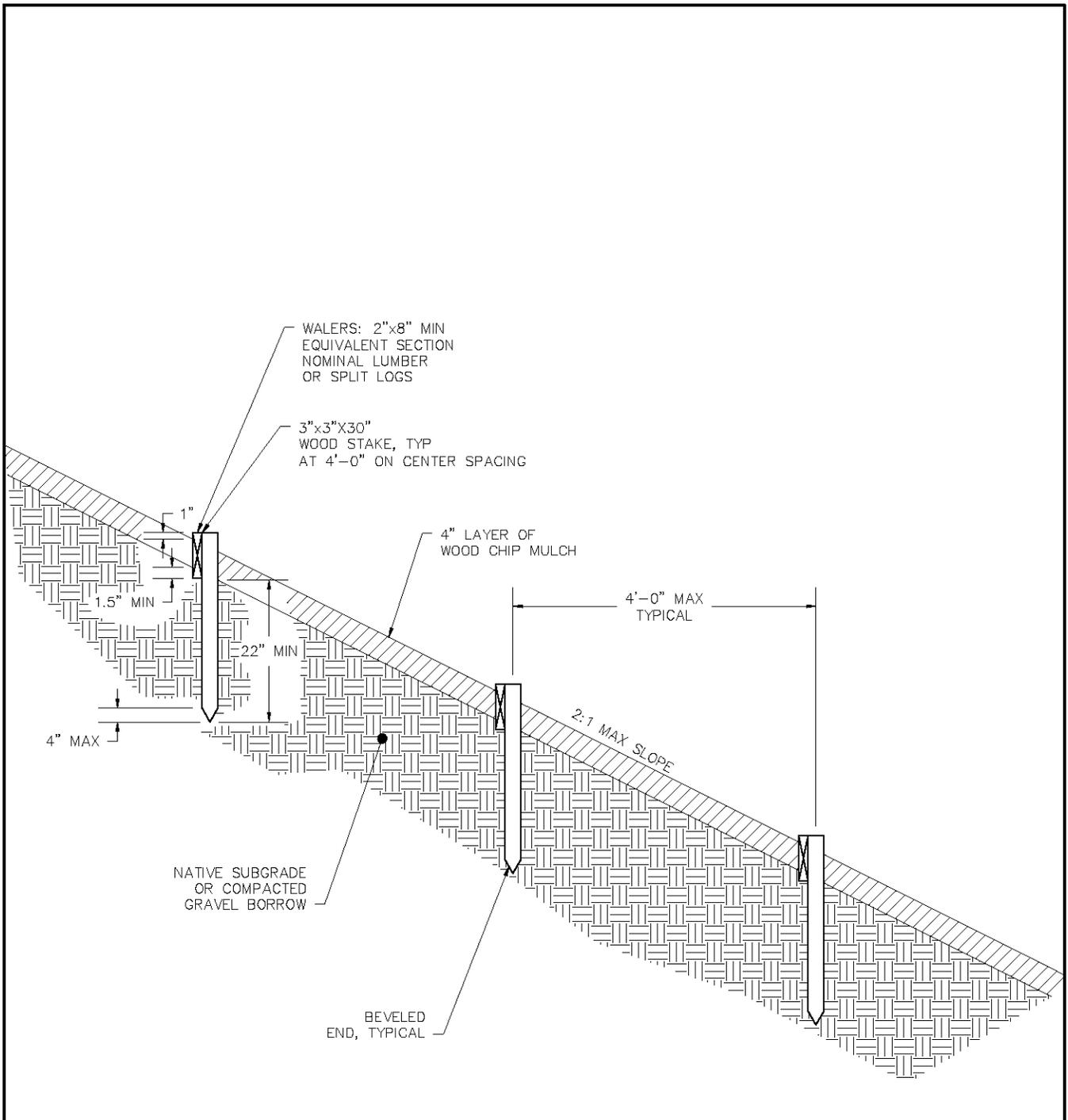


Figure 3 - Trail on gravel shoulder



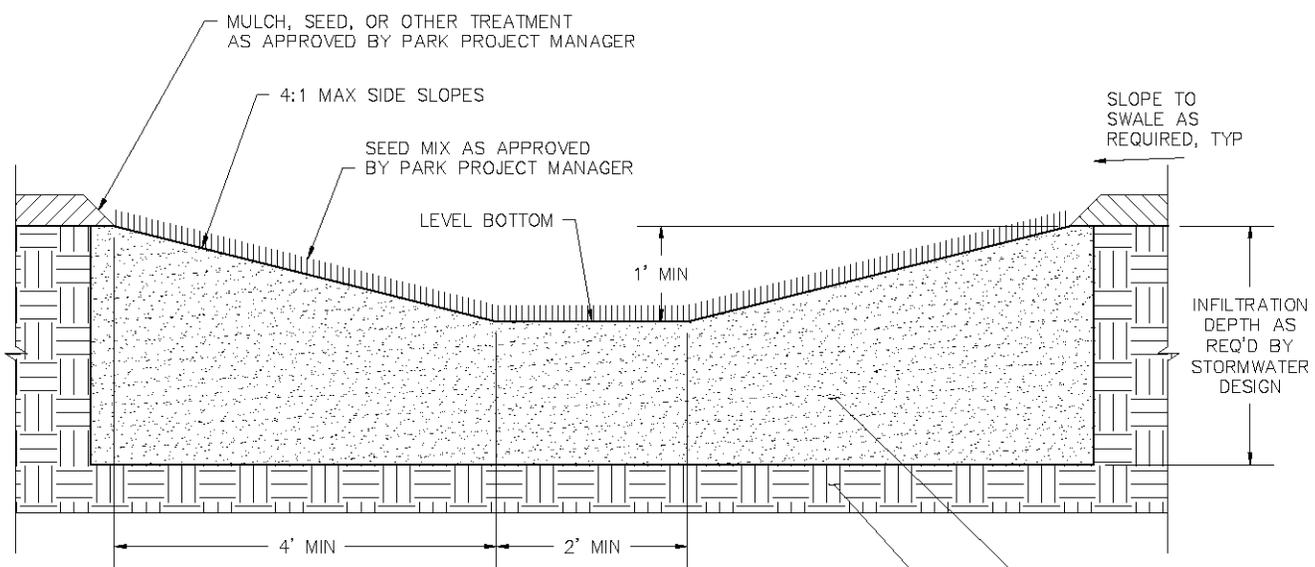
NOTES:

- A. SLOPE PROTECTION SHOWN IN THIS DETAIL INCLUDES MINIMUM REQUIREMENTS.
- B. SLOPE PROTECTION SHALL BE DESIGNED FOR SITE SPECIFIC CONDITIONS BY A DESIGN PROFESSIONAL REGISTERED IN THE STATE OF WASHINGTON.
- C. JUTE/COIR FABRIC MAY BE USED IN LIEU OF WALERS AND STAKING. JUTE FABRIC AND STAKES SHALL BE 100% BIODEGRADABLE MATERIAL WITH AN 18 MONTH LIFE AND SHALL BE SECURED IN PLACE ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- D. STRAW WATTLES MAY BE USED IF APPROVED BY THE PARK PROJECT MANAGER. STRAW WATTLES SHALL BE INSTALLED IN ACCORDANCE WITH WSDOT STANDARD PLAN I-30.30-00 AND SHALL BE MADE OF 100% BIODEGRADABLE MATERIAL WITH AN 18 MONTH LIFE.
- E. WOOD STAKES AND WALERS SHALL BE ALL NATURAL WOOD SPECIES, UNTREATED.
- F. EXTENT AND LENGTH OF WALERS SHALL BE SHOWN ON THE FINAL GRADING PLAN.
- G. IF HARD SUBGRADES ARE ENCOUNTERED, WOOD STAKES MAY NEED TO BE MECHANICALLY DRIVEN INTO THE GROUND TO ACHIEVE THE REQUIRED EMBEDMENT DEPTH.

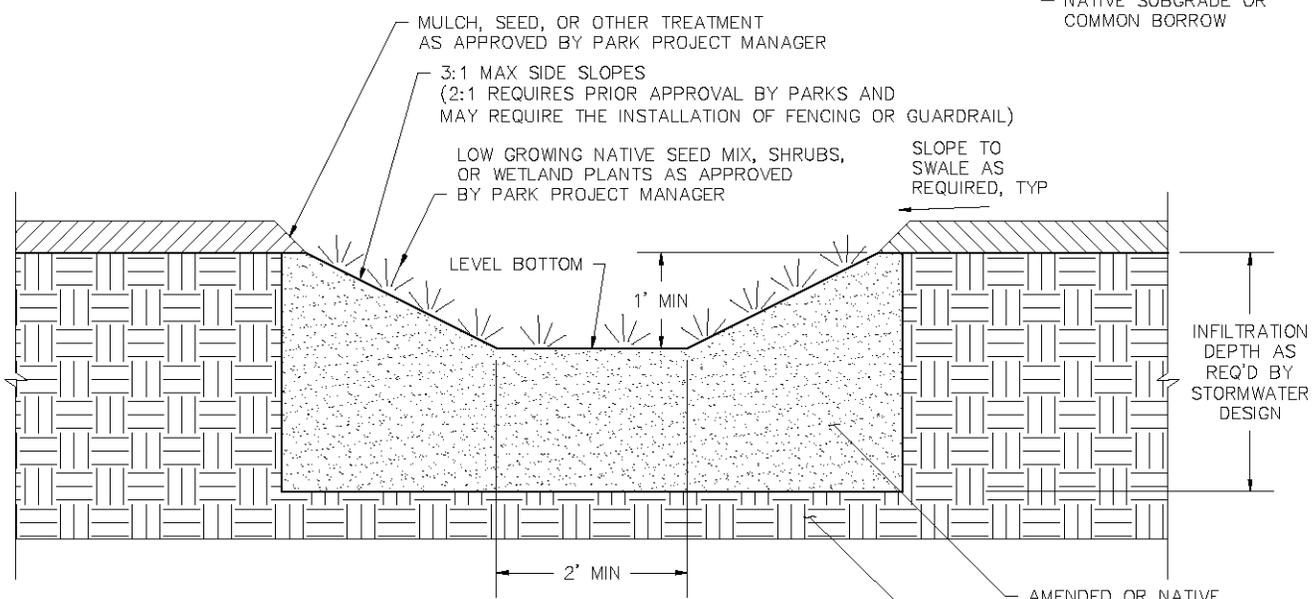
**PARKS AND RECREATION
DESIGN AND DEVELOPMENT
JUNE 3, 2010**

**CITY OF BELLINGHAM
SLOPE PROTECTION
Scale: 1/2" = 1'-0"**

**DRAWING
2270.01**



GRASS SWALE - MOWED



PLANTED SWALE - NOT MOWED

NOTES:

- A. DESIGN AND LOCATION OF SWALES MUST BE PREAPPROVED BY PARK PROJECT MANAGER.
- B. FENCING AND/OR GUARDRAIL MAY BE REQUIRED WHERE SLOPES STEEPER THAN 3:1 ARE USED.
- C. THE DETAIL SHOWN ABOVE INCLUDES THE MINIMUM REQUIREMENTS FOR SWALES.
- D. SWALE SHALL BE DESIGNED FOR SITE SPECIFIC CONDITIONS BY A DESIGN PROFESSIONAL REGISTERED IN THE STATE OF WASHINGTON.
- E. SEEDING IS WEATHER DEPENDENT. EROSION CONTROL MUST BE PROVIDED IN COMPLIANCE WITH PERMITTING REQUIREMENTS.
- F. AVOID DAMAGING TREE ROOTS DURING EXCAVATION. REFERENCE TREE PROTECTION STANDARDS FOR PARKS.
- G. PLANTING PLAN SHALL BE DESIGNED BY A DESIGN PROFESSIONAL REGISTERED IN THE STATE OF WASHINGTON.

**PARKS AND RECREATION
DESIGN AND DEVELOPMENT
MAY 21, 2010**

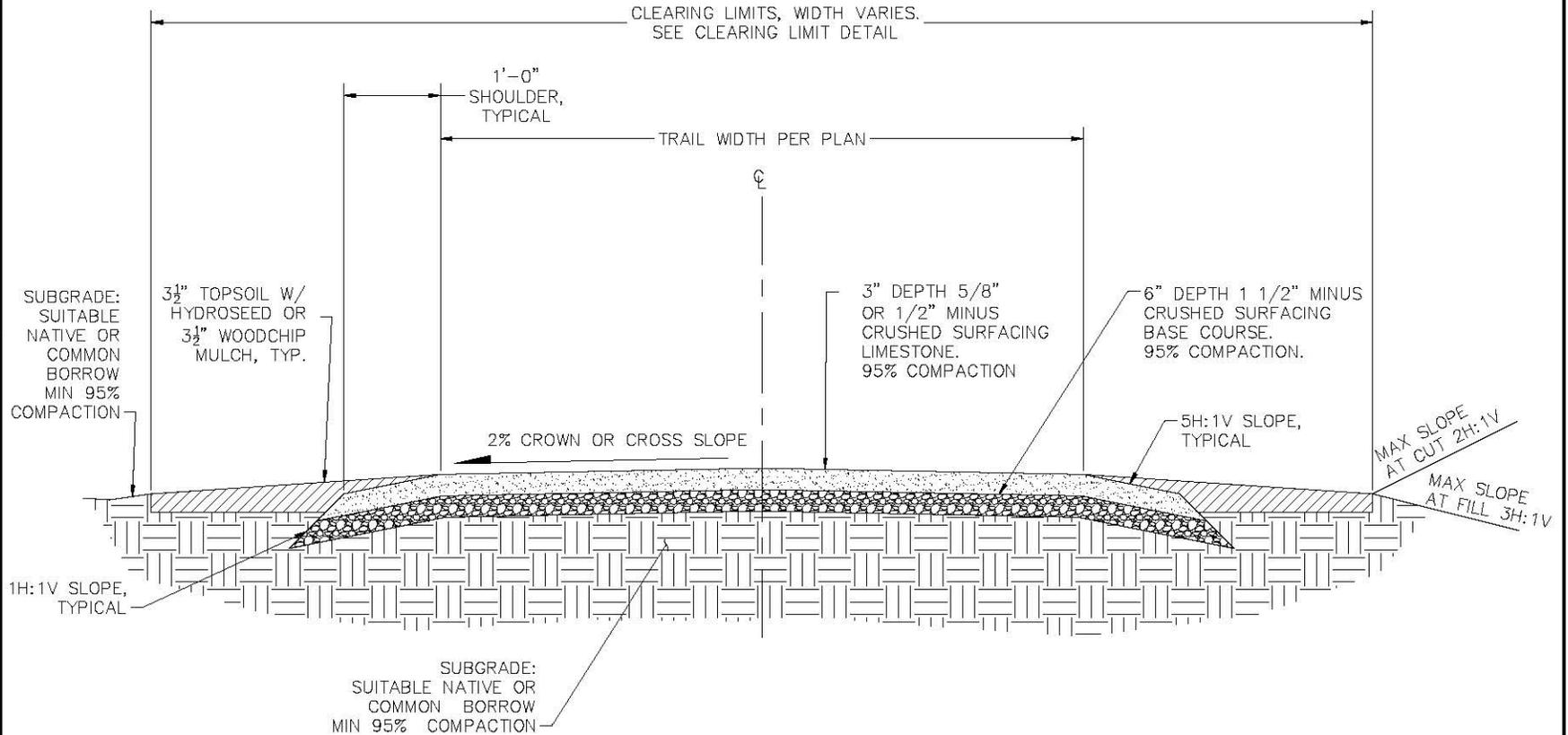
**CITY OF BELLINGHAM
SWALES ON PARK PROPERTY
Scale: 1/2" = 1'-0"**

**DRAWING
02270.02**

PARKS AND RECREATION
 DESIGN AND DEVELOPMENT
 October 19, 2011

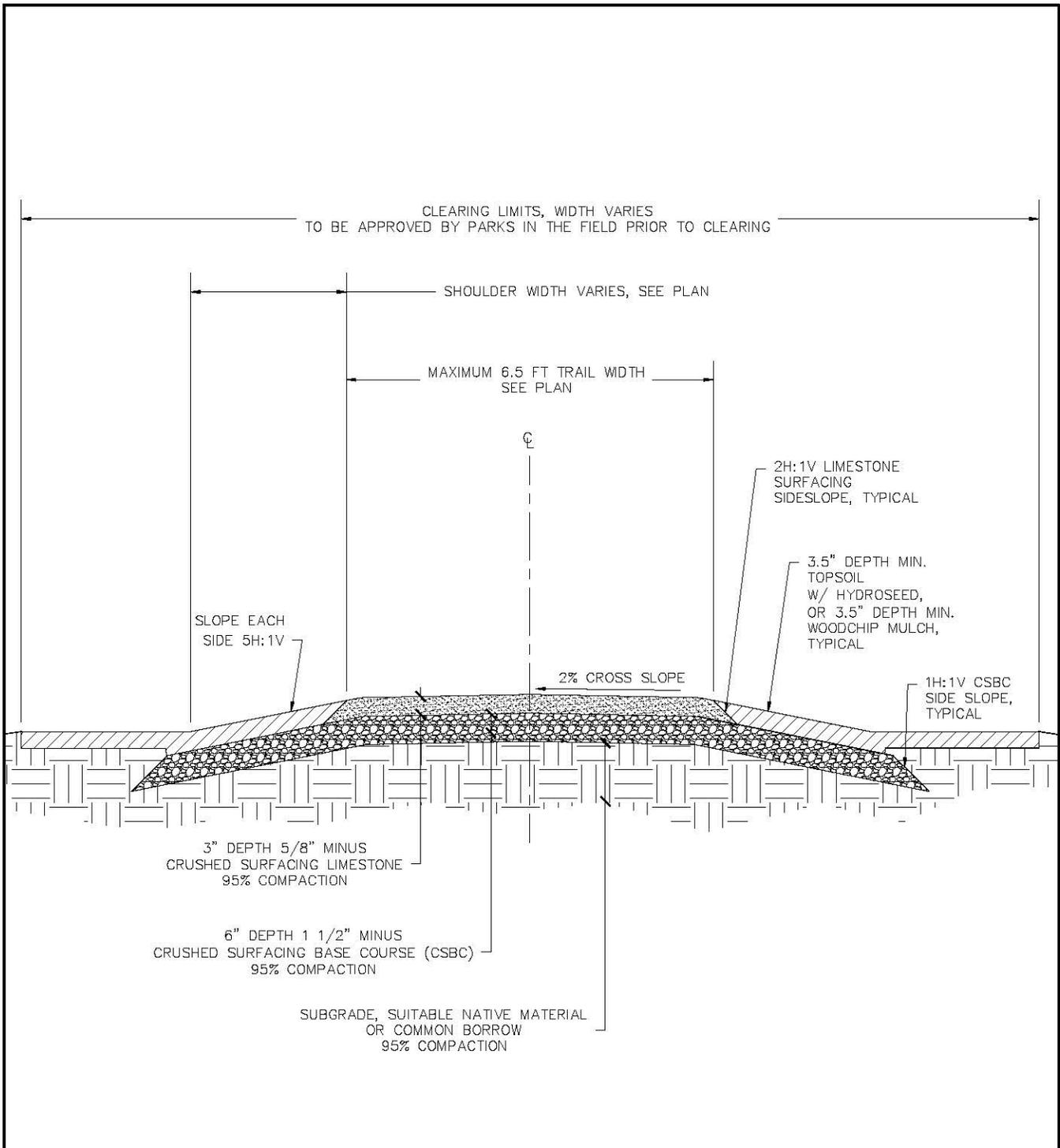
CITY OF BELLINGHAM
 TRAIL SECTION
 3/8" = 1'-0"

DRAWING
 2505.01



NOTES:

- A. WHERE TRAIL IS LOCATED OVER BURIED UTILITIES, THE ENTIRE TRENCH SHALL BE BACKFILLED WITH IMPORTED GRAVEL AND COMPACTED TO 95% MAXIMUM DENSITY.
- B. SECTION SHOWN IS FOR TYPICAL CONDITIONS. TRAIL MAY BE MODIFIED TO ACCOMMODATE SITE SPECIFIC REQUIREMENTS.
- C. DRAINAGE DITCH PARALLEL TO TRAIL MAY BE REQUIRED FOR STORM WATER DESIGN. MINIMUM WIDTH OF DITCH IS 3 FT OR AS APPROVED BY PARKS AND RECREATION. BANK SLOPE EACH SIDE OF CENTERLINE OF DITCH WITH MAX SIDE SLOPES OF 4H:1V
- D. CRUSHED SURFACING BASE COURSE DEPTH AND SIZE OF AGGREGATE SHOWN IS MINIMUM REQUIREMENT. ACTUAL SIZE AGGREGATE MAY VARY PER SITE SPECIFIC CONDITIONS.
- E. STAKE ALIGNMENT AND CLEARING LIMITS IN THE FIELD PRIOR TO CLEARING. VIOLATORS WILL BE FINED. BMC 13.40.150
- F. SUBGRADE COMPACTION MUST BE CERTIFIED BY A GEOTECHNICAL ENGINEER.



NOTES:

- A. TRAIL DETAIL SHOWN DOES NOT INCLUDE STORMWATER DESIGN. STORMWATER DESIGN MUST BE COMPLETED IN ACCORDANCE WITH APPLICABLE CODES.
- B. DRAINAGE DITCH PARALLEL TO TRAIL MAY BE REQUIRED FOR STORMWATER DESIGN. MINIMUM DITCH WIDTH IS 3 FT. OR AS APPROVED BY PARKS MANAGER. SLOPE EACH SIDE OF CENTERLINE OF DITCH WITH MAXIMUM SIDE SLOPE OF 4H:1V OR AS OTHERWISE NOTED.
- C. WHERE TRAIL IS LOCATED OVER BURIED UTILITIES, THE ENTIRE UTILITY TRENCH SHALL BE BACKFILLED WITH IMPORTED GRAVEL AND COMPACTED TO 95% MAXIMUM DENSITY.
- D. SECTION SHOWN IS FOR TYPICAL CONDITIONS, TRAIL MAY BE MODIFIED TO ACCOMMODATE SITE SPECIFIC REQUIREMENTS.
- E. CRUSHED SURFACING BASE COURSE DEPTH AND SIZE OF AGGREGATE SHOWN IS MINIMUM REQUIREMENT. ACTUAL DEPTH OF AGGREGATE MAY VARY PER SITE SPECIFIC CONDITIONS.
- F. STAKE TRAIL ALIGNMENT AND TRAIL CLEARING LIMITS IN THE FIELD BEFORE CLEARING. VIOLATORS WILL BE FINED. SEE BMC13.40.150.
- G. SUBGRADE COMPACTION MUST BE CERTIFIED BY A GEOTECHNICAL ENGINEER.
- H. TRAIL WIDTH SHOWN IS MAXIMUM WIDTH. WIDTH MAY VARY ACCORDING TO SITE SPECIFIC PLAN.

**PARKS AND RECREATION
DESIGN AND DEVELOPMENT
OCTOBER 19, 2011**

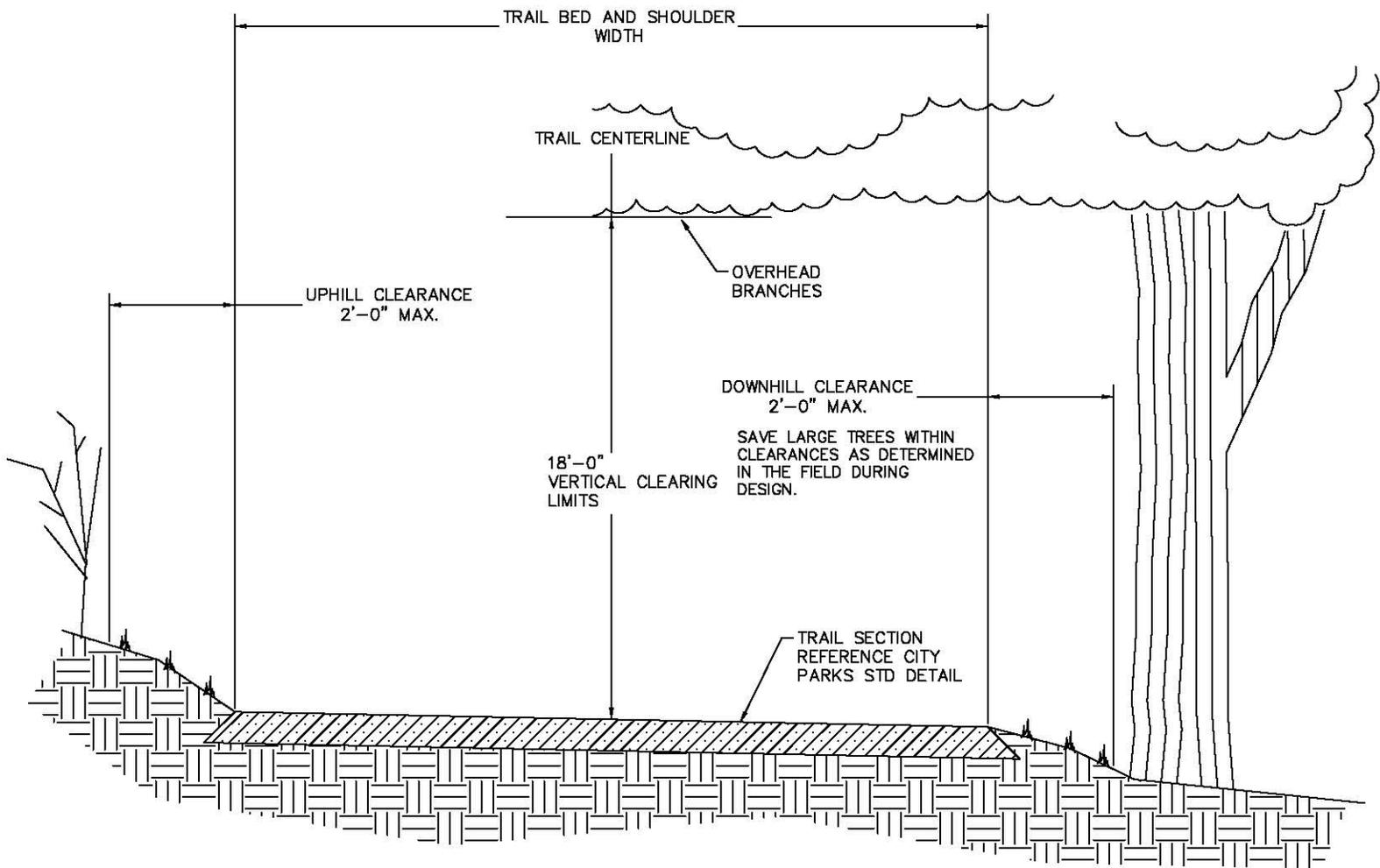
**CITY OF BELLINGHAM
NARROW TRAIL
Scale: NTS**

**DRAWING
2505.02**

PARKS AND RECREATION
DESIGN AND DEVELOPMENT
July 10, 2009

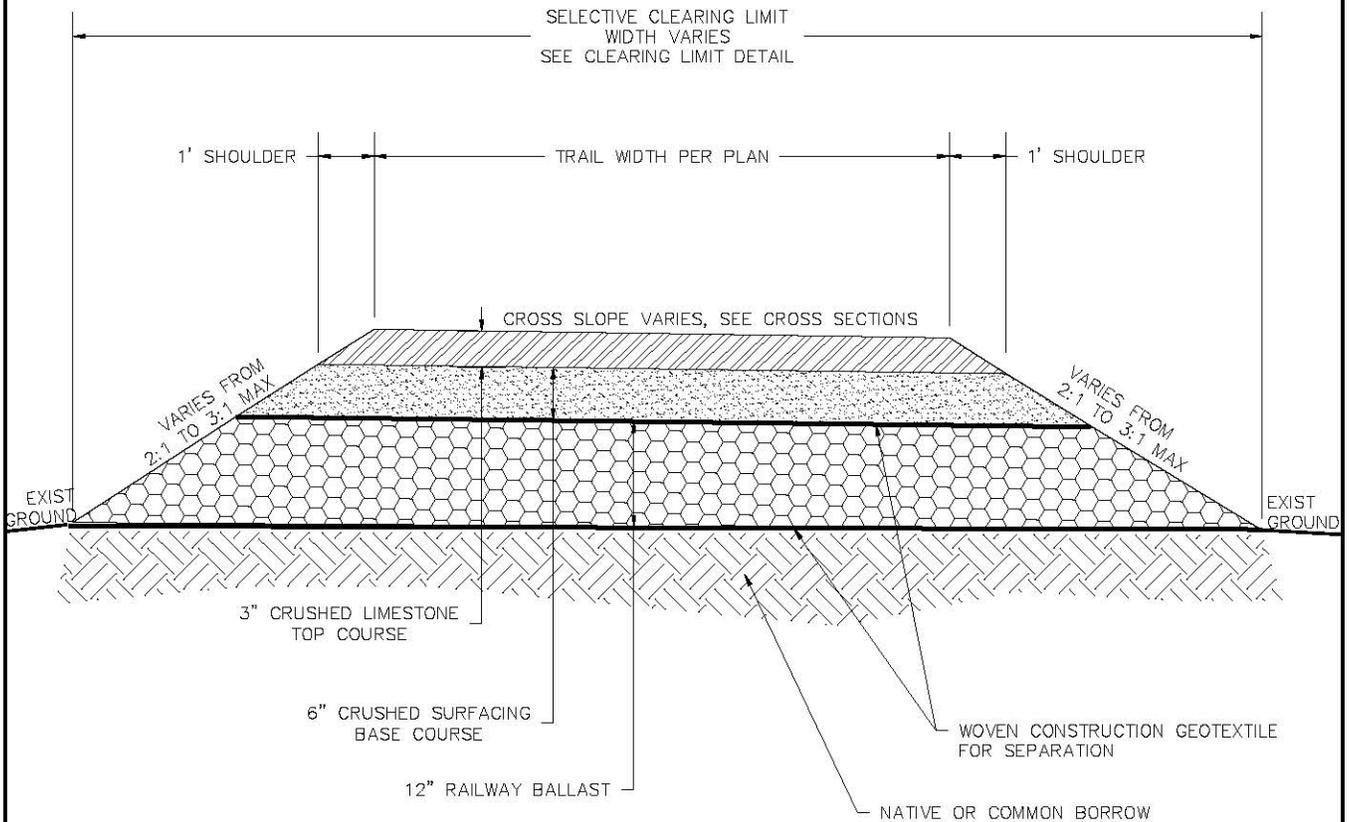
CITY OF BELLINGHAM
TRAIL CLEARING
SCALE 3/8" = 1'-0"

DRAWING
2505.03



NOTES:

- A. REFERENCE NOTES ON DETAIL 2505.01 FOR INFORMATION NOT SHOWN.
- B. ALL TREES 8" IN DIA OR LESS SHALL BE CUT IF THEY ARE LOCATED WITHIN THE UPHILL OR DOWNHILL CLEARING LIMITS.
- C. LARGER AREAS OF CLEARING MAY OCCUR WHERE GRADING FOR TRAIL EXTENDS BEYOND TRAIL CLEARING.
- D. REFERENCE PROJECT SPECIFICATIONS FOR BRANCH CUTTING REQUIREMENTS.



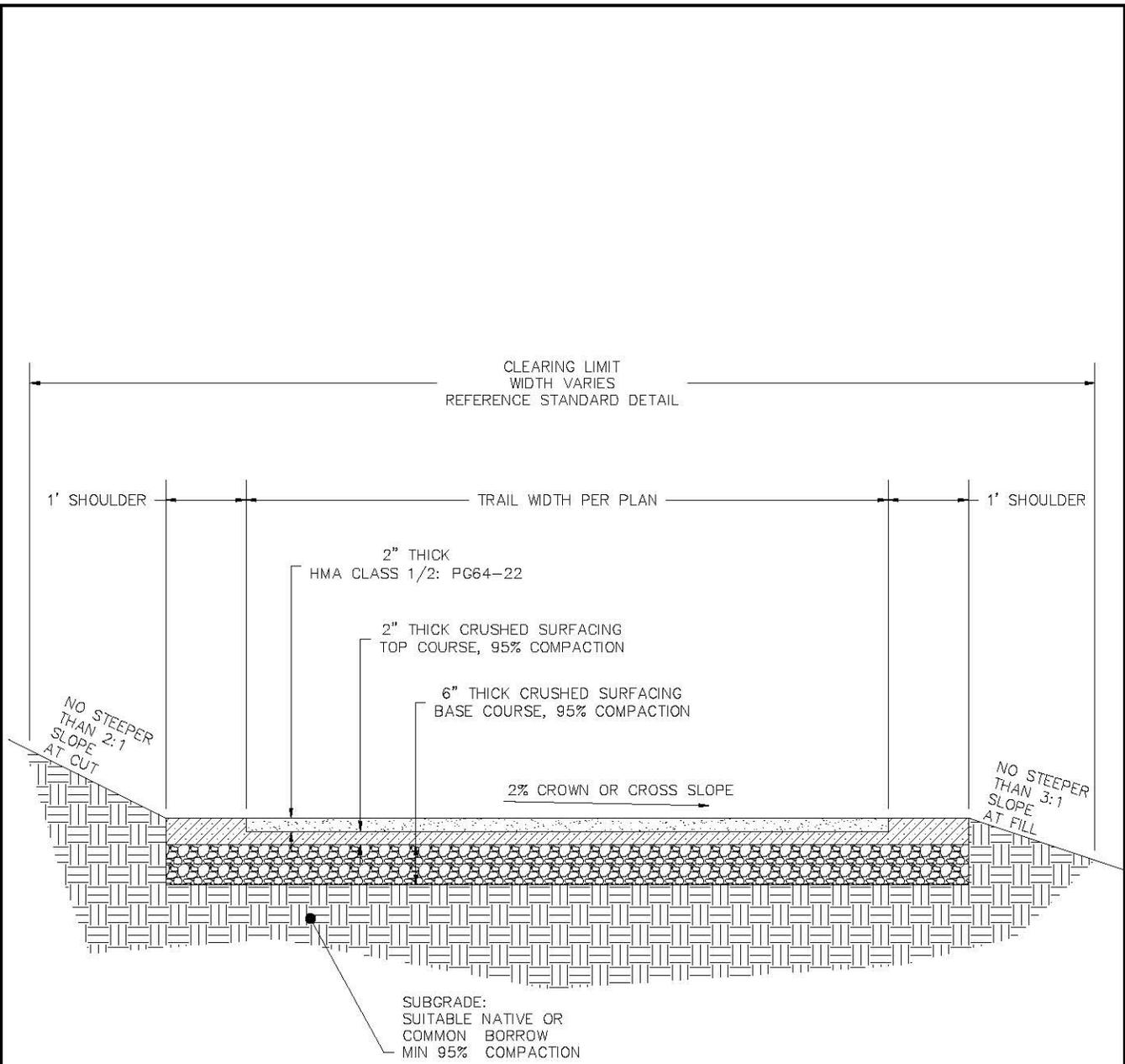
NOTES:

- A. TRAIL SECTION SHOWN IS FOR INFORMATIONAL PURPOSES ONLY. TRAILS THROUGH WETLANDS REQUIRE SITE SPECIFIC DESIGN AND PERMIT APPROVALS.
- B. WHERE TRAIL IS LOCATED OVER BURIED UTILITIES, THE ENTIRE TRENCH SHALL BE BACKFILLED WITH IMPORTED GRAVEL AND COMPACTED TO 95% MAXIMUM DENSITY.
- C. SECTION SHOWN IS FOR TYPICAL CONDITIONS. TRAIL MAY BE MODIFIED TO ACCOMODATE SITE SPECIFIC REQUIREMENTS.
- D. DRAINAGE DITCH PARALLEL TO TRAIL MAY BE REQUIRED FOR STORMWATER DESIGN. MINIMUM WIDTH OF DITCH IS 3 FT OR AS APPROVED BY PARKS AND RECREATION. BANK SLOPE EACH SIDE OF CENTERLINE OF DITCH WITH MAX SIDE SLOPES OF 4H:1V
- E. CRUSHED SURFACING BASE COURSE DEPTH AND SIZE OF AGGREGATE SHOWN IS MINIMUM REQUIREMENT. ACTUAL SIZE AGGREGATE MAY VARY PER SITE SPECIFIC CONDITIONS.
- F. STAKE ALIGNMENT AND CLEARING LIMITS IN THE FIELD PRIOR TO CLEARING. VIOLATORS WILL BE FINED.
- G. SUBGRADE COMPACTION MUST BE CERTIFIED BY A GEOTECHNICAL ENGINEER.

**PARKS AND RECREATION
DESIGN AND DEVELOPMENT
OCTOBER 20, 2011**

**CITY OF BELLINGHAM
TRAIL W/RAILROAD BALLAST
Scale: NTS**

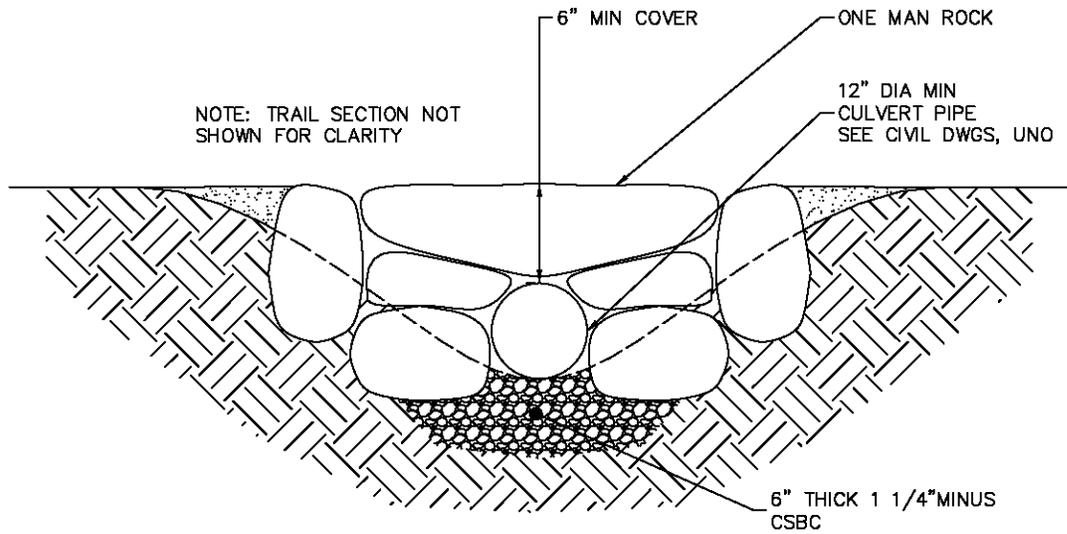
**DRAWING
2505.04**



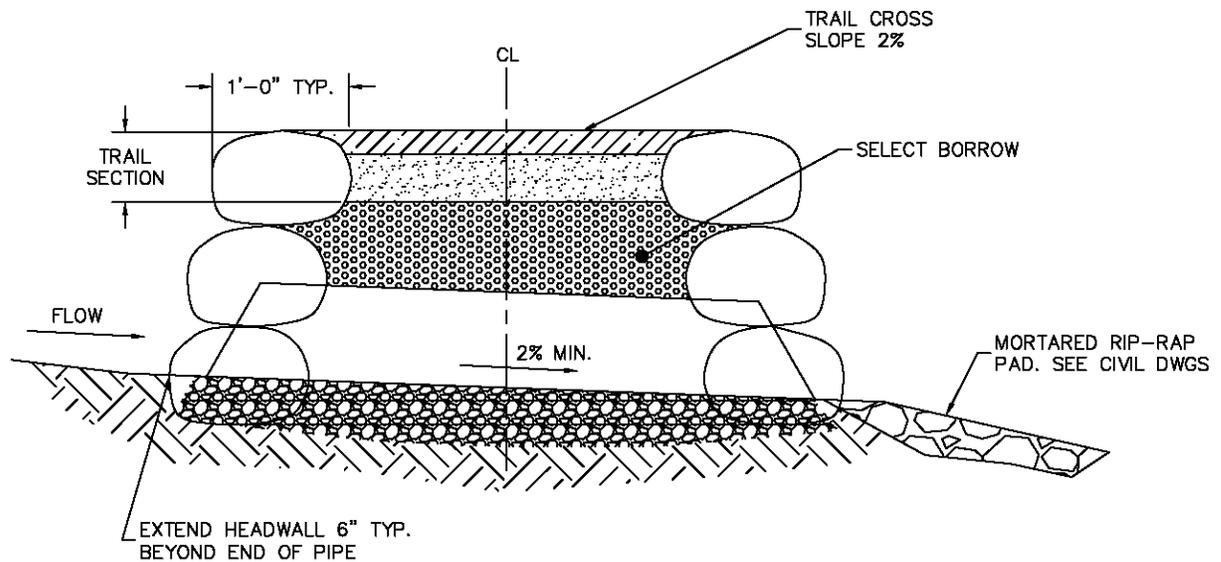
NOTES:

- A. ASPHALT TRAIL SHALL BE CONSTRUCTED IN ACCORDANCE WITH WSDOT STANDARD SPECIFICATIONS, CURRENT EDITION.
- B. TESTING AND QUALITY CONTROL OF ASPHALT AND AGGREGATES SHALL BE PER WSDOT STANDARD SPECIFICATIONS, CURRENT EDITION.
- C. WHERE TRAIL IS LOCATED OVER BURIED UTILITIES, THE ENTIRE TRENCH SHALL BE BACKFILLED WITH IMPORTED GRAVEL AND COMPACTED TO 95% MAXIMUM DENSITY.
- D. SECTION SHOWN IS FOR TYPICAL CONDITIONS. TRAIL MAY BE MODIFIED TO ACCOMMODATE SITE SPECIFIC REQUIREMENTS.
- E. SITE SPECIFIC STORM WATER RUNOFF DESIGN IS REQUIRED FOR ALL TRAIL SECTIONS. DESIGN MUST BE COMPLETED BY A DESIGN PROFESSIONAL REGISTERED IN THE STATE OF WASHINGTON. STORM WATER DESIGN MUST MEET ALL LOCAL AND STATE CODES.
- F. DRAINAGE DITCH PARALLEL TO TRAIL MAY BE REQUIRED FOR STORM WATER DESIGN. MINIMUM WIDTH OF DITCH IS 3 FT OR AS APPROVED BY PARKS AND RECREATION. BANK SLOPE EACH SIDE OF CENTERLINE OF DITCH WITH SIDE SLOPES OF 4H:1V
- G. CRUSHED SURFACING BASE COURSE DEPTH AND SIZE OF AGGREGATE SHOWN IS MINIMUM REQUIREMENT. ACTUAL SIZE AGGREGATE MAY VARY PER SITE SPECIFIC CONDITIONS.
- H. STAKE ALIGNMENT AND CLEARING LIMITS IN THE FIELD PRIOR TO CLEARING. VIOLATORS WILL BE FINED PER BMC 13.40.150
- I. SUBGRADE COMPACTION MUST BE CERTIFIED BY AN APPROVED SPECIAL INSPECTION AND TESTING AGENCY OR GEOTECHNICAL ENGINEER.
- J. WHERE PAVED TRAIL OCCURS WITHIN OR OVER ROOT ZONES OF EXISTING TREES, CONSULT WITH PARK ARBORIST BEFORE WORK COMMENCES.
- K. ROOT BARRIER SHALL BE INSTALLED AS SHOWN ON THE PROJECT PLANS OR AS DIRECTED BY THE PARK PROJECT MANAGER.

<p>PARKS AND RECREATION DESIGN AND DEVELOPMENT OCTOBER 19, 2011</p>	<p>CITY OF BELLINGHAM ASPHALT TRAIL SECTION SCALE: 1/2" = 1'-0"</p>	<p>DRAWING 02510.01</p>
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CULVERT SECTION VIEW

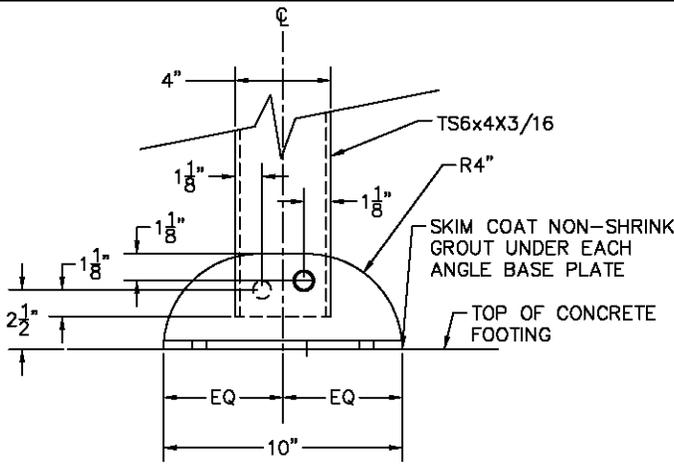


TRAIL SECTION VIEW

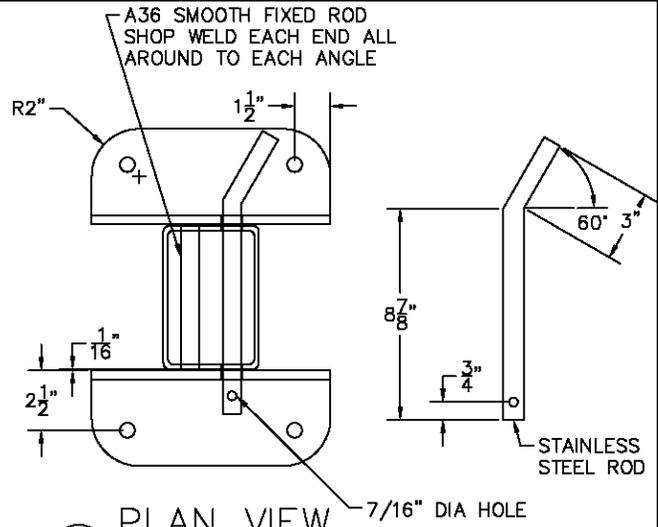
PARKS AND RECREATION
DESIGN AND DEVELOPMENT
December 6, 2007

CITY OF BELLINGHAM
CULVERT UNDER
TRAIL

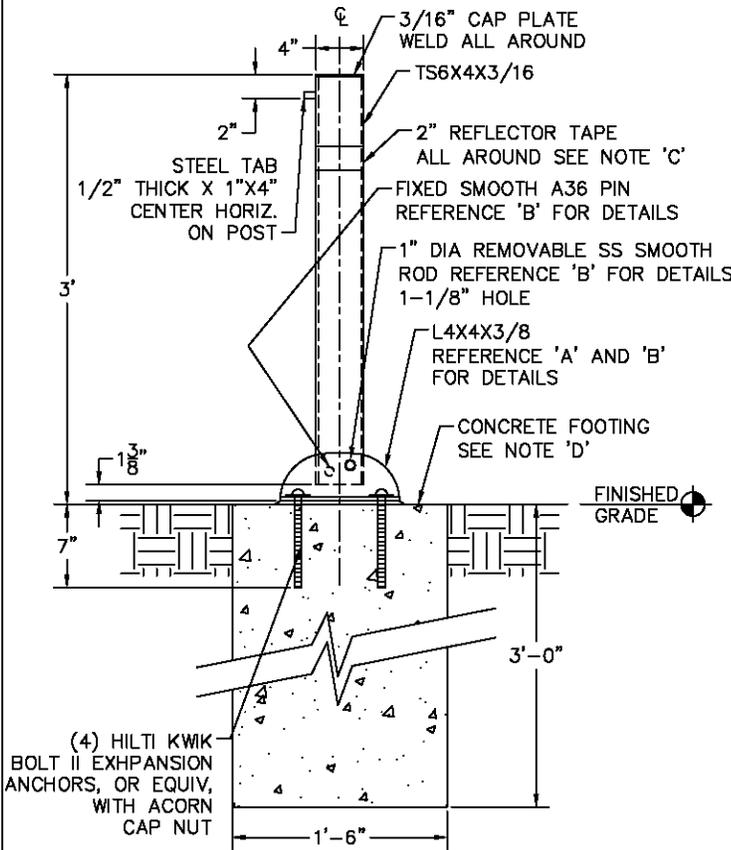
DRAWING
02630.01



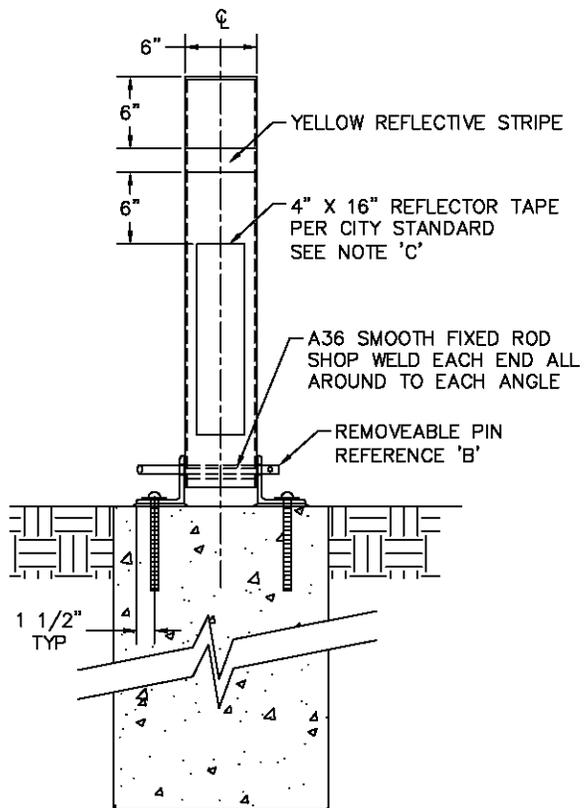
(A) SIDE VIEW



(B) PLAN VIEW



SIDE VIEW



FRONT VIEW

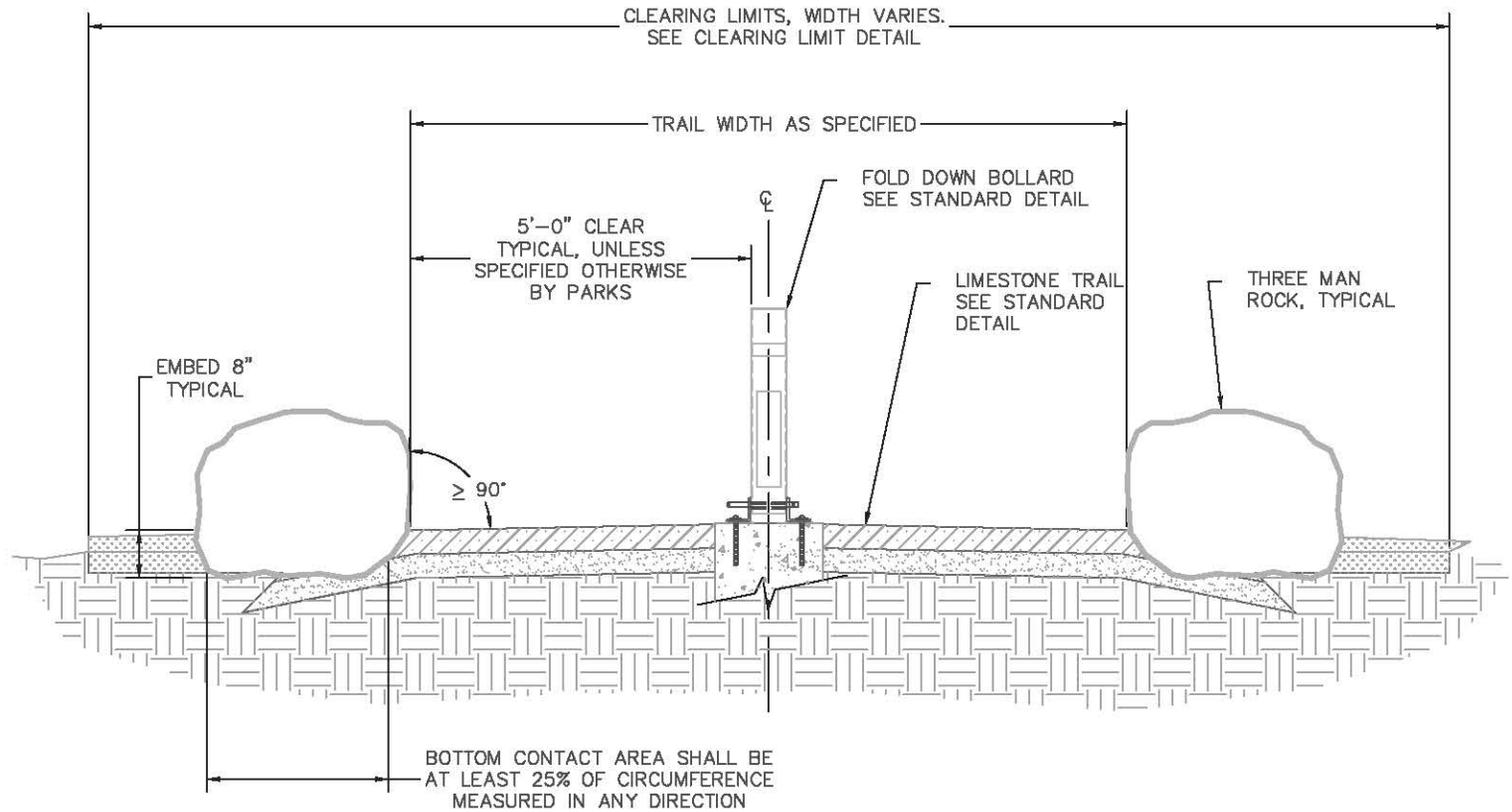
- NOTES:
- A. ALL STEEL SHALL BE A36 STRUCTURAL UNLESS NOTED OTHERWISE.
 - B. ALL STEEL SHALL BE POWDER COATED BROWN UNLESS NOTED OTHERWISE. COLOR SHALL MATCH BENJAMIN MOORE IRON CLAD LATEX BRONZE TONE COLOR #363-60 (STOCKTON'S PAINT SUPPLY), OR EQUIVALENT.
 - C. REFLECTIVE TAP BOTH SIDES, YELLOW BACKGROUND, NO LETTERING, TO BE MADE OF TRAFFIC GRADE REFLECTIVE TAPE.
 - D. FOOTING DESIGN MAY VARY PER SITE CONDITIONS.
 - E. ORIENTATION AND LOCATION OF BOLLARD SHALL BE APPROVED BY PARKS IN THE FIELD.

<p>PARKS AND RECREATION DESIGN AND DEVELOPMENT</p> <p>last edit August 09, 2007</p>	<p>CITY OF BELLINGHAM FOLD DOWN BOLLARD DETAIL</p>	<p>DRAWING 02840.01</p>
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PARKS AND RECREATION
 DESIGN AND DEVELOPMENT
 February 21, 2008

CITY OF BELLINGHAM
 BARRIERS
 ROCK

DRAWING
 02840.02

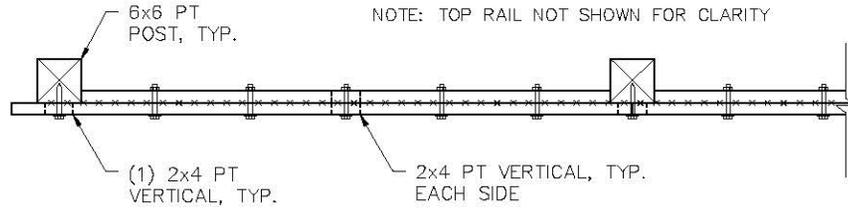


- NOTES:
- A. ROCK MATERIAL SHALL MEET THE REQUIREMENTS STATED IN THE WSDOT STANDARD SPECIFICATIONS SECTION 9-13.7
 - B. ROCK MATERIAL SHALL BE APPROVED BY THE CITY OF BELLINGHAM PARKS PRIOR TO ORDERING MATERIAL. PROVIDE MINIMUM 24 HR NOTICE.
 - C. THE CLEAR SPACING BETWEEN ROCKS IN A ROW SHALL BE 5FT, UNLESS SPECIFIED OTHERWISE BY PARKS
 - D. ROCK COLOR SHALL BE AT LEAST 50% DARK GRAY, BROWN, TAUPE, BLACK OR GREEN, AS APPROVED BY PARK LANDSCAPE ARCHITECT.

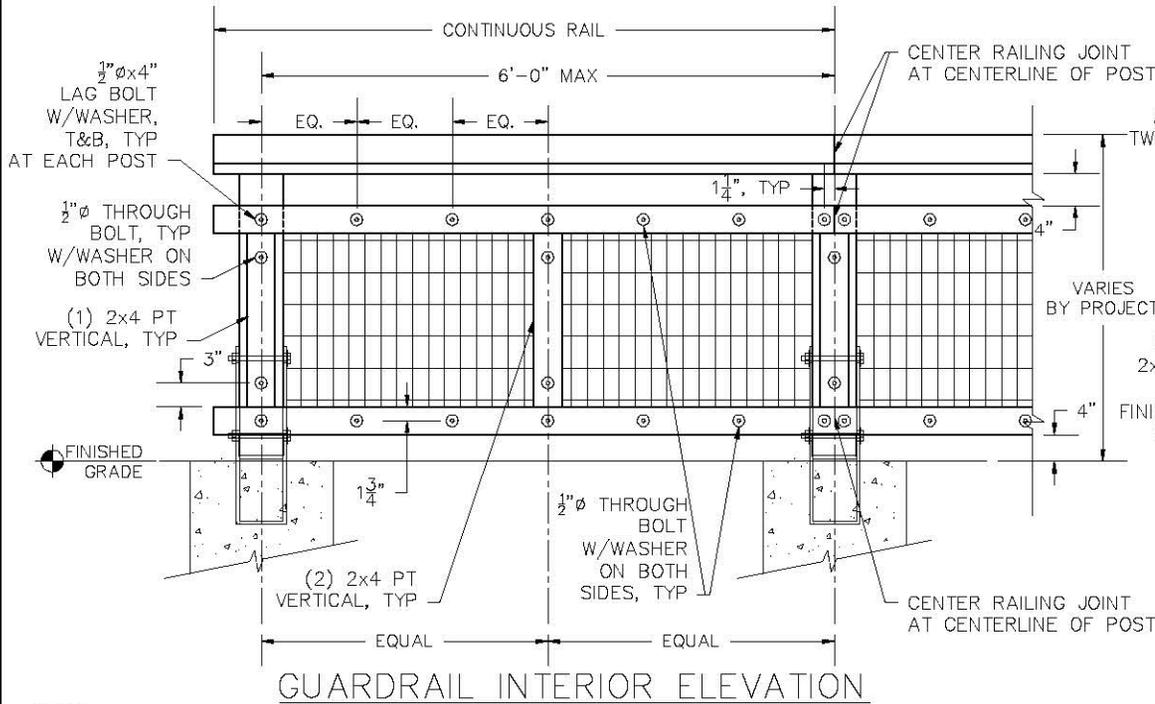
PARKS AND RECREATION
 DESIGN AND DEVELOPMENT
 February 4, 2010

CITY OF BELLINGHAM
 WOOD GUARDRAIL ELEVATION
 Scale: 1/2" = 1'-0"

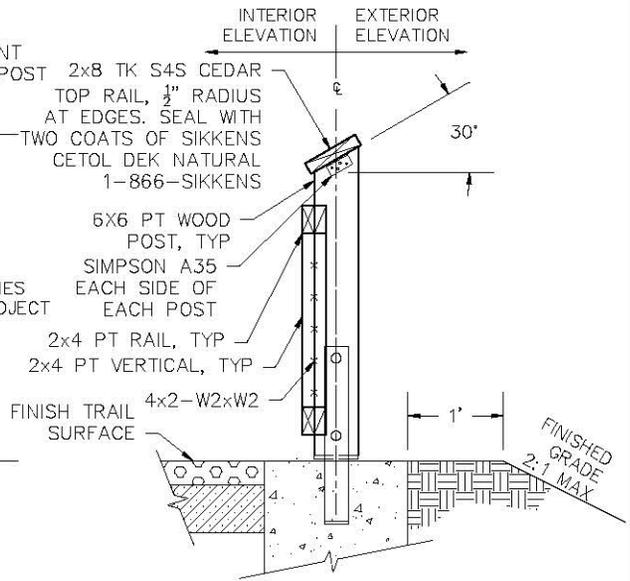
DRAWING
 2840.03



GUARDRAIL PLAN VIEW



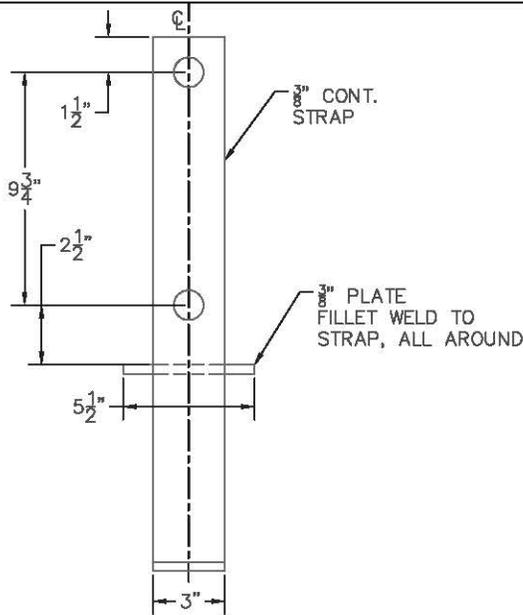
GUARDRAIL INTERIOR ELEVATION



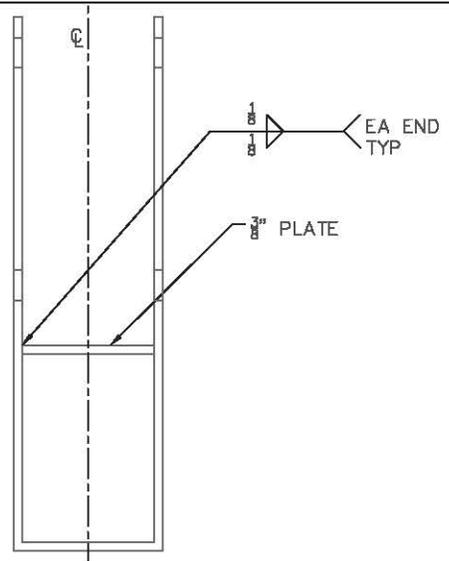
GUARDRAIL SIDE VIEW

NOTES:

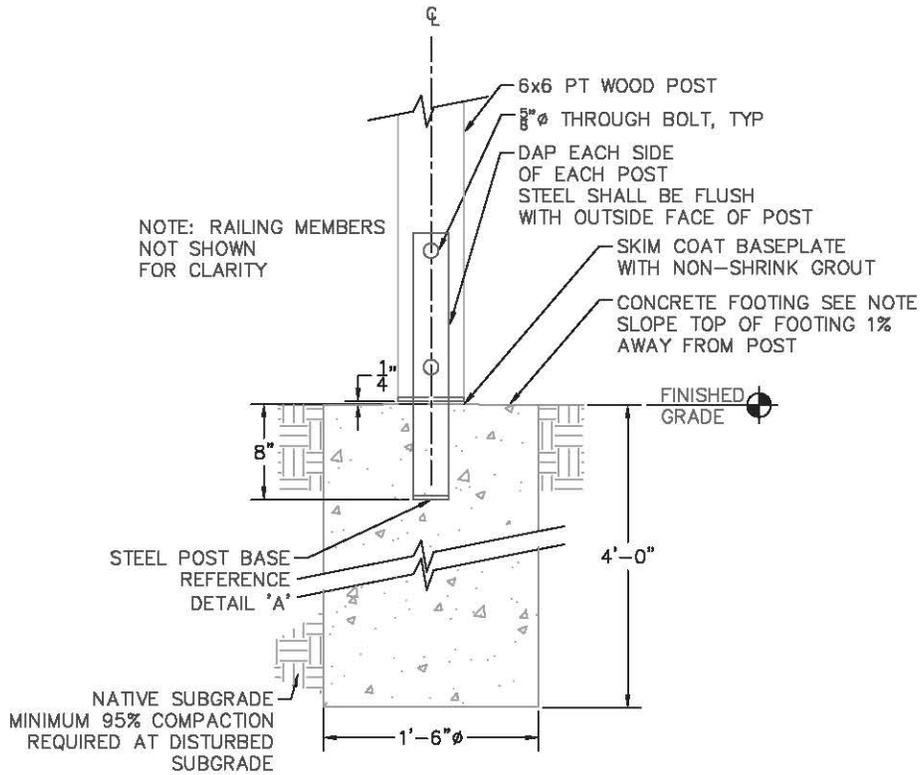
- A. DESIGN SHOWN REPRESENTS MINIMUM DESIGN REQUIREMENTS FOR GUARDRAILS ALONG GRAVEL TRAILS. ACTUAL DESIGN FOR SITE SPECIFIC CONDITIONS WILL NEED TO BE DESIGNED BY A PROFESSIONAL REGISTERED IN THE STATE OF WASHINGTON.
- B. ALL STEEL AND WWF SHALL BE A36 STRUCTURAL, HOT DIP-GALVANIZED, UNLESS NOTED OTHERWISE.
- C. FOOTING DESIGN MAY VARY PER SITE CONDITIONS.
- D. REFERENCE DETAIL 2840.04 FOR FOUNDATION AND POST BASE DETAILS.
- E. ALL HARDWARE, PLATES, WWF, AND FASTENERS SHALL BE HOT DIP GALVANIZED.
- F. WHERE TRAIL SLOPES, POSTS AND VERTICAL RAILS SHALL REMAIN PLUMB. HORIZONTAL RAILS SHALL BE SLOPED TO MATCH GRADE OF TRAIL.
- G. BROWN PRESSURE TREATMENT SHALL BE USED ON ALL PRESSURE TREATED WOOD.
- H. CONTRACTOR SHALL SUBMIT DETAILED SHOP DRAWINGS PRIOR TO CONSTRUCTION. SHOP DRAWINGS SHALL SHOW ALL TRANSITIONS, JOINTS, AND PANEL SECTIONS AT BOTH HORIZONTAL AND VERTICAL CURVES.
- I. ALL LUMBER SHALL BE DF-2. REFERENCE WSDOT SPECS FOR GRADE STAMP AND SUBMITTAL REQUIREMENTS.
- J. WHERE PREFABRICATED METAL CONNECTORS ARE SHOWN, USE FASTENERS IN ALL OPEN HOLES AS RECOMMENDED BY MANUFACTURER.



(A) POST BASE SIDE VIEW



(B) POST BASE FRONT VIEW



GUARDRAIL FOUNDATION

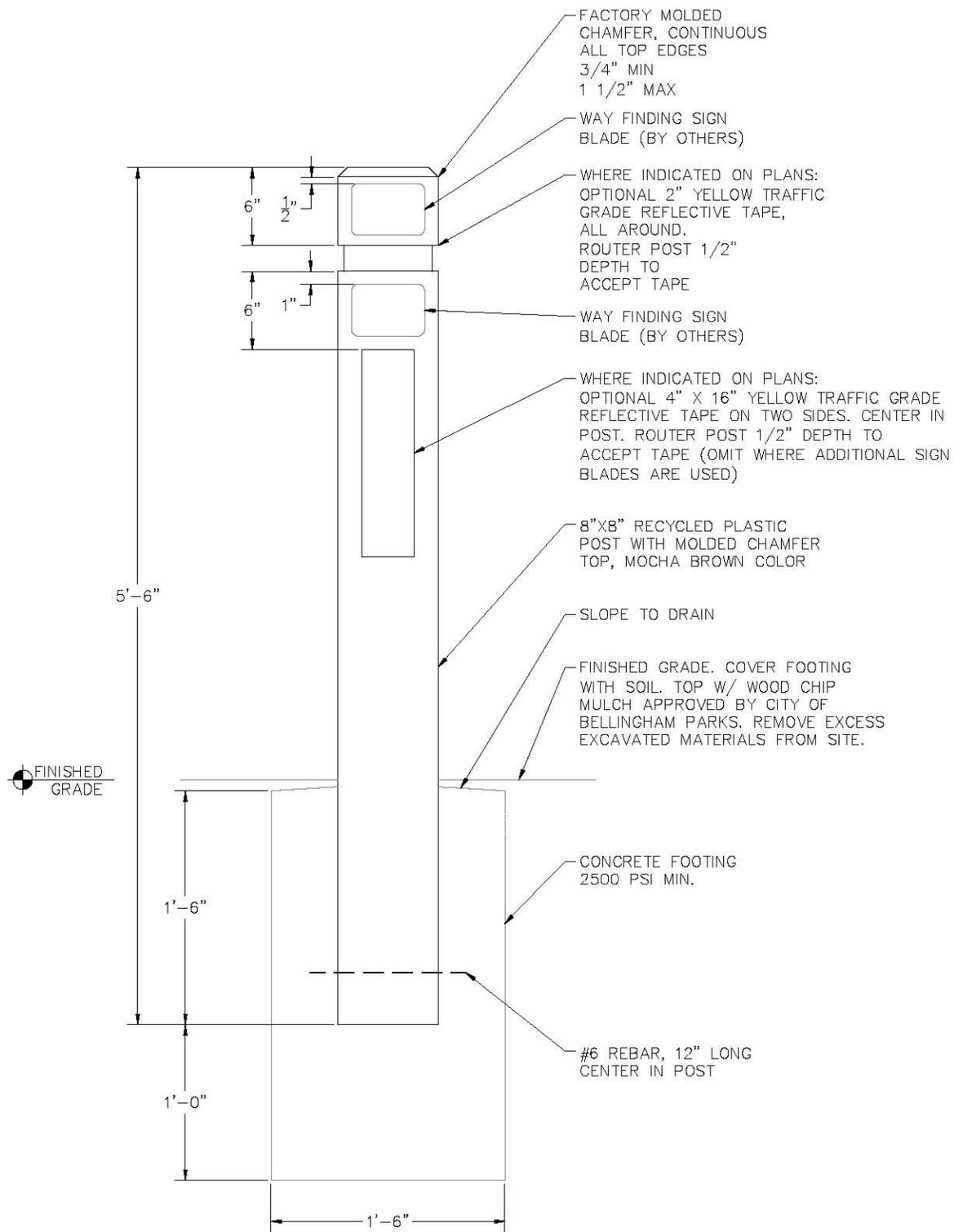
NOTES:

- A. ALL STEEL SHALL BE A36 STRUCTURAL UNLESS NOTED OTHERWISE.
- B. FOOTING DESIGN MAY VARY PER SITE CONDITIONS.
- C. REFERENCE NOTES ON DETAIL 2840.05 FOR ADDITIONAL REQUIREMENTS.
- D. NO FIELD WELDS ARE PERMITTED.

PARKS AND RECREATION
DESIGN AND DEVELOPMENT

CITY OF BELLINGHAM
WOOD GUARDRAIL
FOUNDATION & POST BASE

DRAWING
2840.04



PRAB APPROVAL 01/13/2010

PARKS AND RECREATION
DESIGN AND DEVELOPMENT
SEPTEMBER 3, 2015

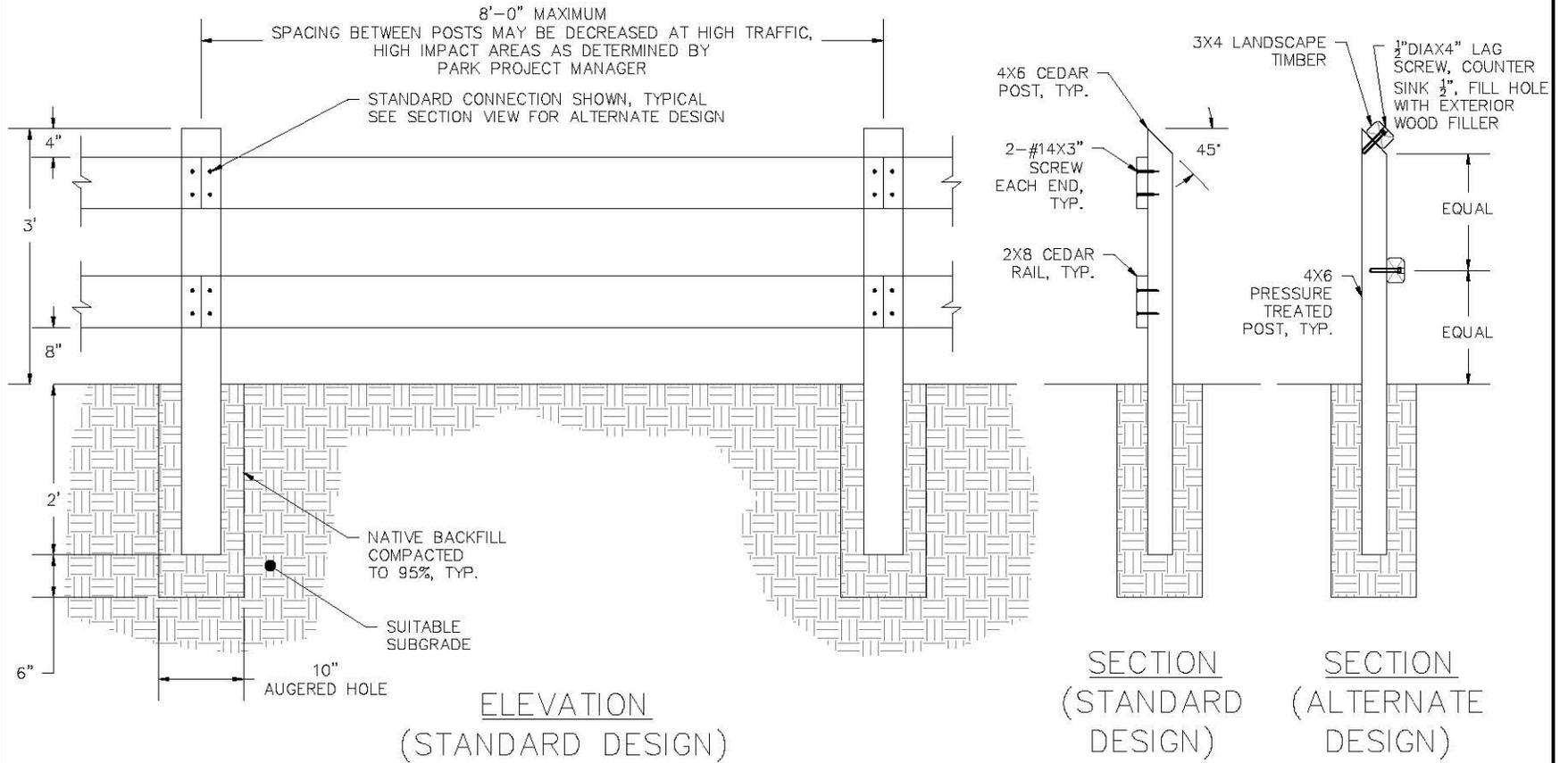
CITY OF BELLINGHAM
SIGN POST
DIRECT BURY

DRAWING
02840.05

PARKS AND RECREATION
 DESIGN AND DEVELOPMENT
 JULY 6, 2012

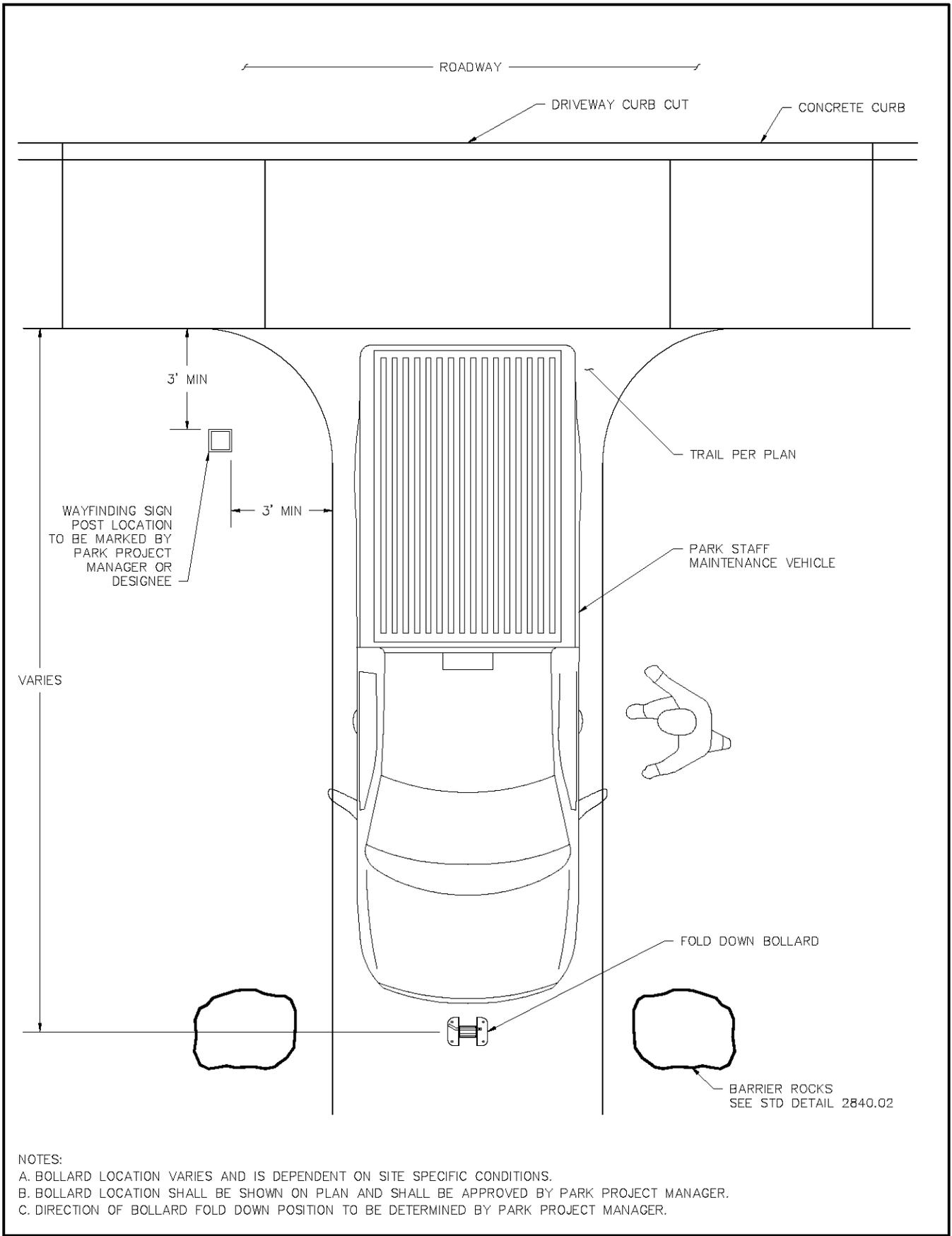
CITY OF BELLINGHAM
 TWO RAIL FENCE
 SCALE: NTS

DRAWING
 2840.06



NOTES:

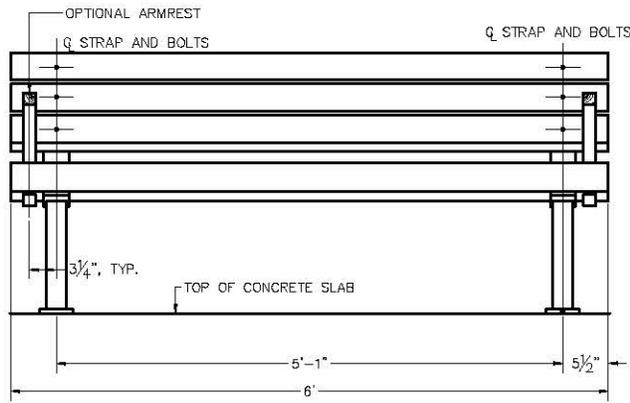
- A. TWO RAIL FENCE SHALL BE USED AS DIRECTED BY PARK PROJECT MANAGER TO DELINEATE BOUNDARIES WHERE NEEDED AND SHALL NOT BE USED AS A GUARDRAIL OR FOR FALL PROTECTION. BOUNDARIES INCLUDE PROPERTY, WETLANDS AND OTHER GENERAL AREAS WHERE A VISUAL BARRIER IS NEEDED.
- B. TWO RAIL FENCE SHALL BE USED ON FLAT TERRAIN (3:1 SLOPES OR FLATTER) OR IN LOCATIONS WHERE FALL PROTECTION IS NOT NEEDED.
- C. LUMBER GRADE SHALL BE IN ACCORDANCE WITH WSDOT STANDARD SPECIFICATIONS.
- D. ALL FASTENERS AND HARDWARE SHALL BE SUITABLE FOR PRESSURE TREATED WOOD AND OUTDOOR APPLICATIONS.
- E. REFERENCE PARK STANDARD FOR WOOD PEDESTRIAN GUARDRAILS WHERE FALL PROTECTION IS NEEDED.



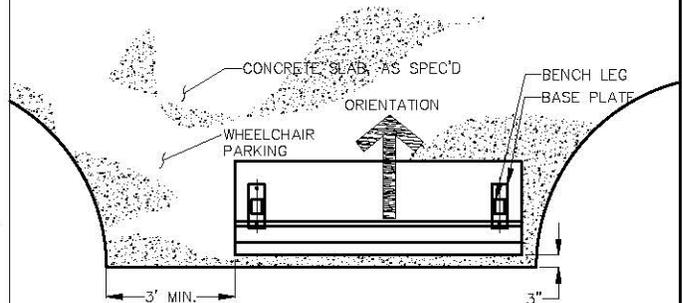
**PARKS AND RECREATION
 DESIGN AND DEVELOPMENT**
 November 10, 2011

**CITY OF BELLINGHAM
 PARK BOLLARD LOCATION**
 Scale: 1/4" = 1'-0"

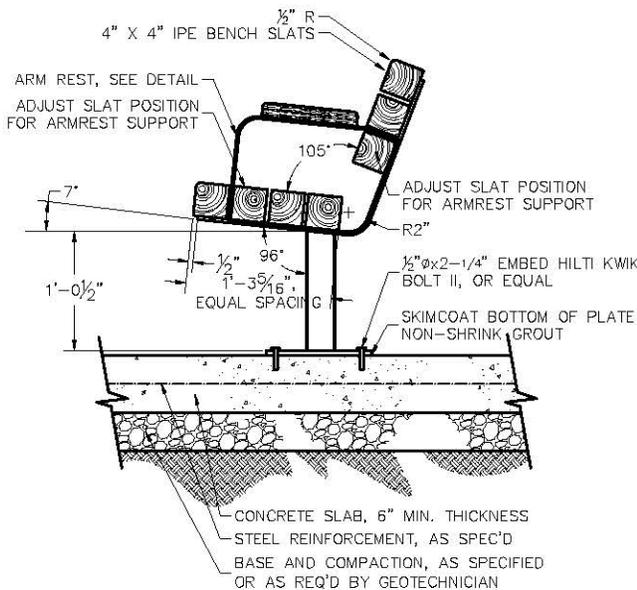
**DRAWING
 2840.07**



ELEVATION

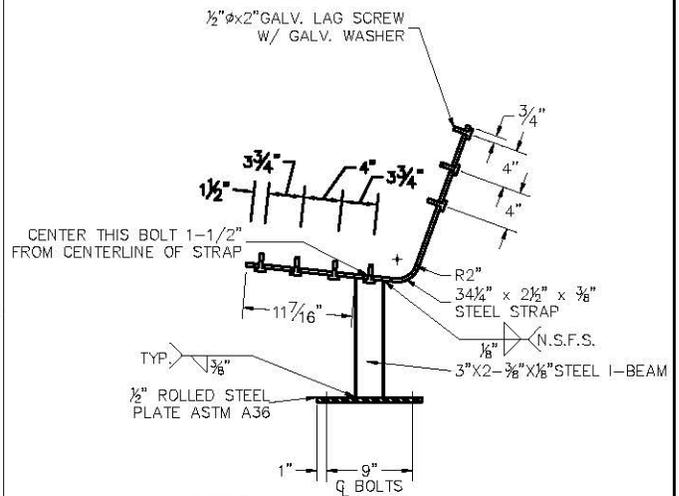


PLAN I W/ CONCRETE SLAB



SIDE SECTION

NOTE:
SEE DRAWING PR-970B FOR
ARMREST DETAIL.



ELEVATION-STEEL

NOTES:
1. ALIGN HOLES FOR LAG SCREWS WITH THE
CENTERLINE OF STEEL STRAP AND BASE PLATE.

NOTES:

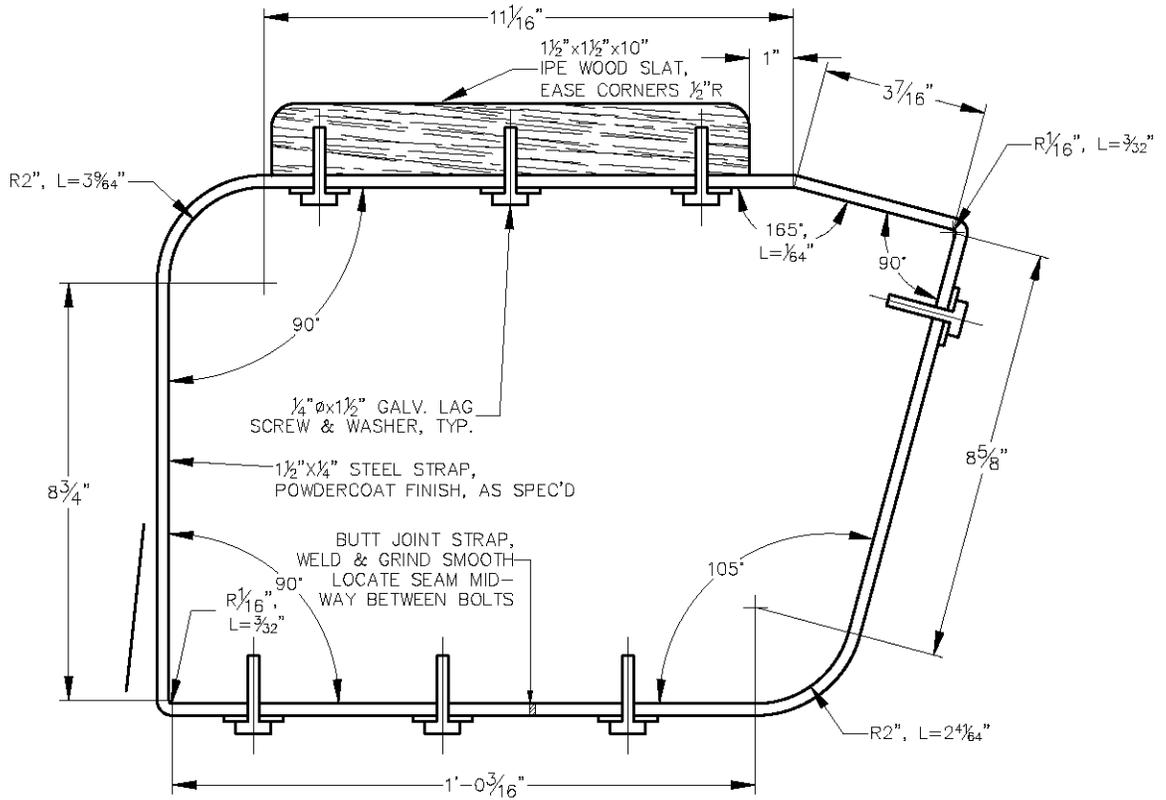
- A. ALL STEEL SHALL BE A36 STRUCTURAL UNLESS NOTED OTHERWISE.
- B. ALL STEEL SHALL BE SAND-BLASTED CLEAN, AND PRE-WASHED WITH AN IRON PHOSPHATE POWDER WASH, DRIED, PRIMED WITH ZINC PRIMER, AND POWDER COATED BLACK BAKED AT 400 DEGREES FOR NO LESS THAN 45 MINUTES, UNLESS NOTED OTHERWISE NOTED.
- C. ALL FASTENERS SHALL BE GALVANIZED.
- D. MOUNT ONLY ON CONCRETE PAVEMENT OR FOOTING.
- E. STEEL ELEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH AISC CODE OF STANDARD PRACTICE.
- F. CONCRETE SLAB & SUBGRADE REQUIRE SITE SPECIFIC DESIGN.

PARKS AND RECREATION
DESIGN AND DEVELOPMENT

CITY OF BELLINGHAM
STANDARD PARK BENCH
DETAIL

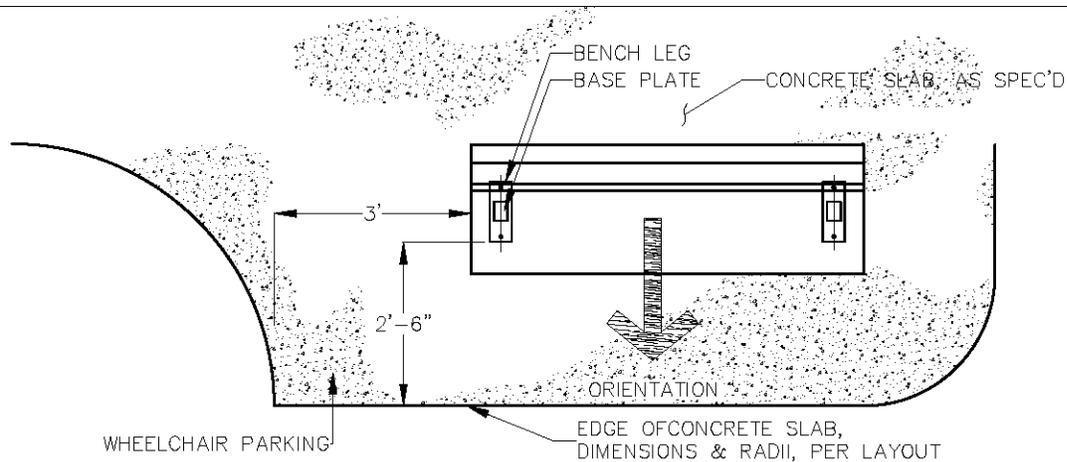
DRAWING
2870.01

DATE: 10/11/08



DETAIL-OPTIONAL ARMREST

NOTE:
SEE DRAWING PR-970A FOR
ARMREST ATTACHMENT TO BENCH.



PLAN II W/ CONCRETE SLAB

NOTES:

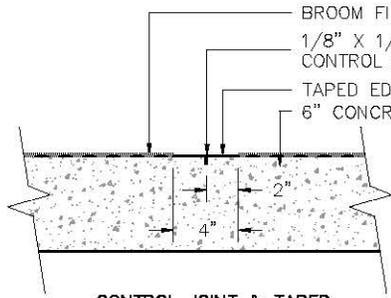
- A. ALL STEEL SHALL BE A36 STRUCTURAL UNLESS NOTED OTHERWISE.
- B. ALL STEEL SHALL BE SAND-BLASTED CLEAN, AND PRE-WASHED WITH AN IRON PHOSPHATE POWDER WASH, DRIED, PRIMED WITH ZINC PRIMER, AND POWDER COATED BLACK BAKED AT 400 DEGREES FOR NO LESS THAN 45 MINUTES, UNLESS NOTED OTHERWISE NOTED.
- C. ALL FASTENERS SHALL BE GALVANIZED.
- D. MOUNT ONLY ON CONCRETE PAVEMENT OR FOOTING.
- E. STEEL ELEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH AISC CODE OF STANDARD PRACTICE.
- F. CONCRETE SLAB & SUBGRADE REQUIRE SITE SPECIFIC DESIGN.

PARKS AND RECREATION
DESIGN AND DEVELOPMENT

CITY OF BELLINGHAM
STANDARD PARK BENCH
DETAIL-ARMREST

DRAWING
2870.02

DATE: 10/11/08



**CONTROL JOINT & TAPED
EDGE DETAIL**
SCALE: 1"=1'-0"

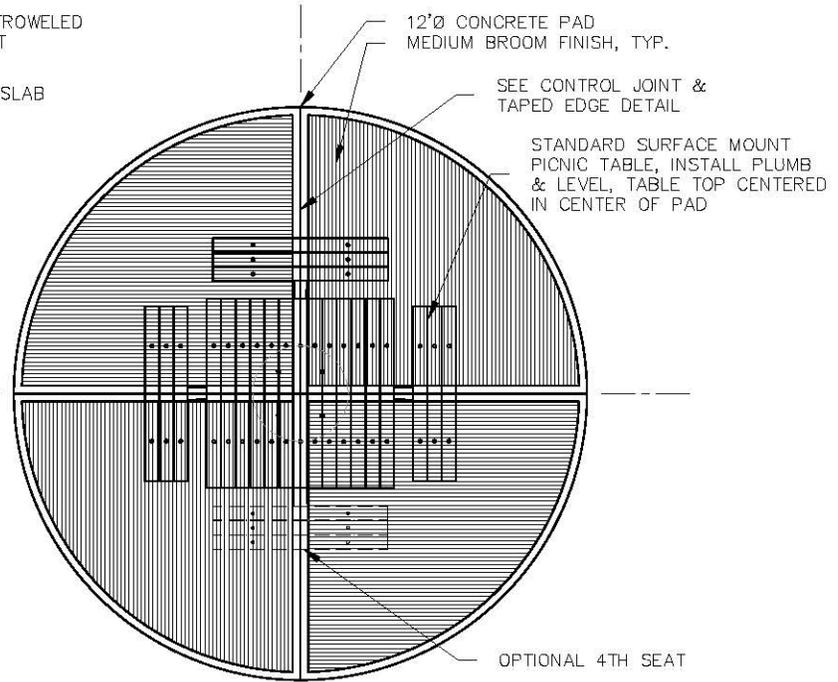


TABLE & CONCRETE PAD - PLAN
SCALE: 1/4"=1'-0"

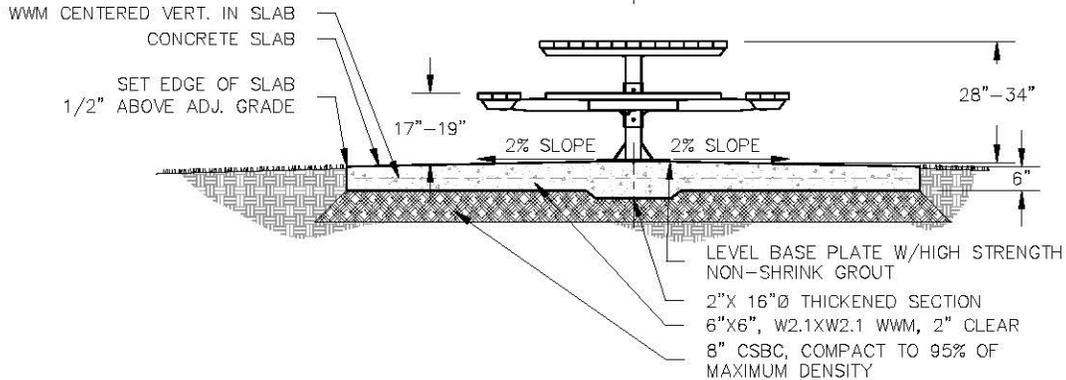


TABLE & CROWNED CONCRETE PAD - SECTION
SCALE: 1/4"=1'-0"

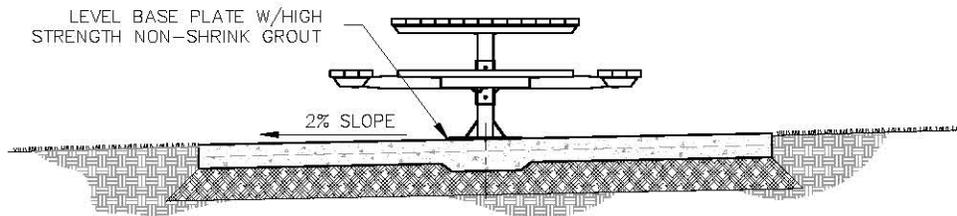


TABLE & OPTIONAL CROSS SLOPED CONCRETE PAD - SECTION
SCALE: 1/4"=1'-0"

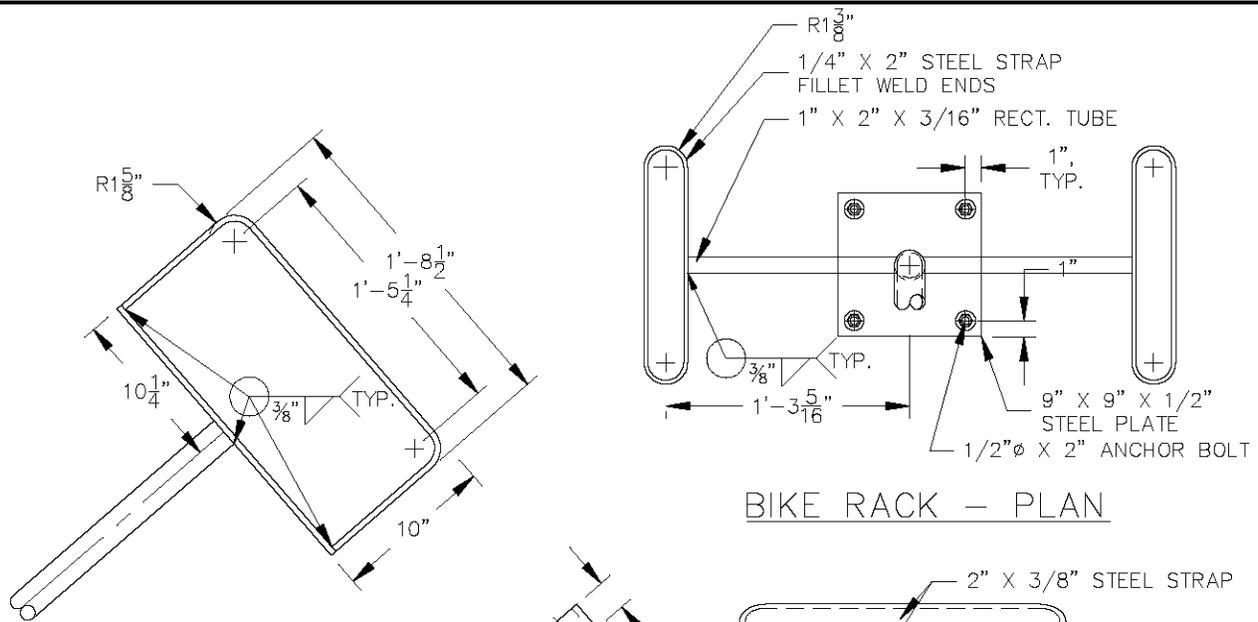
NOTES:

- A. LOCATE TABLE AND CONCRETE SLAB AS SHOWN ON THE PLANS, OR AS DIRECTED BY THE PARK PROJECT MANAGER.
- B. INSTALL PICNIC TABLE PLUMB AND LEVEL.
- C. ORIENT TABLE AS SHOWN ON THE PLANS.
- D. SEE DESIGN STANDARDS PARK NARRATIVE 02870.00 FOR TABLE SPECIFICATIONS.
- E. USE FASTENERS RECOMMENDED BY THE MANUFACTURER FOR SURFACE MOUNT APPLICATION.
- F. CONCRETE PER WSDOT STANDARD SPECIFICATIONS
- G. PROVIDE POSITIVE DRAINAGE.

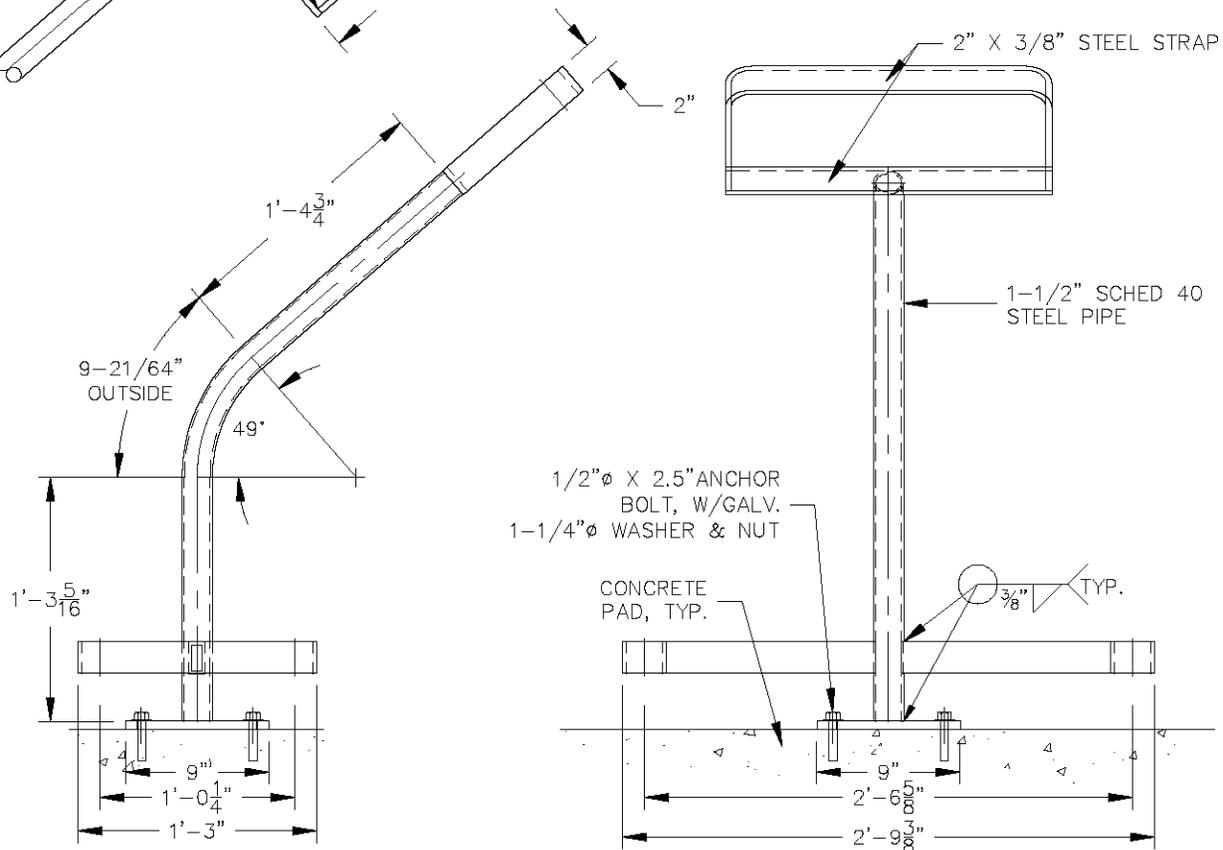
**PARKS AND RECREATION
DESIGN AND DEVELOPMENT
APRIL 21, 2010**

**CITY OF BELLINGHAM
CONCRETE PAD
& A.D.A. PARK PICNIC TABLE**

**DRAWING
02870.03**



BIKE RACK - PLAN



BIKE RACK - ELEVATION

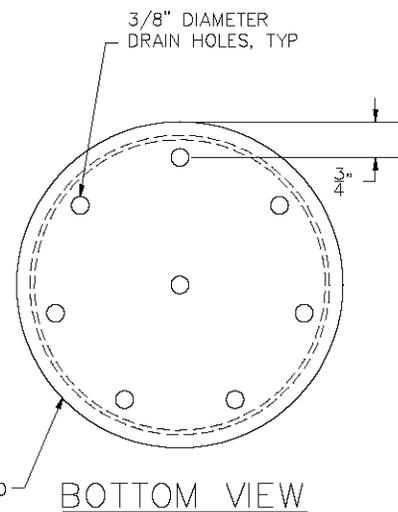
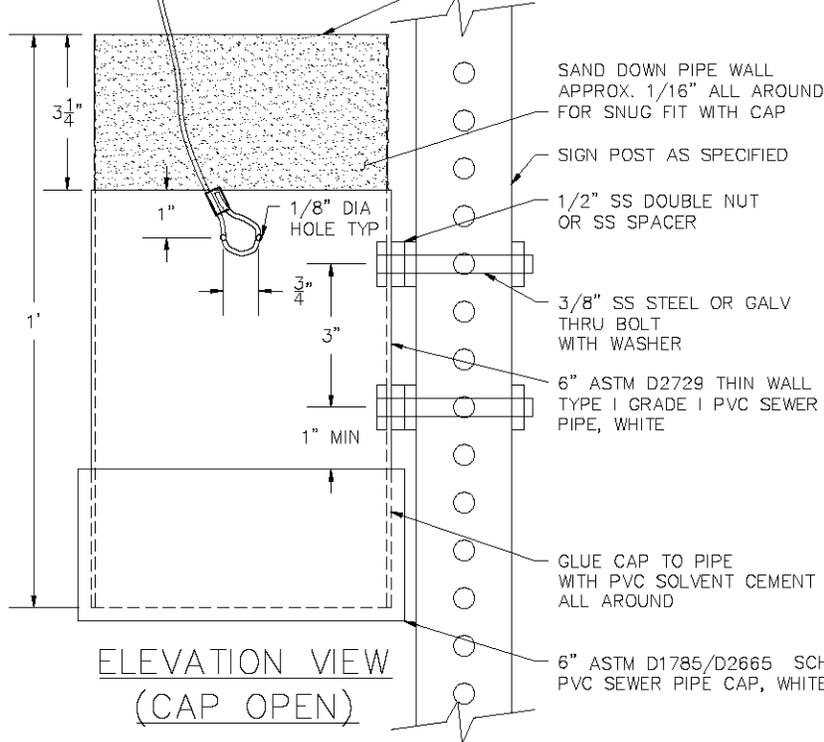
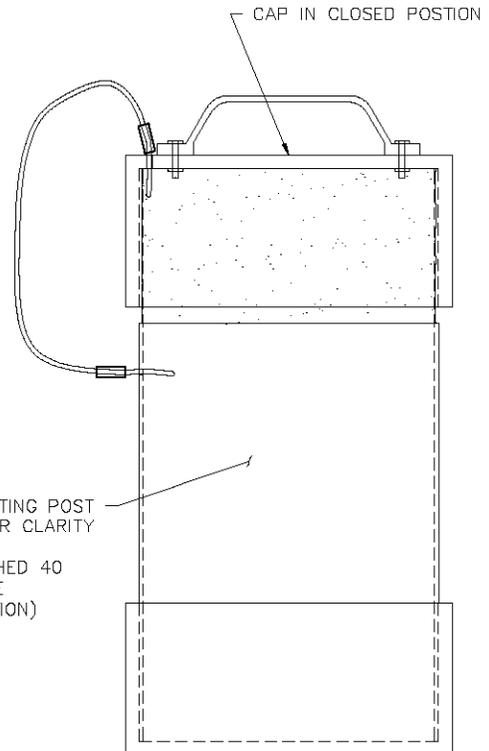
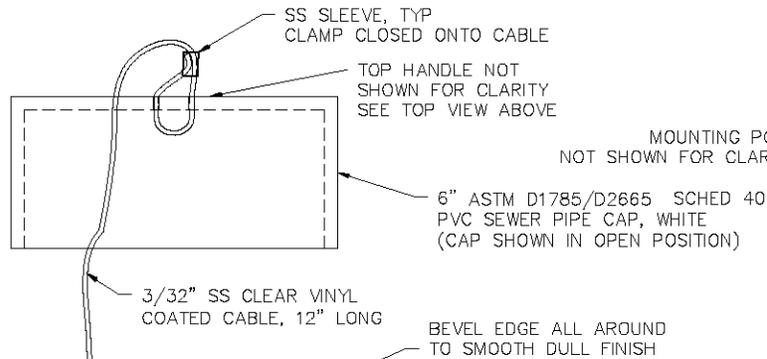
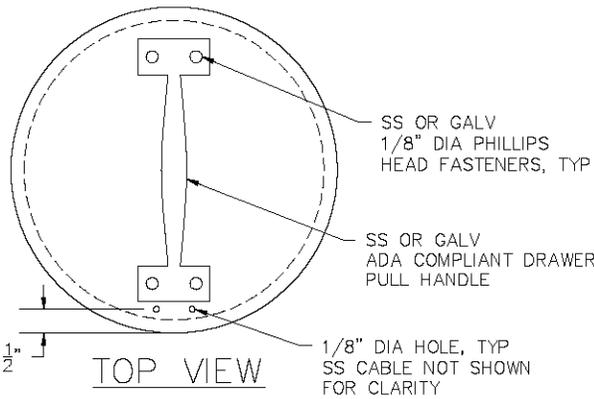
NOTES:

- A. THIS DETAIL NOT FOR USE IN ALL LOCATIONS. SITE SPECIFIC APPROVAL IS REQUIRED BY PARK PROJECT MANAGER.
- B. INSTALL POST BASE PLUMB AND LEVEL. SKIMCOAT BOTTOM OF BASE PLATE WITH NON-SHRINK, NON-METALLIC GROUT.
- C. ALL STEEL SHALL COMPLY WITH ASTM A500, UNLESS NOTED OTHERWISE. OWNER MAY SUBSTITUTE A36 STRUCTURAL STEEL.
- D. STEEL ELEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH AISC CODE OF STANDARD PRACTICE.
- E. ALL STEEL SHALL BE SAND-BLASTED CLEAN, AND PRE-WASHED WITH AN IRON PHOSPHATE POWDER WASH, DRIED, PRIMED WITH ZINC PRIMER, AND POWDER COATED, BAKED AT 400 DEGREES FOR NO LESS THAN 45 MINUTES, UNLESS NOTED OTHERWISE.
- I. COLOR: MATTHEWS MP#10269 AUTO BODY PAINT W/PRIMER, SATIN FINISH, OR MATCH DRYLAC RAL #7021 DARK GRAY, EGGSHELL FINISH.
- J. ALL FASTENERS SHALL BE GALVANIZED OR STAINLESS STEEL.
- K. FOUNDATION DESIGN IS SHOWN FOR LEVEL GROUND ONLY WITH AN ASSUMED SOIL BEARING STRENGTH OF 1500 PSF, WHICH SHALL BE CONFIRMED BY A PROFESSIONAL ENGINEER/GEOTECHNICAL ENGINEER BEFORE COMMENCING WORK.
- L. ALL WELDS SHALL BE CONTINUOUS AND ALL AROUND. GRIND SMOOTH UNLESS OTHERWISE NOTED. WELDS SHALL BE GROUND SMOOTH BEFORE POWDER COATED.
- M. CLEAR, WEED, GRADE, MULCH, OR SEED SURROUNDING SITE AS SPECIFIED. RESTORE DISTURBED AREA IN ACCORDANCE WITH PARK STDS.

**PARKS AND RECREATION
DESIGN AND DEVELOPMENT**
September 28, 2011

**CITY OF BELLINGHAM
BIKE RACK SADDLE-TYPE**
SCALE: 1" = 1'-0"

**DRAWING
02870.04**



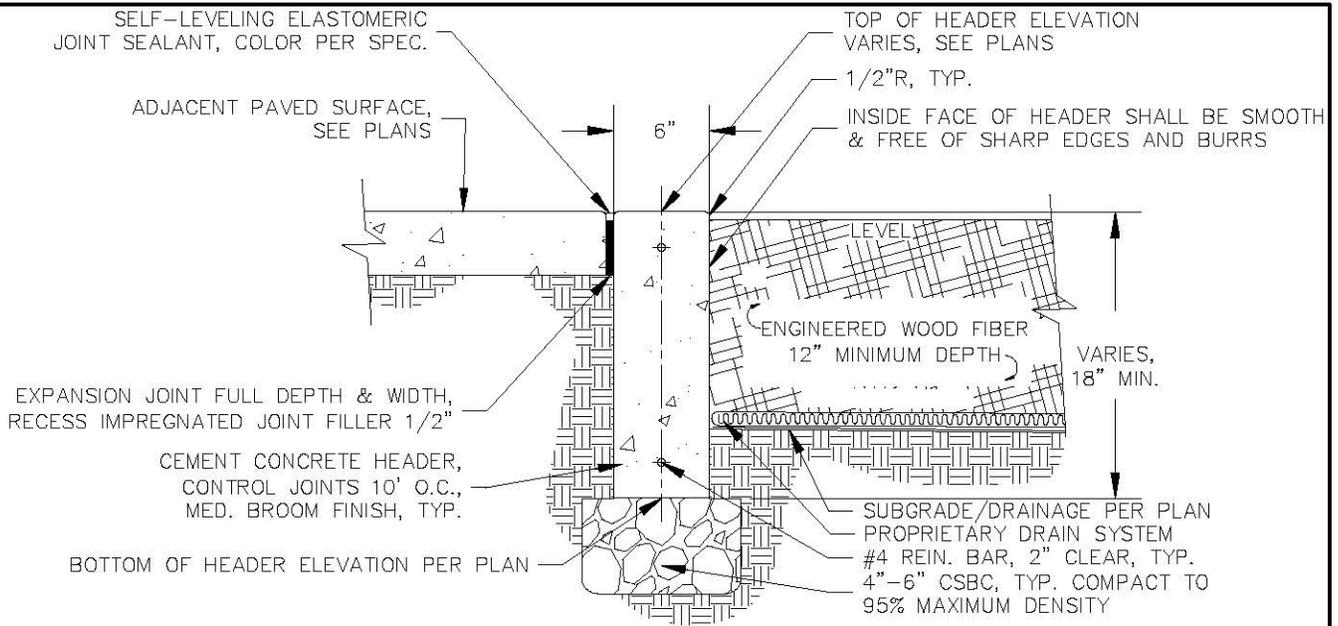
NOTES:

- A. RECEPTACLE SHALL BE MOUNTED ON STANDARD METAL STREET SIGN POST AT A HEIGHT AT TOP OF LID OF 42" ABOVE WALKING SURFACE.
- B. LOCATION OF RECEPTACLE TO BE MARKED IN THE FIELD BY PARK PROJECT MANAGER.
- C. SEE PARK STANDARD DETAIL 10430.11 FOR PET WASTE SIGN TO BE MOUNTED WITH BAG STATION.

**PARKS AND RECREATION
DESIGN AND DEVELOPMENT**
October 19, 2011

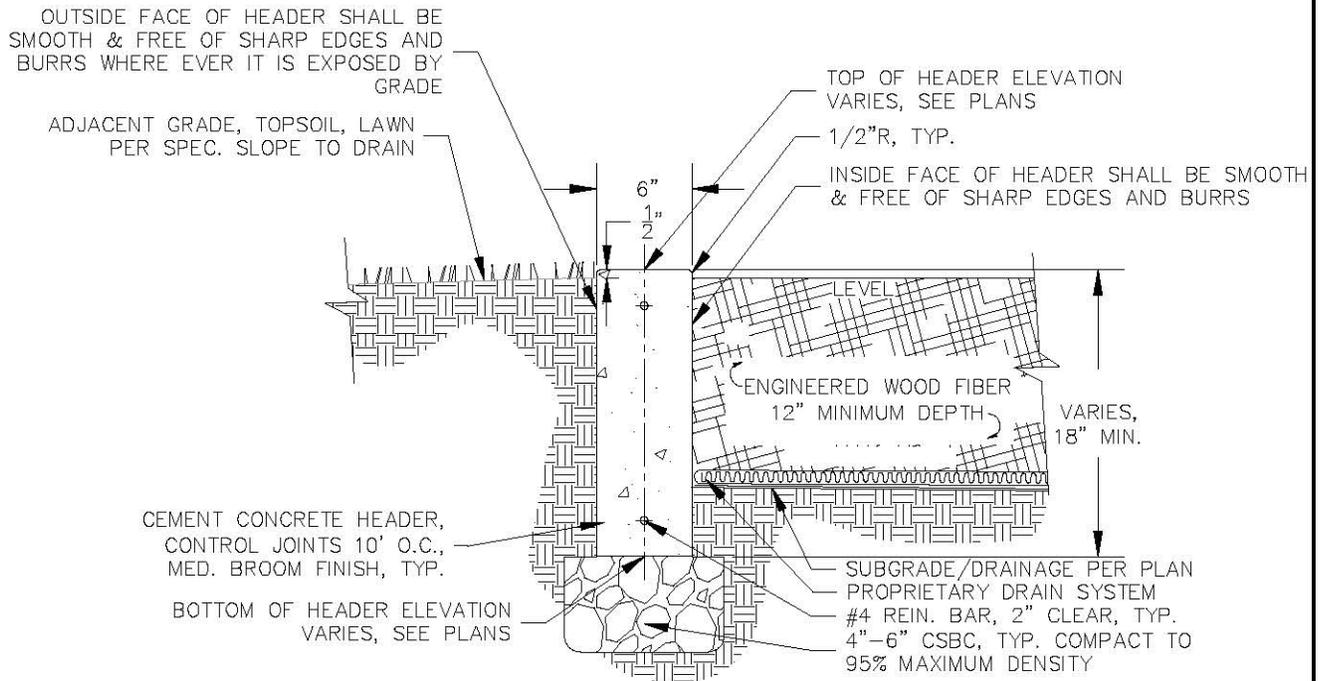
**CITY OF BELLINGHAM
CLEAN PET BAG HOLDER**
Scale: 3" = 1'-0"

**DRAWING
2870.05**



PLAYGROUND HEADER/PAVEMENT – SECTION

SCALE: 1"=1'-0"



PLAYGROUND HEADER/LAWN – SECTION

SCALE: 1"=1'-0"

NOTES:

- A. CONSTRUCT PLAYGROUND HEADER PLUMB IN THE LOCATION(S) & ELEVATION(S), INCLUDING TOP & BOTTOM OF HEADER, SHOWN ON THE STAKING AND GRADING PLANS. GRADE ADJACENT SURFACES ACCORDING TO THE GRADING PLAN.
- B. SEE PROJECT PLANS & SPECIFICATIONS FOR INFORMATION ABOUT PLAYGROUND-RELATED LOCATION, DIMENSIONS, FALL SURFACING & CRITICAL FALL ZONE ACCESSIBLE ROUTE REQUIREMENTS.
- C. CONCRETE PER WSDOT STANDARD SPECIFICATIONS
- D. SEE PROJECT PLANS & SPECIFICATIONS FOR INFORMATION ABOUT SITE & PLAYGROUND GRADING REQUIREMENTS.

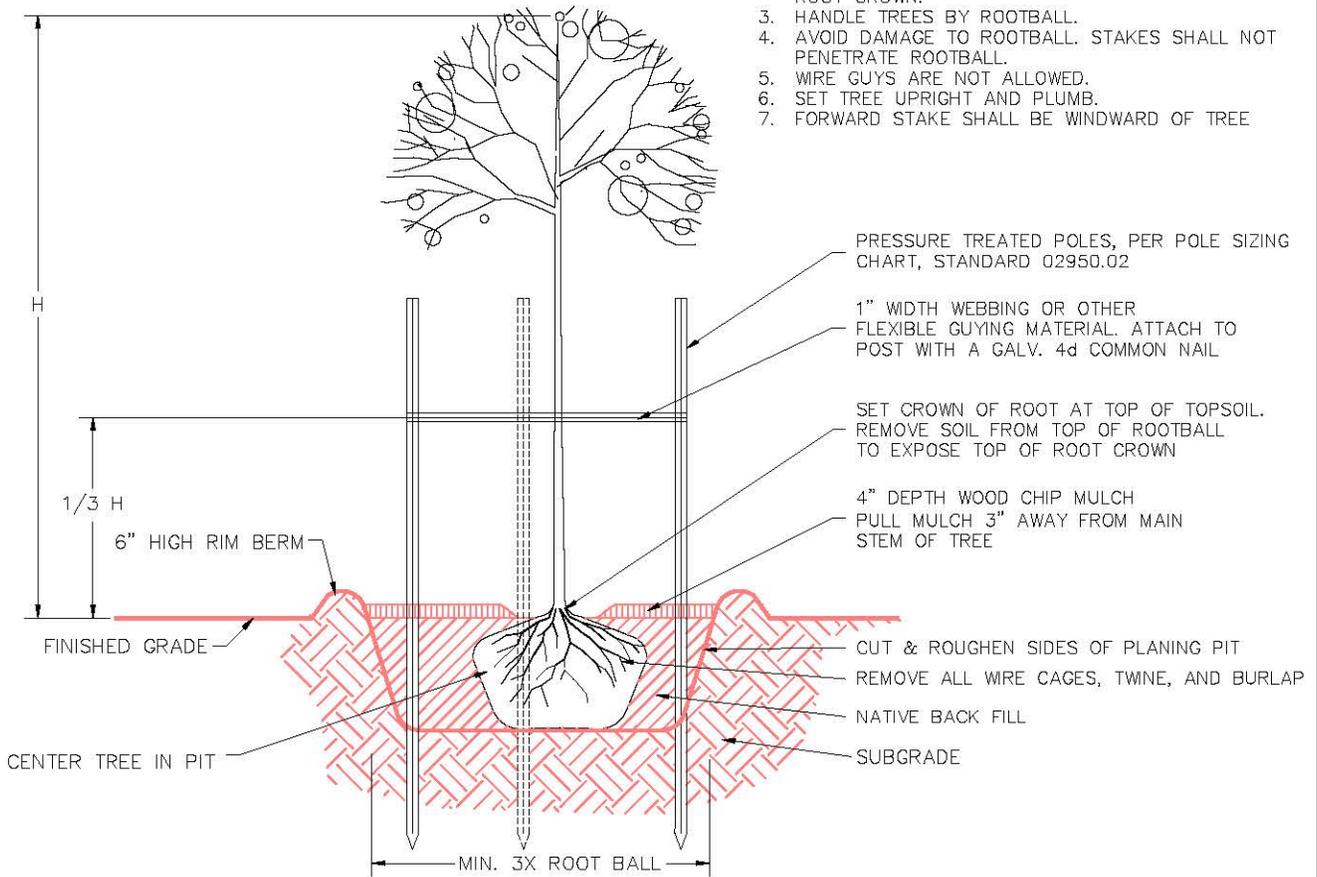
**PARKS AND RECREATION
DESIGN AND DEVELOPMENT
APRIL 21, 2011**

**CITY OF BELLINGHAM
CONCRETE PLAYGROUND
HEADER**

**DRAWING
02881.01**

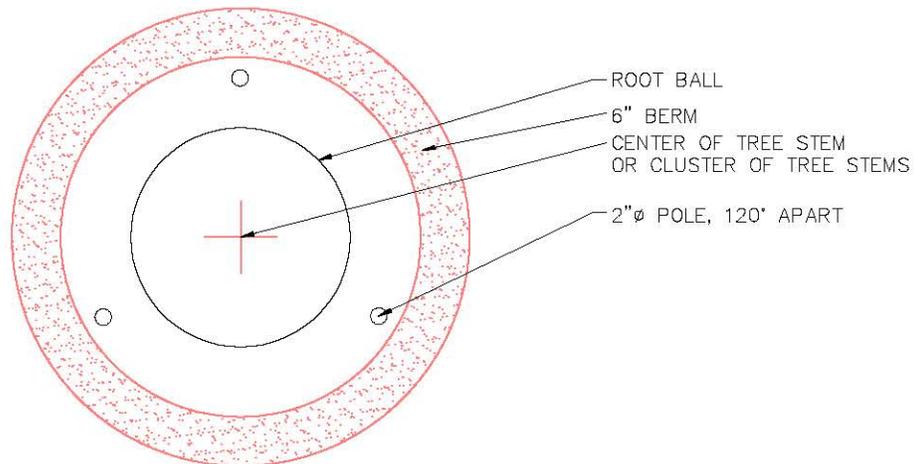
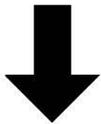
NOTES:

1. THIS DETAIL APPLIES TO DECIDUOUS AND CONIFEROUS TREE PLANTING IN AREAS THAT ARE SLOPED LESS THAN 10%..
2. LOWEST BRANCHING HEIGHT SHALL BE 6' ABOVE ROOT CROWN.
3. HANDLE TREES BY ROOTBALL.
4. AVOID DAMAGE TO ROOTBALL. STAKES SHALL NOT PENETRATE ROOTBALL.
5. WIRE GUYS ARE NOT ALLOWED.
6. SET TREE UPRIGHT AND PLUMB.
7. FORWARD STAKE SHALL BE WINDWARD OF TREE



SECTION – TREE PLANTING IN OPEN AREA

PREVAILING WIND



PLAN

PARKS AND RECREATION
DESIGN AND DEVELOPMENT
DECEMBER 19, 2011

CITY OF BELLINGHAM
TREE PLANTING IN OPEN
AREAS

DRAWING
02950.01

This chart provides the Contractor correct pole sizing data according to tree size.

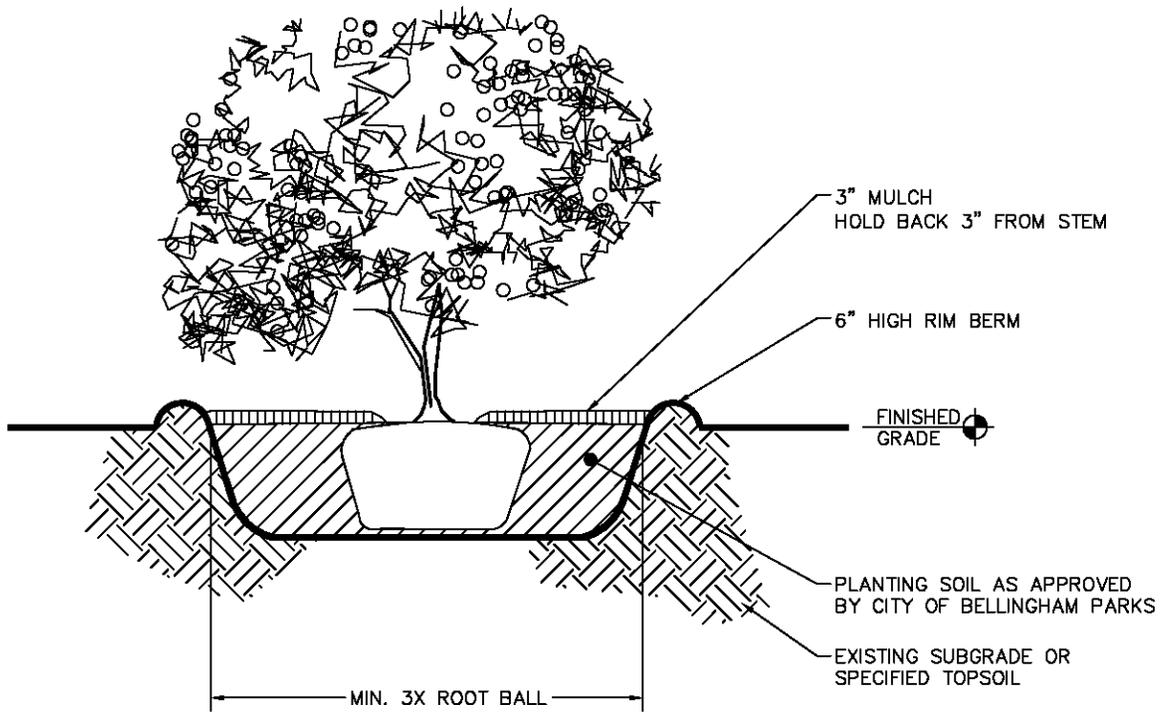
TREE HEIGHT (H) IN FT.	GUY AT 1/3 (H) TREE HEIGHT IN FT.	POLE DEPTH BELOW (H) IN FT.	POLE LENGTH (FT.)	POLE DIAMETER (IN.)
20	6.7	3	11	3
18	6	3	10	3
16	5.3	3	10	3
14	4.7	3	10	3
12	4	3	8	2
10	3.3	3	8	2
8	2.7	2	6	2
6	2	2	6	2
4	1.3	2	4	2
* 0-2	0.7	1	AS NEEDED	1

* USE 1" WIDTH TREE TAPE AS GUY MATERIAL

PARKS AND RECREATION
DESIGN AND DEVELOPMENT
DECEMBER 19, 2011

CITY OF BELLINGHAM
TREE PLANTING IN OPEN
AREAS – POLE SIZING CHART

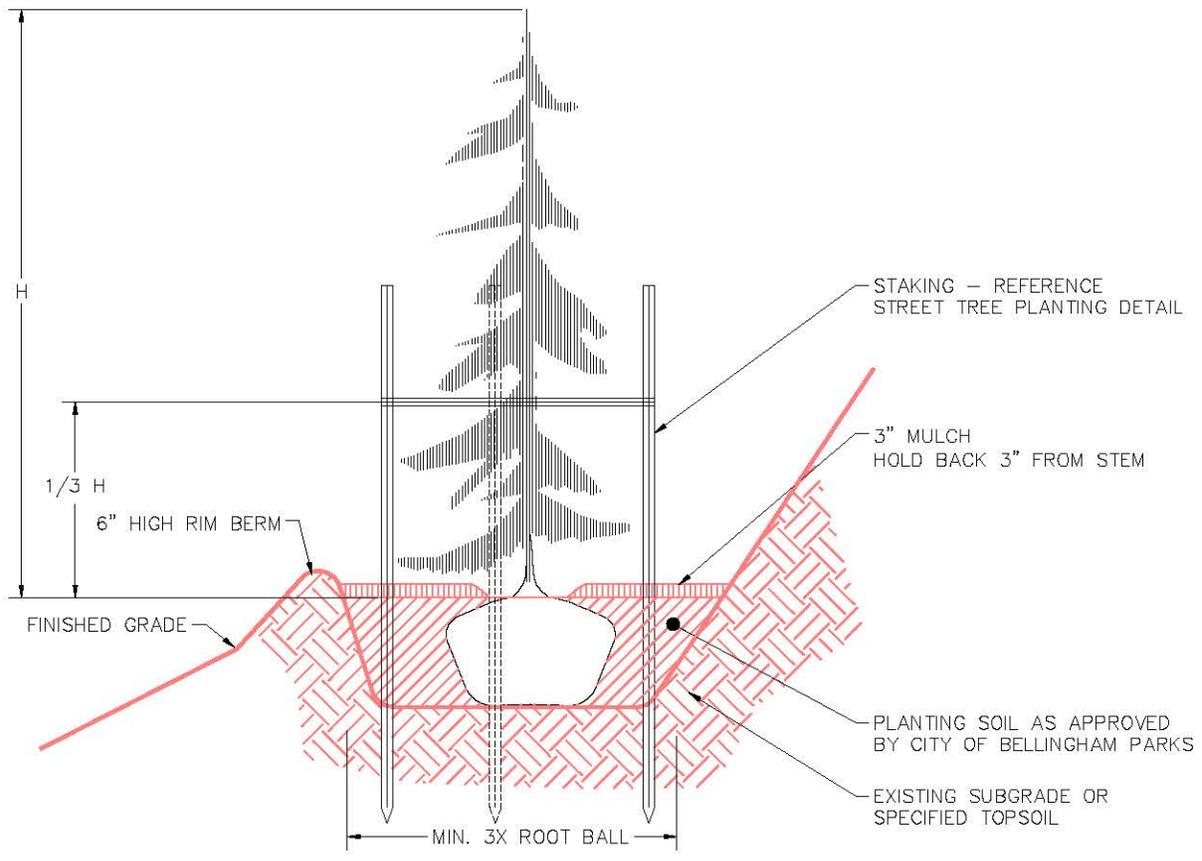
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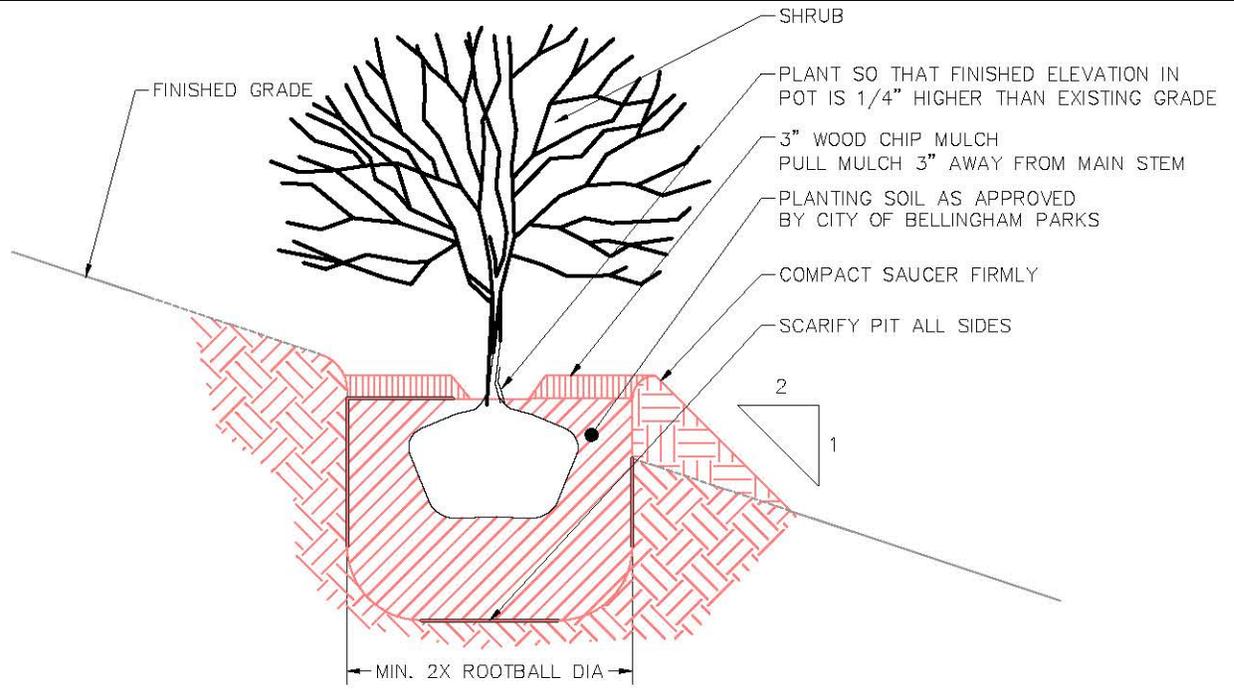
PARKS AND RECREATION
DESIGN AND DEVELOPMENT

CITY OF BELLINGHAM
SHRUB
PLANTING

DRAWING
02950.03



TREE PLANTING ON SLOPE

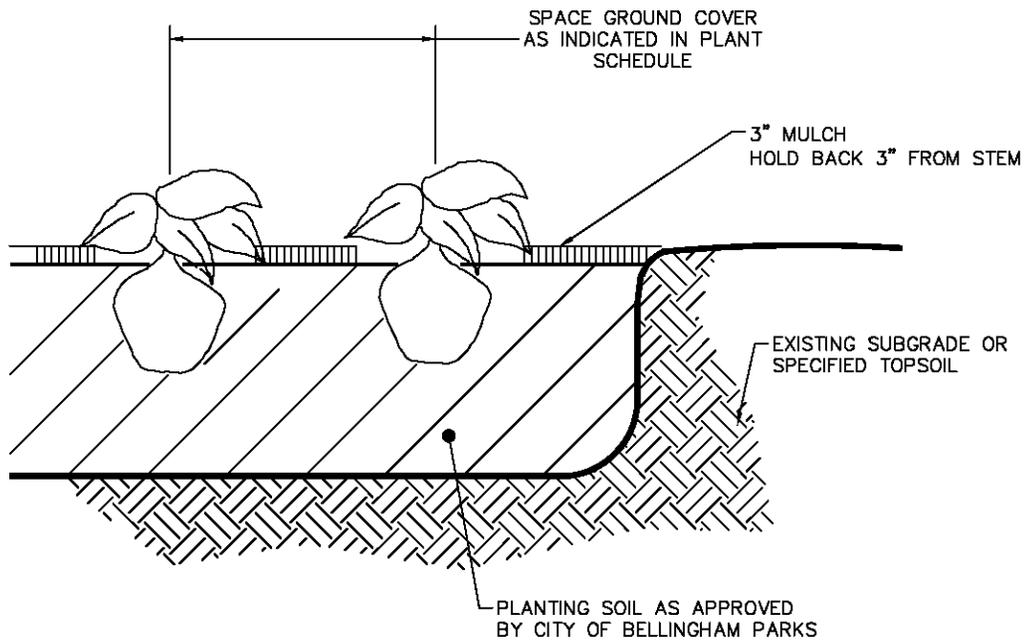


SHRUB PLANTING ON SLOPE

PARKS AND RECREATION
 DESIGN AND DEVELOPMENT
 December 6, 2007

CITY OF BELLINGHAM
 TREE AND SHRUB
 PLANTING ON SLOPES

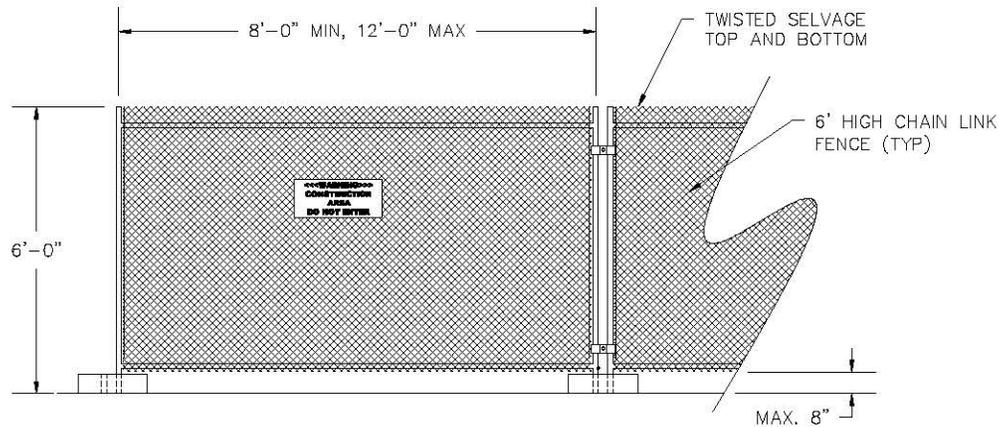
DRAWING
 02950.04



PARKS AND RECREATION
DESIGN AND DEVELOPMENT

CITY OF BELLINGHAM
GROUND COVER
PLANTING

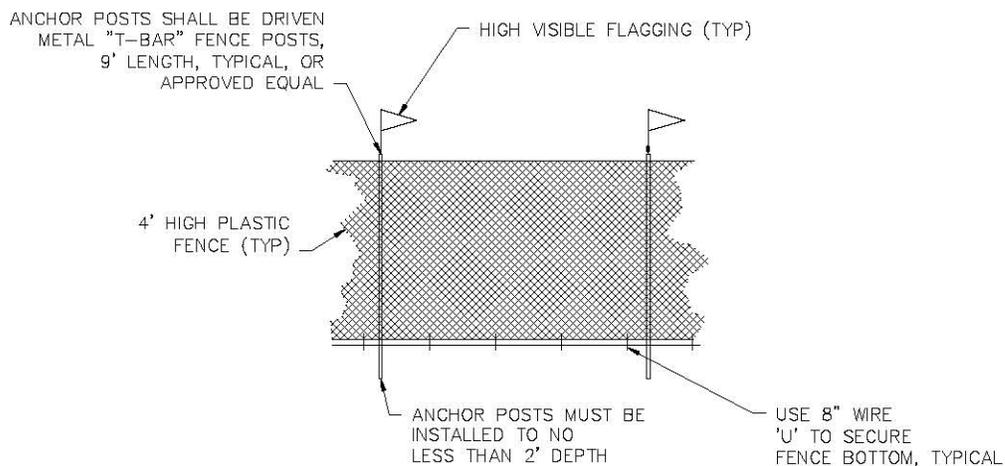
DRAWING
02950.05



NOTES: TREE PROTECTION FENCE – NON-SLOPED AREAS:

1. CHAIN LINK FABRIC TO BE MIN. 11 GAUGE, GALVANIZED. NO RUSTED OR EXCESSIVELY MALFORMED FABRIC.
2. FENCE BASES SHALL BE OF SUFFICIENT WEIGHT and/or SPREAD TO ADEQUATELY SUPPORT EACH PANEL.
3. PANEL-TO-PANEL CONNECTIONS SHALL BE MADE AT A MIN. TWO LOCATIONS PER CONNECTION UNLESS OTHERWISE APPROVED.
4. TREE FENCES SHALL BE ERECTED AT THE DRIPLINE AROUND ALL TREES TO BE SAVED PRIOR TO THE START OF CONSTRUCTION.
5. ALL TREE PROTECTION AREAS SHALL HAVE PROTECTIVE BARRIER FENCES ERECTED AT THE EDGES OF THE ROOT PROTECTION ZONES, AS SHOWN ON THE PLANS.
6. NO GRADING, FILLING, OPERATION OF EQUIPMENT, MODIFICATIONS TO DRAINAGE, UTILITY TRENCHES, UNDER STORY REMOVAL, STOCKPILING, STORAGE, OR OTHER ACTIVITY SHOULD OCCUR WITHIN THE ROOT PROTECTION ZONES.

TREE PROTECTION FENCE – NON-SLOPED



NOTES: TREE PROTECTION – SLOPED AREAS

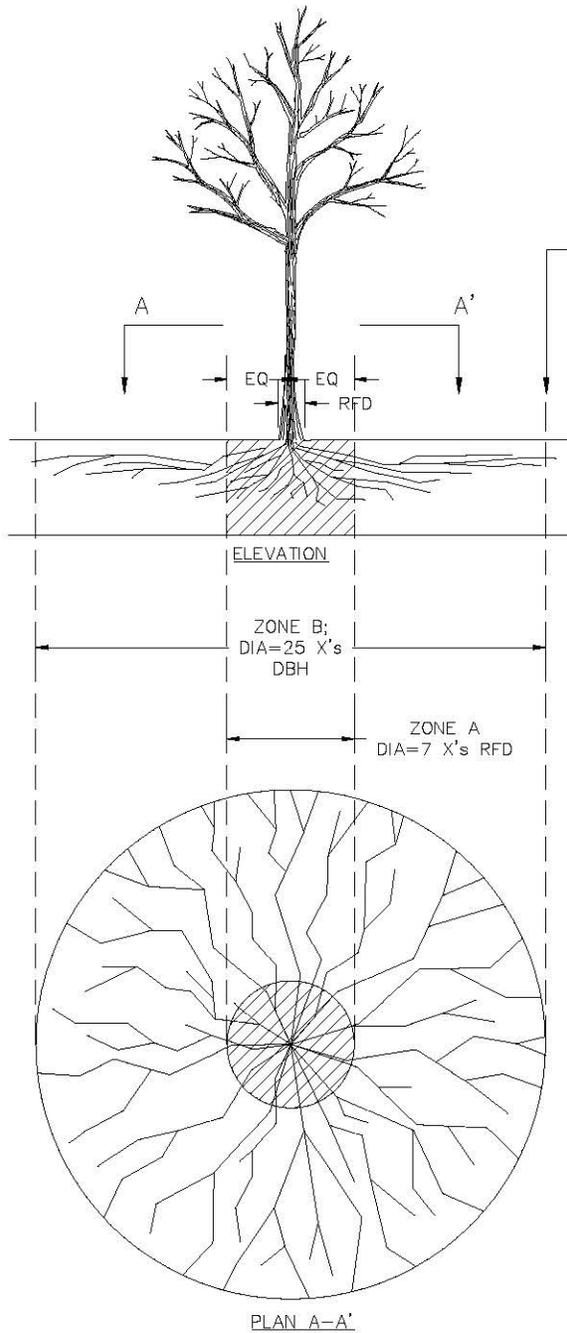
1. PRIOR TO THE START OF CONSTRUCTION ALL TREE PROTECTION AREAS SHALL HAVE PROTECTIVE BARRIER FENCES ERECTED AT THE EDGES OF THE ROOT PROTECTION ZONES, OR AS SHOWN ON THE PLANS.
2. THE FENCES SHALL BE MADE OF POLYETHYLENE AND SUPPORTED BY T-BAR METAL FENCE POSTS SPACED A MAXIMUM OF 8- FEET APART.

TREE PROTECTION FENCE – SLOPED

PARKS AND RECREATION
 DESIGN AND DEVELOPMENT
 DECEMBER 5, 2011

CITY OF BELLINGHAM
 TREE PROTECTION FENCE
 SCALE: NTS

DRAWING
 02950.06



FENCING/ROOT PROTECTION

1. PAINT OR STAKE FENCE ALIGNMENT OUTSIDE ZONE B FOR APPROVAL BY THE OWNER BEFORE INSTALLATION.
2. TREE PROTECTION FENCE SHALL BE PROVIDED AND MAINTAINED AS SHOWN ON THE PLANS.
3. OWNER'S APPROVAL IS REQUIRED FOR USE/ACCESS WITHIN ZONE B. PERMISSION FOR USE/ACCESS REQUIRES SURFACE PROTECTION FOR ALL UNFENCED, UNPAVED SURFACES WITHIN ZONE B*.

* SURFACE PROTECTION MEASURES

1. MULCH LAYER, 6"-8" DEPTH
2. 3/4" PLYWOOD
3. STEEL PLATES

TRENCHING/EXCAVATION

ZONE A (CRITICAL ROOT ZONE)

1. MEASURED: 7 X's THE ROOT FLARE DIAMETER (RFD)
2. NO DISTURBANCE ALLOWED WITHOUT SITE-SPECIFIC OWNER'S INSPECTION AND APPROVAL OF METHODS TO MINIMIZE ROOT DAMAGE
3. SEVERANCE OF ROOTS LARGER THAN 2" DIA REQUIRES OWNER'S APPROVAL
4. IF TREE ROOTS 2" IN DIAMETER OR MORE WILL BE CUT, SCORED, OR GOUGED BY CONTRACT DIGGING, THE CONTRACTOR SHALL CONTACT THE OWNER ABOUT ALTERNATIVE GRADING, DEEPER EXCAVATION, OR TUNNELING. THE OWNER MAY CONSULT WITH A CERTIFIED ARBORIST IN THIS INSTANCE.

ZONE B (TREE PROTECTION ZONE)

1. MEASURED: 25 X's DBH (DIAMETER BREAST HEIGHT)
2. OPERATION OF HEAVY EQUIPMENT AND/OR STOCKPILING OF MATERIALS SUBJECT TO ENGINEERS APPROVAL IN ADVANCE.
3. SURFACE PROTECTION* MEASURES AREA REQUIRED
3. THE OWNER MAY ALLOW TRENCHING AS FOLLOWS:
 - EXCAVATION BY HAND OR WITH HAND-DRIVEN TRENCHER MAY BE REQUIRED. OTHER EQUIPMENT MAY BE USED AS APPROVED IN ADVANCE BY THE OWNER.
 - LIMIT TRENCH WIDTH. DO NOT DISTURB ZONE A
4. MAINTAIN 2/3 OR MORE OF ZONE B IN UNDISTURBED CONDITION
5. TUNNELING IS REQUIRED WHEN INSTALLING UTILITY LINES 3'-0" OR BELOW AND WHERE TREE ROOTS OVER 2" DIAMETER WILL BE OTHERWISE CUT, SCORED, OR GOUGED BY DIGGING.
6. IF TREE ROOTS 2" IN DIAMETER OR MORE WILL BE CUT, SCORED, OR GOUGED BY CONTRACT DIGGING, THE CONTRACTOR SHALL CONTACT THE OWNER ABOUT ALTERNATIVE GRADING, DEEPER EXCAVATION, OR TUNNELING. THE OWNER MAY CONSULT WITH A CERTIFIED ARBORIST IN THIS INSTANCE.

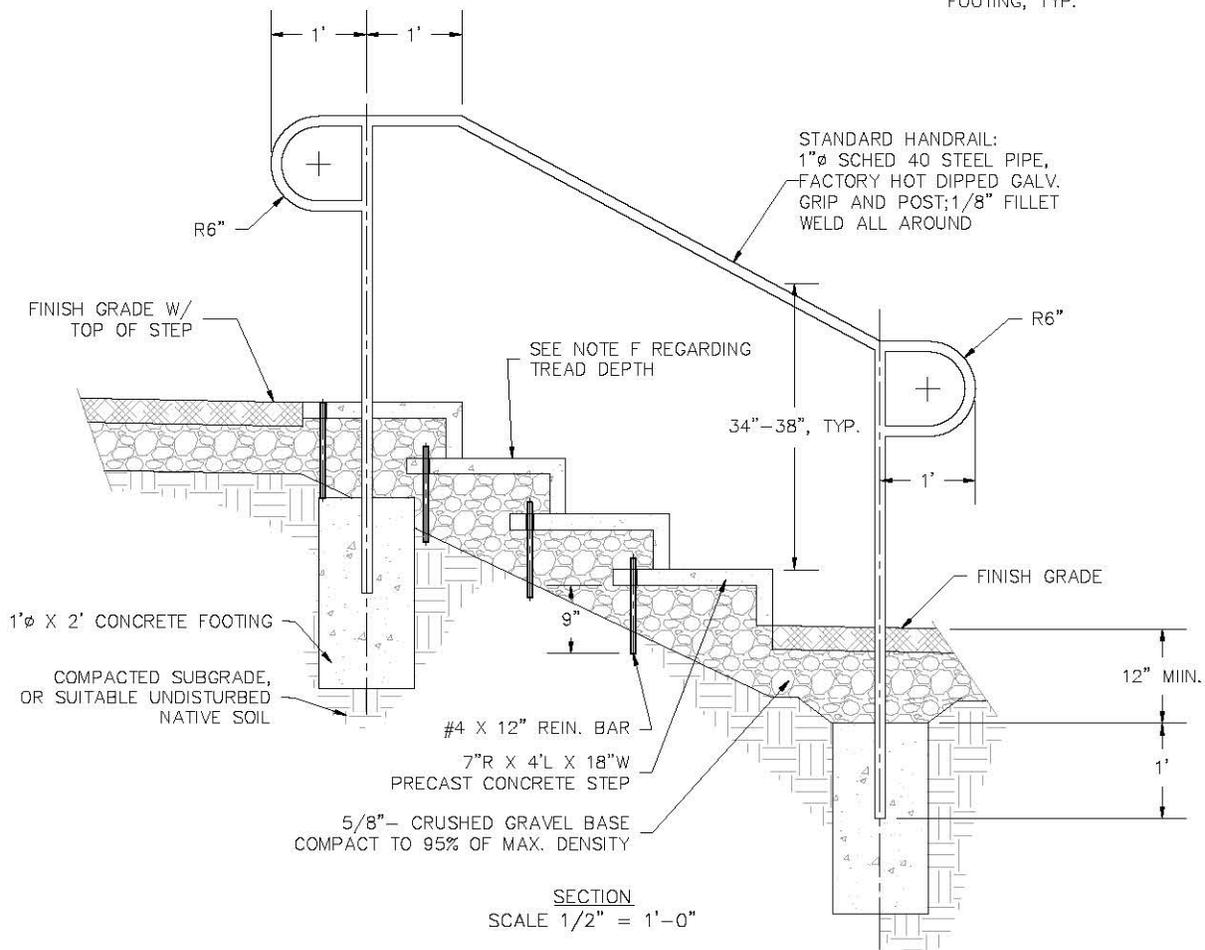
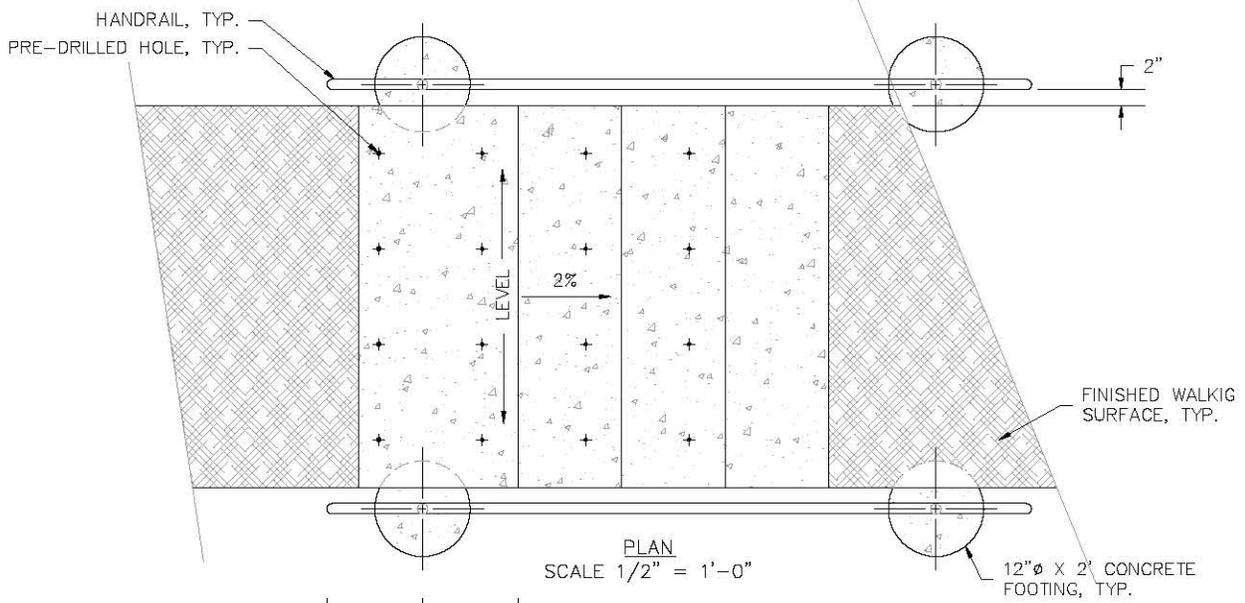
DAMAGED OR DESTROYED PLANT REPLACEMENT

1. SEE SECTION 02231 OF THE SPECIFICATIONS

PARKS AND RECREATION
DESIGN AND DEVELOPMENT
DECEMBER 5, 2011

CITY OF BELLINGHAM
TREE PROTECTION DETAIL
SCALE: NTS

DRAWING
02950.07



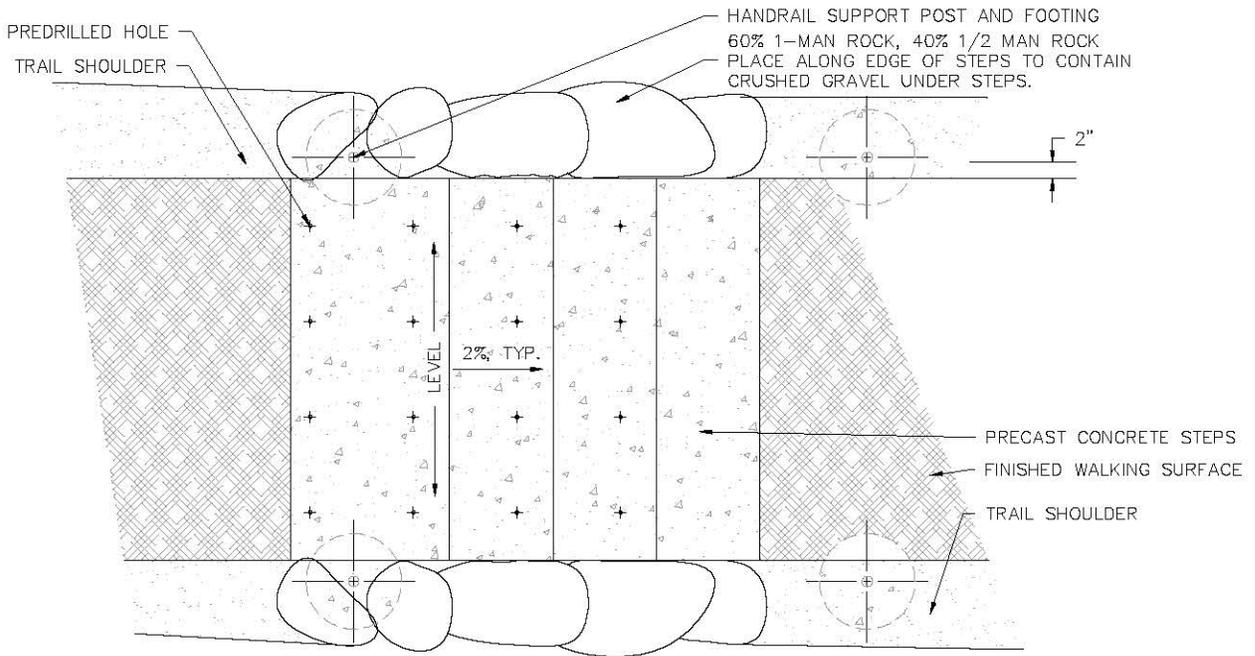
NOTES:

- A. USE OF THIS DETAIL MAY NOT BE SUITABLE FOR ALL SITES AND MUST BE PREAPPROVED BY THE PARK PROJECT MANAGER.
- B. PREFABRICATED STEPS PROVIDED BY PACIFIC CONCRETE INDUSTRIES, 360-734-0910 OR APPROVED EQUAL
- C. INSTALL STEPS LEVEL AND INCLINED AT 2% TO DRAIN IN DIRECTION OF TRAVEL.
- D. LIGHT BROOM OR SANDBLAST FINISH
- E. SEE DETAILS 03300.02, 03300.03, 03300.04 FOR STAIR DETAIL & SIDEWALL OPTIONS.
- F. MINIMUM/MAXIMUM TREAD DEPTH SHALL BE 12" AND 14" RESPECTIVELY. ALL TREADS SHALL BE EQUAL IN DEPTH.
- G. THE MAXIMUM TOTAL RISE OF STEPS SHALL BE BASED ON REQUIREMENTS OF THE PROJECT.
- H. LANDINGS AND INTERMEDIATE HANDRAIL SUPPORT POSTS SHALL BE BASED ON THE REQUIREMENTS OF THE PROJECT.

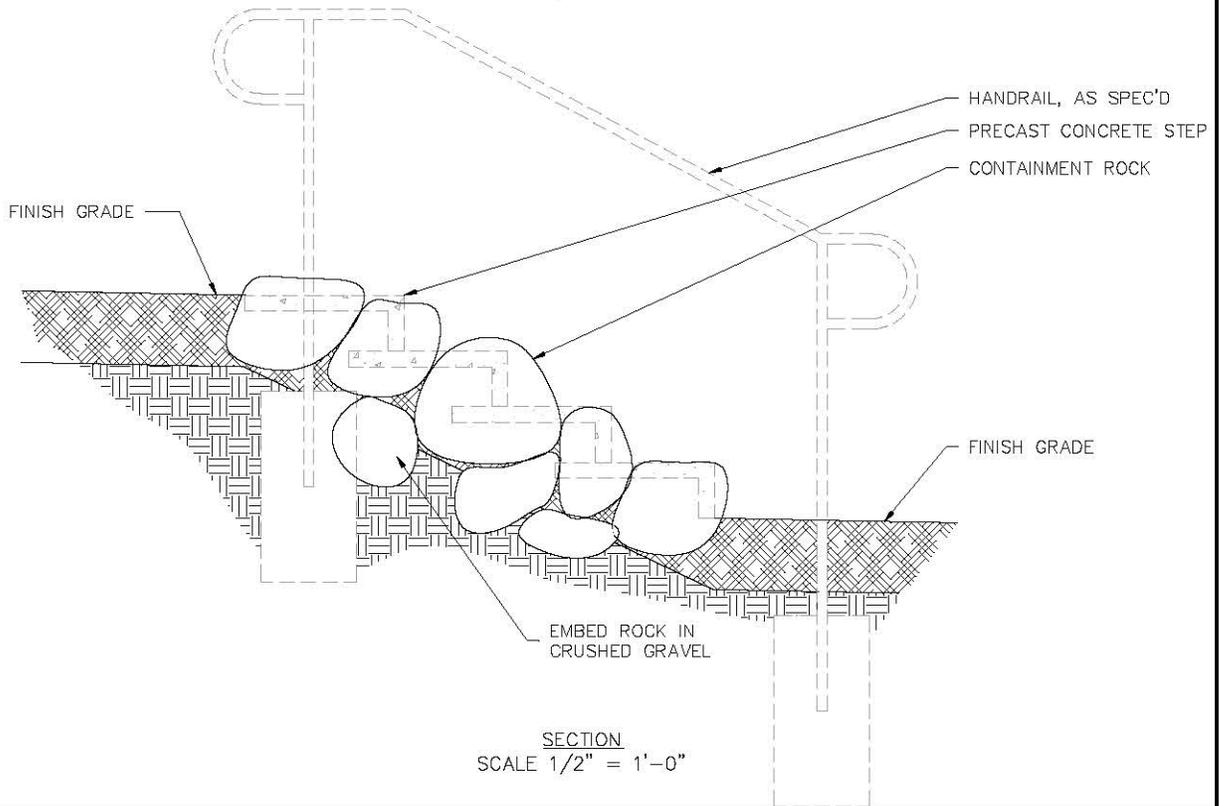
**PARKS AND RECREATION
DESIGN AND DEVELOPMENT
APRIL 7, 2010**

**CITY OF BELLINGHAM
PRE-FABRICATED CONCRETE
STEP & HANDRAIL**

**DRAWING
03300.01**



PLAN
SCALE 1/2" = 1'-0"



SECTION
SCALE 1/2" = 1'-0"

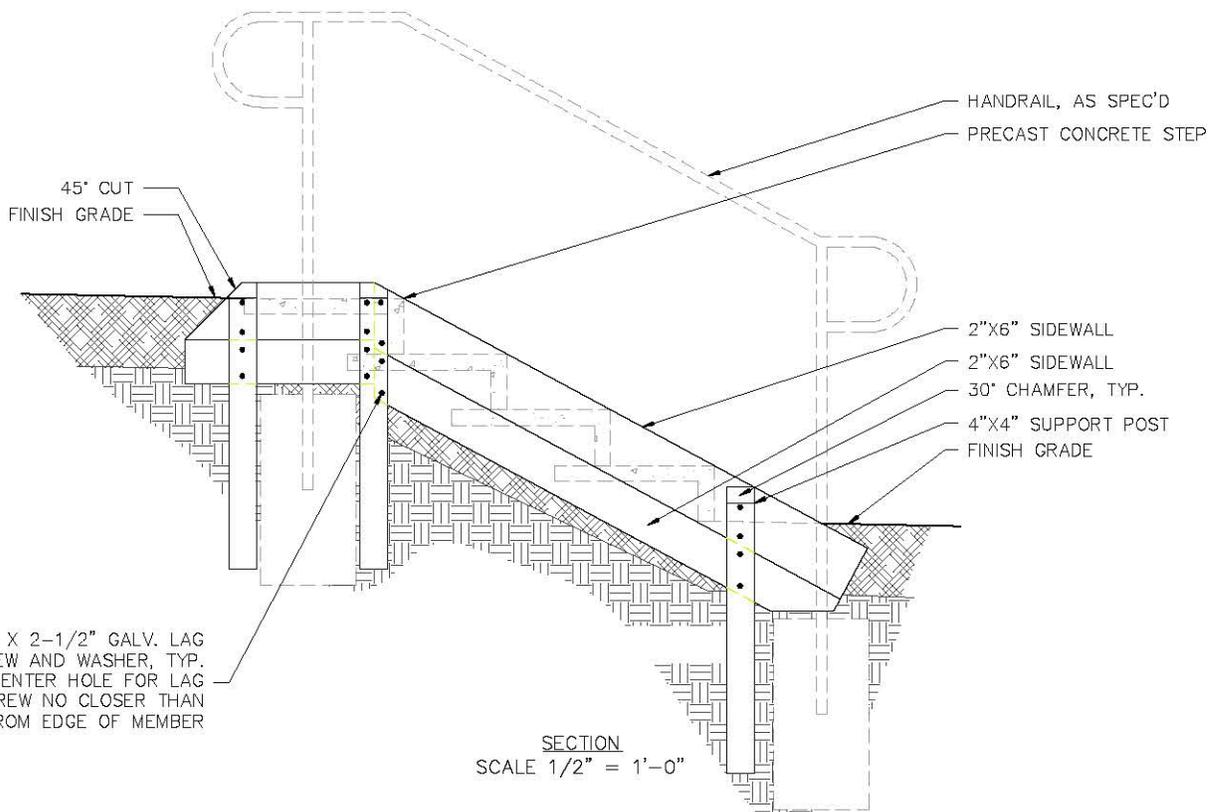
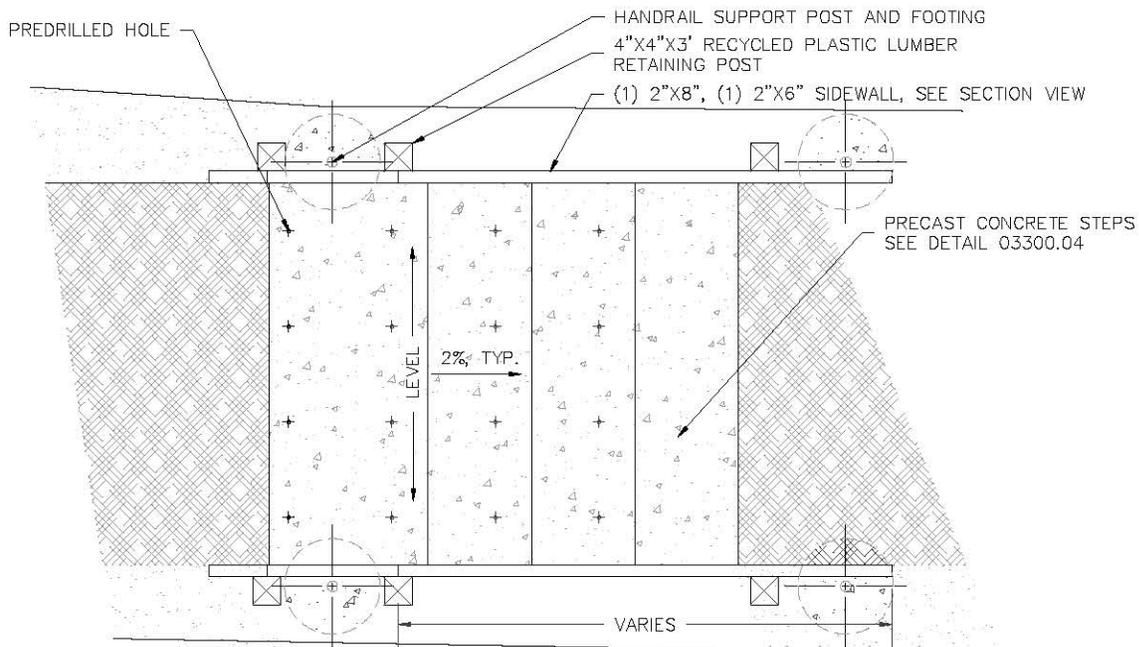
NOTES:

- A. USE OF THIS DETAIL MAY NOT BE SUITABLE FOR ALL SITES AND MUST BE PREAPPROVED BY THE PARK PROJECT MANAGER.
- B. PREFABRICATED STEPS PROVIDED BY PACIFIC CONCRETE INDUSTRIES, 360-734-0910 OR APPROVED EQUAL.
- C. INSTALL STEPS LEVEL AND INCLINED AT 2% TO DRAIN IN DIRECTION OF TRAVEL.
- D. LIGHT BROOM OR SANDBLAST FINISH
- E. SEE DETAILS 03300.01, 03300.03, 03300.04 FOR STAIR DETAIL & SIDEWALL OPTIONS.

PARKS AND RECREATION
DESIGN AND DEVELOPMENT
APRIL 7, 2010

CITY OF BELLINGHAM
PRE-FABRICATED CONCRETE
STEP & ROCK PLACEMENT

DRAWING
03300.02



NOTES:

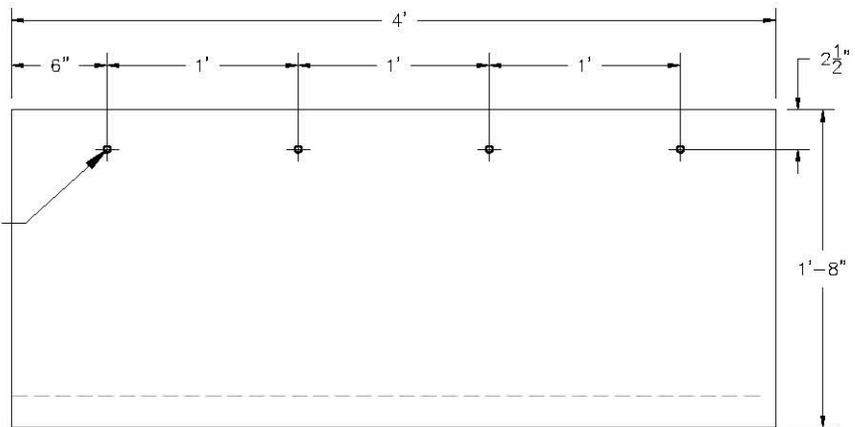
- A. USE OF THIS DETAIL MAY NOT BE SUITABLE FOR ALL SITES AND MUST BE PREAPPROVED BY THE PARK PROJECT MANAGER.
- B. PREFABRICATED STEPS PROVIDED BY PACIFIC CONCRETE INDUSTRIES, 360-734-0910 OR APPROVED EQUAL
- C. INSTALL STEPS LEVEL AND INCLINED AT 2% TO DRAIN IN DIRECTION OF TRAVEL.
- D. LIGHT BROOM OR SANDBLAST FINISH
- E. COMPACT GRAVEL UNDR STEPS to 95%
- F. SIDEWALLS AND SUPPORT POSTS SHALL BE HDPE RECYCLED PLASTIC LUMBER; COLOR: BROWN
- G. SEE DETAILS 03300.01, 03300.02, 03300.04 FOR STAIR DETAIL & SIDEWALL OPTIONS.

**PARKS AND RECREATION
DESIGN AND DEVELOPMENT
MAY 20, 2013**

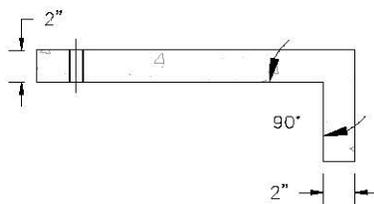
**CITY OF BELLINGHAM
PRE-FABRICATED CONCRETE
STEP & SIDEWALL PLACEMENT**

**DRAWING
03300.03**

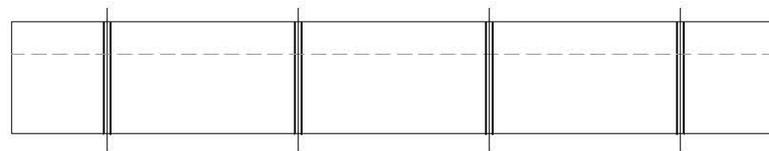
PREDRILLED HOLE FOR
#4 REIN. BAR, OR AS PROVIDED
BY THE MANUFACTURER



RISER PLAN
SCALE 1" = 1'-0"



RISER SECTION
SCALE 1" = 1'-0"



RISER ELEVATION
SCALE 1" = 1'-0"

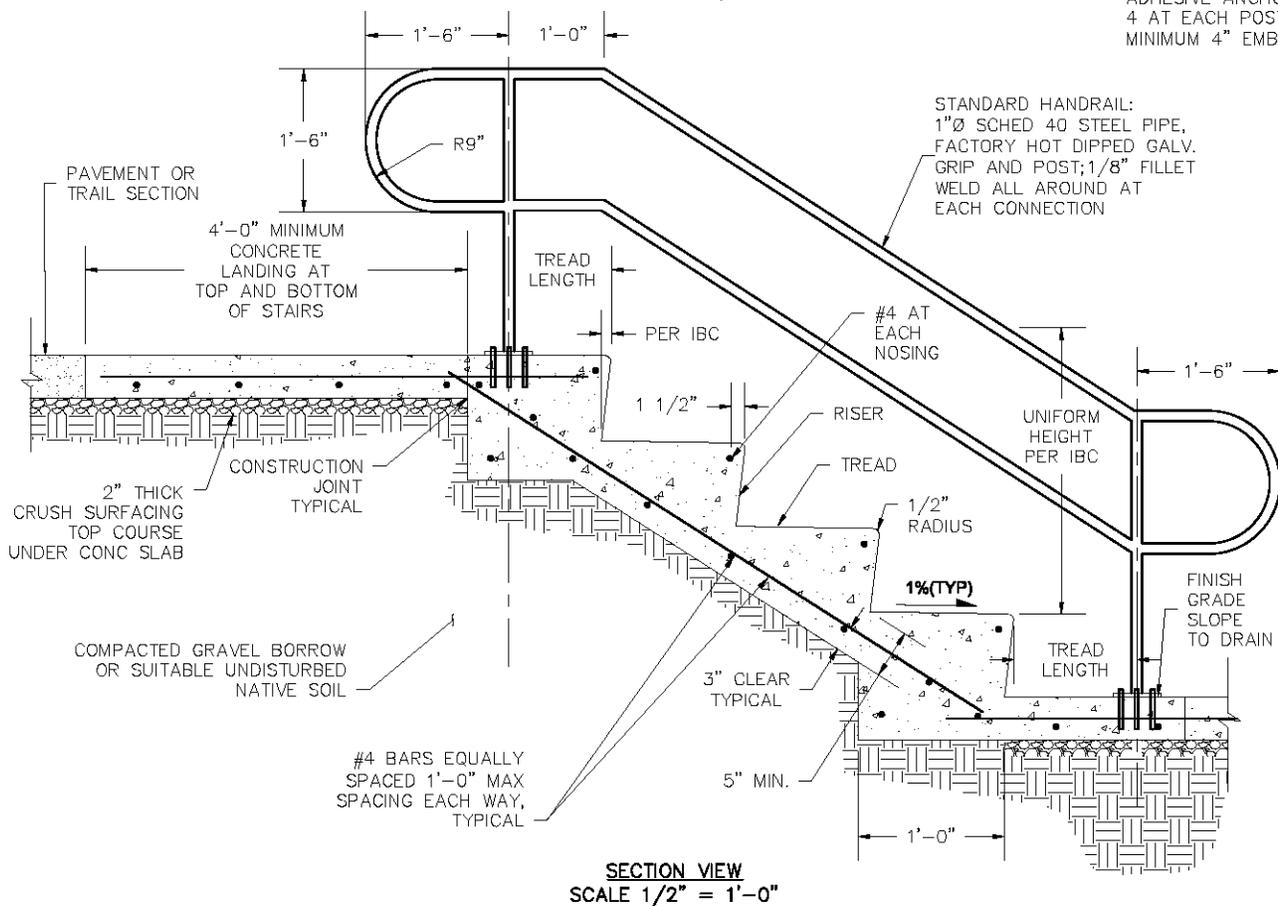
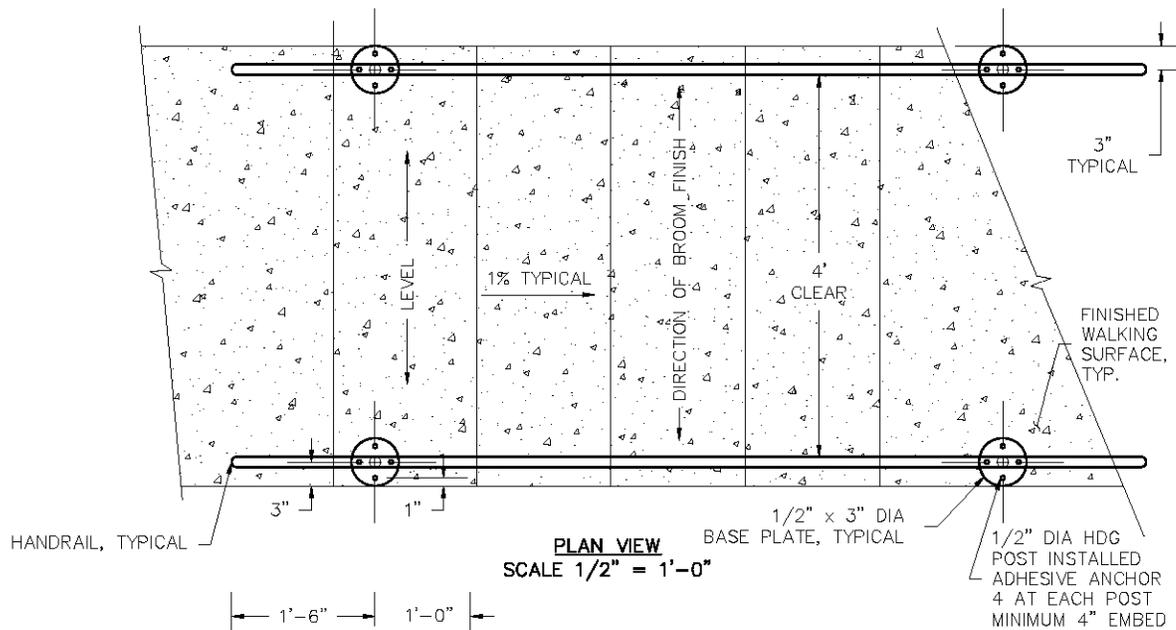
NOTES:

- A. RECOMMENDED SUPPLIER: PACIFIC CONCRETE INDUSTRIES, 360-734-0910, OR APPROVED EQUAL.
- B. SEE DETAILS 03300.01, 03300.02, 03300.04 FOR PLACEMENT DETAILS.

PARKS AND RECREATION
DESIGN AND DEVELOPMENT
APRIL 7, 2010

CITY OF BELLINGHAM
PRE-FABRICATED
CONCRETE STEP

DRAWING
03300.04



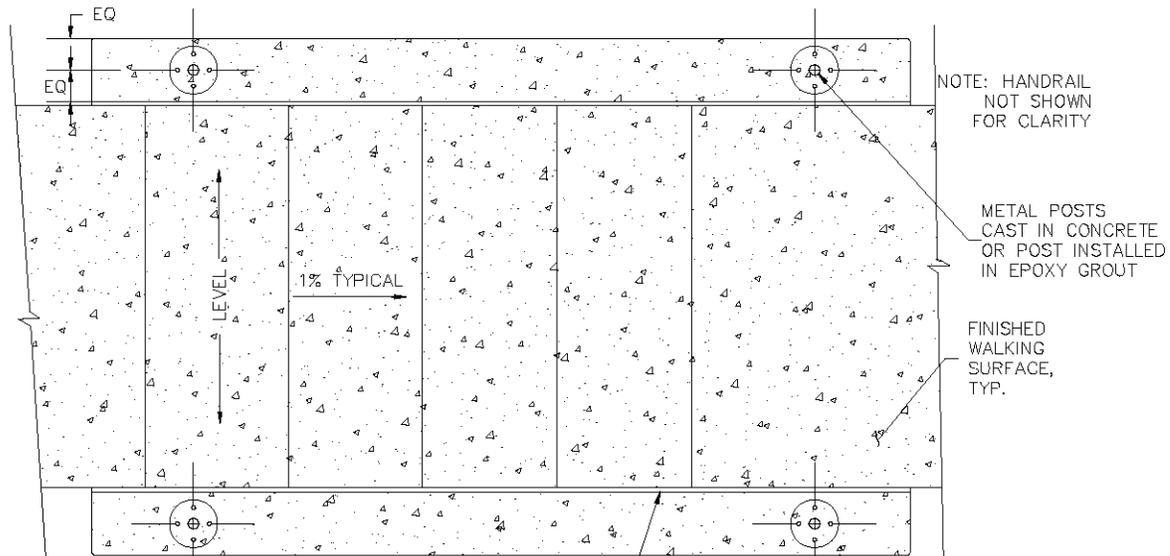
NOTES:

- A. USE OF THIS DETAIL MAY NOT BE SUITABLE FOR ALL SITES AND MUST BE PREAPPROVED BY THE PARK PROJECT MANAGER.
- B. CONCRETE SHALL BE MEDIUM BROOM FINISH. BROOM FINISH SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL.
- C. CONCRETE MIX DESIGN SHALL MEET WSDOT STANDARD SPECIFICATIONS, LATEST EDITION
- D. NUMBER OF STEPS SHALL SUIT INDIVIDUAL CONDITIONS WITH UNIFORM TREAD AND RISER DIMENSIONS TO MEET REQUIREMENTS OF INTERNATIONAL BUILDING CODE, LATEST EDITION. THE MINIMUM TREAD DEPTH SHALL BE 12 INCHES
- E. STEP WIDTH SHALL MATCH WIDTH OF WALKWAY, BUT SHALL BE NO LESS THAN 4'-0" WIDE
- F. PROVIDE LANDINGS AS REQUIRED BY INTERNATIONAL BUILDING CODE, LATEST EDITION
- G. REINFORCING STEEL SHALL BE ASTM A615 GR 60
- H. TREAD SLOPES OUTWARD @1% IN DIRECTION OF TRAVEL
- I. REPAIR OF GALVANIZED COATINGS SHALL IN ACCORDANCE WITH ASTM A 780 - 01

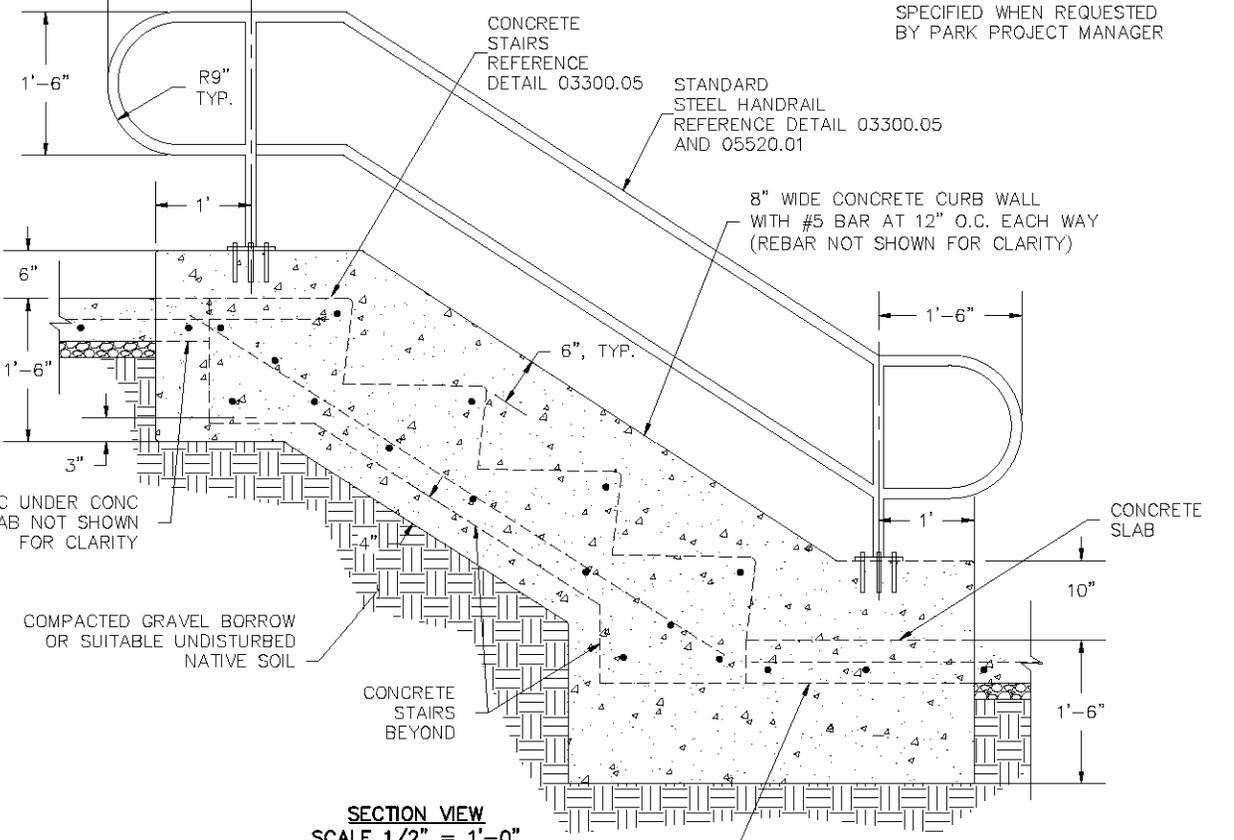
**PARKS AND RECREATION
DESIGN AND DEVELOPMENT
FEBRUARY 23, 2011**

**CITY OF BELLINGHAM
CAST-IN-PLACE
CONCRETE STAIR WITHOUT
CONCRETE CURB WALL**

**DRAWING
03300.05**



PLAN VIEW
SCALE 1/2" = 1'-0"



SECTION VIEW
SCALE 1/2" = 1'-0"

NOTES:

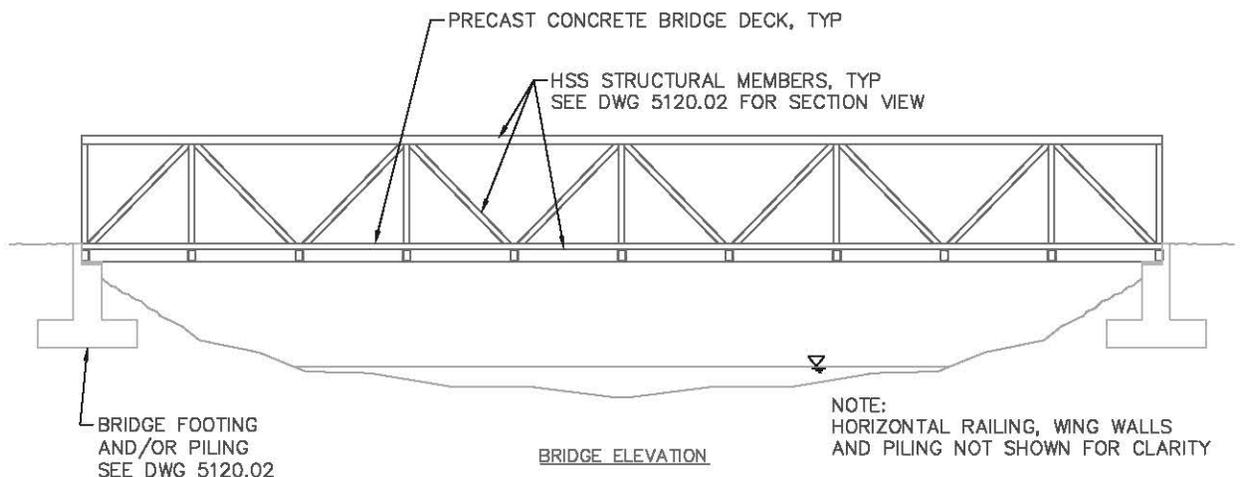
- A. USE OF THIS DETAIL MAY NOT BE SUITABLE FOR ALL SITES AND MUST BE PREAPPROVED BY THE PARK PROJECT MANAGER.
- B. CONCRETE SHALL BE MEDIUM BROOM FINISH. BROOM FINISH SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL.
- C. CONCRETE MIX DESIGN SHALL MEET WSDOT STANDARD SPECIFICATIONS, LATEST EDITION
- D. NUMBER OF STEPS SHALL SUIT INDIVIDUAL CONDITIONS WITH UNIFORM TREAD AND RISER DIMENSIONS TO MEET REQUIREMENTS OF INTERNATIONAL BUILDING CODE, LATEST EDITION. THE MINIMUM TREAD DEPTH SHALL BE 12 INCHES
- E. STEP WIDTH SHALL MATCH WIDTH OF WALKWAY, BUT SHALL BE NO LESS THAN 4'-0" WIDE
- F. PROVIDE LANDINGS AS REQUIRED BY INTERNATIONAL BUILDING CODE, LATEST EDITION
- G. REINFORCING STEEL SHALL BE ASTM A615 GR 60
- H. TREAD SLOPES OUTWARD @1% IN DIRECTION OF TRAVEL
- I. REPAIR OF GALVANIZED COATINGS SHALL IN ACCORDANCE WITH ASTM A 780 - 01

**PARKS AND RECREATION
DESIGN AND DEVELOPMENT
FEBRUARY 23, 2011**

**CITY OF BELLINGHAM
CAST-IN-PLACE
CONCRETE STAIR WITH
CONCRETE CURB WALL**

**DRAWING
03300.06**

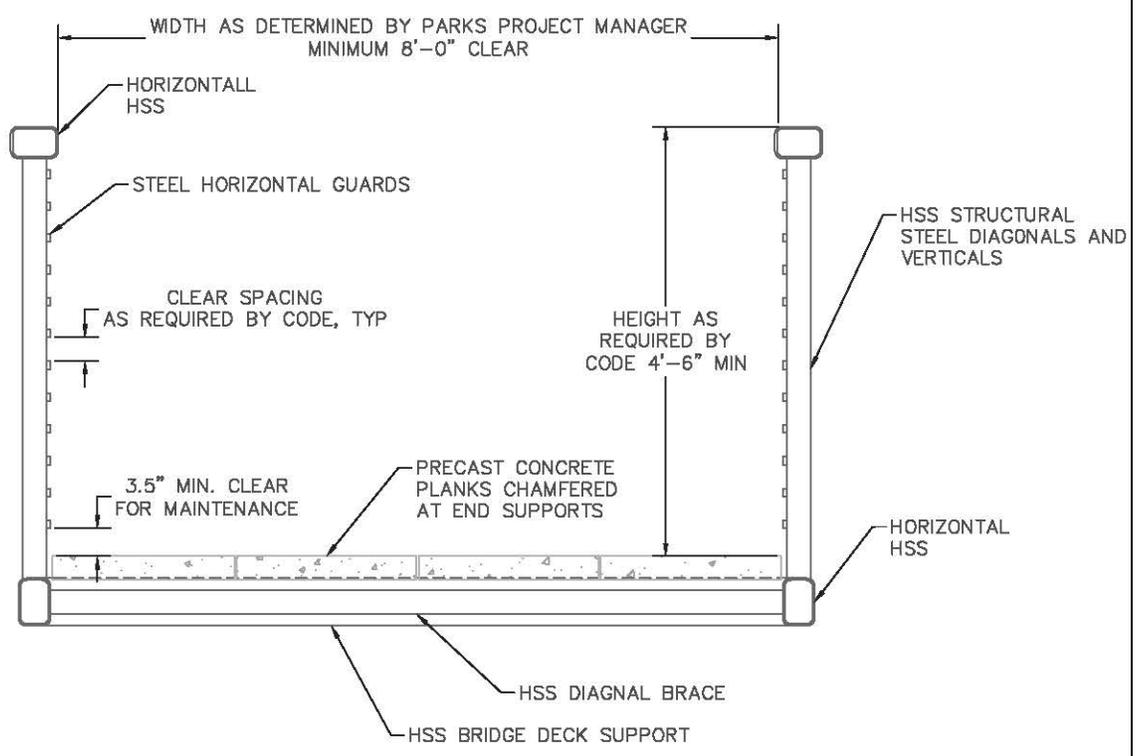
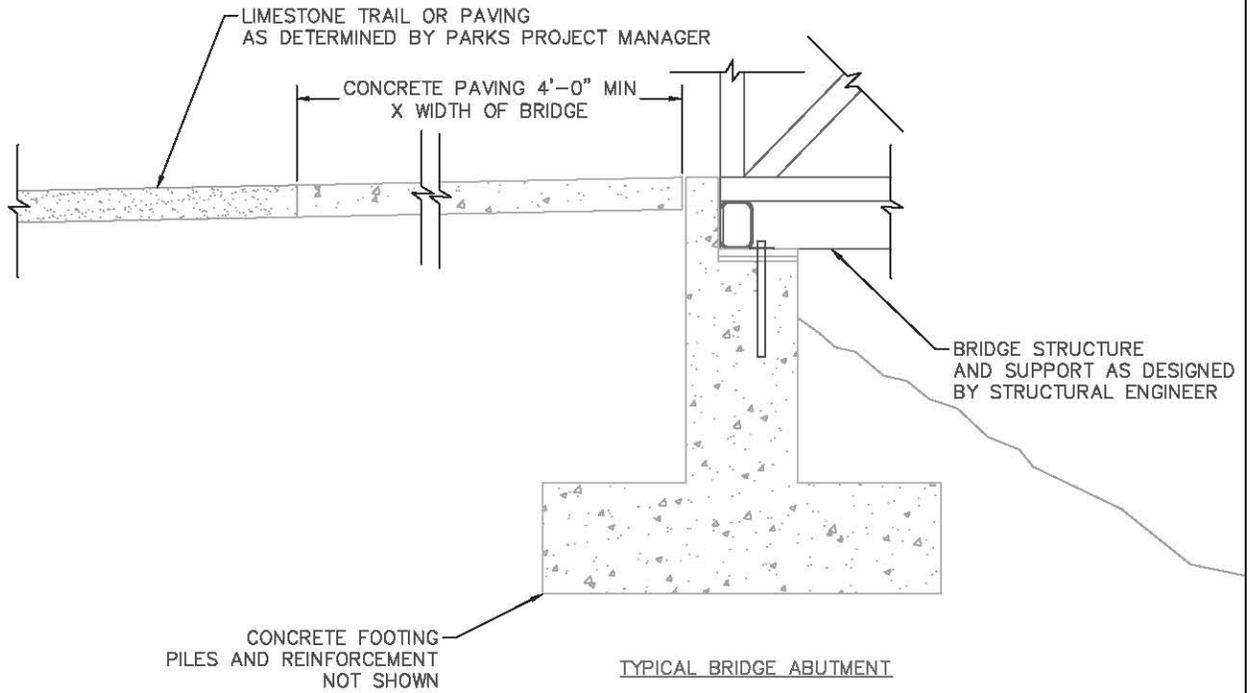
- MANUFACTURED PEDESTRIAN BRIDGE
- A. BRIDGE DESIGN SHALL BE STANDARD TRUSS CONSTRUCTED OF WEATHERED HSS STRUCTURAL STEEL WITH A CONCRETE BRIDGE DECK AS SHOWN BELOW.
 - B. ALL CONSTRUCTION AND DESIGN IS TO BE IN ACCORDANCE WITH THE PROVISIONS OF THE INTERNATIONAL BUILDING CODE (IBC) AS ADOPTED BY THE CITY OF BELLINGHAM.
 - C. PROVIDE A COMPLETE, INTEGRATED SET OF BRIDGE MANUFACTURER'S STANDARD COMPONENTS THAT FORM A BRIDGE. INCLUDE PRIMARY AND SECONDARY FRAMING AND ACCESSORIES.
 - D. INFORMATION ON THIS DRAWING ESTABLISHES REQUIREMENTS FOR SYSTEM'S AESTHETIC EFFECTS, AS INDICATED BY SIZES, RELATIONSHIPS AND PROFILES OF COMPONENTS.
 1. DO NOT MODIFY INTENDED AESTHETIC EFFECTS, AS JUDGED SOLELY BY PARK PROJECT MANAGER, EXCEPT WITH PRIOR APPROVAL BY PARK PROJECT MANAGER. IF MODIFICATIONS ARE PROPOSED, SUBMIT COMPREHENSIVE EXPLANATORY DATA FOR REVIEW.
 - E. MANUFACTURER QUALIFICATIONS: A FIRM WITH AT LEAST FIVE YEARS EXPERIENCE IN MANUFACTURING PEDESTRIAN BRIDGE SYSTEMS SIMILAR TO THOSE INDICATED FOR THE PROJECT. THE FIRM SHALL BE AISC CERTIFIED FOR THIS TYPE OF CONSTRUCTION.
 1. ENGINEERING RESPONSIBILITY: PROVIDE COMPREHENSIVE ENGINEERING ANALYSIS AND DESIGN BY A QUALIFIED STRUCTURAL ENGINEER REGISTERED WITH WASHINGTON STATE (HEREAFTER REFERRED TO AS "STRUCTURAL ENGINEER").
 - F. PROVIDE FRAMING AND DECKING SYSTEMS CAPABLE OF WITHSTANDING THE EFFECTS OF GRAVITY AND ENVIRONMENTAL LOADS AS SPECIFIED BY STRUCTURAL ENGINEER. DESIGN FOR THERMAL MOVEMENTS WITHOUT OVER STRESSING OR FAILURE OF COMPONENTS OR CONNECTIONS.
 - G. BRIDGE SYSTEM DESIGN: AS SPECIFIED BY STRUCTURAL ENGINEER
 1. PRIMARY FRAME TYPE: PARALLEL CHORD TRUSS WITH VERTICAL ENDS BUILT UP OF HSS STEEL SECTIONS AS INDICATED ON DRAWINGS IN PRATT, FINK, OR WARREN WEB CONFIGURATIONS. OVERHEAD (PORTAL) BRACING IS PROHIBITED.
 2. DESIGN THE BRIDGE TO HAVE DEPTHS, SPANS, CLEARANCES AND GENERAL CONFIGURATIONS AS SHOWN. NOMINAL CHANGES TO SUIT THE MANUFACTURER'S SYSTEMS WILL BE ACCEPTED PROVIDED THAT THE INSIDE CLEARANCE, MINIMUM SPAN AND REQUIRED TOP OF RAIL HEIGHT WILL NOT CHANGE. THE BRIDGE SHALL BE DESIGNED TO ACCOMMODATE FLOOD STAGE REQUIRED BY THE REGULATORY AGENCIES. NO PORTION OF THE STRUCTURE SHALL BE ALLOWED BELOW BOTTOM OF STEEL ELEVATION AS MANDATED BY THE REGULATORY AGENCIES.
 - H. DECK SYSTEM DESIGN: THE DECK SYSTEM WILL BE CAST-IN-PLACE OR PRECAST CONCRETE. FINISH SHALL BE MEDIUM-COARSE BROOM FINISH. IF CAST-IN-PLACE IS USED, LEAVE-IN-PLACE FORM SYSTEMS WILL NOT BE PERMITTED.
 1. PLACEMENT OF WET CONCRETE ON THE DECK AFTER THE BRIDGE IS PLACED IN ITS FINAL LOCATION WILL NOT BE PERMITTED.
 - I. PROVIDE FRAMING AND DECKING SYSTEMS CAPABLE OF WITHSTANDING THE EFFECTS OF GRAVITY AND ENVIRONMENTAL LOADS AS INDICATED BY THE STRUCTURAL ENGINEER INCLUDING DEAD, LIVE, SNOW, WIND, CONSTRUCTION, AND SEISMIC EFFECTS COMBINED AS REQUIRED BY THE APPLICABLE CODE.
 - J. MINIMUM LIVE LOADS SHALL BE IN ACCORDANCE WITH THE IBC AS ADOPTED BY THE CITY OF BELLINGHAM.
 - K. DESIGN FOR MINIMUM VEHICLE LOAD OF 10,000 POUNDS
 - L. SUBMIT SHOP DRAWINGS FOR ABUTMENT REINFORCEMENT AND BRIDGE STEEL.
 - M. ALL STEEL SHALL BE ASTM A588 OR ASTM A847 WEATHERING STEEL EXCEPT CONCRETE REINFORCEMENT AND PILING.
 - N. CAMBER SHALL BE AS SPECIFIED BY THE STRUCTURAL ENGINEER.
 - O. THE BRIDGE SHALL BE DESIGNED FOR VIBRATION.
 - P. WELDING: QUALIFY PERSONNEL ACCORDING TO AWS D1.1, "STRUCTURAL WELDING CODE - STEEL"
 - Q. COMPLY WITH APPLICABLE PROVISIONS OF THE FOLLOWING SPECIFICATIONS AND DOCUMENTS:
 1. AISC "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS - ALLOWABLE STRESS DESIGN AND PLASTIC"
 2. ASTM A 6 "SPECIFICATION FOR GENERAL REQUIREMENTS FOR ROLLED STEEL PLATES, SHAPES, SHEETING PILING, AND BARS FOR STRUCTURAL USE"
 3. ERECTION TOLERANCES: AISC S303, "STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES"
 - R. ALL EXPOSED SURFACES OF WEATHERING STEEL SHALL BE CLEANED IN ACCORDANCE WITH SSPC SP-6, COMMERCIAL BLAST CLEANING.
 - S. DESIGN ABUTMENTS AND FOOTINGS. COORDINATE SIZE AND LOCATION OF CONCRETE FOUNDATIONS AND CASTING OF ANCHOR-BOLT INSERTS INTO FOUNDATION WALLS AND FOOTINGS.
 - T. DESIGN COMPONENTS AND FABRICATE FRAMING TO PRODUCE CLEAN, SMOOTH CUTS AND BENDS. PUNCH ALL HOLES OF PROPER SIZE, SHAPE AND LOCATION.
 - U. DESIGN AND FABRICATE ALL WEATHERING STEEL PARTS SO AS TO AVOID LOCATIONS WHICH WILL IMPEDE OR PREVENT DEVELOPMENT OF THE SURFACE OXIDE COATING.
 - V. SHOP FABRICATE ALL COMPONENTS



PARKS AND RECREATION
DESIGN AND DEVELOPMENT
April 24, 2009

CITY OF BELLINGHAM
PEDESTRIAN BRIDGE
GENERAL DESIGN & NOTES

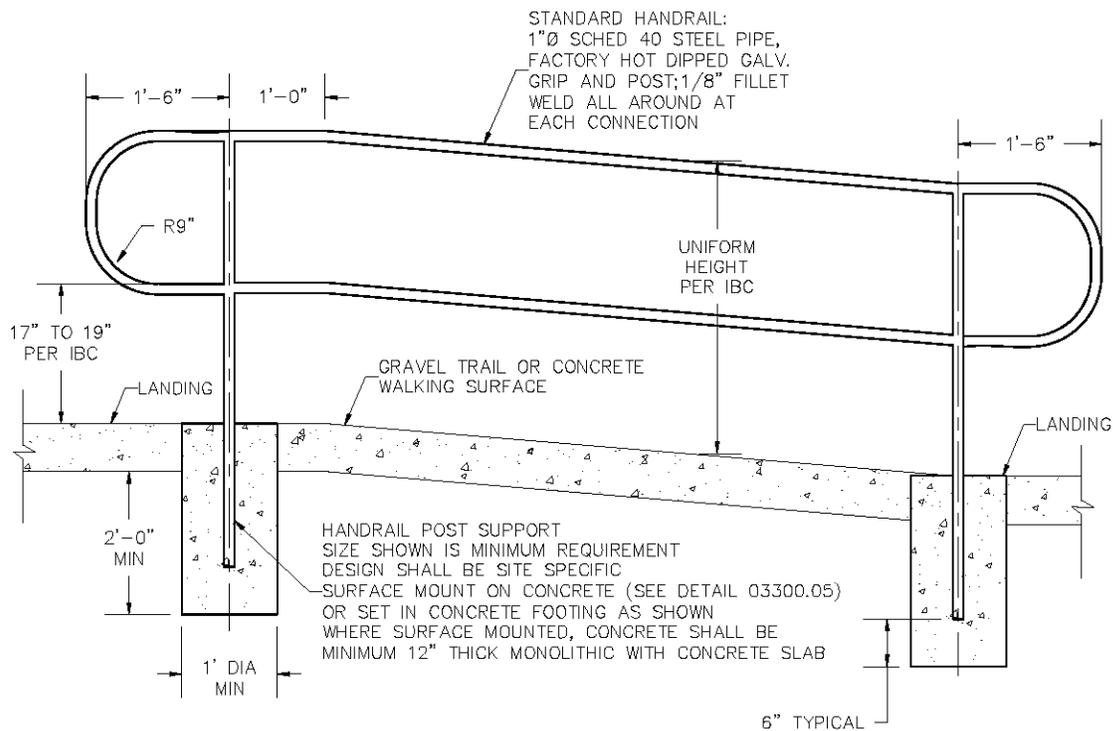
DRAWING
5120.01



PARKS AND RECREATION
DESIGN AND DEVELOPMENT
June 2, 2008

CITY OF BELLINGHAM
PEDESTRIAN BRIDGE
ABUTMENT AND SECTION

DRAWING
5120.02



NOTES:

- A. THIS DETAIL MAY NOT BE SUITABLE FOR ALL SITES AND MUST BE PRE-APPROVED BY THE PARK PROJECT MANAGER BEFORE USE.
- B. WHERE RAMP AND STAIRS ARE INSTALLED, THEY SHALL MEET THE REQUIREMENTS OF MEANS OF EGRESS OF THE INTERNATIONAL BUILDING CODE (IBC), LATEST EDITION.
- C. LANDING WIDTH SHALL MATCH WIDTH OF WALKWAY, BUT SHALL BE NO LESS THAN 4'-0" WIDE. REFERENCE THE IBC FOR LANDING LENGTH REQUIREMENTS.
- D. PROVIDE LANDINGS AT INTERVALS REQUIRED BY THE INTERNATIONAL BUILDING CODE, LATEST EDITION.
- E. STEEL CONSTRUCTION SHALL BE IN ACCORDANCE WITH AISC, LATEST EDITION.
- F. ALL WELDS SHALL BE GROUND SMOOTH.
- G. HANDRAILS SHALL BE PREFABRICATED, SHOP WELDED, AND HOT DIP GALVANIZED BEFORE ARRIVING ON SITE.
- H. HOT DIP GALVANIZED REPAIRS SHALL BE COMPLETED IN ACCORDANCE WITH ASTM A780-01.

**PARKS AND RECREATION
DESIGN AND DEVELOPMENT
FEBRUARY 23, 2011**

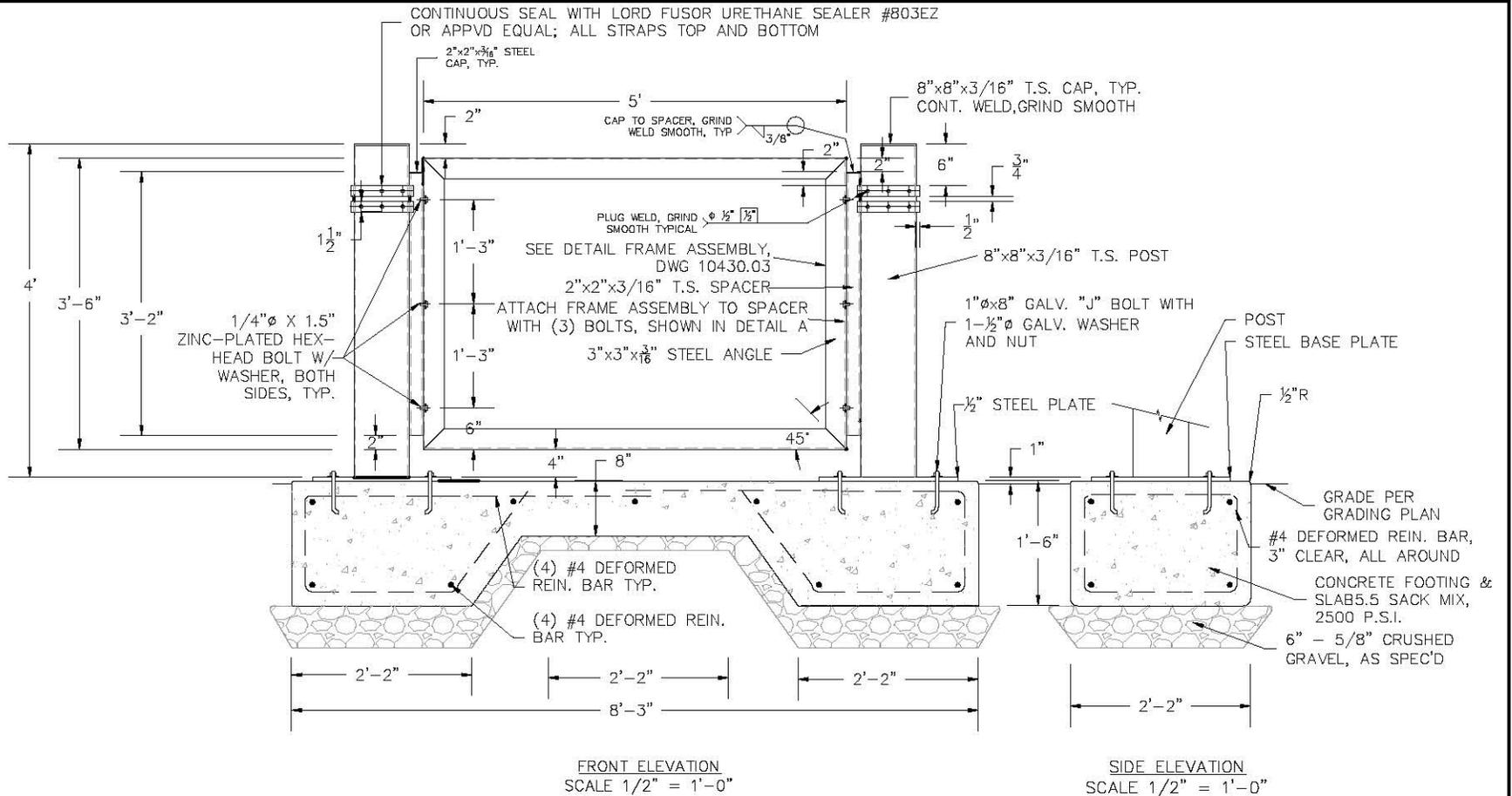
**CITY OF BELLINGHAM
METAL
HANDRAIL**

**DRAWING
05520.01**

PARKS AND RECREATION
 DESIGN AND DEVELOPMENT
 FEBRUARY 18, 2010

CITY OF BELLINGHAM
 NEIGHBORHOOD PARK SIGN
 SINGLE SIDED (ELEVATION VIEW)

DRAWING
 10430.01



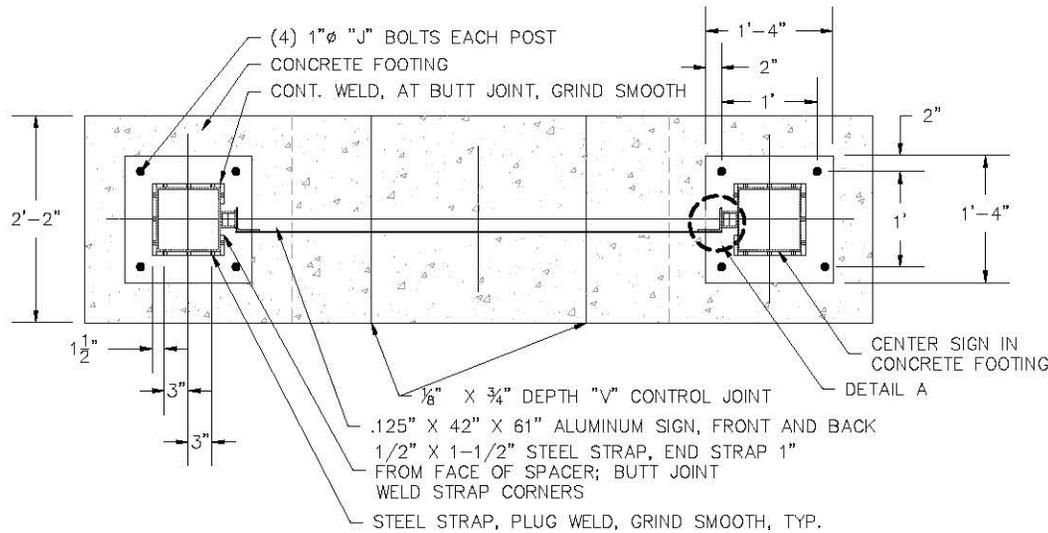
NOTES:

- INSTALL SIGN PLUMB AND LEVEL. SKIMCOAT BOTTOM OF BASE PLATE WITH NON-SHRINK, NON-METALLIC GROUT.
- ALL STEEL SHALL COMPLY WITH ASTM A500, UNLESS NOTED OTHERWISE. OWNER MAY SUBSTITUTE A36 STRUCTURAL STEEL
- STEEL ELEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH AISC CODE OF STANDARD PRACTICE.
- ALL STEEL SHALL BE SAND-BLASTED CLEAN, AND PRE-WASHED WITH AN IRON PHOSPHATE POWDER WASH, DRIED, PRIMED WITH ZINC PRIMER, AND POWDER COATED THE COLOR NOTED ABOVE, BAKED AT 400 DEGREES FOR NO LESS THAN 45 MINUTES, UNLESS NOTED OTHERWISE.
- ALL FASTENERS SHALL BE GALVANIZED OR STAINLESS STEEL.
- FOUNDATION DESIGN IS SHOWN FOR LEVEL GROUND ONLY WITH AN ASSUMED SOIL BEARING STRENGTH OF 1500 PSF, WHICH SHALL BE CONFIRMED BY A PROFESSIONAL ENGINEER/GEOTECHNICAL ENGINEER BEFORE COMMENCING WORK.
- ALL WELDS SHALL BE CONTINUOUS AND ALL AROUND. GRIND SMOOTH UNLESS OTHERWISE NOTED. WELDS SHALL BE GRIND SMOOTH BEFORE POWDER COATED.
- CLEAR, WEED, GRADE, MULCH, OR SEED SURROUNDING SITE AS SPECIFIED. RESTORE DISTURBED AREA IN ACCORDANCE WITH PARK STANDARDS.
- COLORS SHALL BE AS FOLLOWS:
 - POST & BASE PLATE: MATTHEWS MP#10269 AUTO BODY PAINT W/ PRIMER, SATIN FINISH, OR MATCH DRYLAC RAL #7021 DARK GRAY, EGGSHELL FINISH
 - SIGNFRAME, SPACER & ALUMINUM SIGN BODY (BODY BACK ONLY): MATHEWS #MP14185, AUTO BODY PAINT W/ PRIMER, SATIN FINISH, OR MATCH PANTONE PMS 560C DARK GREEN, EGGSHELL FINISH.
 - POST STRAP COLOR: MATTHEWS #MP04863 AUTO BODY PAINT W/ PRIMER, SATIN FINISH, OR MATCH DRYLAC RAL #3072 SM SGL TRIBO, EGGSHELL FINISH, MATCHES PANTONE 7535C
 - SIGN GRAPHICS: SHALL BE PRODUCED FROM DIGITAL FILES PROVIDED BY THE OWNER AND PROVIDED TO THE CONTRACTOR FOR PRODUCTION AND ASSEMBLY, AND PLOTTED ON A TRAFFIC GRADE VINYL SELF ADHESIVE MEDIUM THAT MEETS WSDOT STANDARDS. THE FINISH SHALL BE NON-REFLECTIVE.

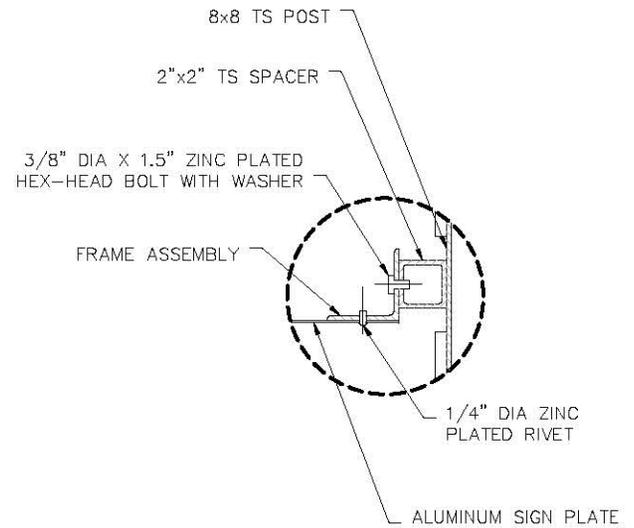
PARKS AND RECREATION
 DESIGN AND DEVELOPMENT
 FEBRUARY 18, 2010

CITY OF BELLINGHAM
 NEIGHBORHOOD PARK SIGN
 SINGLE SIDED (PLAN VIEW)

DRAWING
 10430.02



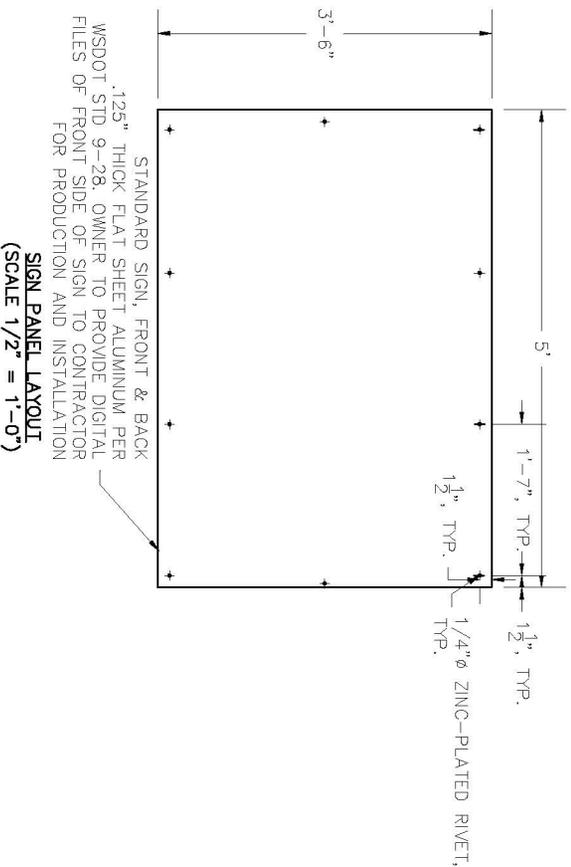
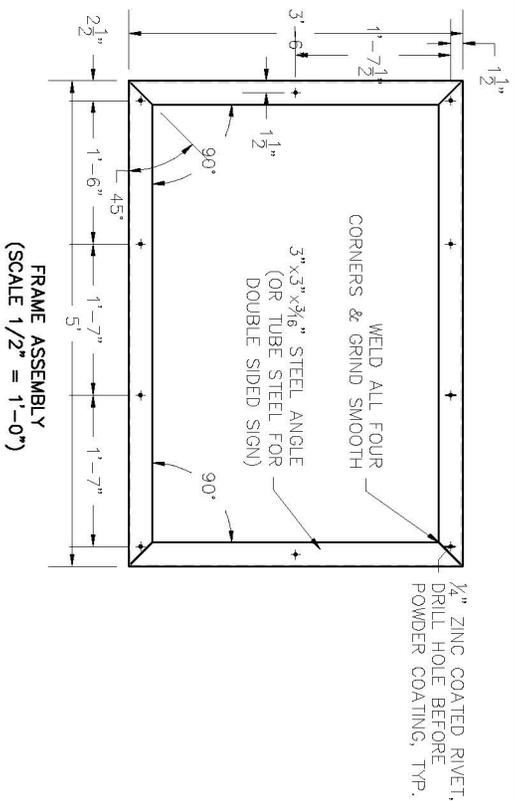
PLAN VIEW
 (SCALE 1/2" = 1'-0")



DETAIL A
 (SCALE 1-1/2" = 1'-0")

NOTES:

- A. INSTALL SIGN PLUMB AND LEVEL. SKIMCOAT BOTTOM OF BASE PLATE WITH NON-SHRINK, NON-METALLIC GROUT.
- B. ALL STEEL SHALL COMPLY WITH ASTM A500, UNLESS NOTED OTHERWISE. OWNER MAY SUBSTITUTE A36 STRUCTURAL STEEL.
- C. STEEL ELEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH AISC CODE OF STANDARD PRACTICE.
- D. ALL STEEL SHALL BE SAND-BLASTED CLEAN, AND PRE-WASHED WITH AN IRON PHOSPHATE POWDER WASH, DRIED, PRIMED WITH ZINC PRIMER, AND POWDER COATED THE COLOR NOTED ABOVE, BAKED AT 400 DEGREES FOR NO LESS THAN 45 MINUTES, UNLESS NOTED OTHERWISE.
- E. ALL FASTENERS SHALL BE GALVANIZED OR STAINLESS STEEL.
- F. FOUNDATION DESIGN IS SHOWN FOR LEVEL GROUND ONLY WITH AN ASSUMED SOIL BEARING STRENGTH OF 1500 PSF, WHICH SHALL BE CONFIRMED BY A PROFESSIONAL ENGINEER/GEOTECHNICAL ENGINEER BEFORE COMMENCING WORK.
- G. ALL WELDS SHALL BE CONTINUOUS AND ALL AROUND. GRIND SMOOTH UNLESS OTHERWISE NOTED. WELDS SHALL BE GRIND SMOOTH BEFORE POWDER COATED.
- H. CLEAR, WEED, GRADE, MULCH, OR SEED SURROUNDING SITE AS SPECIFIED. RESTORE DISTURBED AREA IN ACCORDANCE WITH PARK STANDARDS.
- I. COLORS SHALL BE AS FOLLOWS:
 - POST & BASE PLATE: MATTHEWS MP#10269 AUTO BODY PAINT W/ PRIMER, SATIN FINISH, OR MATCH DRYLAC RAL #7021 DARK GRAY, EGGSHELL FINISH
 - SIGNFRAME, SPACER & ALUMINUM SIGN BODY (BODY BACK ONLY): MATHEWS #MP14185, AUTO BODY PAINT W/ PRIMER, SATIN FINISH, OR MATCH PANTONE PMS 560C DARK GREEN, EGGSHELL FINISH.
 - POST STRAP COLOR: MATTHEWS #MP04863 AUTO BODY PAINT W/ PRIMER, SATIN FINISH, OR MATCH DRYLAC RAL #3072 SM SGL TRIBO, EGGSHELL FINISH, MATCHES PANTONE 7535C
 - SIGN GRAPHICS: SHALL BE PRODUCED FROM DIGITAL FILES PROVIDED BY THE OWNER AND PROVIDED TO THE CONTRACTOR FOR PRODUCTION AND ASSEMBLY, AND PLOTTED ON A TRAFFIC GRADE VINYL SELF ADHESIVE MEDIUM THAT MEETS WSDOT STANDARDS. THE FINISH SHALL BE NON-REFLECTIVE.



NOTES:

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- B. ALL STEEL SHALL COMPLY WITH ASTM A500, UNLESS NOTED OTHERWISE. OWNER MAY SUBSTITUTE A36 STRUCTURAL STEEL
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- E. ALL FASTENERS SHALL BE GALVANIZED OR STAINLESS STEEL.
- F. FOUNDATION DESIGN IS SHOWN FOR LEVEL GROUND ONLY WITH AN ASSUMED SOIL BEARING STRENGTH OF 1500 PSF, WHICH SHALL BE BE CONFIRMED BY A PROFESSIONAL ENGINEER/GEOTECHNICAL ENGINEER BEFORE COMMENCING WORK.
- G. ALL WELDS SHALL BE CONTINUOUS AND ALL AROUND. GRIND SMOOTH UNLESS OTHERWISE NOTED. WELDS SHALL BE GROUND SMOOTH BEFORE POWDER COATED.
- H. CLEAR, WEED, GRADE, MULCH, OR SEED SURROUNDING SITE AS SPECIFIED. RESTORE DISTURBED AREA IN ACCORDANCE WITH PARK STANDARDS.
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SIGNFRAME, SPACER & ALUMINUM SIGN BODY (BODY BACK ONLY): MATHEWS #MP14185, AUTO BODY PAINT W/ PRIMER, SATIN FINISH, OR MATCH PANTONE PMS 560C DARK GREEN, EGGSHELL FINISH.

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SIGN GRAPHICS: SHALL BE PRODUCED FROM DIGITAL FILES PROVIDED BY THE OWNER AND PROVIDED TO THE CONTRACTOR FOR PRODUCTION AND ASSEMBLY, AND PLOTTED ON A TRAFFIC GRADE VINYL SELF ADHESIVE MEDIUM THAT MEETS WSDOT STANDARDS. THE FINISH SHALL BE NON-REFLECTIVE.

PARKS AND RECREATION
 DESIGN AND DEVELOPMENT
 FEBRUARY 18, 2010

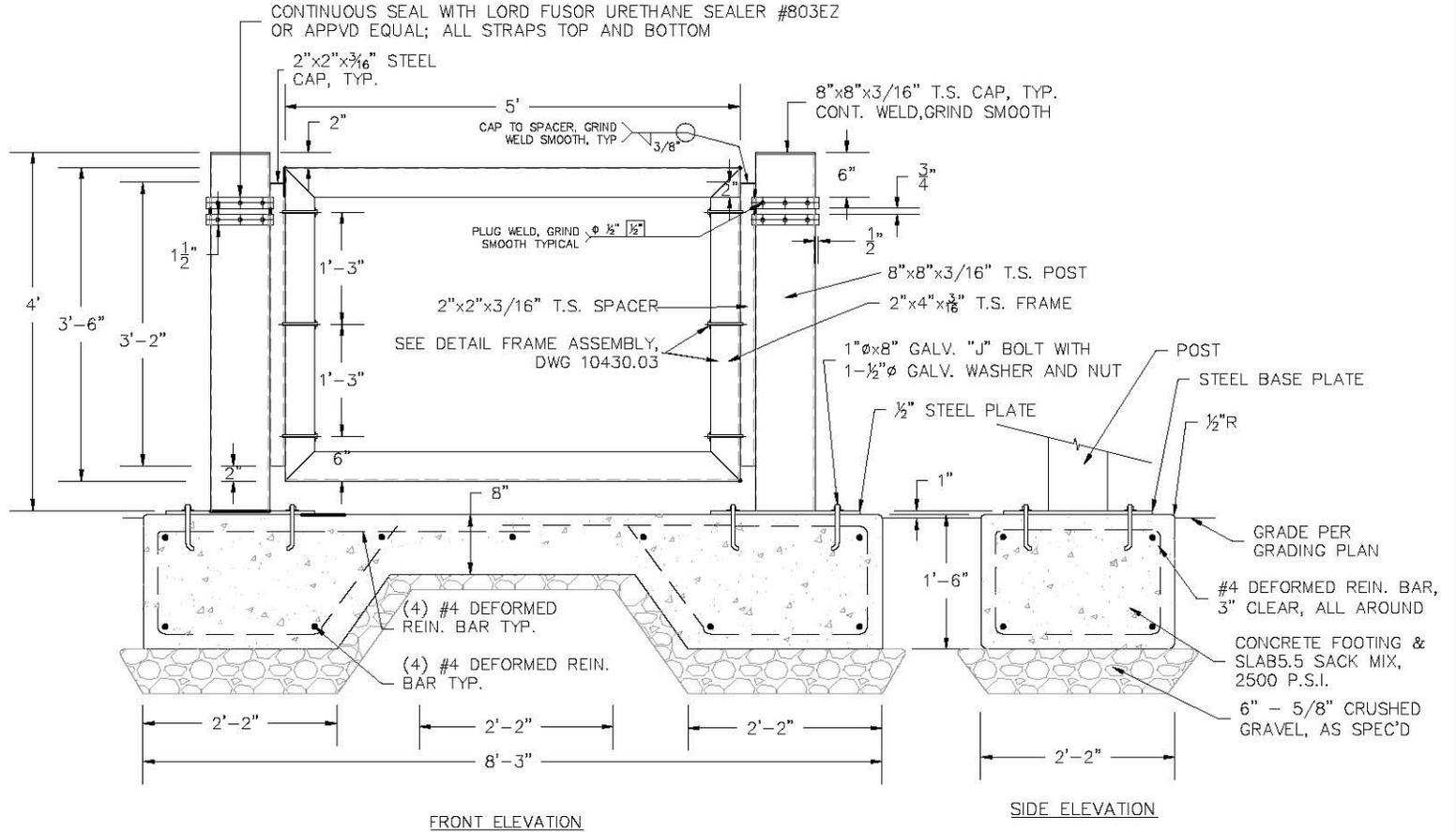
CITY OF BELLINGHAM
 NEIGHBORHOOD PARK SIGN
 FRAME/SIGN ASSEMBLY

DRAWING
 10430.03

PARKS AND RECREATION
 DESIGN AND DEVELOPMENT
 FEBRUARY 18, 2010

CITY OF BELLINGHAM
 NEIGHBORHOOD PARK SIGN
 DOUBLE SIDED (ELEVATION VIEW)

DRAWING
 10430.04



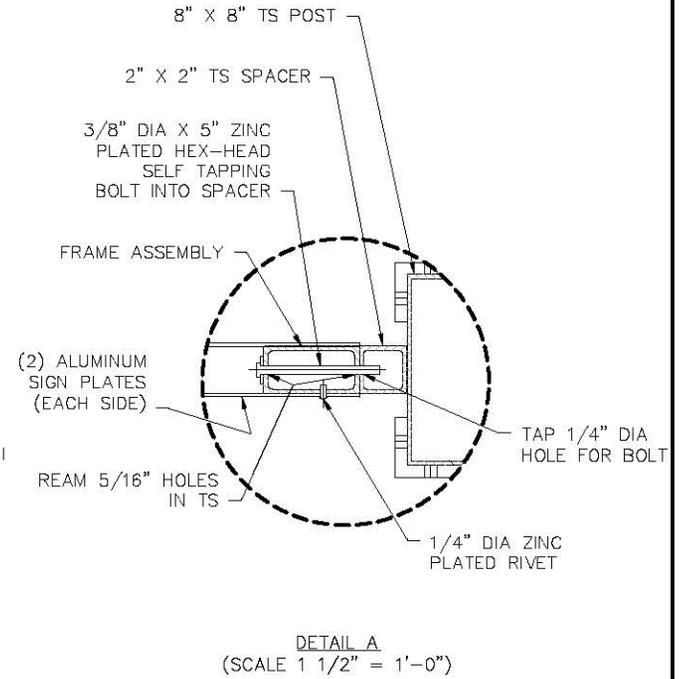
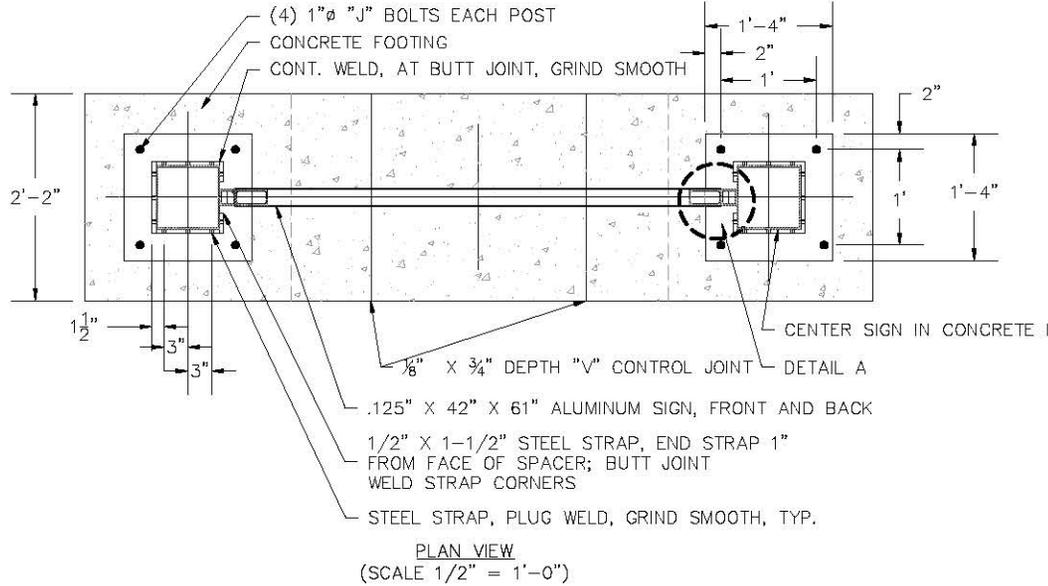
NOTES:

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- ALL STEEL SHALL BE SAND-BLASTED CLEAN, AND PRE-WASHED WITH AN IRON PHOSPHATE POWDER WASH, DRIED, PRIMED WITH ZINC PRIMER, AND POWDER COATED THE COLOR NOTED ABOVE, BAKED AT 400 DEGREES FOR NO LESS THAN 45 MINUTES, UNLESS NOTED OTHERWISE.
- ALL FASTENERS SHALL BE GALVANIZED OR STAINLESS STEEL.
- FOUNDATION DESIGN IS SHOWN FOR LEVEL GROUND ONLY WITH AN ASSUMED SOIL BEARING STRENGTH OF 1500 PSF, WHICH SHALL BE CONFIRMED BY A PROFESSIONAL ENGINEER/GEOTECHNICAL ENGINEER BEFORE COMMENCING WORK.
- ALL WELDS SHALL BE CONTINUOUS AND ALL AROUND. GRIND SMOOTH UNLESS OTHERWISE NOTED. WELDS SHALL BE GRIND SMOOTH BEFORE POWDER COATED.
- CLEAR, WEED, GRADE, MULCH, OR SEED SURROUNDING SITE AS SPECIFIED. RESTORE DISTURBED AREA IN ACCORDANCE WITH PARK STANDARDS.
- COLORS SHALL BE AS FOLLOWS:
 - POST & BASE PLATE: MATTHEWS MP#10269 AUTO BODY PAINT W/ PRIMER, SATIN FINISH, OR MATCH DRYLAC RAL #7021 DARK GRAY, EGGSHELL FINISH
 - SIGNFRAME, SPACER & ALUMINUM SIGN BODY (BODY BACK ONLY): MATHEWS #MP14185, AUTO BODY PAINT W/ PRIMER, SATIN FINISH, OR MATCH PANTONE PMS 560C DARK GREEN, EGGSHELL FINISH.
 - POST STRAP COLOR: MATTHEWS #MP04863 AUTO BODY PAINT W/ PRIMER, SATIN FINISH, OR MATCH DRYLAC RAL #3072 SM SGL TRIBO, EGGSHELL FINISH, MATCHES PANTONE 7535C
 - SIGN GRAPHICS: SHALL BE PRODUCED FROM DIGITAL FILES PROVIDED BY THE OWNER AND PROVIDED TO THE CONTRACTOR FOR PRODUCTION AND ASSEMBLY, AND PLOTTED ON A TRAFFIC GRADE VINYL SELF ADHESIVE MEDIUM THAT MEETS WSDOT STANDARDS. THE FINISH SHALL BE NON-REFLECTIVE.

PARKS AND RECREATION
 DESIGN AND DEVELOPMENT
 FEBRUARY 18, 2010

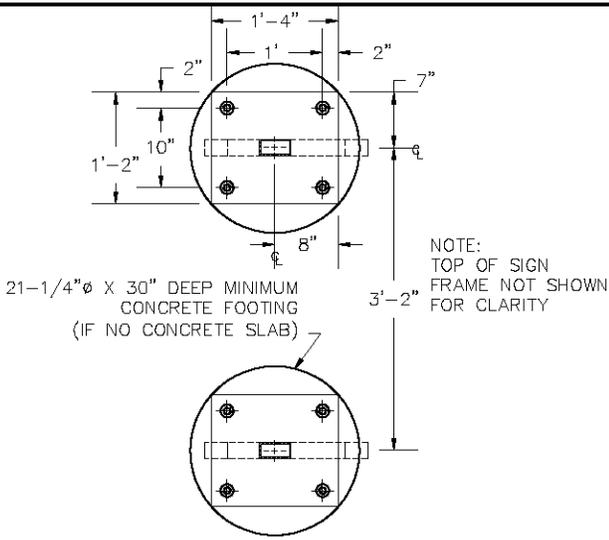
CITY OF BELLINGHAM
 NEIGHBORHOOD PARK SIGN
 DOUBLE SIDED (PLAN VIEW)

DRAWING
 10430.05

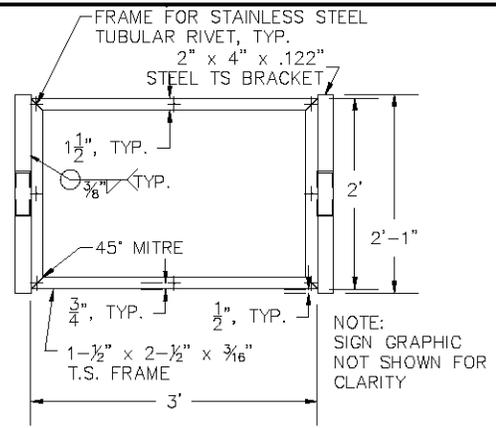


NOTES:

- A. INSTALL SIGN PLUMB AND LEVEL. SKIMCOAT BOTTOM OF BASE PLATE WITH NON-SHRINK, NON-METALLIC GROUT.
- B. ALL STEEL SHALL COMPLY WITH ASTM A500, UNLESS NOTED OTHERWISE. OWNER MAY SUBSTITUTE A36 STRUCTURAL STEEL.
- C. STEEL ELEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH AISC CODE OF STANDARD PRACTICE.
- D. ALL STEEL SHALL BE SAND-BLASTED CLEAN, AND PRE-WASHED WITH AN IRON PHOSPHATE POWDER WASH, DRIED, PRIMED WITH ZINC PRIMER, AND POWDER COATED THE COLOR NOTED ABOVE, BAKED AT 400 DEGREES FOR NO LESS THAN 45 MINUTES, UNLESS NOTED OTHERWISE.
- E. ALL FASTENERS SHALL BE GALVANIZED OR STAINLESS STEEL.
- F. FOUNDATION DESIGN IS SHOWN FOR LEVEL GROUND ONLY WITH AN ASSUMED SOIL BEARING STRENGTH OF 1500 PSF, WHICH SHALL BE CONFIRMED BY A PROFESSIONAL ENGINEER/GEOTECHNICAL ENGINEER BEFORE COMMENCING WORK.
- G. ALL WELDS SHALL BE CONTINUOUS AND ALL AROUND. GRIND SMOOTH UNLESS OTHERWISE NOTED. WELDS SHALL BE GROUND SMOOTH BEFORE POWDER COATED.
- H. CLEAR, WEED, GRADE, MULCH, OR SEED SURROUNDING SITE AS SPECIFIED. RESTORE DISTURBED AREA IN ACCORDANCE WITH PARK STANDARDS.
- I. COLORS SHALL BE AS FOLLOWS:
POST & BASE PLATE: MATTHEWS MP#10269 AUTO BODY PAINT W/ PRIMER, SATIN FINISH, OR MATCH DRYLAC RAL #7021 DARK GRAY, EGGSHELL FINISH
SIGNFRAME, SPACER & ALUMINUM SIGN BODY (BODY BACK ONLY): MATHEWS #MP14185, AUTO BODY PAINT W/ PRIMER, SATIN FINISH, OR MATCH PANTONE PMS 560C DARK GREEN, EGGSHELL FINISH.
POST STRAP COLOR: MATTHEWS #MP04863 AUTO BODY PAINT W/ PRIMER, SATIN FINISH, OR MATCH DRYLAC RAL #3072 SM SGL TRIBO, EGGSHELL FINISH, MATCHES PANTONE 7535C
SIGN GRAPHICS: SHALL BE PRODUCED FROM DIGITAL FILES PROVIDED BY THE OWNER AND PROVIDED TO THE CONTRACTOR FOR PRODUCTION AND ASSEMBLY, AND PLOTTED ON A TRAFFIC GRADE VINYL SELF ADHESIVE MEDIUM THAT MEETS WSDOT STANDARDS. THE FINISH SHALL BE NON-REFLECTIVE.

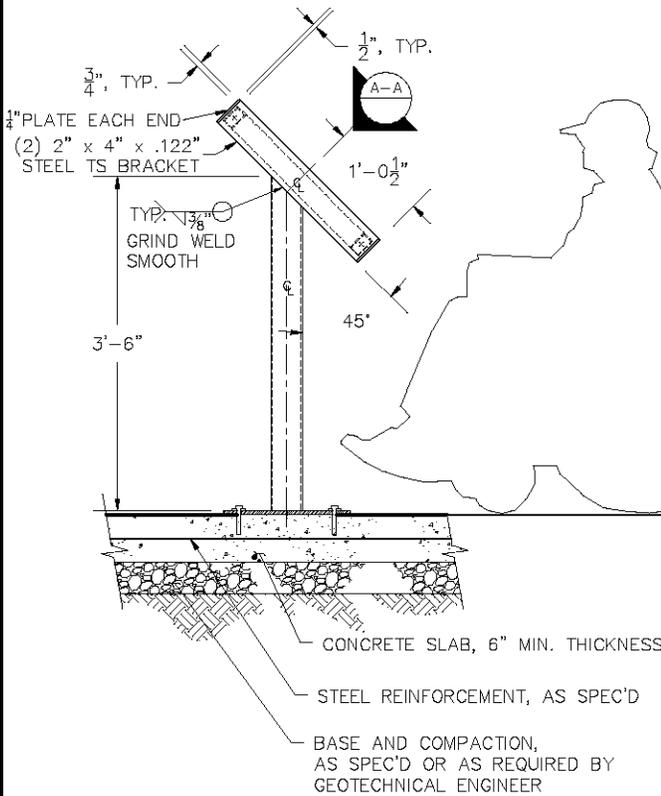


PLAN - BASE PLATE

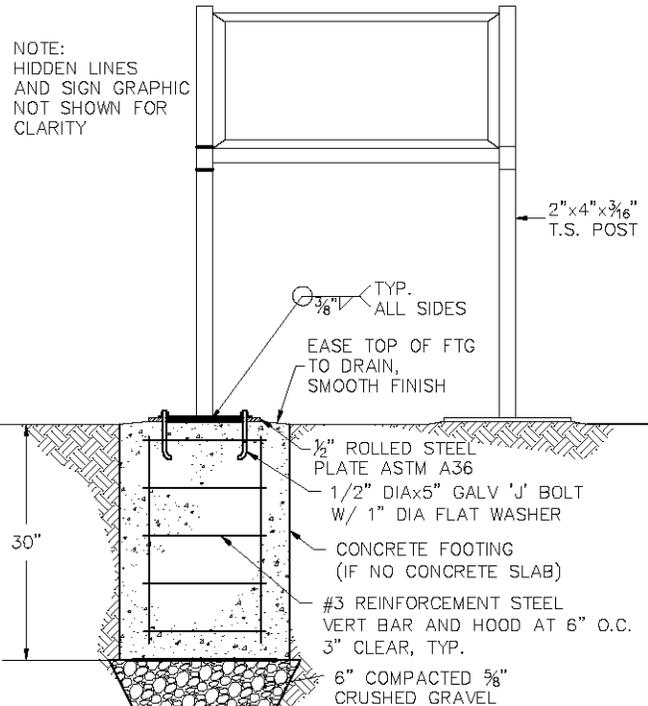


VIEW A-A

PLAN - FRAME ASSEMBLY



SIDE ELEVATION - SLAB



FRONT ELEVATION - FTG

NOTES:

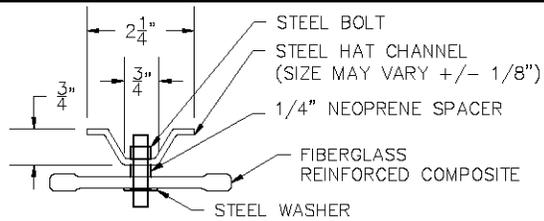
- PROVIDE CUSTOM FABRICATED SIGN FRAME SHOWN OR PROVIDE PREFABRICATED "LOW PROFILE" SIGN AS MANUFACTURED BY PANNIER 1-800-544-8428, OR EQUIVALENT. PROVIDE SHOP DRAWINGS FOR FABRICATED SIGN FOR PREAPPROVAL.
- IF CUSTOM FABRICATED, ALL STEEL SHALL BE A36 STRUCTURAL UNLESS NOTED OTHERWISE.
- IF CUSTOM FABRICATED, ALL STEEL SHALL BE SAND-BLASTED CLEAN, AND PRE-WASHED WITH AN IRON PHOSPHATE POWDERWASH, DRIED, PRIMED WITH ZINC PRIMER, AND POWDER COATED BLACK AND BAKED AT 400 DEGREES FOR NO LESS THAN 45 MINUTES, UNLESS NOTED OTHERWISE.
- ALL FASTENERS SHALL BE GALVANIZED.
- MOUNT ONLY ON CONCRETE SLAB OR FOOTING.
- IF CUSTOM FABRICATED, ALL STEEL ELEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH AISC CODE OF STANDARD PRACTICE.
- SLAB AND FOOTING ARE SHOWN FOR REFERENCE ONLY. CONCRETE SLAB & FOOTING SIZE AND REINF. REQUIRE SITE SPECIFIC DESIGN.
- ALUMINUM SIGN BLANK & APPLIED VINYL GRAPHICS PROVIDED BY OWNER. ATTACH SIGN TO FRAME WITH STAINLESS STEEL 1/8" ϕ RIVETS.

PRAB APPROVAL 01/13/2010

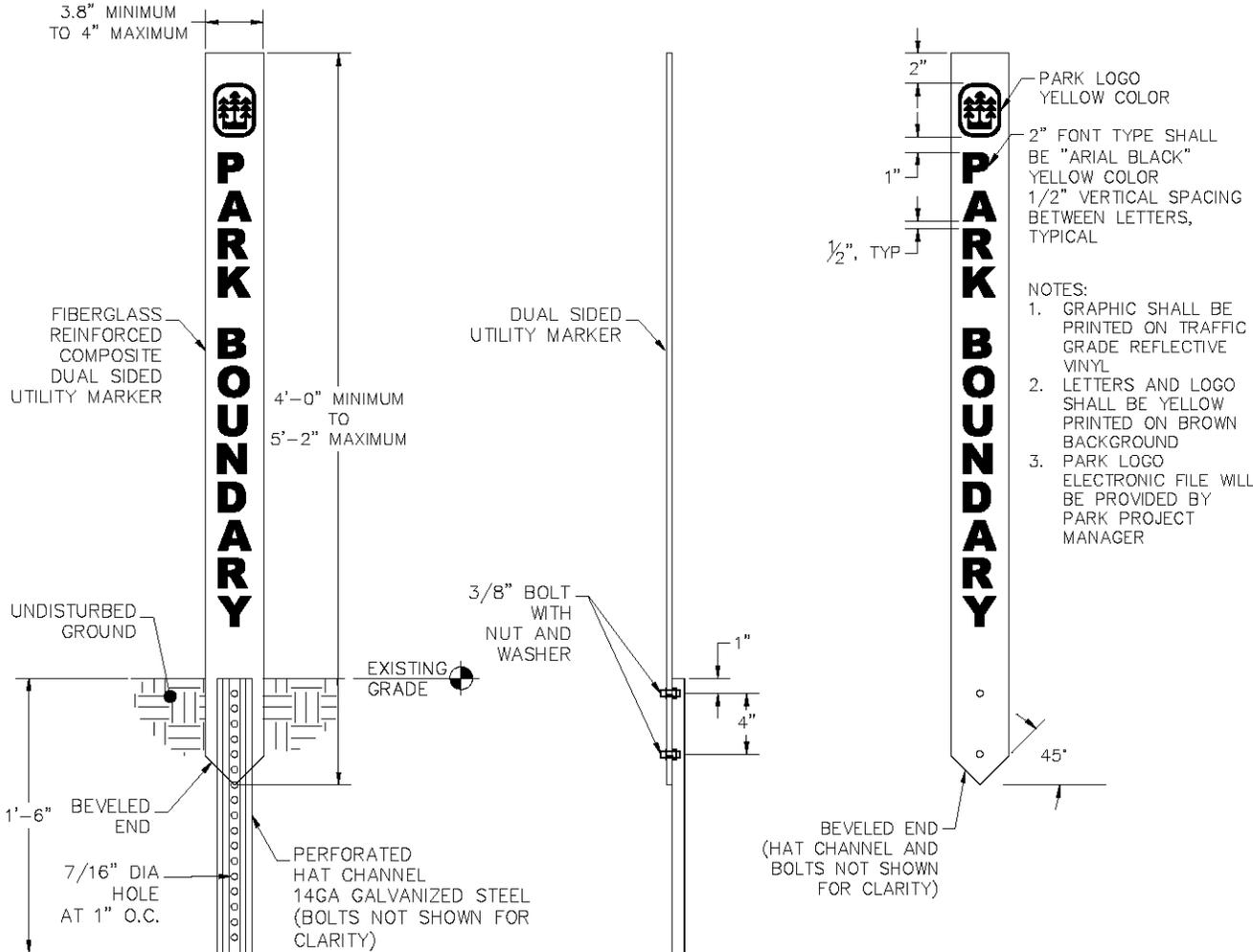
**PARKS AND RECREATION
DESIGN AND DEVELOPMENT
February 19, 2010**

**CITY OF BELLINGHAM
TRAILHEAD/INTERPRETIVE SIGN
Scale: 1/2" = 1'-0"**

**DRAWING
10430.06**



ENLARGED SECTION VIEW - TOP



ELEVATION FRONT/BACK ELEVATION - SIDE ELEVATION - FRONT

NOTES:

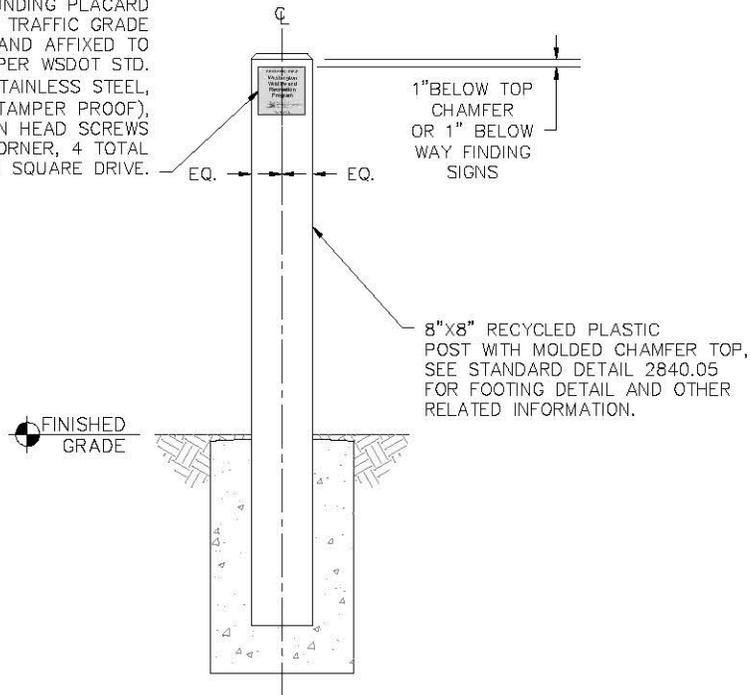
- A. BOUNDARY MARKERS SHALL BE INSTALLED AS DIRECTED BY THE PARK PROJECT MANAGER WHEN THE PARK PROPERTY OR PROPERTY ABUTTING PARK PROPERTY IS SURVEYED.
- B. BOUNDARY MARKERS LOCATED IN PAVEMENT AND SIDEWALKS AND OTHER AREAS AS DIRECTED BY PARK PROJECT MANAGER SHALL MEET THE REQUIREMENTS OF THE PUBLIC WORKS STANDARD FOR CONCRETE MONUMENTS.
- C. WHEN REQUIRED BY THE PARK PROJECT MANAGER, BOUNDARY MARKERS SHALL BE INSTALLED AT PROPERTY CORNERS, INTERSECTING LOT LINES, AND AT INTERVALS OF ONE MARKER PER 100 FT ALONG A STRAIGHT LINE. STRAIGHT LINE INTERVAL DISTANCE MAY BE DECREASED AT THE DISCRETION OF THE PARK PROJECT MANAGER IN ORDER TO MAINTAIN A LINE OF SIGHT FROM ONE MARKER TO THE NEXT MARKER.
- D. MARKER MATERIAL SHALL BE FIBERGLASS REINFORCED COMPOSITE, SOLID COLOR IMPREGNATED DARK BROWN, UV RESISTANT, WITH A MINIMUM MATERIAL WEIGHT OF 0.48 POUNDS/FOOT. ALL FASTENERS SHALL BE HOT DIPPED GALVANIZED.
- E. SUGGESTED SUPPLIERS: CARSONITE INTERNATIONAL PHONE# 1-800-648-7916 WWW.CARSONITE.COM
 QUANTUM MARKERS PHONE# 1-866-778-6017 WWW.QUANTUMMARKERS.COM
 BONE SAFETY SIGNS PHONE #1-800-873-2399 WWW.BONESAFETY.COM
 GLASS FORMS INC PHONE #1-888-297-3800 WWW.GLASSFORMS.COM

**PARKS AND RECREATION
 DESIGN AND DEVELOPMENT**
 February 19, 2010

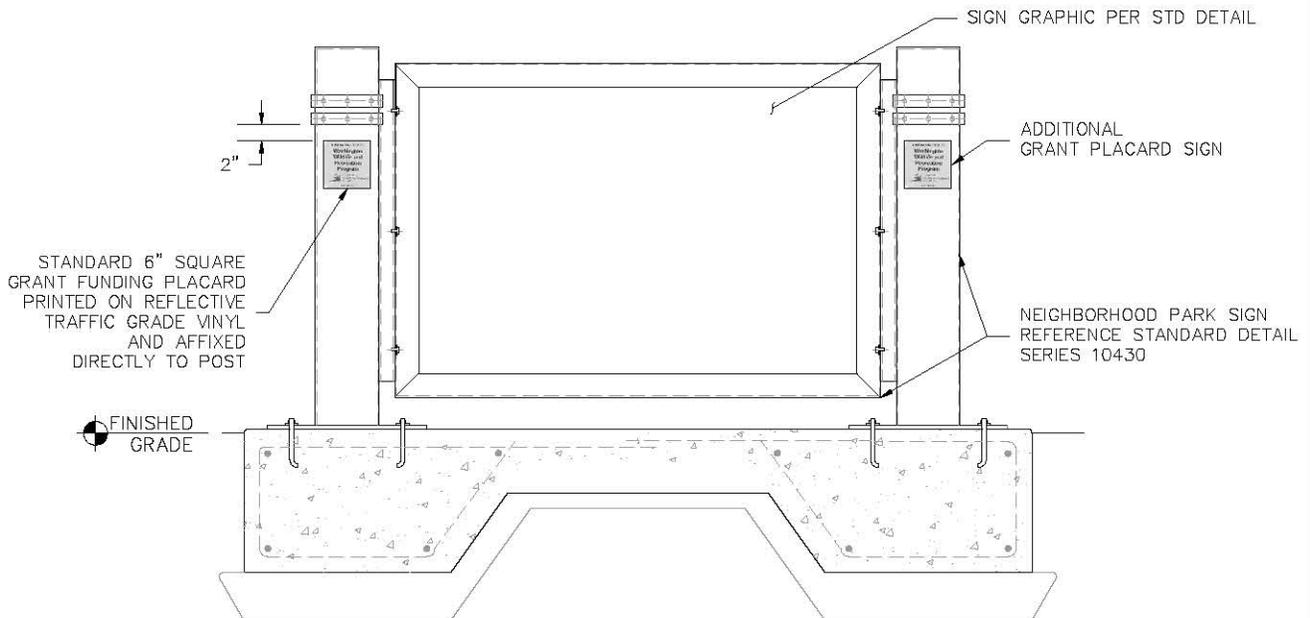
**CITY OF BELLINGHAM
 PARK BOUNDARY MARKER**
 Scale: 1" = 1'-0"

**DRAWING
 10430.07**

6" SQUARE GRANT FUNDING PLACARD
 PRINT ON TRAFFIC GRADE
 REFLECTIVE VINYL AND AFFIXED TO
 ALUMINUM SIGN BACKING PER WSDOT STD.
 HARDWARE: #6 X3/4" STAINLESS STEEL,
 #1 SQUARE HEAD (TAMPER PROOF),
 PAN HEAD SCREWS
 AT EACH CORNER, 4 TOTAL
 USE #1 SQUARE DRIVE.



WAY FINDING POST
 FRONT ELEVATION
 SCALE 1/2" = 1'-0"



NEIGHBORHOOD SIGN
 FRONT ELEVATION
 SCALE 1/2" = 1'-0"

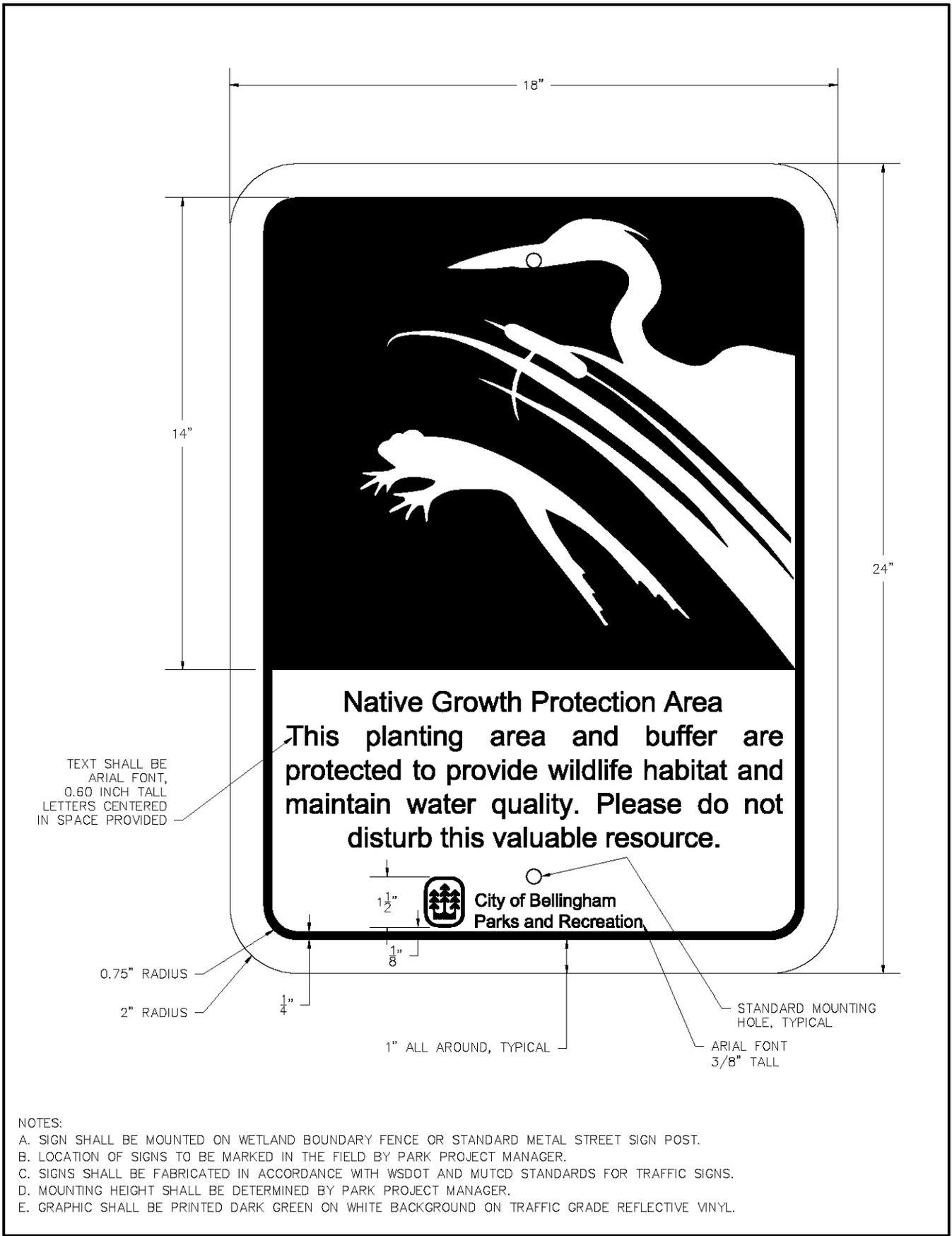
NOTES:

- A. REFER TO PARK STANDARD DETAIL 10430 SERIES FOR SPECIFIC FABRICATION/CONSTRUCTION INFORMATION.
- B. THIS DETAIL IS APPLICABLE AT PARK FACILITIES WHERE PLACARD SIGNS ARE REQUIRED PER A GRANT AGREEMENT BETWEEN THE CITY OF BELLINGHAM AND THE GRANTING AGENCY.
- C. ALL FASTENERS SHALL BE GALVANIZED OR STAINLESS STEEL.
- D. GRAPHIC FILE TO BE PROVIDED BY PARK PROJECT MANAGER.

PARKS AND RECREATION
 DESIGN AND DEVELOPMENT
 JANUARY 31, 2012

CITY OF BELLINGHAM
 GRANT PLACARD PLACEMENT
 SCALE: 1/2" = 1'-0"

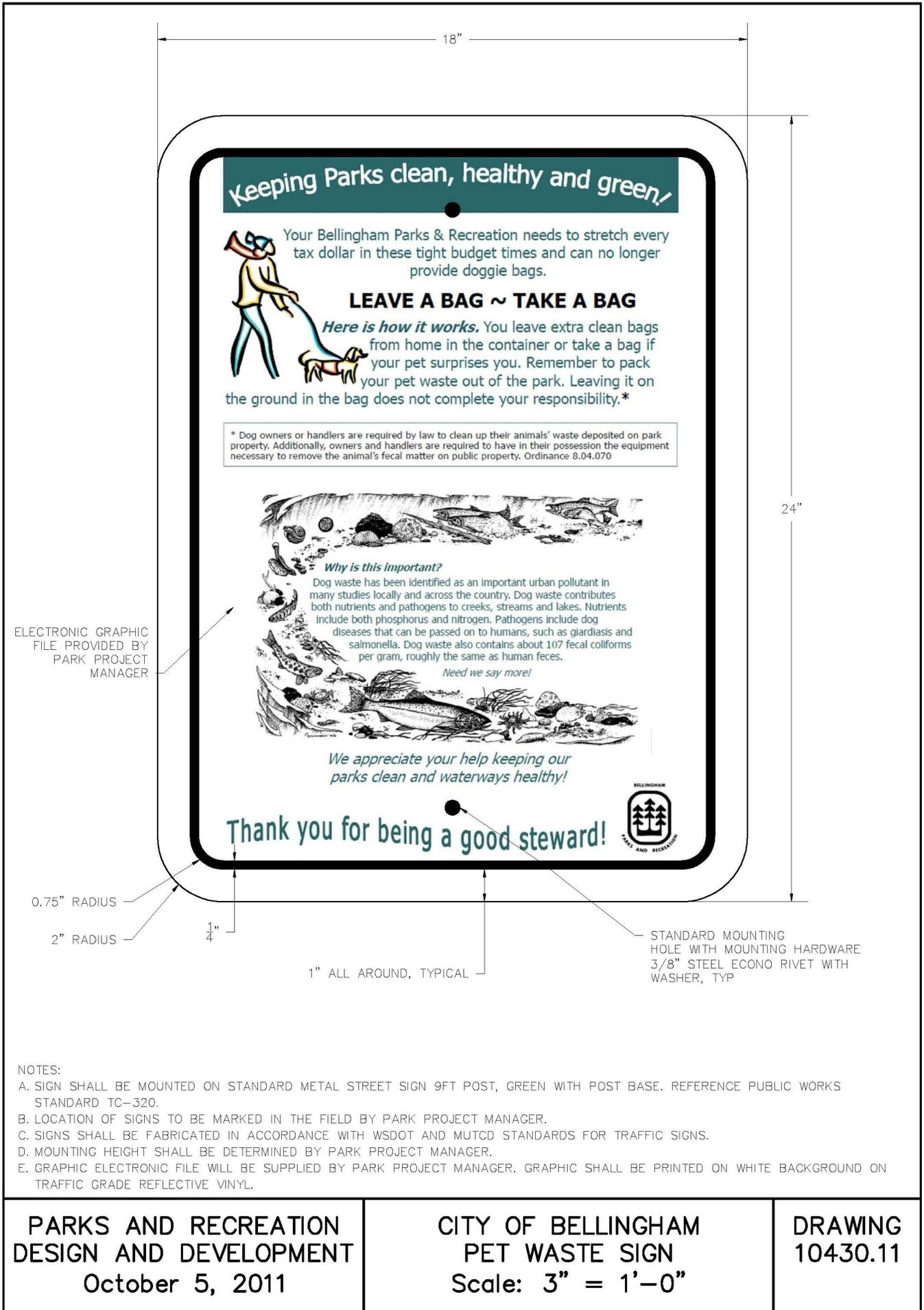
DRAWING
 10430.08



**PARKS AND RECREATION
 DESIGN AND DEVELOPMENT
 February 8, 2010**

**CITY OF BELLINGHAM
 NGPA (WETLAND) SIGN
 Scale: 3" = 1'-0"**

**DRAWING
 10430.09**



ELECTRONIC GRAPHIC FILE PROVIDED BY PARK PROJECT MANAGER

0.75" RADIUS
2" RADIUS

1/4"

1" ALL AROUND, TYPICAL

STANDARD MOUNTING HOLE WITH MOUNTING HARDWARE 3/8" STEEL ECONO RIVET WITH WASHER, TYP

- NOTES:
- A. SIGN SHALL BE MOUNTED ON STANDARD METAL STREET SIGN 9FT POST, GREEN WITH POST BASE. REFERENCE PUBLIC WORKS STANDARD TC-320.
 - B. LOCATION OF SIGNS TO BE MARKED IN THE FIELD BY PARK PROJECT MANAGER.
 - C. SIGNS SHALL BE FABRICATED IN ACCORDANCE WITH WSDOT AND MUTCD STANDARDS FOR TRAFFIC SIGNS.
 - D. MOUNTING HEIGHT SHALL BE DETERMINED BY PARK PROJECT MANAGER.
 - E. GRAPHIC ELECTRONIC FILE WILL BE SUPPLIED BY PARK PROJECT MANAGER. GRAPHIC SHALL BE PRINTED ON WHITE BACKGROUND ON TRAFFIC GRADE REFLECTIVE VINYL.

**PARKS AND RECREATION
DESIGN AND DEVELOPMENT**
October 5, 2011

**CITY OF BELLINGHAM
PET WASTE SIGN**
Scale: 3" = 1'-0"

**DRAWING
10430.11**



DESIGN STANDARDS FOR: GENERAL PROVISIONS

The City of Bellingham *Development Guidelines and Improvement Standards*, including the City of Bellingham Standard Plans and *Design Standards for Park and Trail Development*, are hereby made a part of every Contract. When the City of Bellingham Development Guidelines and Improvement Standards are referred to separately from the WSDOT Standard Specifications and Standard Plans, they are hereinafter referred to as “City Standards”. The Standard Specifications and City Standards, except as may be modified or superseded in the relevant sections of the Contract Documents developed by a licensed professional and approved by the City, shall govern all phases of the work specified in the Contract Documents. In the event of conflict with the Standard Specifications or City Standards, the modifications given by the special provisions provided in the Contract Documents as approved by the City shall govern.

1. The current edition of the City Standards and City Standard Plans is available on the internet at <http://www.cob.org/cob/dgi.nsf>
2. The contract provisions provided in the contract documents shall supplement the WSDOT Standard Specifications Standard Specifications for Road, Bridge, and Municipal Construction, current edition. Whereas any subsection or portion thereof of the Standard Specifications is deleted, amended, altered, or changed hereafter, it is meant to pertain only to that particular portion of the section and in no way should it be interpreted that the balance of the section does not apply.

END OF SECTION



DESIGN STANDARDS FOR: GENERAL CONSTRUCTION REQUIREMENTS

This design narrative contains general requirements that must be followed by contractors/developers. This section includes a general overview only. The contractor/developer is responsible for adhering to all required local, State, and Federal laws.

The contractor/developer shall attend a preconstruction meeting with the park project manager or designated representative prior to starting work.

The Washington State Department of Transportation Standard Specifications for Road, Bridge, and Municipal Construction, latest edition, herein after referred to as the "Standard Specifications," shall govern all aspects of construction, unless superseded in writing by special provisions issued by the City of Bellingham Parks Department.

The following requirements shall supplement the Standard Specifications:

A. UTILITIES

1. Provide employees with all accommodations required by the State Department of Health and other agencies. These accommodations shall be kept clean, neat, and sanitized, and shall not create any public nuisance.
2. Keep all areas clean, properly dispose of all refuse, and leave each site in a neat and sanitary condition.
3. Provide temporary portable fire extinguishers for project as required by code.
4. Provide and install temporary exit signs, as needed, to ensure a clear direction for emergency exit travel in occupied areas adjacent to the construction project.
5. Outdoor storage and staging operations may not impede egress, restrict fire fighting access, or present a fire exposure to existing buildings.
6. Notify Park's Representative in writing, on each occasion, of the intent to work near existing underground utility services or structures or when a new excavation operation is about to begin. Submit procedure for approval to assure safe and continuous operation of the services.
7. In the event utilities are damaged during construction, temporary services and/or repairs must be made immediately to maintain continuity of services at Contractor/developer's expense.

B. TEMPORARY FACILITIES

1. The types of temporary support facilities required may include field offices, storage sheds, sanitary facilities, drinking water, first aid facilities, bulletin board, telephones, clocks, thermometer, project identification signs, clean up facilities, waste disposal service, and similar

miscellaneous general services, all as may be reasonably required for proficient performance of the Work and accommodation of personnel at the site including Park's personnel.

2. Locate temporary support facilities for convenience of users, and for minimum interference with construction activities. All placements shall be subject to review and approval by the Park's Representative.
3. Before project completion, remove all temporary facilities, such as water lines, gas lines, electric conduit and transformers, shoring and crane base, etc. unless indicated otherwise agreed to in writing by the Parks Project Manager. Restore site to original or new conditions, patching and filling as required to match adjacent surfaces.
4. Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner.
5. Take necessary fire prevention measures. Do not overload facilities, or permit them to interfere with progress. Do not allow hazardous, dangerous or unsanitary conditions, or public nuisances to develop or persist on the site.
6. Coordinate the need and pay for all electrical power and service with the local public utility.
7. Provide and maintain security lighting as appropriate to provide general illumination of work area during nighttime hours. Provide general illumination of work area for all trades.
8. Unless otherwise agreed to in writing by the Parks Project Manager, all water shall be furnished by the contractor/developer. The contractor/developer shall pay all costs of temporary piping, including pressure reducing station, double backflow preventer, removal of piping and restoration of Park's utilities at the completion of the Work.
9. Contractor/Developer to provide self-contained, single-occupant toilet units of the chemical, aerated circulation, or combustion type, properly vented and fully enclosed with a glass fiber reinforced polyester shell or similar nonabsorbent material.
10. Contractor/Developer shall carry a cellular phone at all times while at the project site. Phone service will not be provided.

C. TEMPORARY ENCLOSURES

1. Barriers, Safety Guards, and Warnings: Provide for public protection as required by law and ordinance.
2. Keep streets and walks clean and free from obstructions.
3. Provide temporary enclosures to protect Work. Furnish, install, and maintain for the duration of construction all required tarpaulins, barricades, barriers, canopies, warning signs, steps, bridges, platforms, and other temporary construction necessary for proper completion of the Work. Maintain in compliance with all pertinent safety and other regulations.
4. Protect Work, stored products, and construction equipment from theft and vandalism, and protect premises from entry by unauthorized persons. No barbed wire permitted.

D. PARKING

1. Parking shall be provided on site to the greatest extent possible. Advise construction workers not to park in neighboring residential areas or in public parking areas.
2. Contractor/developer shall be responsible for obtaining meter hood and paying for all city metered parking spaces.

E. WORK AREA

1. Confine operations and storage to the designated work area.
2. Maintain the work area and site in a clean and orderly manner.
3. Conduct operations in a manner that is fire-safe for the work area and adjacent areas.
4. The local fire code is incorporated herein by reference; adhere to all applicable provisions as determined by the local fire department.
5. Dispose of all refuse and waste material off Park's property.
6. Do not stockpile waste material on Park property.
7. Immediately clean up any spilled material.
8. Clean all trash and debris from work area daily.
9. Provide on-site containers for collection of waste materials, debris, and rubbish. Coordinate dumpster location with Park's Representative.
10. Do not use Park's waste containers for construction waste.
11. Dispose of all flammable, hazardous, and toxic waste materials daily. Storage of these materials will not be permitted on site.

F. UTILITY LOCATIONS, MARKINGS, CONDUITS & SLEEVES

1. Call for utility locates.
2. Employ and pay for a locator service to locate and mark utilities in addition to the "DIAL DIG" service.
3. Before backfilling over any utilities, provide utility locator tape over all uncovered utilities.
4. Provide conduit sleeves of sufficient size under new pavements as directed by Parks Project Manager.

G. SITE CLEARING

1. Limit use of premises to work in areas indicated.
2. Do not disturb portions of site beyond areas in which the Work is indicated.
3. Contact Park Representative 72 hours in advance of clearing activities for approval of site clearing limits.
4. Install tree protection in accordance with design standards and as directed by Park's Representative.

H. EARTHWORK

1. Call Park's Representative 48 hours (two working days) prior to beginning construction.
2. Comply with all WSDOT Standard Specifications
3. Stockpile materials on site within clearing limits and at locations approved by Park's Representative. Stockpile material on 6 mil plastic and cover nightly. Protect from weather if not being used.
4. Direct surface water away from stockpile site to prevent erosion or deterioration of materials.
5. Remove stockpile and leave area in a clean and neat condition.
6. Grade site surface to prevent freestanding surface water.
7. Maintain toe of material at least 6 feet from edges of trenches and excavations. Pile so surface water is prevented from flowing into excavations.
8. Provide free access to fire hydrants, water valves, meters; private driveways; and leave clearance to enable the free flow of storm water in gutters, conduits, and natural watercourses.
9. Verify excavation will not undermine footings or supports and cause damage to structures.
10. Protect plant life, lawns, and other features remaining as a portion of final landscaping or interim erosion control.
11. Protect benchmarks, property corners, horizontal control, existing structures, sidewalks, railings, paving, and curbs.
12. Protect pavement or paved areas intended to remain from damage.
13. Identify existing improvements to be salvaged for Park's Representative.
14. Notify Park's Representative where existing grades to be matched creates an adverse affect, such as blocking grading, abrupt change in grade, slopes steeper than allowed, and grades not conforming with ADA.
15. Where subgrade soils are loose, remove to solid bearing and replace material in compacted lifts.
16. Grade areas adjacent to building and structures in a manner that provides positive drainage away from structures and prevents ponding of water at building or structure.
17. Do not fill over ponded surface water or existing subgrade surfaces that are yielding, disturbed, or softened.
18. Suspend placing fill when the climatic conditions will not allow specified placement and fill compaction.
19. Protect exposed site material and subgrade from damage due to excess moisture and trafficking.
20. Dispose of waste, surplus, and unsuitable materials according to laws, regulations, and ordinances off site at a site obtained by Contractor.

I. EROSION CONTROL

1. Erosion control shall consist of planning, installing, inspecting, maintaining, and removing temporary erosion and sediment control Best Management Practices (BMPs) as shown on the drawings or as ordered by Park's Representative to prevent pollution of air and water, and control, respond to, and dispose of eroded sediment and turbid water during the life of the project.
2. In the event of conflict between these requirements and pollution control laws, rules, or regulations of other Federal, state, or local agencies, the more restrictive laws, rules, or regulations shall apply.
3. Coordinate stormwater requirements with City of Bellingham Stormwater Utility Engineer.
4. Develop and submit a Contractor's Erosion and Sediment Control Plan (CESCP)
5. Use all means necessary to prevent the erosion of freshly graded areas during construction or until such time that permanent drainage and erosion control measures are fully operational.
6. Install, maintain, and remove all erosion prevention, containment, and countermeasures BMPs during the life of the project.
7. Contain, cleanup and dispose of all sediment, turbid water, and water that does not meet pH water quality standards.
8. The Contractor/developer shall be solely responsible for any damages, fines, levies, or judgments incurred as a result of Contractor, subcontractor, or supplier negligence in complying with the requirements of this section.
9. In the event that temporary erosion and pollution control measures are required due to the Contractor's negligence, carelessness, or failure to install permanent controls as a part of the work as scheduled or are ordered by Park's Representative, such work shall be performed by the Contractor at his/her own expense.
10. In the event that areas adjacent to the work area are suffering degradation due to erosion, sediment deposit, water flows, water with elevated pH above allowable state standards, or other causes, Park's Representative may stop construction activities until the situation is rectified.
11. Before leaving project site, all trucks and equipment shall be inspected for mud and debris.
12. If mud or debris is tracked from the site it shall be cleaned up immediately.
13. All mud and debris shall be removed by vacuum sweeper. The Contractor shall have sufficient working vacuum sweepers on site at all times work is being performed. All sweepers shall have on-board water spray systems that shall be operating at all times.

END OF SECTION



DESIGN STANDARDS FOR: BNSF RAILWAY COORDINATION

1. The following shall be added to specifications for projects that involve work in, on, or near the BNSF rail line:

After contract award, the Contractor will be required to sign an acknowledgement of and agreement to comply with standard contract provisions required by BNSF when performing work within the railroad right-of-way. The contract will include standard provisions for railroad notification procedures, insurance requirements, safety requirements, and contact information in case of an emergency. A sample contract is included in the Appendix section of the project specifications.

Portions of this project require work on and near the Burlington Northern Santa Fe (BNSF) tracks and right-of-way. The contractor shall schedule and conduct all work activities so as not to interfere with the movement of any trains nor create any hazard to BNSF's property, employees, and/or operations. When entering the right-of-way, the contractor shall abide by all rules and regulations of the BNSF relative to entering their right-of-way. At a minimum, the contractor shall have one person that has received BNSF safety training and is authorized by BNSF to enter their right-of-way. The contractor shall notify BNSF in writing at least 30 days before commencing work in the BNSF right-of-way.

The contractor shall be aware that work in the proximity of the railway tracks is potentially hazardous where movement of trains and equipment can occur at any time and in any direction. The contractor shall develop and submit a safety plan that they will use to protect their employees, subcontractors, agents, or invitees from moving trains.

2. Include the attached sample agreement in the project specifications.

FORM APPROVED

Agreement

Between
THE BURLINGTON NORTHERN AND SANTA FE RAILWAY COMPANY
and the
CONTRACTOR

THE BURLINGTON NORTHERN AND SANTA FE RAILWAY COMPANY

Attention: Manager Public Projects

Railway File: **Bellingham, WA. - Taylor Street Dock OHB**

Agency Project: **Taylor Avenue overpass improvements**

Gentlemen:

The undersigned, hereinafter referred to as Contractor, has entered into a contract (the "Contract") with Bellingham, Washington for the performance of certain work in connection with the following project: Reconstruction of the Taylor Avenue Dock overhead pedestrian bridge. Performance of such work will necessarily require contractor to work above THE BURLINGTON NORTHERN AND SANTA FE RAILWAY COMPANY ("Railway") main track (hereinafter referred to as "Track Area"). The Contract provides that no work shall be commenced within the Track Area until the Contractor employed in connection with said work for the City of Bellingham shall have executed and delivered to Railway an Agreement, in the form hereof, and shall have provided insurance of the coverage and limits specified in such Agreement and Section 3 herein. If this Agreement is executed by other than the Owner, General Partner, President or Vice President of Contractor, evidence is furnished to you herewith certifying that the signatory is empowered to execute this Agreement for the Contractor.

Accordingly, as one of the inducements to and as part of the consideration for Railway granting permission to Contractor to be present above the Track Area, Contractor, effective on the date of the Contract, has agreed and does hereby agree with Railway as follows:

Section 1. RELEASE OF LIABILITY AND INDEMNITY

Contractor shall indemnify and save harmless Railway, its agents and employees, against all liability, claims, demands, damages, or costs arising during initial construction, or during future maintenance work only, for (a) death or bodily injury to persons including, without limitation, the employees of the parties hereto, (b) injury to property including, without limitation, the property of the parties hereto, (c) design defects, or (d) any other loss, damage or expense arising under either (a), (b) or (c), and all fines or penalties imposed upon or assessed against Railway, and all expenses of investigating and defending against same, arising in any manner out of (1) activities, use, or presence, or negligence of Contractor, or Contractor's employees, or subcontractors, agents, invitees or any of their employees, in, on, or near Railway's Track Area, or, (2) The performance, or failure to perform, by the Contractor, its contractors, subcontractors, or agents, its work or any obligation under this agreement. The foregoing indemnity shall be limited to amounts, if any, not paid for by Railroad Protective or contractor-acquired insurance or indemnity obligations payable to Railway. If any claims exceed, or are not included within, such insurance or contractor-indemnity protection, the parties intend that their mutual responsibilities, if any, shall be outside the scope of the indemnity promise in this paragraph and shall be determined as otherwise provided by law.

Section 2. TERM

This Agreement shall be effective from the date of the Contract until (i) the completion of the project set forth herein, and (ii) full payment to Railway of all sums or other amounts owing and due hereunder.

Section 3. INSURANCE

Contractor shall, at its sole cost and expense, procure and maintain during the life of this Agreement the following insurance coverage:

- A. Commercial General Liability insurance. This insurance shall contain broad form contractual liability with a combined single limit of a minimum of \$2,000,000 each occurrence and an aggregate limit of at least \$4,000,000. Coverage must be purchased on a post 1998 ISO occurrence form or equivalent and include coverage for, but not limit to the following:

- ◆ Bodily Injury and Property Damage
- ◆ Personal Injury and Advertising Injury
- ◆ Fire legal liability
- ◆ Products and completed operations

This policy shall also contain the following endorsements, which shall be indicated on the certificate of insurance:

- ◆ It is agreed that any workers' compensation exclusion does not apply to *Railroad* payments related to the Federal Employers Liability Act or a *Railroad* Wage Continuation Program or similar programs and any payments made are deemed not to be either payments made or obligations assumed under any Workers Compensation, disability benefits, or unemployment compensation law or similar law.
- ◆ The definition of insured contract shall be amended to remove any exclusion or other limitation for any work being done within 50 feet of railroad property.
- ◆ Any exclusions related to the explosion, collapse and underground hazards shall be removed.

No other endorsements limiting coverage as respects obligations under this Agreement may be included on the policy.

- B. Business Automobile Insurance. This insurance shall contain a combined single limit of at least \$1,000,000 per occurrence, and include coverage for, but not limited to the following:

- ◆ Bodily injury and property damage
- ◆ Any and all vehicles owned, used or hired

- C. Workers Compensation and Employers Liability insurance including coverage for, but not limited to:

- ◆ Contractor's statutory liability under the worker's compensation laws of the state(s) in which the work is to be performed. If optional under State law, the insurance must cover all employees anyway.
- ◆ Employers' Liability (Part B) with limits of at least \$500,000 each accident, \$500,000 by disease policy limit, \$500,000 by disease each employee.

- D. Railroad Protective Liability insurance naming only the *Railroad* as the Insured with coverage of at least \$2,000,000 per occurrence and \$6,000,000 in the aggregate. The policy Shall be issued on a standard ISO form CG 00 35 10 93 and include the following:

- ◆ Endorsed to include the Pollution Exclusion Amendment (ISO form CG 28 31 10 93)
- ◆ Endorsed to include the Limited Seepage and Pollution Endorsement.
- ◆ Endorsed to remove any exclusion for punitive damages.
- ◆ No other endorsements restricting coverage may be added.
- ◆ The original policy must be provided to the *Railroad* prior to performing any work or services under this Agreement

Other Requirements:

All policies (applying to coverage listed above) shall contain no exclusion for punitive damages and certificates of insurance shall reflect that no exclusion exists.

Consistent with the limits and provisions of Section 1. Release of Liability and Indemnity, above, Contractor and its insurers, waive right of recovery and rights of subrogation for such indemnification and releases of liability.

Contractor's insurance policies through policy endorsement, must include wording which states that the policy shall be primary and non-contributing with respect to any insurance carried by **Railroad**. The certificate of insurance must reflect that the above wording is included in evidenced policies.

All policy(ies) required above (excluding Workers Compensation and if applicable, Railroad Protective) shall include a severability of interest endorsement and **Railroad** shall be named as an additional insured with respect to work performed under this agreement. Severability of interest and naming **Railroad** as additional insured shall be indicated on the certificate of insurance.

Contractor is not allowed to self-insure without the prior written consent of **Railroad**. If granted by **Railroad**, any deductible, self-insured retention or other financial responsibility for claims shall be covered directly by contractor in lieu of insurance. Any and all **Railroad** liabilities that would otherwise, in accordance with the provisions of this **Agreement**, be covered by contractor's insurance will be covered as if contractor elected not to include a deductible, self-insured retention or other financial responsibility for claims.

Prior to commencing the Work, contractor shall furnish to **Railroad** an acceptable certificate(s) of insurance including an original signature of the authorized representative evidencing the required coverage, endorsements, and amendments and referencing the contract audit/folder number if available. The policy(ies) shall contain a provision that obligates the insurance company(ies) issuing such policy(ies) to notify **Railroad** in writing at least 30 days prior to any cancellation, non-renewal, substitution or material alteration. This cancellation provision shall be indicated on the certificate of insurance. Upon request from **Railroad**, a certified duplicate original of any required policy shall be furnished.

Any insurance policy shall be written by a reputable insurance company acceptable to **Railroad** or with a current Best's Guide Rating of A- and Class VII or better, and authorized to do business in the state(s) in which the service is to be provide.

Contractor represents that this **Agreement** has been thoroughly reviewed by contractor's insurance agent(s)/broker(s), who have been instructed by contractor to procure the insurance coverage required by this **Agreement**. Allocated Loss Expense shall be in addition to all policy limits for coverages referenced above.

If any portion of the operation is to be subcontracted by contractor, contractor shall require that the subcontractor shall provide and maintain insurance coverages as set forth herein (except as regards the Railroad Protective insurance required of Contractor hereunder), naming **Railroad** as an additional insured, and shall require that the subcontractor shall release, defend and indemnify **Railroad** to the same extent and under the same terms and conditions as contractor is required to release, defend and indemnify **Railroad** herein.

Failure to provide evidence as required by this section shall entitle, but not require, **Railroad** to terminate this **Agreement** immediately. Acceptance of a certificate that does not comply with this section shall not operate as a waiver of contractor's obligations hereunder.

Except as expressly stated otherwise herein, the fact that insurance (including, without limitation, self-insurance) is obtained by contractor shall not be deemed to release or diminish the liability of contractor including, without limitation, liability under the indemnity provisions of this **Agreement**. Damages recoverable by **Railroad** shall not be limited by the amount of the required insurance coverage.

For purposes of this section, **Railroad** shall mean "Burlington Northern Santa Fe Corporation", "The Burlington Northern and Santa Fe Railway Company" and the subsidiaries, successors, assigns and affiliates of each.

Section 4. CONTRACTOR REQUIREMENTS

The Contractor will observe and comply with all the provisions, obligations and limitations to be observed by Contractor which are contained herein, and shall include, but not be limited to, payment of all costs incurred for any damages to Railway roadbed, tracks, and/or appurtenances thereto, resulting from use, occupancy, or presence of its employees, representatives, or agents or subcontractors on or about the construction site.

Section 5. TRAIN DELAY

Contractor shall be responsible for and shall indemnify Railway, including its affiliated railway companies, and its tenants for all damages arising from any unscheduled or uncoordinated delay to a freight or passenger train which affects Railway's ability to fully utilize its equipment and to meet customer service and contract obligations. For purposes of this Section, "uncoordinated delay" or "uncoordinated train delay" shall mean any delay that occurs as the result of Contractor and Railway having failed to coordinate scheduling of trains that will pass Contractor's work site with Contractor's work schedule. Contractor will be billed, as further provided below, for the economic losses arising from loss of use of equipment, contractual loss of incentive pay and bonuses and contractual penalties resulting from uncoordinated train delays, whether caused by Contractor, or subcontractors, or by the Railway performing Railway Work. Railway agrees that it will not perform any act to unnecessarily cause train delay.

For loss of use of equipment due to uncoordinated delays, Contractor will be billed per freight train hour at an average rate of (\$ 304.28) with annual adjustments per hour per train as determined from Railway's record. Any disruption to train traffic may cause delays to multiple trains at the same time for the same period.

Additionally, the parties acknowledge that passenger, U.S. mail trains and certain other grain, intermodal, coal and freight trains operate under incentive/penalty contracts between Railway and its customer(s). Under these arrangements, if Railway does not meet its contract service commitments, Railway may suffer loss of performance or incentive pay and/or be subject to penalty payments. Contractor shall be responsible for any train performance and incentive penalties or other contractual economic losses actually incurred by Railway which are attributable to an uncoordinated train delay caused by Contractor or subcontractors.

The contractual relationship between Railway and its customers is proprietary and confidential. In the event of an uncoordinated train delay covered by this Agreement, Railway will share information relevant to any uncoordinated train delay to the extent consistent with Railway confidentiality obligations. Damages for uncoordinated train delay for certain trains may be as high as \$50,000.00 per incident.

Contractor and subcontractors shall reasonably plan, schedule, coordinate and conduct all Contractor's work so as to not cause any delays to any trains.

Kindly acknowledge receipt of this letter by signing and returning to the Railway two original copies of this letter, which, upon execution by Railway, shall constitute an Agreement between us.

(Contractor)

By: _____
Name: _____

(Title)

Address _____
City: _____ State: _____ Zip: _____

**The Burlington Northern and Santa Fe
Railway Company**

By: _____
Name: _____
Manager Public Projects

Accepted and effective February, ____, 2004.

END OF SECTION



DESIGN STANDARDS FOR: MEASUREMENT AND PAYMENT

Where bids are utilities for construction, repair or alteration for Public Work park projects, the following bid item descriptions and units of measure may be used as a guide for preparing bid proposal forms as part of the project specifications manual.

Item Name	Description	Unit of Measure
Mobilization	Per WSDOT 1-09.7	Lump Sum
Trench Excavation	Includes full compensation for all materials, labor, supervision, tools, equipment, supplies, and incidentals for all trench excavation and safety provisions not included in any other unit price items.	Lump Sum
Temporary Erosion and Sedimentation Control (TESC)	<p>Includes full compensation for all materials, labor, supervision, tools, equipment, supplies, and incidentals for the construction of a temporary construction entrance, installation of temporary orange PVC fencing, installation of straw wattles, installation of a construction staging area, and installation of catch basin inlet protection as shown on the drawings and as specified in the specifications.</p> <p>Payment also includes the removal of all of these TESC measures after the construction of the new trail is complete and the restoration of the existing trail and construction staging area to its pre-construction condition.</p> <p>Upon acceptance of the Contractor's Erosion and Sediment Control Plan (CESCP) and TESC personnel list with certification cards, 25 percent.</p> <p>After NTP and before Substantial Completion, 50 percent will be prorated and paid monthly for compliance with CESCP. Non-compliance will result in withholding of payment for the month of non-compliance.</p> <p>At final payment, 25 percent for a clean site.</p>	Lump Sum

Item Name	Description	Unit of Measure
Construction Access Road	<p>Includes full compensation for all materials, labor, supervision, tools, equipment, supplies, and incidentals for all construction access roads required for the duration of the project.</p> <p>Includes restoring construction access road areas to original conditions at the project's completion.</p> <p>After initial installation, 50% will be paid</p> <p>After site is restored, the remaining 50% will be paid</p>	Lump Sum
Surveying	<p>Includes full compensation for all materials, labor, supervision, tools, equipment, supplies, and incidentals necessary to survey critical areas, clearing limits, layout, cut and fill and all other surveying necessary to provide compliance with the contract drawings.</p> <p>All surveying shall be completed by a professional land surveyor licensed and registered in the State of Washington.</p>	Lump Sum
Site Protection	<p>Includes full compensation for all materials, labor, supervision, tools, equipment, supplies, and incidentals to protect all trees and park facilities such as benches, walkways and tables within the contractor staging area or near construction activities per City of Bellingham Parks standards.</p>	Lump Sum
Traffic Control	<p>Includes full compensation for all materials, labor, supervision, temporary signage, tools, equipment, supplies, and incidentals necessary to furnish and install all pedestrian and vehicular traffic control items required for the duration of the project.</p> <p>Remove all traffic control items at the project's completion.</p>	Lump Sum
Landscape Restoration	<p>Includes full compensation for all materials, labor, supervision, tools, equipment, supplies, and incidentals to remove all construction related materials and restore construction site and surrounding areas to original conditions.</p> <p>Payment at initial restoration: 75%</p> <p>Payment after restoration seeding establishment meeting contract specifications: 25%</p>	Lump Sum
Superstructure Removal and Disposal	<p>Full compensation for labor, materials, tools, equipment and incidentals necessary to remove existing superstructure, including stringers, decking, railings and appurtenances as required to construct improvements as shown in the drawings and written in the specifications.</p>	Lump Sum

Item Name	Description	Unit of Measure
Demolition, Clearing & Grubbing	<p>Includes full compensation for all materials, labor, supervision, tools, equipment, supplies, and incidentals for all clearing & grubbing activities as defined in these specifications.</p> <p>Clearing and grubbing includes the removal of all trees less than 10 inches in diameter and their associated stumps and root wads to a depth as indicated in these specifications.</p> <p>Payment also includes the felling and removal of trees over 10 inches in diameter including their root wads where shown on the Drawings. Payment also includes the hauling and disposing of off-site.</p>	Lump Sum
Grading, Excavation, and Embankment	<p>Includes full compensation for all materials, labor, supervision, tools, equipment, supplies, and incidentals to excavate trail to subgrade elevation as shown on the Drawings and haul excavated material to the construction staging area for stockpiling.</p> <p>Also includes all labor and equipment to excavate trail to a recommended stripping depth of approximately [enter depth here, which shall be determined on a project by project basis, typically 12 inches] inches below existing ground surface throughout as recommended in the geotechnical report for this project (and deeper in those areas where grades dictate and to and haul and dispose of excavated material to an off-site location.</p> <p>Includes all labor and equipment to excavate soil as determined by the project geotechnical engineer to be unsuitable material for trail subgrade to a depth as determined by the geotechnical engineer and to and haul and dispose of excavated material to an off-site location.</p> <p>Also includes all labor, equipment, and materials to place and compact native soil from on-site as embankment fill as required by the Drawings and as specified in these specifications.</p>	Cubic Yard In Place
Fine Grading	Includes full compensation for all materials, labor, supervision, tools, equipment, supplies, and incidentals to prepare site to an elevation as shown on the drawings and as specified in these specifications.	Lump Sum
Crushed Limestone Top Course	Includes full compensation for all materials, labor, supervision, tools, equipment, supplies, and incidentals for complete installation of crushed limestone top course trail surfacing based on approved truck tickets and as shown on the Drawings and as specified in these specifications.	Ton

Item Name	Description	Unit of Measure
Crushed Surfacing Base Course	Includes full compensation for all materials, labor, supervision, tools, equipment, supplies, and incidentals for complete installation of crushed surfacing base course based on approved truck tickets and as shown on the Drawings and as specified in these specifications.	Ton
Rip Rap	Includes full compensation for all materials, labor, supervision, tools, equipment, supplies, and incidentals necessary to construct the riprap protection, except excavation, and based on approved truck tickets. When it is necessary to dump and sort individual loads, payment will be made only for that portion accepted by the Owner's Representative.	Ton
Abutment Fill	Includes full compensation for all materials, labor, supervision, tools, equipment, supplies, and incidentals necessary to furnish and install geotextile fabric, structural fill, pea gravel, and other fill for abutment slopes as shown in the drawings and written in the specifications.	Lump Sum
Abutment Steel Piles	Includes full compensation for all materials, labor, supervision, tools, equipment, supplies, and incidentals necessary to furnish and install steel pipe piles as shown on the drawings and written in the specifications.	Each
Abutment Concrete Pile Caps	Includes full compensation for all materials, labor, supervision, tools, equipment, supplies, and incidentals necessary to furnish and install reinforced concrete abutment pile caps as shown on the drawings and written in the specifications.	Lump Sum
Fiber Reinforced Plastic (FRP) Deck	Includes full compensation for all materials, labor, supervision, tools, equipment, supplies, and incidentals necessary to furnish and install fiber reinforced plastic (FRP) deck panels as shown on the drawings and written in the specifications.	Lump Sum
Precast Concrete Deck Slabs	Includes full compensation for all materials, labor, supervision, tools, equipment, supplies, and incidentals necessary to furnish and install precast concrete deck slabs complete as specified and shown on Drawings and not provided in other unit price items.	Lump Sum
Metal Fabrications	Includes full compensation for all materials, labor, supervision, tools, equipment, supplies, and incidentals necessary to furnish and install all other miscellaneous steel not included in other unit prices.	Lump Sum
As-Built Drawings	Includes full compensation for all materials, labor, supervision, tools, equipment, supplies, and incidentals necessary to furnish as-built drawings of the project meeting the requirements of the specifications, reviewed and approved by Owner.	Lump Sum

Item Name	Description	Unit of Measure
Permeable Ballast	Includes full compensation for all materials, labor, supervision, tools, equipment, supplies, and incidentals necessary to furnish and complete installation of permeable ballast based on approved truck tickets and as shown on the Drawings and as specified in these specifications.	Ton
Import, Place, and Compact Select Borrow	Includes full compensation for all materials, labor, supervision, tools, equipment, supplies, and incidentals for compacting of select borrow fill material to elevations as shown on the Drawings and based on approved truck tickets.	Ton
Non-woven Geotextile	Includes full compensation for all materials, labor, supervision, tools, equipment, supplies, and incidentals to provide and install non-woven geotextile fabric as shown on the Drawings and as specified in the specifications.	Square Yard
Sign Post for Dog Waste Station:	Includes full compensation for all materials, labor, supervision, tools, equipment, supplies, and incidentals for the fabrication and installation of sign post, post base, graphics, sign, and hardware as specified in the Drawings for a dog waste station.	Each
Force Account	<p>This item includes monies for repairing unknown existing public/private facilities that are disturbed during construction and for other miscellaneous changes as approved by the Owner.</p> <p>The estimated amount provided as shown on the Bid Form is an allowance for work outside the Contract Requirements to be paid in accordance with the provisions of the Supplementary Conditions and only with prior approval of the City of Bellingham Parks and Recreation.</p>	EST
Mulch	<p>Includes full compensation for all materials, labor, supervision, tools, equipment, supplies, and incidentals to complete stockpile, haul and install imported wood chip mulch to the depth indicated on the plans along the trail, within the entire planting areas, in wetland creation areas, and to cover restored contractor's access into the site as indicated on the plans.</p> <p>This item also includes all compensation to the contractor for any optional chipping of any on site felled trees.</p>	CY
Plant Selection Including Plant Establishment Trees, 2 Gal	<p>Includes full compensation for all materials, labor, supervision, tools, equipment, supplies, and incidentals to complete, provide, install, guarantee and maintain container trees as detailed and described on the plans and in the specifications, complete in place.</p> <p>Payment shall be per WSDOT 8-02.5</p>	EA

Item Name	Description	Unit of Measure
Plant Selection Including Plant Establishment Shrubs, 1 Gal	<p>Shall include all labor, equipment Includes full compensation for all materials, labor, supervision, tools, equipment, supplies, and incidentals to complete, provide, install, guarantee and maintain container shrubs as detailed and described on the plans and in the specifications, complete in place.</p> <p>Payment shall be per WSDOT 8-02.5</p>	EA
Plant Maintenance and Guarantee	<p>[use this section if plant maintenance and guarantee is paid for separate from plant selection]</p> <p>Work shall be completed in accordance with WSDOT Standard Specification 8-02.1.</p> <p>Watering of all planted material shall occur a minimum of once a week for the duration of the 2yr plant maintenance period.</p> <p>Weeding of the entire planted area shall occur a minimum of once a month for the duration of the 2yr plant maintenance period.</p> <p>Payment shall be per lump sum on a monthly basis at a partial payment equal to a percentage complete of the unit Contract price.</p>	Lump Sum
Way Finding Post and Foundation	<p>Includes full compensation for all materials, labor, supervision, tools, equipment, supplies, and incidentals to complete, provide, and install specified way finding post and post footing, complete in place.</p> <p>Payment shall be per each, installed.</p>	EA
Fence	<p>Includes full compensation for all materials, labor, supervision, tools, equipment, supplies, and incidentals to complete, provide, and install specified fence, complete in place.</p> <p>Payment shall be per LF, installed.</p>	LF

END OF SECTION



DESIGN STANDARDS FOR: CONSTRUCTION WASTE MANAGEMENT

The following specifications shall be incorporated into the Project Manual:

WWW.CAMPHANDBOOKS.COM

Description and Purpose

Prevent or reduce the discharge of pollutants to stormwater from concrete waste by conducting washout offsite, performing onsite washout in a designated area, and training employee and subcontractors.

Suitable Applications

Concrete waste management procedures and practices are implemented on construction projects where:

- Concrete is used as a construction material or where concrete dust and debris result from demolition activities
- Slurries containing portland cement concrete (PCC) or asphalt concrete (AC) are generated, such as from saw cutting, coring, grinding, grooving, and hydro-concrete demolition
- Concrete trucks and other concrete-coated equipment are washed onsite
- Mortar-mixing stations exist
- See also NS-8, Vehicle and Equipment Cleaning

Limitations

Offsite washout of concrete wastes may not always be possible.

Objectives

- **EC** Erosion Control
- **SE** Sediment Control
- **TC** Tracking Control
- **WE** Wind Erosion Control
- **NS** Non-Stormwater Management Control
- **WM** Waste Management and Materials Pollution Control

Potential Alternatives

None

Implementation

The following steps will help reduce stormwater pollution from concrete wastes:

1. Discuss the concrete management techniques described in this BMP (such as handling of

2. concrete waste and washout) with the ready-mix concrete supplier before any deliveries are made.
3. Incorporate requirements for concrete waste management into material supplier and subcontractor agreements.
4. Store dry and wet materials under cover, away from drainage areas.
5. Avoid mixing excess amounts of fresh concrete.
6. Perform washout of concrete trucks offsite or in designated areas only.
7. Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.
8. Do not allow excess concrete to be dumped onsite, except in designated areas.
9. For onsite washout:
 - a. Locate washout area at least 50 feet from storm drains, open ditches, or water bodies.
 - b. Do not allow runoff from this area by constructing a temporary pit or bermed area large
 - c. enough for liquid and solid waste.
 - d. Wash out wastes into the temporary pit where the concrete can set, be broken up, and
 - e. then disposed properly.
10. Avoid creating runoff by draining water to a bermed or level area when washing concrete to remove fine particles and expose the aggregate.
11. Do not wash sweepings from exposed aggregate concrete into the street or storm drain.
12. Collect and return sweepings to aggregate base stockpile or dispose in the trash.

Education

1. Educate employees, subcontractors, and suppliers on the concrete waste management techniques described herein.
2. Arrange for contractor's superintendent or representative to oversee and enforce concrete waste management procedures.

Concrete Slurry Wastes

1. PCC and AC waste should not be allowed to enter storm drains or watercourses.
2. PCC and AC waste should be collected and disposed of or placed in a temporary concrete washout facility.
3. A sign should be installed adjacent to each temporary concrete washout facility to inform concrete equipment operators to utilize the proper facilities.
4. Below grade concrete washout facilities are typical. Above grade facilities are used if excavation is not practical.
5. A foreman or construction supervisor should monitor onsite concrete working tasks, such as saw cutting, coring, grinding and grooving to ensure proper methods are implemented.
6. Saw-cut PCC slurry should not be allowed to enter storm drains or watercourses. Residue from grinding operations should be picked up by means of a vacuum attachment to the grinding machine. Saw cutting residue should not be allowed to flow across the pavement and should not be left on the surface of the pavement. See also NS-3, Paving and Grinding Operations; and WM-10, Liquid Waste Management.
 - a. Slurry residue should be vacuumed and disposed in a temporary pit (as described in On-Site
 - b. Temporary Concrete Washout Facility, Concrete Transit Truck Washout Procedures, below) and allowed to dry. Dispose of dry slurry residue in accordance with WM-5, Solid Waste Management.

Onsite Temporary Concrete Washout Facility, Transit Truck Washout Procedures

1. Temporary concrete washout facilities should be located a minimum of 50 ft from storm drain inlets, open drainage facilities, and watercourses. Each facility should be located away from construction traffic or access areas to prevent disturbance or tracking.
2. A sign should be installed adjacent to each washout facility to inform concrete equipment operators to utilize the proper facilities.
3. Temporary concrete washout facilities should be constructed above grade or below grade at the option of the contractor. Temporary concrete washout facilities should be constructed and maintained in sufficient quantity and size to contain all liquid and concrete waste generated by washout operations.
4. Temporary washout facilities should have a temporary pit or bermed areas of sufficient volume to completely contain all liquid and waste concrete materials generated during washout procedures.
5. Washout of concrete trucks should be performed in designated areas only.
6. Only concrete from mixer truck chutes should be washed into concrete wash out.
7. Concrete washout from concrete pumper bins can be washed into concrete pumper trucks and discharged into designated washout area or properly disposed of offsite.
8. Once concrete wastes are washed into the designated area and allowed to harden, the concrete should be broken up, removed, and disposed of per WM-5, Solid Waste Management. Dispose of hardened concrete on a regular basis.
9. Temporary Concrete Washout Facility (Type Above Grade)
10. Temporary concrete washout facility (type above grade) should be constructed as shown on the details at the end of this BMP, with a recommended minimum length a minimum width of 10 ft, but with sufficient quantity and volume to contain all liquid and concrete waste generated by washout operations.
 - a. Straw bales, wood stakes, and sandbag materials should conform to the provisions in SE-9, Straw Bale Barrier.
 - b. Plastic lining material should be a minimum of 10 mil in polyethylene sheeting and should be free of holes, tears, or other defects that compromise the impermeability of the material.
11. Temporary Concrete Washout Facility (Type Below Grade)
 - a. Temporary concrete washout facilities (type below grade) should be constructed as shown on the details at the end of this BMP, with a recommended minimum length and minimum width of 10 ft. The quantity and volume should be sufficient to contain all liquid and concrete waste generated by washout operations.
 - b. Lath and flagging should be commercial type.
 - c. Plastic lining material should be a minimum of 10 mil polyethylene sheeting and should be free of holes, tears, or other defects that compromise the impermeability of the material.

Removal of Temporary Concrete Washout Facilities

1. When temporary concrete washout facilities are no longer required for the work, the hardened concrete should be removed and disposed of. Materials used to construct temporary concrete washout facilities should be removed from the site of the work and disposed of.
2. Holes, depressions or other ground disturbance caused by the removal of the temporary concrete washout facilities should be backfilled and repaired.

Costs

All of the above are low cost measures.

Inspection and Maintenance

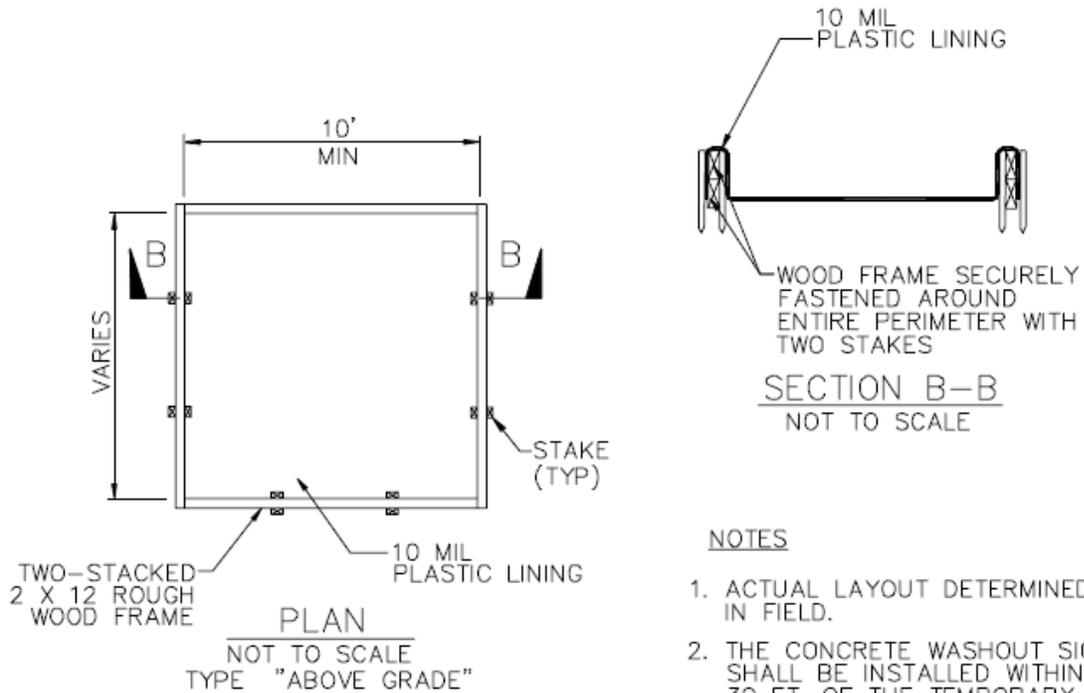
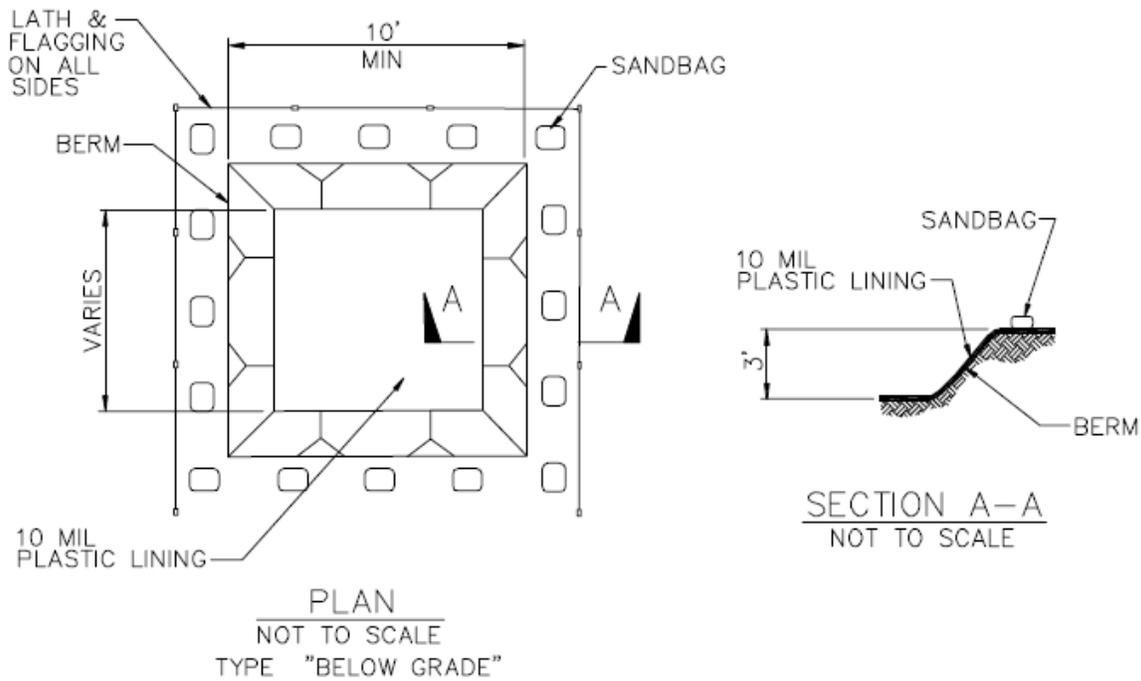
1. Inspect and verify that activity-based BMPs are in place prior to the commencement of associated activities. While activities associated with the BMP are under way, inspect weekly during the rainy season and of two-week intervals in the non-rainy season to verify continued BMP implementation.
2. Temporary concrete washout facilities should be maintained to provide adequate holding capacity with a minimum freeboard of 4 in. for above grade facilities and 12 in. for below grade facilities. Maintaining temporary concrete washout facilities should include removing and disposing of hardened concrete and returning the facilities to a functional condition.
3. Hardened concrete materials should be removed and disposed of.
4. Washout facilities must be cleaned, or new facilities must be constructed and ready for use once the washout is 75% full.

References

Blueprint for a Clean Bay: Best Management Practices to Prevent Stormwater Pollution from Construction Related Activities; Santa Clara Valley Nonpoint Source Pollution Control Program, 1995.

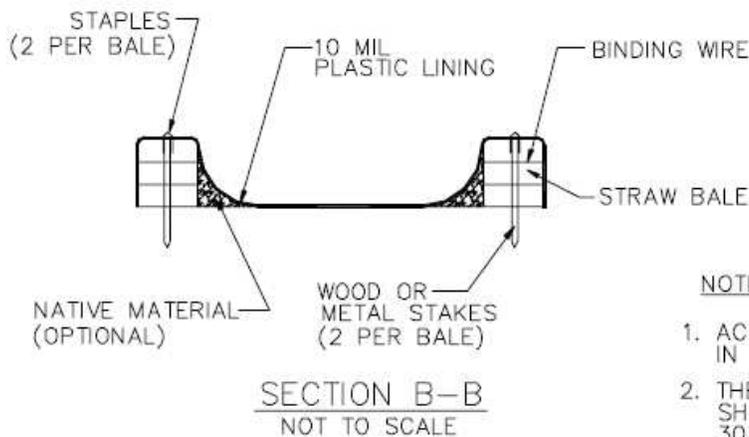
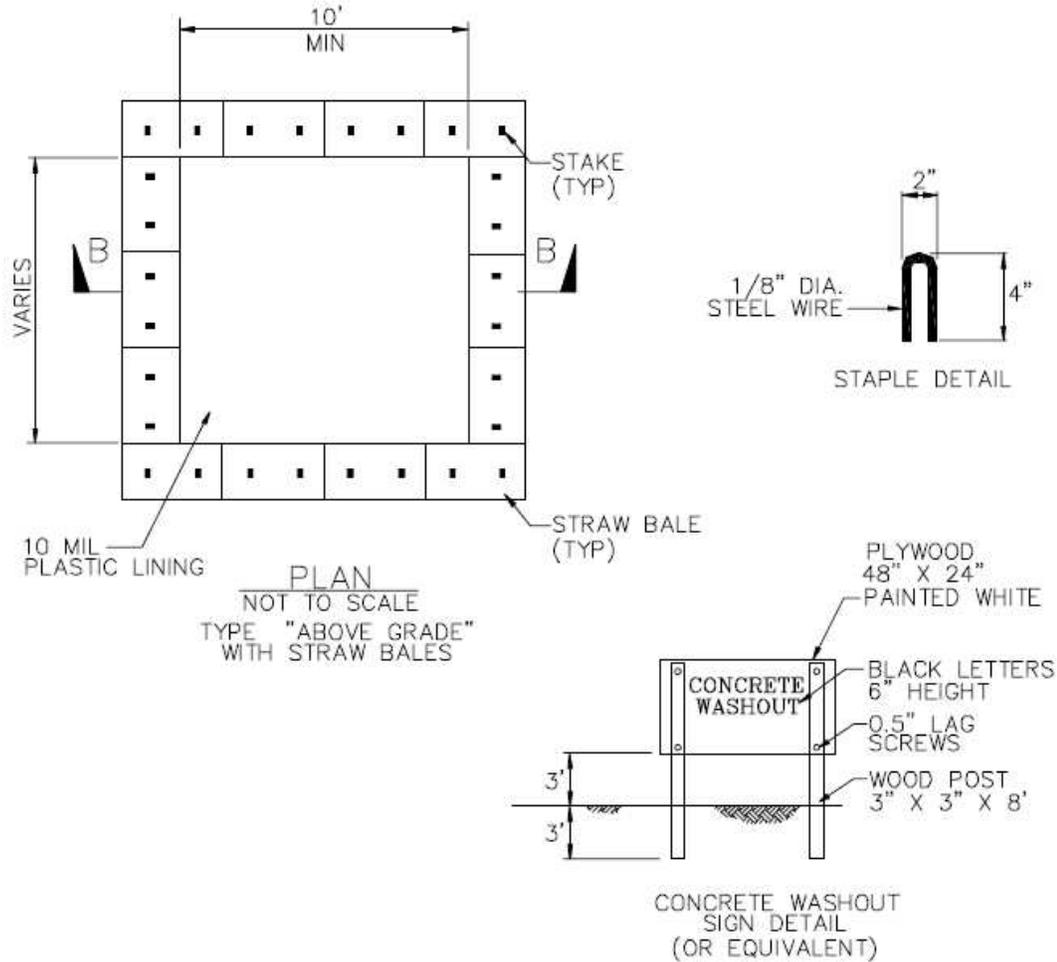
Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000.

Stormwater Management for Construction Activities; Developing Pollution Prevention Plans and Best Management Practice, EPA 832-R-92005; USEPA, April 1992.



NOTES

1. ACTUAL LAYOUT DETERMINED IN FIELD.
2. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30 FT. OF THE TEMPORARY CONCRETE WASHOUT FACILITY.



NOTES

1. ACTUAL LAYOUT DETERMINED IN FIELD.
2. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30 FT. OF THE TEMPORARY CONCRETE WASHOUT FACILITY.

END OF SECTION



DESIGN STANDARDS FOR: TREE PROTECTION

1. Protection requirements:
 - a. All protected trees shall be protected before work commences.
 - b. Temporary orange mesh fence (for sloped areas) or chain link fence (for generally level areas) shall be placed at the edge of tree protection area of tree to be saved. Fence shall completely encircle tree(s). Install fence posts using pier blocks only. Avoid driving posts or stakes into major roots, where the orange mesh fencing is used.
 - c. Treatment of roots exposed during construction: For roots over 1" in diameter damaged during construction, make a clean straight cut to remove damaged portion of root. All exposed roots shall be temporarily covered with damp burlap to prevent drying and covered with soils as soon as possible.
 - d. Work within protection fence shall be done manually, unless the Owner otherwise authorizes alternative methods in writing prior to work being done. No stock piling of materials, vehicular traffic, or storage of equipment or machinery shall be allowed within the limit of the fencing without the Owner's prior written approval.
2. Guarantee:
 - a. If the Contractor damages or destroys an existing tree, shrub and/or groundcover which he/she has been directed to preserve due to failure to comply with Specifications and Drawings, the Contractor shall replace it at the following rate:
 - i. Trees: one for one at the same specie, size and grade.
 - ii. Shrubs: one for one at a twenty-four (24) inch height, same specie and grade.
 - iii. Groundcover: one for one in one (1) gallon containers spaced at eighteen (18) inches on center, same specie, and grade.
 - b. Plants shall be healthy and acceptable to the Owner.
 - c. The contractor shall guarantee that the tree, shrub and/or groundcover shall live for a period of one (1) year from Owner's Acceptance.
 - d. Damaged and destroyed trees which cannot be replaced shall be paid for at the rate of \$50.00 per square inch of cross sectional area measured three (3) feet above existing grade for trees up to and including six (6) inch caliper and at the rate of \$100.00 per square inch of cross sectional areas measured three (3) feet above existing grade for trees greater than six (6) inches in caliper. This amount shall be credited to the Owner.
 - e. At the Owner's direction, remove any damaged and destroyed trees from the site. Grub stumps and repair the ground surface. All costs shall be born by the Contractor.
3. Measurement and Payment:
 - a. Tree protection fencing, surface protection, and tunneling costs shall be considered incidental to the cost of construction.

END OF SECTION



DESIGN STANDARDS FOR: PATHS

The term “Standard Specifications” refers to the Standard Specifications for Road, Bridge and Municipal Construction as published by the Washington State Department of Transportation, latest edition. The Standard Specifications apply to the Work described in this section except as modified herein.

Clearing, Grubbing and Trailside Cleanup

1. This item consists of clearing, grubbing and trailside cleanup of the right-of-way for construction. Included in this item is the removal and disposal of all trees, brush, stumps and debris within the clearing and grubbing limits.
2. Trailside cleanup shall give the trailside an attractive finished appearance. The trailside should be ready for reseeding and replanting.
3. Open Burning is not permitted.
4. Debris may be disposed of off-site or in areas approved by the Owner’s Representative.

Subgrade

1. This item consists of preparing a suitable subgrade for the base course.
2. The subgrade shall consist of mineral soil, bedrock, or other material approved by the Parks and Recreation Department.
3. Subgrade shall be compacted by mechanical methods to 95% density (ASTM: D1557).
4. A Parks Representative may require a proof-roll on sub-grade. Failing subgrade shall be removed and replaced with material approved by the Parks and Recreation Department.
5. A Parks Representative shall approve the sub-grade prior to placement of base course.
6. Trails through wetland areas require sub-grade stabilization and additional drainage flow considerations. Sub-grade review by a Geotechnical Engineer may be required after the subgrade inspection by the city representative.

Base Course

1. This item consists of supplying and placing crushed rock ballast over a prepared subgrade as shown on the drawings or approved by the Parks and Recreation Department.

2. Gravel base course shall conform to section 4-04 and 9-03.10 of the Standard Specifications.
3. Gravel base course shall consist of 1-1/4" minus crushed rock to 6" depth, or alternative approved by the Parks and Recreation Department.
4. Optimal moisture content shall range between 6% and 10% before it is placed.
5. Base course shall be compacted by mechanical methods to 95% density (ASTM D1557).

Crushed Limestone Surfacing, Top Course

1. This item consists of supplying and placing crushed limestone surfacing over a prepared base course as shown on the drawings or as directed by a Parks Representative and conforming to Section 4-02, 4-04 of the Standard Specifications.
2. Crushed limestone surfacing shall consist of 1/2" minus crushed limestone to a compacted depth of 3" and meeting the following grading requirements:

Sieve	Percent passing (by weight)
5/8"	100
1/2"	70-100
No. 4	31-60
No. 8	22-45
No. 30	10-25
No. 200	5-20 Max.

3. Crushed limestone surfacing shall be "dense grade" limestone. The material shall be uniform in quality and substantially free from extraneous material.
4. All areas shall be graded to within 0.1 foot, plus or minus of the proposed elevations. In addition, Contractor shall meet all specified cross slopes, running slopes, and positive drainage requirements as shown in the plans
5. Limestone shall be placed with a method that provides a finished surface of evenly mixed material free from large pockets of separated rock. Large pockets are defined as areas with loose rock lacking fines (any surface thickness) in areas larger than 2 square feet measured at the trail surface. The frequency of such pockets of loose aggregates shall not exceed 10% of any given 100 foot segment of new trail section selected by the owner.
 - a. The remedy for loose top course shall be as follows:
 - i. Loose top course shall either be removed in its entirety and replaced by the contractor at no additional cost to the owner; or
 - ii. At the owner's option, loose material shall be raked off and the area may be re-topped by a using a pre-approved 3/8" crushed limestone top course in a thickness and moisture content pre-approved by the owner and re-compacted to the finished grades and cross slope specified in this contract.
 - iii. This work shall be completed by the contractor at no additional cost to the owner.

6. Optimal moisture content shall range between 5% and 7% before limestone is placed.
 - a. The remedy for dry limestone placed at a moisture content less than specified shall be as follows:
 - i. Loosen compacted limestone
 - ii. Apply water until limestone is saturated
 - iii. Back-blade surface smooth
 - iv. Ensure limestone layer is consistently moist, full depth. Add water to dry sections as directed.
 - v. Compact to 95%
 - vi. Loose rock shall be remedied as specified in this section
 - vii. These tasks shall be incidental to the bid price. No additional compensation shall be permitted. Any task completed to achieve optimum moisture content is at the sole responsibility of the contractor and shall be provided at no additional cost to the owner.
7. Limestone surfacing shall be compacted after final grading with a minimum 3 passes of a 5-ton vibratory roller, or as directed by a Parks Representative.
8. Limestone shall be compacted by mechanical methods to 95% density.

Drainage

1. Trail design shall provide positive drainage off of the trail in a manner that does not allow concentrated flows across the trail. Cross slopes shall be as specified in the plans.

Permeable Ballast (where specified under special conditions)

1. This item consists of supplying and placing Permeable Ballast for drainage prisms as shown on the drawings or as directed by the Owner.
2. Permeable Ballast shall conform to Section 4-04 and 9-03.9(2) of the Standard Specifications.
3. Due to problems with stockpiled material breaking down (crushing) causing fines in stockpiled material, the Project Engineer must evaluate and certify the permeable ballast mix as sampled from the on-site stockpile before placement.
4. Permeable ballast placed adjacent to trail sections is designed to function as part of a drainage system. It is imperative that the drainage layer be in continuous contact with the materials placed for the trail section and that hydraulic connectivity between the various strata of construction be maintained to assure free movement of water through the materials.

Quality Control

1. The Contractor will be required to submit a sieve analysis from the manufacturer that is dated no more than one year prior to the contract award date for all material.
2. At the owner's option, the owner may order a sieve analysis of the material stock piled on the site at any time to ensure that it is in compliance with specifications.
3. At the Contractors option, a meeting offsite with the owner may be scheduled to view an example of an existing trail built to the standards acceptable by the owner before any crushed limestone is installed in the Project.
4. At the owner's option, the Contractor may be required to build a test trail to show the level of quality of acceptable trail work before proceeding with the actual trail. The size and location of the test trail shall be determined at the pre-construction meeting. The Contractor shall not proceed with work until the owner has approved the test trail.
5. The Owner expects that the Work shall be executed in a way to match the existing trail example or test panel.
6. Clean base course, or other specified base of debris, organic or deleterious material before placement of limestone
7. The Contractor shall place the crushed limestone surfacing immediately at optimum moisture content.
8. Compact placed material to specified density immediately after placement.
9. The Contractor shall take special care to not disaggregate the Crushed Limestone Surfacing mixture.
10. Contractor shall obtain Owner's approval to stock pile Crushed Limestone Surfacing before it is brought to the site. Stockpiled material shall not be contaminated at the site so as to change the moisture content or gradation. Stock piled material shall not be allowed to dry out. The Contractor shall cover all stock piled material to maintain the material's moisture content. Material shall not be stock piled at the project site for an extended period of time, as determined by the Owner.

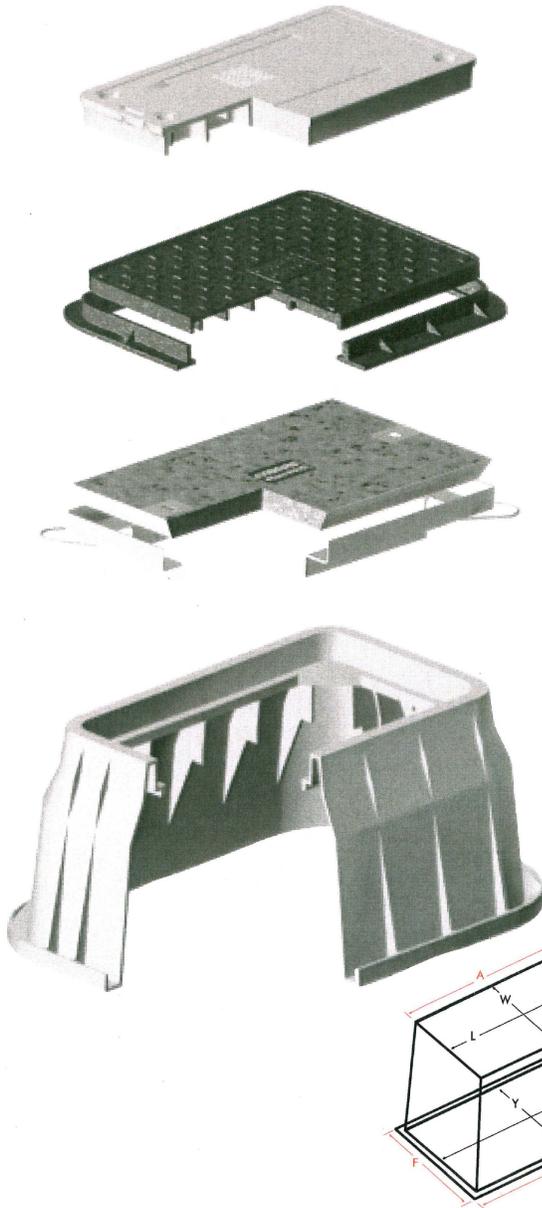
END OF SECTION



DESIGN STANDARDS FOR: IRRIGATION SYSTEMS

1. The following note shall be included on the drawings or in the irrigation system specifications:
 - a. "Irrigation boxes shall include a lockable lid and locking hardware such as bolts and clips necessary for access-proof security."
 - b. Provide locking lid and hardware by Carson, or equivalent (see attachment) Series number's 1419 or and 1324. or equivalent
2. There shall be no gate valves on any irrigation or plumbing systems. All shall be ball valves.
3. Quick couplers shall be by Buckner, 1" Brass.

General Detail Medium Box Series 1324



Product HDPE Drop-in Cover
1324-2B Bolt Down Cover

Product Iron Cover & Frame
EN124 Class B125
Cast/Ductile Iron Cover and Frame

Product Concrete Cover & Frame
EN124 Class B125
Concrete Infill and Galvanised Steel Frame

Product Box
1324-15B (with Insert)

Dimensions:
Inside **Outside**
L/W 600/355 **A/B 645/400** D 390
X/Y 760/575 **E/F 835/590**

Product Box
(not shown) 1324-18

Dimensions:
Inside **Outside**
L/W 565/325 **A/B 630/390** D 455
X/Y 790/540 **E/F 860/620**

Product Base Extension
(not shown) 1324-8
L/W 790/540 **A/B 860/620** D 205

- Options & Accessories:**
- Box colours available: Black, Green. Other colours to special order.
 - 102 x 102 Knock Out (2 places)

Application Notes: Carson boxes are suitable for a wide range of applications, from grass verge (A15) to car park applications (B125). It is important to select the correct cover and frame and installation method to suit the loading and local conditions. Technical advice is available from Carson. These products are not designed for carriageway use. All dimensions to nearest 5mm. Due to our policy of continuous improvement, we reserve the right to change specifications without notice.



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email: sales.europe@carsonind.com



Glendora, California

www.carsonind.com

Technical Specifications Medium Box Series 1324

Material Data

(Specification available on request)

Structural Foam - High Density Polyethylene

HDPE has excellent chemical resistance to ethanol, acetone, diesel etc. and is unaffected by sulfate ground conditions.

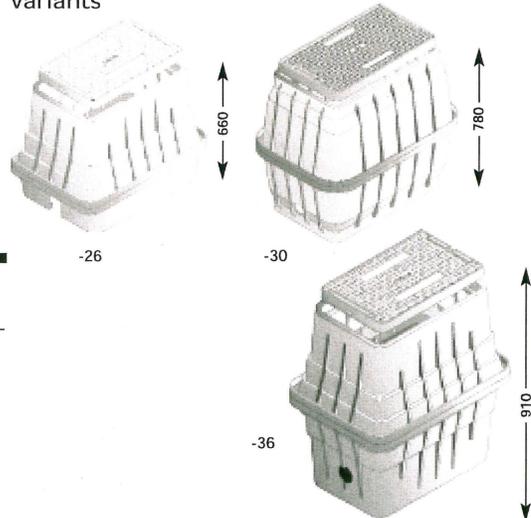
- Recyclable
- Robust - no breakage waste
- Completely impervious to water
- Nitrogen injection creates cellular core (CFC free)
- High strength to weight ratio
- High stiffness to weight ratio
- Easy to cut for duct entries

Properties of unfoamed resin	Test Method	HDPE
Tensile Strength	ISO 1926	21.37 - 37.92 N/mm ²
Flexural Modulus	ISO 1290 - 2	1103 - 1447 N/mm ²
Notched Izod Impact Strength	ISO 180 - 1A	270 - 800 J/M
Deflection Temperature	ISO 75 - 1	73 - 82°
Density	ISO 8962	0.955 g/cm ³
Chemical Resistance	-	Excellent
Water Absorption	-	None

Vertical Load Rating

Meets the loading requirements of EN124 Class B125 i.e. 125kN (~12.5T) test load when tested in free standing load tests - independent of backfill. Suitable for areas accessible to all slow moving traffic.

Variants



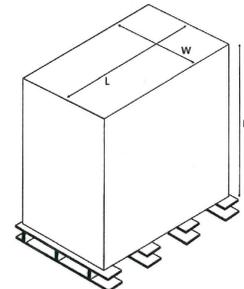
Cover and Frame Options

	-15	-18
· HDPE (A15)	✓	✓
· Concrete Infill Cover & Galvanised Steel Frame (EN124 Class B125)	✓	✓
· Cast/Ductile Iron Cover & Frame (EN124 Class B125)	✓	✓

Other options available on request.

Shipping Configuration

	1324-15B	1324-18
#/pallet	26	28
L	1220	1220
W	825	825
H	2670	2415



Application Notes: Carson boxes are suitable for a wide range of applications, from grass verge (A15) to car park applications (B125). It is important to select the correct cover and frame and installation method to suit the loading and local conditions. Technical advice is available from Carson. These products are not designed for carriage use. All dimensions to nearest 5mm. Due to our policy of continuous improvement, we reserve the right to change specifications without notice.



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END OF SECTION



DESIGN STANDARDS FOR: RETAINING WALLS

1. In accordance the latest edition of the International Building Code, retaining walls supporting a surcharge load or retaining walls over 4 feet in height shall be carefully engineered and detailed to ensure that drainage, hardware, footing sizes, and other necessary components are adequate for the site specific conditions. Calculations, drawings, and geotechnical report shall be submitted the Park's Project Manager and the City of Bellingham Permit Center for review and approval. An approved Building Permit is required for all retaining walls over 4 feet in height or walls retaining a surcharge load as described in the International Building Code, latest edition.
2. Retaining wall materials must be appropriate for the site and must be preapproved by the Park's Project Manager. Design options for retaining walls along trails are as follows. Alternative designs must be preapproved by the Park's Project Manager.
 - a. MSE Wall (Keystone or similar) in sandstone color
 - b. Geocell wall (or equal) in dark green or black color
 - c. Concrete crib-lock wall (or equal) with plantings and suitable planting soil in each open cell
 - d. Rock wall built to meet requirements of WSDOT and City of Bellingham Standards, except as specified in Item 8 of this design standard.
3. Cast-in-Place Concrete may be used as appropriate and must be preapproved by the Park's Project Manager. This type of wall design shall include permanent graffiti coating. Finish texture, reveals, color, and stamped pattern must be preapproved by the Park's Project Manager.
4. All proprietary wall systems must be built by a qualified installer in accordance with the manufacturer's recommendations.
5. A pedestrian guardrail is required on top of retaining walls adjacent to the trail.
6. A 2 foot shoulder of WSDOT shoulder ballast rock is required between the edge of the trail surfacing and the inside face of the guardrail.
7. A 2 foot shoulder of WSDOT shoulder ballast rock is required between the edge of the trail surfacing and the face of the retaining wall on the uphill side of the trail.

8. Rock walls within active public park spaces where seating and enhanced aesthetic characteristics are desired, or as otherwise elected by the Park project manager, shall be constructed per the following. Amend WSDOT rock specification 9-13.7(1) and Public Works rock wall detail MS-1000 as follows:
- a. Source and type of rock shall be pre-approved by the Park Project Manager.
 - b. Rocks must be individually picked from the quarry to meet these specifications.
 - c. Rock size shall be minimum 2-man rock. 1-man may be utilized, provided the minimum weight is approximately 150 pounds and minimum dimension is 18 inches.
 - d. Rocks that cannot be modified or incorporated into the project to meet the specifications herein shall be removed and replaced with a new rock at no additional cost to the project. Sorting, rejecting, and replacing unsuitable rock shall be considered incidental to the bid price. No additional compensation will be allowed. Payment will only be made for rock wall constructed and accepted by the Park Project Manager.
 - e. Rocks may be chiseled, diamond bladed or ground down to remove any sharp edges and to reshape the rock to meet these specifications.
 - f. The Park Project Manager shall be the sole judge as to the suitability of the rock for the rock wall.
 - g. All rock shall be individually placed in rock wall.
 - h. Rocks shall be stacked so that joints are staggered. No continuous vertical joints.
 - i. Larger rock shall be placed on the bottom progressing to smaller rocks on top.
 - j. Voids between adjoining rocks shall be no more than 4 inches average dimension in any direction. Void space is defined as the area where two or more adjoining rocks are not in continuous contact.
 - k. Void spaces shall be filled with "chinking" rock so that the chink rock is wedged and supported by larger rock. Chinking rock that is loose and can be removed by hand shall be deemed as unsecure and shall be reinstalled so that the rock cannot be removed by hand.
 - l. Rocks shall be stable and supported on all sides so that there is no movement or pivoting of the rock. Mortar shall be placed as directed by the Park project manager.
 - m. Top face of an individual rock on the top row (cap stone) shall be flat, no sharp edges. In order to be determined "flat," the variation along the top face of an individual rock in the top row shall be no more than 2 inches differential height over the entire face of the rock.
 - n. The top face of a rock in the top row (cap stone) shall have a minimum dimension of 18" in the plane of the face.
 - o. The top face of an individual rock in the top row of the wall shall have no points or sharp edges. Examples of "points" and "sharp" edges may be provided by the Project Manager if requested.
 - p. The variation in height of the top surface of any two adjoining rocks in the top row shall not exceed 2 inches at the joint.
 - q. The front face of an individual rock shall not vary more than 4 inches differential height over the entire face of the rock.
 - r. The front face of adjoining rocks shall not vary more than 2 inches out-of-plane at the joint for at least 75% of the rocks in the wall.
 - s. A suitable existing rock wall example may be provided by the Park Project Manager upon request.
 - t. If requested, a rock wall mock-up of at least 8 feet in linear feet must be constructed for review and approval by the Park Project Manager.

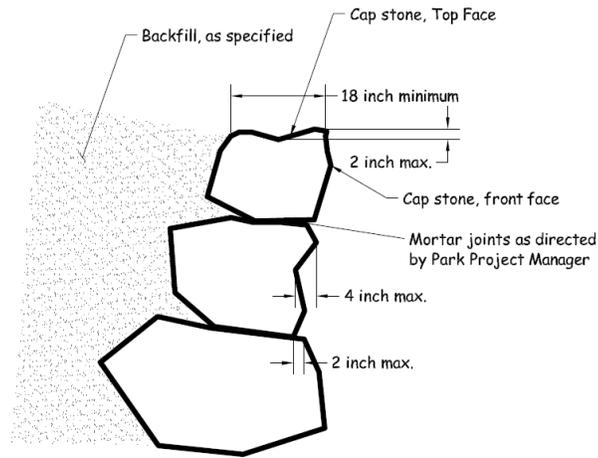


Figure 1 - Rock Wall Partial Section View

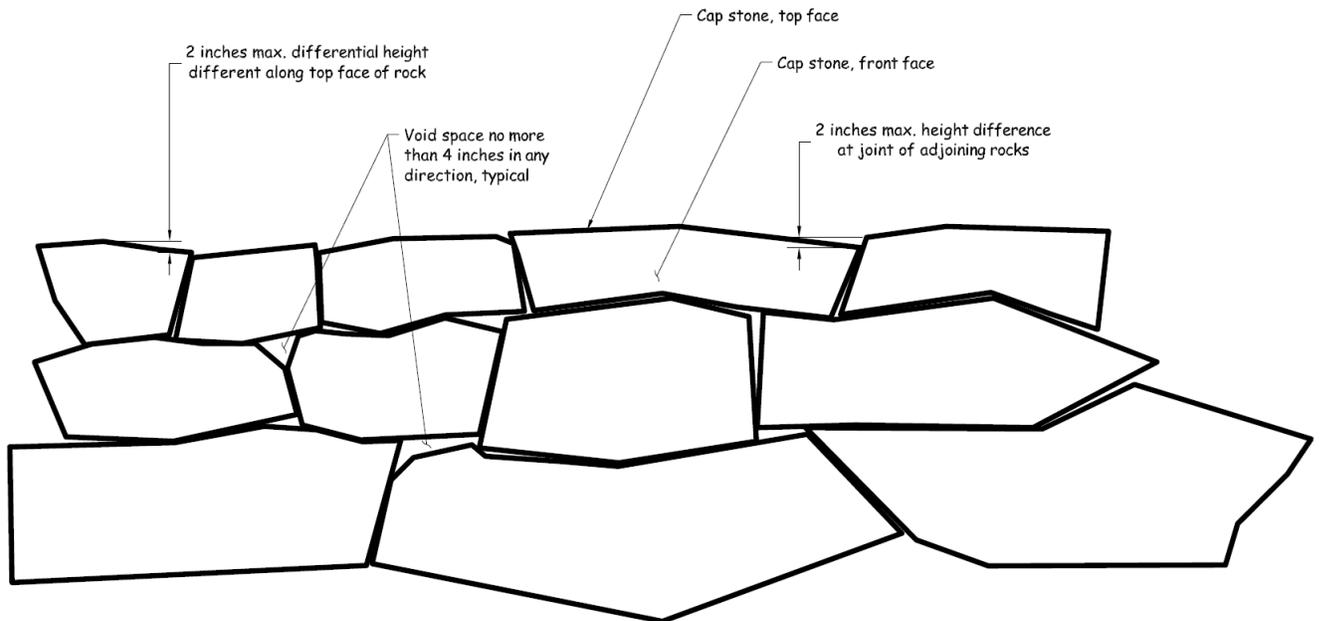


Figure 2 - Front Face Partial Elevation View

END OF SECTION



DESIGN STANDARDS FOR: LANDSCAPING

Wood Chip Mulch Specification

1. Submission of a 5-lb. sample of ground wood mulch in a labeled plastic bag is required for approval by Project Engineer.
2. Label shall include information about the location where the wood for the chips was collected and the type of material ground.
3. Wood chip mulch shall be coarse ground waste by-product wood chips (approximately ½” – 6” along the longest dimension) derived from the mechanical grinding or shredding of whole trees or portions of trees.
4. Tree species shall be mixed hardwood and softwood species such as hemlock and alder. Mulch may contain ground or shredded bark, wood fiber, roots, rootwads, branches, leaves, etc.
5. Wood chip mulch shall be free from weeds, weed seed, deleterious materials, and foreign materials, resin, tannin, or other compounds detrimental to plant life. Mulch containing any amount of cedar wood is unacceptable.
6. Wood chip mulch shall have no obvious disproportionate ratio of chip sizes.
7. Suggested Source:

Northwest Chipping and Grinding
P/N: 360.676-9569

Warranty

1. Planted areas shall have a two year maintenance period and two year warranty for all plants and planted areas.
2. Consideration for 1 year warranty and maintenance may be acceptable pending review of planting plan by the Park’s Landscape Architect.

Planting Bond Specification

1. Surety bonds are required for developers and for encroachment cases for restoration plantings. The following forms may be used for surety bonds (see attached):
 - a. Surety Bond Form
 - b. Assignment of Funds in Lieu of Bond Instruction Sheet
 - c. Assignment of Funds in Lieu of Bond Form

SURETY BOND
Plantings on Bellingham Park Property

The **CITY OF BELLINGHAM**, a first-class municipal corporation of the State of Washington, the SECURED; _____, a Surety Company licensed to do business in the State of Washington, the SURETY; and a, _____, the PRINCIPAL; do hereby agree as follows:

The Principal has entered into an agreement with the City for Plantings on Bellingham Park Property Project. The work is to be carried out in conformance with all applicable laws and City of Bellingham Plantings on Bellingham Park Property Project Name _____, attached hereto; and incorporated by this reference.

The maximum financial obligation of the Surety under this Bond is \$ _____, the same being 150% of the total estimated cost of the work.

The Surety agrees to either undertake and complete the work, or pay the Secured sufficient funds to administer and complete the work, including reasonable liquidated damages, attorney's fees and other reasonable costs incurred, on the happening of the following events:

- A. Failure of the Principal to complete the-work in accordance with good and accepted engineering practice;
- B. Any material breach of the Plantings on Bellingham Park Property Project referenced above;
- C. Any failure of the Principal to comply with the requirements imposed by law or by any government agency with jurisdiction;

This obligation shall remain in full force and effect during the performance of the work or until affirmatively released, in writing, by the Secured. Further, the Surety agrees to hold the project's actual cost for at least _____ year(s) after completion of the work, or until an affirmative, written release of the deposit is received from the City, to remedy the detection by the City of any defect in workmanship or materials in the design or construction of the work.

EXECUTED, this the _____ day of _____, 20____, for the PRINCIPAL, _____, a _____, :

EXECUTED, this the _____ day of _____, 20____,
for the SURETY, _____:

Title: _____

Address: _____

ACCEPTED and **APPROVED** for the SECURED, **THE CITY OF BELLINGHAM**, this the _____ day of _
_____, 20____,

Mayor

ATTEST: _____
Finance Director

APPROVED AS TO FORM:

Office of the City Attorney

ACCEPTED FOR ADMINISTRATION:

Department Head

**ASSIGNMENT OF FUNDS IN LIEU OF BOND
Plantings on Bellingham Park Property**

THIS ASSIGNMENT is for ensuring completion and guarantee of the Assignor's commitment to Plantings on Bellingham Park Property for the City.

The undersigned, _____,
acting for _____,
does hereby assign to the City of Bellingham all right, title, and interest in funds in the amount of \$ _____, deposited in account number _____, at the _____ in the name of _____.

The City is hereby authorized to draw upon the funds in case of the happening of any of the following events:

1. Failure of the Assignor to complete the work described in the Plantings on Bellingham Park Property Project: _____ (attached hereto and incorporated by this reference) in accordance with good and accepted engineering practice;
2. Any material breach of the Plantings on Bellingham Park Property Project referenced above; or,
3. Any failure of the Assignor to comply with requirements imposed by law or by any government agency with jurisdiction.

This obligation shall remain in full force and effect during the performance of the work or until affirmatively released, in writing by the Secured. Further, the Bank agrees to hold 150% of the project's actual cost for at least _____ year(s) after completion of the work, estimated to be _____, or until an affirmative, written release of the deposit is received from the City, to remedy the detection by the City of any defect in workmanship or materials in the design or construction of the work.

The City is authorized, in case of happening of any of the described events, to draw upon the account to complete the work, to correct any defects' discovered, to collect liquidated damages, to pay required costs and fees, or do any other thing required to bring the project to timely and proper completion.

If the City draws down part but not all the funds held by the Bank, pursuant to this Assignment, any residual funds shall be released to the Assignor upon written release by the City, but subject to any demand made by the City for monies owing the City for any reason.

EXECUTED, this the _____ day of _____, 20____,

for the Assignor, _____:

ACCEPTANCE

The undersigned warrants that _____ is authorized to execute this Assignment of Funds for the Bank; that the account named has the required funds in it; that the Bank accepts this Assignment and all the terms contained in it; and the funds will be held until either drawn down by the City in accordance with this Assignment, or a release, in writing, is received from the City.

ACCEPTED, this the _____ day of _____, 20____,
for the Assignor, _____:

Signature: _____

Title: _____

Address: _____

ACCEPTED, this the _____ day of _____, 20____,
for the **CITY OF BELLINGHAM**

Mayor

ATTEST: _____
Finance Director

APPROVED AS TO FORM:

Office of the City Attorney

ACCEPTED FOR ADMINISTRATION:

Department Head

END OF SECTION



DESIGN STANDARDS FOR: PLANTS

Greenway Restoration Plants

1. DRY SOILS

a. Full sun

i. Red-flowering Currant	<i>Ribes sanguineum</i>	shrub 1-3m
ii. Blue Elderberry	<i>Sambucus cerulea</i>	shrub 1-7m
iii. Kinnikinnick	<i>Arctostaphylos uva-ursi</i>	shrub to 20cm
iv. Hairy Manzanita	<i>Arctostaphylos columbiana</i>	shrub to 3m
v. Serviceberry	<i>Amelanchier alnifolia</i>	shrub to 10m
vi. Juniper	<i>Juniperus communis</i>	shrub to 1m
	<i>Juniperus scopulorum</i>	tree to 10m
vii. Pacific Madrone	<i>Arbutus menziesii</i>	tree to 30m
viii. Garry Oak	<i>Quercus garryana</i>	tree to 25m
ix. Shore Pine	<i>Pinus contorta (contorta)</i>	tree to 20m

b. Sun/shade

i. Tall Oregon-Grape	<i>Mahonia aquifolium</i>	shrub to 2m
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c. Shade

i. Low Oregon-Grape	<i>Mahonia nervosa</i>	shrub to 60cm
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2. MOIST TO MOIST/DRY SOILS

a. Full sun

i. Sitka Alder	<i>Alnus sinuata</i>	shrub 1-5m
ii. Black Hawthorn	<i>Crataegus douglasii</i>	shrub to 10m
iii. Mock Orange	<i>Philadelphus lewisii</i>	shrub to 3m
iv. Soopalallie	<i>Shepherdia canadensis</i>	shrub 1-2m
v. Bitter Cherry	<i>Prunus emarginata</i>	shrub/tree 2-15m
vi. Paper Birch	<i>Betula papyrifera</i>	tree to 30m
vii. Douglas Fir	<i>Pseudotsuga menziesii</i>	tree to 70m
viii. Grand Fir	<i>Abies grandis</i>	tree to 80m
ix. Sitka Spruce	<i>Picea sitchensis</i>	tree to 70m

b. Sun/shade

i. Beaked Hazel	<i>Corylus cornuta</i>	shrub 1-4m
ii. Indian Plum	<i>Oemleria cerasiformis</i>	shrub 1.5-5m
iii. Vine Maple	<i>Acer circinatum</i>	shrub to 7m
iv. Oceanspray	<i>Holodiscus discolor</i>	shrub to 4m
v. Cluster Rose	<i>Rosa pisocarpa</i>	shrub to 3m
vi. Snowberry	<i>Symphoricarpos albus</i>	shrub 0.5-2m
vii. Thimbleberry	<i>Rubus parviflora</i>	shrub 0.5-3m
viii. Scouler's Willow	<i>Salix scouleriana</i>	shrub/tree 1-8m
ix. Douglas Maple	<i>Acer glabrum (douglasii)</i>	shrub/tree to 10m
x. Bigleaf Maple	<i>Acer macrophyllum</i>	tree to 35m
xi. Sword Fern	<i>Polystichum munitum</i>	fern to 1.5m

c. Shade

i. Salal	<i>Gaultheria shallon</i>	shrub 0.5-5m
ii. Cascara	<i>Rhamnus purshiana</i>	shrub/tree to 10m
iii. Western Hemlock	<i>Tsuga heterophylla</i>	tree to 60m

3. WETLAND SOILS (WET TO MOIST/WET)**a. Full sun**

i. Hardhack	<i>Spirea douglasii</i>	shrub to 2m
ii. Hooker's Willow	<i>Salix hookeri</i>	shrub to 6m
iii. Sitka Willow	<i>Salix sitchensis</i>	shrub 1-8m
iv. Pacific Willow	<i>Salix lasiandra</i>	tree to 15m
v. Red Alder	<i>Alnus Rubra</i>	tree to 25m
vi. Oregon Ash	<i>Fraxinus latifolia</i>	tree to 25m
vii. Quaking Aspen	<i>Populus tremuloides</i>	tree to 25m
viii. Black Cottonwood	<i>Populus trichocarpa</i>	tree to 50m

b. Sun/shade

i. Red-osier Dogwood	<i>Cornus stolonifera</i>	shrub to 1-6m
ii. Pacific Ninebark	<i>Physocarpus capitatus</i>	shrub to 4m
iii. Pacific Crabapple	<i>Malus fusca</i>	shrub/tree to 9m

c. Shade

i. Red Elderberry	<i>Sambucus racemosa</i>	shrub to 6m
ii. Salmonberry	<i>Rubus spectabilis</i>	shrub to 4m
iii. Black Twin berry	<i>Lonicera involucrata</i>	shrub to 0.5-5m
iv. Western Redcedar	<i>Thuja plicata</i>	tree to 60m

END OF SECTION



DESIGN STANDARDS FOR: RESTORATION SEEDING

1. Unless stated otherwise, seeding shall be composed of 1/3 sheep fescue, 1/3 chewings fescue, and 1/3 hard fescue. Percentages are by weight. The application rate shall be 125 lbs./ac, except on steep slopes where it shall be 150 lbs./ac.
2. Fertilizer shall be 20N-20P-20K with 50% nitrogen as sulfur-coated area. The application rate shall be 650 lbs./ac.
3. Tackifier shall be composed of wood fiber mulch and applied at a rate of 2000 lbs./ac. On steep slopes tackifier shall be EcoAegis bonded fiber matrix from Fiber Marketing in Renton, Washington, or an approved equivalent.
4. With prior approval by Parks, the following native seed mixes may be used:

Streambank Area Seed Mix

Scientific Name	Common Name	PLS lbs/ac
<i>Beckmannia syzigachne</i>	American sloughgrass	1.5
<i>Bromus carinatus</i>	California brome	4.0
<i>Elymus glaucus</i>	Blue wildrye	4.5
<i>Glyceria occidentalis</i>	Western mannagrass	3.0
<i>Hordeum brachyantherus</i>	Meadow barley	2.0
		15.0

Disturbed Area Seed Mix

Scientific Name	Common Name	PLS lbs/ac
<i>Bromus carinatus</i>	California brome	3.0
<i>Elymus glaucus</i>	Blue wildrye	4.0
<i>Poa compressa</i>	Canada wildrye	1.0
		8.0

Emergent Area Seed Mix

Scientific Name	Common Name	PLS lbs/ac
<i>Beckmannia syzigachne</i>	American sloughgrass	3.0
<i>Elymus glaucus</i>	Blue wildrye	6.0
<i>Glyceria occidentalis</i>	Western mannagrass	2.0
<i>Deschampsia caespitosa</i>	Tufted hairgrass	1.0
		12.0

END OF SECTION



DESIGN STANDARDS FOR: SPORTS FIELD MIX

Field Mix

1. Field mix shall meet the grain size data shown in the attached sieve analysis entitled, "Squalicum Creek Park."
2. Submission of a 1-lb. sample of Field Mix in a labeled plastic bag is required for approval by Project Manager.
3. Field Mix shall be free from weeds, weed seed, deleterious materials, and foreign materials, resin, tannin, or other compounds detrimental to plant life.



GEOTEST

741 Marine Drive
Bellingham, WA 98225

PHONE
360 733_7318

TOLL FREE
888 251_5276

FAX
360 733_7418

**PERMEABILITY REPORT • SOILS
CONSTANT-HEAD METHOD
ASTM D5084**

PROJECT: Squalicum Creek Park
ADDRESS: Bellingham, WA
CLIENT: City of Bellingham – Parks Department

JOB #: 06-0258
REPORT #: S1
TEST DATE: 5-14 to 5-22-06
LAB #: 4204

SOIL TYPE: SAND with Silt (SP-SM)
SOURCE: Geri 4 – Left Field, ~20' inside of fence

Test Results:

TEST #	WET DENSITY (PCF)	DRY DENSITY (PCF)	INITIAL MOISTURE CONTENT (%)	COMPACTION (%)	PERMEABILITY CM/SEC
1	131.7	111.7	17.9	92.7	3.6 x 10 ⁻⁴
2	92.7	83.5	11.0	69.3	1.7 x 10 ⁻⁴

Comments: The above sample was remolded and compacted to bracket the dry density obtained in the field (88.6 pcf). The sample was then tested for permeability in general accordance with ASTM D5084.

Copies:

Submitted By: David B. Balini (For)
Grant Richardson
Technical Director

#01-Permeability

This report shall not be reproduced, except in full, without the written approval of Geotest Services, Inc.
The above test results relate only to the sample (or location) tested.

www.geotest-inc.com

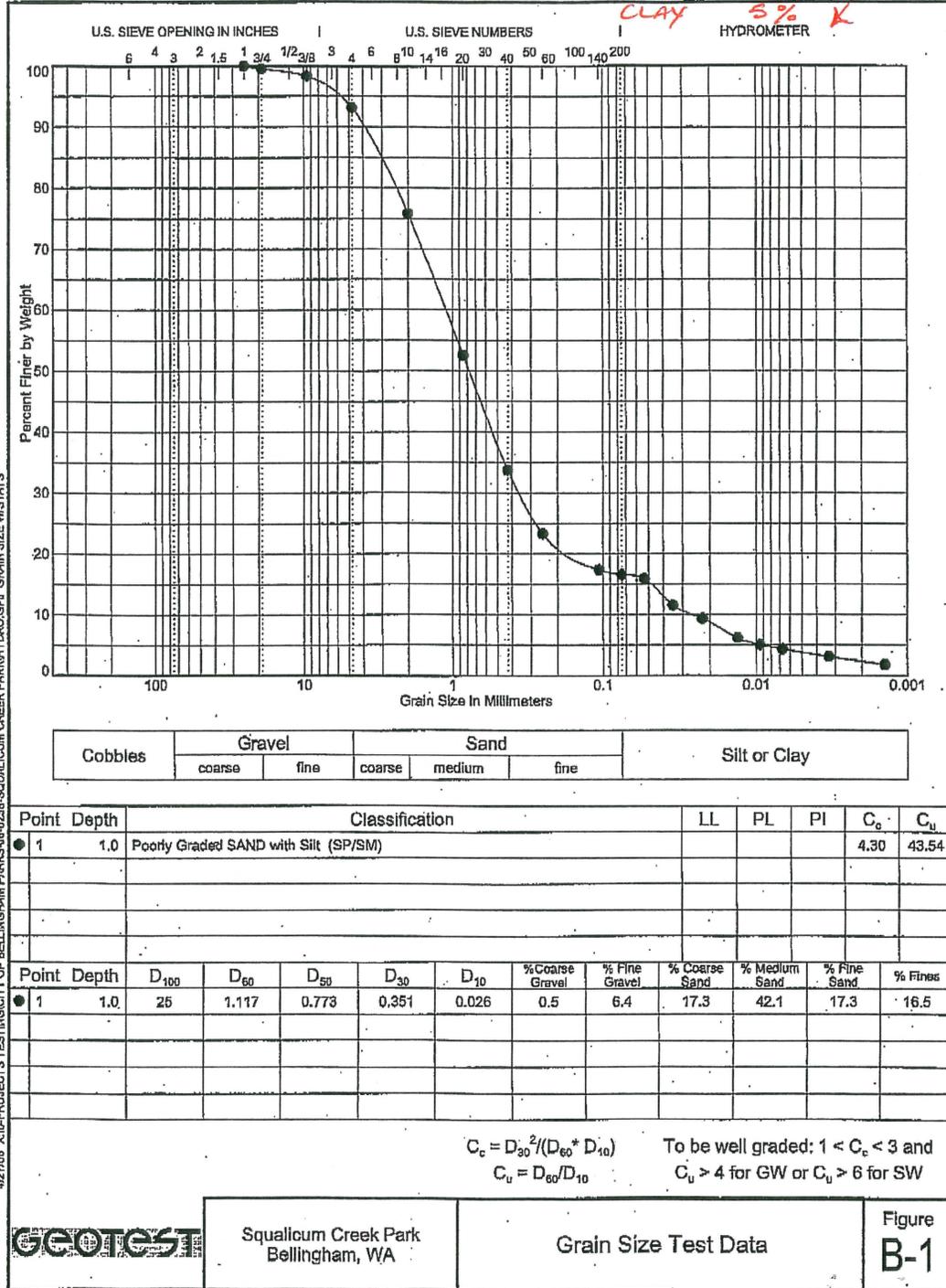
APR-27-2006-THU 04:17 PM

P. 002

JAS

Gravel 4

GRAVEL 7%
SAND 77%
SILT 11%
CLAY 5%



APR-27-2006-THU 04:17 PM

P. 001



741 Marine Drive
 Bellingham, WA 98225
 20611- 67th Ave. N.E.-Unit A
 Arlington, WA 98223

PHONE: 360.733.7318
 FAX: 360.733.7418
 TOLL FREE: 888.251.5276
 www.geotest-inc.com

To: JONATHAN SCHILK
 Fax: 647-6367
 From: DAVID BUFALINI
 Date: 4-27-06
 Re: LAB RESULTS
 Pages: 2, including this page.

Urgent For Review Comment Reply Hard Copy Following

✦ Comments:

GRAVEL - 79%
 SAND - 77%
 SILT - 11%
 CLAY - 5%

STW
 40% C-33 SAND - CLEAN
 40% SPECIAL SANDVST
 20% SANDY LOAM

Stephanie
 P33 SAND
 SANDVST
 1 week or
 two to get
 info - TEST

Copy: _____

Note: This is a confidential message/document, intended solely for the person to whom it is addressed. If you receive this message in error, please forward it to the correct person, or contact the sender noted above. Thank you!



DESIGN STANDARDS FOR: ROUGH CARPENTRY

Recycled Plastic Lumber Posts

1. Recycled plastic lumber posts shall be 8" x 8" x 6'-0" (nominal dimension) posts, recycled plastic lumber, mocha brown color.
2. There shall be a 3/4" Chamfer on all top edges, which shall be an integral part of the mold.
3. There shall be no air pockets or cuts visible on the exposed surfaces.
4. Suggested Source:
 - a. Resco Plastics Inc.
Attn: Werner & Sabine Zink
93783 Newport Ln.
Coos Bay, OR, 97420
800-266-5097
resco@rescoplastics.com
<http://www.rescoplastics.com/>

Timber and Lumber – General

1. Timber and lumber shall meet the requirements of Section 9-09 of the Washington State Department of Transportation Standard Specifications, latest edition.
2. All hardware shall be hot dip galvanized.

END OF SECTION



DESIGN STANDARDS FOR:
FIBERGLASS REINFORCED PLASTIC (FRP) PEDESTRIAN GRATING

The use of FRP Grating for trail walking surfaces shall meet the following minimum requirements.

1. Grating shall:
 - a. Meet all requirements of the American with Disabilities Act
 - b. Be fastened to and supported by structural elements on all four sides. Other, intermediate supports shall be as required by the manufacturer's instructions.
 - c. Include ultraviolet (UV) light protection with integral UV inhibitors in the resin
 - d. Include attachment clips manufactured of Type 316 stainless steel
 - e. Include integral factory molded non-slip surfaces
 - f. Be mounted flush with adjacent walking surfaces with an allowable tolerance of 1/8"
2. All projects shall include project specifications detailing the product requirements and installation/manufacturing tolerances, construction shop drawing requirements, detailed drawings showing fastener type and location, and handling instructions.
3. Grating openings in the walking surface shall comply with the U.S. Access Board Design Guidelines <http://www.access-board.gov/ada/>
4. Treat all field cut edges in accordance with manufacturer's instructions.
5. Provide color sample for review by Parks.
6. All projects shall include design specifications for FRP filler boards with details and attachment specifications in locations where the walking surface is cut on an angle.

END OF SECTION



DESIGN STANDARDS FOR: **PREFORMED ROOFING PANELS**

Metal Roofing:

1. Snap-lock standing seam with Kynar finish, or approved equal. Web site address www.metal-roofing.com.

END OF SECTION



DESIGN STANDARDS FOR: STANDARD STEEL DOORS AND FRAMES

Doors:

1. All doors and frames shall be metal.
2. Doors shall have ball bearing hinges, 3 per door.
3. All exterior doors shall swing outward.

END OF SECTION



DESIGN STANDARDS FOR: DOOR HARDWARE

Lock Sets – General

1. By Best Access Systems or equivalent. Model #93K7T14D-STK-626 dormitory function with 2 3/4" backset

Lever Set

1. 93K – 2.75 Backset
2. 6 pin (core housing)
3. Function/code type varies TBD by Parks and Rec.
4. Lever style is curved-return
5. Rose style D 3.5 convex
6. S3 4-7/8" ANSI strike plate
7. Finish 626 satin chromium plated 9K series
8. Used for public access

Knob Set

1. Used for staff access. Not used in public access.
2. Use same as lever set.
3. AK Series

Dead Bolts

1. T-Series
2. In multiple fixtures key both sides or key one side depending on use.
3. K-thumbknob only for single use restrooms.

Preferences

1. For single use: lever set only, no deadbolt. Depends on site.
2. Doors: swing out.
3. Closers
 - a. Depends on site
 - b. Adjustable force
 - c. Requires additional approval by parks
 - d. Predominant winds and exposure should be considered regarding swing and location.

- e. Use Dor-O-Matic model #SC80 or equivalent.

Pad locks – owner provided

1. 3 series, 6 pin cores
2. 41B772
3. 7/8” thick shackle

All door hardware

1. No core or keys
2. Owner provides final core and key
3. Contractor provides construction core

END OF SECTION



DESIGN STANDARDS FOR: EXTERIOR PAINTING

Exterior Paint for wood Tables and Benches

1. Wood tables and benches, including trash receptacle slats, shall be painted with one coat of primer and two coats of color by Parker Paint, color Vashon.

PRODUCT ANALYSIS: 300 White Only

PIGMENT ----- 20%

Titanium Dioxide -----	95%	
Nepheline Syenite	5%	
		100%

VEHICLE ----- 80%

100% Acrylic Emulsion --	67%	
Water	20%	
Glycol	6%	
Ester Alcohol	3.5%	
Additives	3.5%	
		100%
		100%

VEHICLE TYPE: Acrylic Latex

SOLVENT TYPE: Water

VOC GRMS/L: 226 grams/liter - 1.88 #/gal.

APPEARANCE: Semi Gloss

GLOSS RANGE: 55-65 @ 60° 85-95 @ 85°

VISCOSITY: 80-90 KU's
(@ 77° F [25° C])

% SOLIDS BY WEIGHT: 48% ± 1.5%

% SOLIDS BY VOLUME: 35.1%± 1.5%

WEIGHT/GAL.: 10.0 - 10.3 lbs/gal.

PACKAGING: FIVE: X ONE: X QT:

SHELF LIFE: N/A

TINTING: PARKER PAINT Color Guild Colorants.
Check colors before applying. Custom mix colors may not dry to an exact match to the sample chip. Apply the paint to a small test area.

APPLICATION OF A COLOR COULD CONSTITUTE ACCEPTANCE OF THE COLOR.

PARKER PAINT assumes no responsibility expressed or implied for mismatched colors after it has been applied. No refunds on custom mixed colors unless the company is in error.

ENVIRONMENTAL CONSIDERATIONS
Formulated without lead or mercury.

PRECAUTIONARY INFORMATION:

CLOSE CONTAINER AFTER EACH USE

KEEP OUT OF REACH OF CHILDREN

DO NOT TAKE INTERNALLY

FLASH POINT: N/A

D.O.T. (REQUIREMENTS): N/A

STORE in a clean, dry place.

KEEP FROM FREEZING

RECOMMENDED STORAGE TEMPERATURES

should be between: 40° - 100° F (5° - 38° C)

EXTINGUISHING MEDIA: Water may be used to cool closed containers to prevent pressure build-up and explosion when exposed to extreme heat.

NOTE: Dry times will vary depending upon ambient temperatures and atmospheric conditions.

Dry hard in 24 hours does not mean that the paint coating has fully cured. It has reached a stage where handling can be achieved without removing the paint film under minimal pressure from the hands or fingers.

Scrubbing the paint coating or washing with a harsh cleaner before it is fully cured could result in the removal of the coating and/or marring the finish. Allow a minimum of 30 days for curing.

Do not apply an exterior paint coating during rain, or in damp, foggy or freezing weather. Any one, or all of these conditions can affect the drying, appearance and durability of a paint coating.

Do not apply a paint coating to a hot surface or in the direct sun light. One or both could cause the coating to blister and/or peel.

"Surfactant Bleed": Sticky white, brown or clear runs or spots can occur on newly painted surfaces if exposed to moist conditions before surfactants can evaporate from the drying paint film.

Cedar, Redwood, Fir plywood and many other wood by-products contain a water-soluble extractive which can discolor white or light colored latex and oil base paints. This extractive staining can develop months after the finish is applied. It is recommended that a primer, specifically formulated to retard this discoloration be used first. There is no guarantee that one coat of either a latex or oil base primer will prevent EXCESSIVE extractive bleeding.

USE WITH ADEQUATE VENTILATION. Avoid prolonged or repeated contact with skin and breathing vapors or spray mist. Coatings should only be applied when ventilation is adequate. If there is not adequate ventilation, applicators should wear respirator approved by NIOSH / MSHA (TC-23C or equivalent).

MATERIAL SAFETY DATA SHEET AVAILABLE ON REQUEST

REVISED: 4/2000 (Supercedes 1/99)

To the best of our knowledge, the information presented herein is correct. No guarantee of accuracy is given or implied. The information is subject to change without prior notice. Because conditions of surface preparation, material handling, and application are beyond our control, we assume no responsibility for product performance or injuries resulting from use of our products. Liability, if any is limited to the replacement of products. No other warranty or guarantee of any kind is made by the seller, express or implied, statutory, by operation or law or otherwise, including merchantability and fitness for a particular purpose.



FIRST KOTE

450

EXTERIOR ALKYD PRIMER PRODUCT DATA

HMIS CODE:	
HEALTH: 2	FLAMMABILITY: 2
REACTIVITY: 0	PERSONAL PROTECTION: B

AVAILABLE IN:

BASES: 450 White

COLORS: 450 White

DESCRIPTION: PARKER PAINT's 450 First Kote is an exterior alkyd primer for use on most new properly prepared wood surfaces. PARKER PAINT's First Kote can be used for spot priming bare wood areas when repainting or as an overall wood surface primer and can be top-coated with an exterior latex or oil base finish paint. PARKER PAINT's First Kote is formulated to retard most all discoloration of soluble wood extractives (Tannin Bleed). In some cases, a second coat of primer may be required. PARKER PAINT's First Kote exterior alkyd primer should be top-coated with a finish coating within seven (7) days after application. PARKER PAINT'S First Kote is a recommended primer for use under PARKER PAINT's Flextron, Over All and Flex Glow, and other PARKER PAINT exterior products.

NOT RECOMMENDED FOR: Use as a finish coating or as a primer on bare metal, plastics, high-density overlay or pre-coated metal siding, doors, and asphalt or bituminous coating. DO NOT use this primer if the finish coating contains a strong aromatic solvent. Lifting or wrinkling of the finish and primer may occur.

SURFACE PREPARATION: Before applying, read and follow all directions and cautions on container label.

The moisture content of the substrate to be painted should not exceed 15%, as determined by a moisture meter.

All surfaces to be primed, old and new, must be sound, clean, dry and free of dust, saw dust, dirt, oils, chalk, mildew, blistered or peeling paint, organic matter, or any other contamination that can affect the paint film.

This can be achieved by scraping, sanding, wire brushing, pressure washing, sandblasting, or any other approved method of preparing a substrate for painting.

Clean and fill all major cracks, voids, nail and staple holes.

On new wood, remove any loose fibers.

Repair any moisture problem areas.

If a structure is cleaned with a pressure water wash, the structure should be let to dry in good weather for one week before priming. Mold and mildew can be removed by washing a surface with a solution of 6 - 8 ounces of a non-phosphated detergent, 1 quart bleach in 1 gallon hot water. Let set for 15 to 20 minutes after applying solution, then rinse thoroughly with fresh water. Shrubbery and plants should be watered down and covered before applying solution. Wear protective eye shields and clothing while using this solution.

Let substrate dry thoroughly before priming.

Caution should be taken if a flammable product is used for cleaning.

For special painting procedures, ask your PARKER PAINT representative for additional instructions.

RECOMMENDED PRIMERS:

WOOD: Self Prime

GALVANIZE & ALUMINUM: 1821 Galv O Prime

METAL: 1651 Zinc Phosphate Alkyd Primer
1652 Rust proof red Alkyd Primer
1655 White Alkyd Primer
1679 Speed Dri Alkyd Primer

APPLICATION:

Mix paint thoroughly before using.

RECOMMENDED DRY FILM THICKNESS

PER COAT: 2.0 mils.

WET FILM TO ACHIEVE DFT: 3.4 mils.

(Unthinned Material)

THEORETICAL COVERAGE

AT RECOMMENDED DFT: 430 - 480 sq. ft. per gal.

Coverage will depend on the method of application, porosity, and texture of the surface. Do not apply exterior paint coatings during rain, or in damp, foggy or freezing weather. Any one or all of these conditions can affect the drying, appearance and durability of a paint coating.

First Kote primer must be applied thick enough to thoroughly coat the substrate being primed. This is to provide the best possible shield against any stains permeating through the coatings. In some cases a second coat may be required on 303 type plywood siding. A brush application of this coating is recommended for coating the grooves in grooved panels.

RECOMMENDED APPLICATION

TEMPERATURES AND HUMIDITY:

50 - 90 ° F (10 - 32° C) 50 - 55% RH

Do not apply a paint coating to a hot surface or in the direct sunlight. One or both could cause the coating to blister and/or peel.

DRYING TIMES: TACK FREE: 24 hrs.

@ 77° F (25° C) RECOAT: 24 hrs.

50 - 55% RH DRY HARD: 24 hrs.

NOTE: See Precautionary Information on back.

EQUIPMENT RECOMMENDATIONS:

THINNING: No thinning is necessary. If necessary, add no more than 4 fl. oz. of paint thinner per gallon.

BRUSH/ROLLER: Use premium quality brushes or rollers.

AIRLESS SPRAY: Fluid Pressure 1500 - 2200 PSI
Tip Orifice Size .013 - .021
Filter

CLEAN-UP: Clean all tools and equipment immediately after use with clean paint thinner.

3003 S. Tacoma Way . PO Box 11047 . Tacoma, Washington 98411 . (253) 473 1122 . (800) 826 4308

(continued over)

PRODUCT ANALYSIS: 0450 White Only		
PIGMENT -----		51.6%
Titanium Dioxide -----	27%	
Amorphous Silica	10%	
Barium Metaborate	17%	
Talc	17%	
Nepheline Syenite	29%	
	100%	
VEHICLE -----		48.4%
Soya Alkyd Resin --	43.5%	
Linseed Oil	20.5%	
Mineral Spirits -----	32.5%	
Additives & Driers-----	3.5%	
	100%	100%

VEHICLE TYPE: Alkyd

SOLVENT TYPE: Mineral Spirits

VOC GRMS/L: 316 grams/liter; 2.63 lbs/gal.
---- Before Thinning----

APPEARANCE: Flat

GLOSS RANGE: N/A

VISCOSITY: 85 - 95 KU's
(@ 77° F [25° C])

% SOLIDS BY WEIGHT: 77.2% ± 1.5%

% SOLIDS BY VOLUME: 60.0% ± 1.5%

WEIGHT/GAL.: 11.5 - 11.8 lbs/gal.

PACKAGING: FIVE: X ONE: X QT: X

SHELF LIFE: N/A

TINTING: PARKER PAINT Color Guild Colorants.
(Limited amount of Tinting Colorant 2 oz. per gal.) Check colors before applying. Custom mix colors may not dry to an exact match to the sample chip. Apply the paint to a small test area
APPLICATION OF A COLOR COULD CONSTITUTE ACCEPTANCE OF THE COLOR.
PARKER PAINT assumes no responsibility expressed or implied for mismatched colors after it has been applied. No refunds on custom mixed colors unless the company is in error.

ENVIRONMENTAL CONSIDERATIONS
Formulated without lead or mercury.

MATERIAL SAFETY DATA SHEET AVAILABLE ON REQUEST

REVISED: 1/99 (Supersedes 12/96)

To the best of our knowledge, the information presented herein is correct. No guarantee of accuracy is given or implied. The information is subject to change without prior notice. Because conditions of surface preparation, material handling, and application are beyond our control, we assume no responsibility for product performance or injuries resulting from use of our products. Liability, if any is limited to the replacement of products. No other warranty or guarantee of any kind is made by the seller, express or implied, statutory, by operation or law or otherwise, including merchantability and fitness for a particular purpose.

END OF SECTION



DESIGN STANDARDS FOR: ANTI-GRAFFITI COATING

Rainguard

1. This system requires the prior use of clear water repellent; see Section 07175 of Masterspec for specified Rainguard water repellent.
2. Products shall be applied according to manufacturers recommended guidelines for project substrates.
 - a. *Rainguard Clear Water Repellent*, as recommended by manufacturer for project substrates. Single coat only.
 - b. *Rainguard Vandl-Guard*, a chemically resistant one part, water-based, cross-linked copolymer emulsion that dries to a clear, colorless film. Refer to manufacturer for number of recommended coats.
 1. ----- and/or -----
 - c. *Rainguard Vandl-Top*, a sacrificial topcoat that will not increase flammability of the substrate or support the growth of mildew, bacteria or fungus. Refer to manufacturer for number of recommended coats.

Graffiti Melt Coating

1. Graffiti Melt Coating is a one-step, read-to-use, non-toxic, biodegradable, wax based sacrificial (disposable) coating, composed of water and food grade materials. Graffiti Melt Coating creates a tough barrier between the underlying substrate and the graffiti without altering the appearance or texture of the treated surface. Properly applied the coated surface is color-less, and non-yellowing.
2. Once the surface has been coated with Graffiti Melt Coating, anything that has been sprayed or drawn over it can be removed by either high-pressure hot water or with Graffiti Eaze Away. Once the surface has been cleaned, simply re-apply the coating to the area that was removed.
3. Graffiti Melt Coating is non-toxic, non-aerosol, biodegradable designed to effectively remove paint, ink, crayons, markers and other unwanted substances from any surface protected by

Graffiti Melt Coating where hot water equipment is not available or desirable. It is safe and easy to use with an abrasive sponge or pressure washer.

Cure and Seal

1. *Cure and Seal* is a sealer used by S&S Concrete.
2. Contact Larry of Construction Supply, Bellingham.

END OF SECTION



DESIGN STANDARDS FOR: TOILET PARTITIONS

Partitions

1. No partitions at urinals.
2. Use FRP with ¾" plywood, grey color from Shanahans in Surrey, BC.
3. Note: An approved equal will not be accepted. Sole source justification is based on bulk parts on hand; ease on maintenance time, availability, and vandal resistance. Project Manager must complete a Sole Source Justification form for each project where toilet partitions are used. Contact the Purchasing Department for additional information.

END OF SECTION



DESIGN STANDARDS FOR: LOUVERS AND VENTS

Ceiling Mounted Fan Standard:

1. WhisperCeiling model #FV-08VQ2 90 CFM – 4” duct manufactured by Panasonic.
2. Note: An approved equal will not be accepted. Sole source justification is based on bulk parts on hand; ease on maintenance time, availability, and vandal resistance.

WhisperCeiling™

VENTILATION FAN

FV-05VQ2

60 CFM-4" Duct

FV-07VQ2

70 CFM-4" Duct

FV-08VQ2

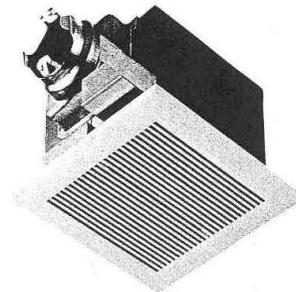
90 CFM-4" Duct

FV-11VQ2

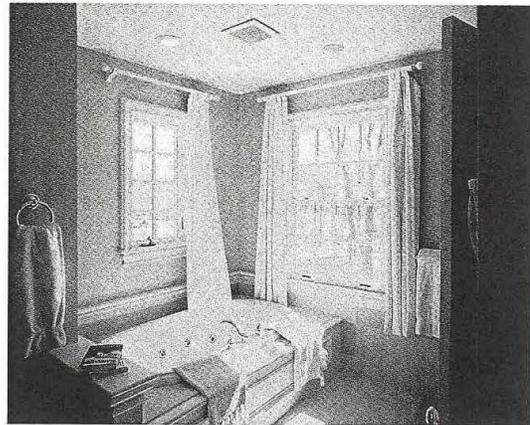
110 CFM-4" Duct

FV-11VQD2

110/60 CFM-4" Duct



Ceiling Mounted Fan



Advantages:

- Super quiet operation
- ENERGY STAR® qualified
- Totally enclosed condenser motor for long life—rated for continuous run
- Easy installation (double hanger bar system)
- Rust proof paint treatment on galvanized housing

- Built-in damper to prevent backdraft
- Contemporary grille design
- UL listed for tub/shower enclosure when used with a GFCI branch circuit wire
- Thermal fuse protection
- Meets Washington State Ventilation and Indoor Air Quality Code

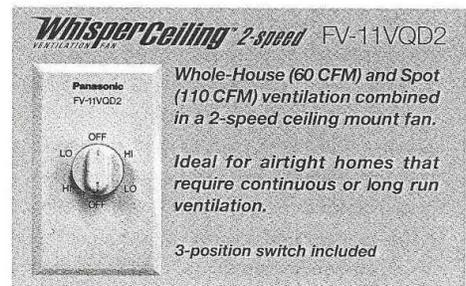
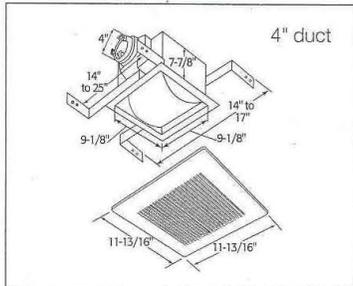
WhisperCeiling		FV-05VQ2		FV-07VQ2		FV-08VQ2		FV-11VQ2		FV-11VQD2 2-speed			
										High	Low		
Characteristics (HVI Certified Data for 0.1" S.P.)	Static pressure in inches w.g.	0.1	0.25	0.1	0.25	0.1	0.25	0.1	0.25	0.1	0.25	0.1	0.25
	Air Volume (CFM)	60	34	70	54	90	75	110	94	110	91	60	51
	Noise (sones)	<0.3	N/A	0.3	N/A	0.7	N/A	1.5	N/A	1.5	N/A	<0.3	N/A
	Power Consumption (Watts)	14	13	19	18	21	20	27	26	27	25	18	17
	Energy Efficiency (CFMs/Watt)	4.3	3.4	3.7	3.1	4.3	3.8	4.1	3.6	4.1	3.6	3.3	3.0
	ENERGY STAR Qualified	Yes		Yes		Yes		Yes		Yes		Yes	
Duct Diameter (inches)	4		4		4		4		4		4		
Approved	UL Tub/Shower Enclosure	Yes		Yes		Yes		Yes		Yes		Yes	
Code/Standard/Regulation	Washington State VIAQ Code	Yes		Yes		Yes		Yes		Yes		Yes	
	Mfg in ISO 9001 Certified Facility	Yes		Yes		Yes		Yes		Yes		Yes	

Complete Specification on page 38.
Performance Curve Charts on page 30.

N/A=not applicable
w.g.=water gauge
S.P.=static pressure

\$ Panasonic ventilation fans may qualify for an energy saving rebate. Rebate programs are often provided by local utility companies and based on ENERGY STAR guidelines. Check with your local utility company for details.

Dimensions



END OF SECTION



DESIGN STANDARDS FOR: SIGNS

General

The following are general guidelines for Greenway signs, trailhead markers, and directional signs. Signs are generally provided by Parks and Recreation. Contact the Parks and Recreation project manager for instructions on providing signage, installation procedures, and for approval of sign locations prior to installation.

Greenways Signs

1. For projects funded with Greenway levy funds, unless otherwise specified, Greenways signs shall be placed on or near park signs, wayfinding sign posts at intersections with main city streets, major trail intersections and trailheads.
2. Signs will include the following information: "Bellingham Parks and Recreation." This may be waived if otherwise stated on the sign.

Trailhead Markers – General

1. Trailhead markers shall be placed at main collection points, parking lots and at the intersection of major trail systems
2. Primary trailhead markers shall have a system-wide map; one or more maps of trails or parks which can be accessed from that marker; directional signs naming the trail and mileage; a Greenway funding sign if appropriate; and other important parks, community or neighborhood information.
3. Neighborhood stewards shall be solicited for the upkeep of primary trailhead markers and the posting of periodic information.
4. Secondary trailhead markers shall be weatherproof pedestals. They shall have one or more trail maps of trails and parks from that marker. A wayfinding post may be placed nearby with directional signs naming the trail, mileage, and a Greenways sign.

Trailhead Markers – Specifications

1. Street sign material, aluminum blank, 90 degree corners. 9-28.8 WSDOT Standard Specifications for sign thickness.
2. No holes
3. Dimensions: 36"x24"
4. TIFF OR PDF image printed on vinyl sticky-back sign
5. Sign Base shall be the Park Standard Trailhead sign detail. Reference the Park Standards Design Manual.

Directional Signs - General

1. Directional signs shall be placed on wayfinding posts at intersections with main city streets, trail intersections, or other locations where trail clarification is needed.
2. Directional signs will list the name of the trail system; followed by, when appropriate, a name associated with the location of the sign (e.g. Prospect Street, Joe's Garden, Birchwood Park, etc.); followed by, when appropriate, the name and mileage of destination points; followed by directional arrows. Some bollards may have more than one directional sign listing additional information.
3. Trail system names shall be consistent through the length of the trail and its connectors and be based on common name or officially adopted name usage. Trail names may be subdivided for park inventory and maintenance management systems. Examples of system names are: Whatcom Creek Greenway, Railroad Trail, Bay-to-Baker Trail, Interurban Greenway, Coast Millennium Trail, etc.
4. At termination points in areas of future development, temporary signs shall be placed stating: "Trail Ends. For future development information, contact Bellingham Parks and Recreation at (list phone number here) or at (list website here)"
5. Directional signs shall be made of traffic grade aluminum and be consistent in style. Sign colors shall be green for background and white for lettering.

Directional Signs - Specifications

1. Signs shall be street sign material, aluminum blank, rounded corners. Reference Section 9-28.8 of the WSDOT Standard Specifications for sign thickness. Note: The rounded corner will vary depending on the manufacturer. Sign images or templates may need to be adjusted accordingly.
2. Each sign shall have (4) 3/16" holes on each blank, one in each corner, 1/4" distance from each corner
3. Dimensions: 6" x 4" Directional Signs (words)
 4" x 2" arrows (one-way, two-way)
 4" x 4" arrow (up and to left or right)
4. Lettering : Three lines maximum
5. Color: Background is Standard Dark Green. Letter or arrows shall be white. 1/8" Borders shall be white. Reflective material can be used but is not required
6. Hardware: #6 x3/4" Stainless Steel, #1 square head (tamper proof), pan head screws. Use #1 square drive (available at Hardware Sales and other locations)

Directional Signs – Suggested Manufacturers:

1. **Correctional Industries Sign Shop** (for creation of entire sign including blank and lettering)
WSP Grounds
1313 N. 13th Ave.
Walla Walla, WA 99362
Attn: Mr. Ron Dixon

2. **Bellingham Public Works Sign Shop** (for printing and mounting onto sign blanks that you purchase)
Contact Name: Arne Larsen, City of Bellingham Public Works

3. **Zumar Industries, Inc.** (for sign blanks)
12015 Steele St. S.
Tacoma, WA 98445
Attn: Linda Seman
Linda@zumar.com
253-536-7740

4. **Northwest Safety Signs Inc.** (for creation of entire sign including blank and lettering)
360-676-6272
Marlene Dyck
mdyck@safetysignsinc.com

Anti-Graffiti Protection

1. Install OraGuard Laminating film 215, a non-shrink laminate, on all non-traffic signs.

END OF SECTION



DESIGN STANDARDS FOR: TOILET AND BATH ACCESSORIES

Hand Dryer Standard:

1. Xlerator hand dryer by Excel. Web site address www.gsacit.com.
2. Note: An approved equal will not be accepted. Sole source justification is based on bulk parts on hand; ease on maintenance time, availability, and vandal resistance.

Toilet Paper Dispenser

1. Royce Rolls Ringer TP2. Website www.roycerolls.net

FINALLY...^{2/10} A FAST HAND DRYER.

Zero To Dry In Less Than 15 Seconds.

Excel's research team has developed the **XLERATOR**® with **patented technology** that delivers three-times-faster hand drying performance. Conventional hand dryers take from 30 to 45 seconds to get a user's hands totally dry, and very few of us are willing to wait that long. With the automatic sensor-activated **XLERATOR**, not only do your hands get dry in 10 to 15 seconds, but consumer test participants report that their hands also felt *warm, soft and really dry*.

Uses 80% Less Energy.

Not only does the **XLERATOR** dry hands in one third of the time required by conventional hand dryers, our hand-drying system is designed to run on 15-amp service (making it great for older buildings). The combination of these two factors results in 80% less energy cost per use vs. conventional hand dryers.

90% Cost Savings.

Converting to the **XLERATOR** hand dryer will result in more than a 90% savings vs. paper towel costs. In addition to paper towels, the following costs are also eliminated: ordering, storing, replenishing, collecting and disposing of bacteria-laden paper towel waste.

Source Reduction Alternative.

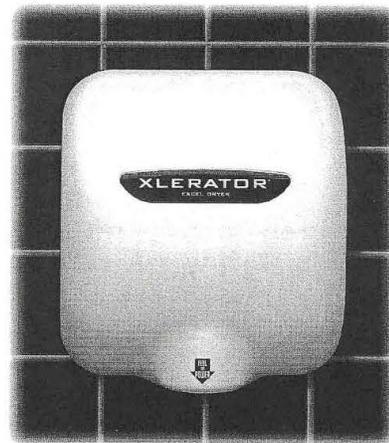
Converting from paper towels to the **XLERATOR** hand dryer is a great source-reduction alternative. Make a cost-saving decision that's good for the environment, because you don't sacrifice trees, incur the energy costs to turn pulp into paper and do away with the need to dispose of paper towel waste in already over-capacity landfills.

GreenSpec® Approved.

The **XLERATOR** is the first hand dryer ever to be awarded GreenSpec designation by the editors of *Environmental Building News*. **XLERATOR** meets a number of GreenSpec standards; it conserves energy, has low maintenance requirements and reduces waste.

Promotes Hygiene.

People are increasingly concerned with the spread of germs these days, especially in public restrooms. The automatic sensor-activated **XLERATOR** hand dryer is a great addition to today's **no-touch** washrooms. The **XLERATOR** also speeds up the required hand-washing process for employees, getting them back on the job faster and with clean hands.



3 Times Faster!



TIME TO THROW IN THE TOWEL.

XLERATOR® HAND DRYER

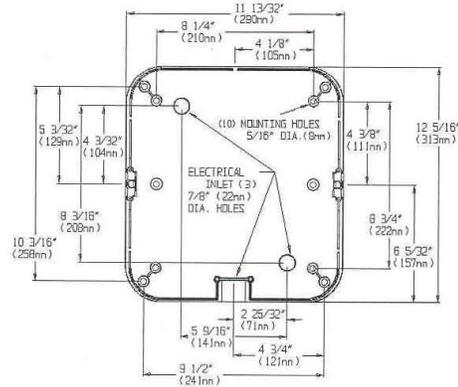
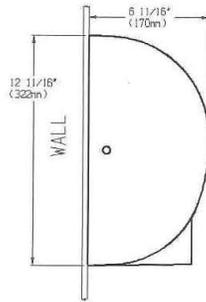
SPECIFICATIONS



MODEL XL-W Surface-mounted, Automatic, White epoxy Paint



MODEL XL-C Surface-mounted, Automatic, Chrome Plated



Dimensions: 11 3/4" lg. X 12 11/16" high x 6 11/16" deep
(298 mm lg. X 322 mm high x 170 mm deep)
Weight: 16 lbs. (7.3 kgs.)

Units are Available as Specified in:		
110/120V	12.5 Amp	60 Hz
208Y	7.0 Amp	60 Hz
220/240	6.5 Amp	60 Hz
277V	5.5 Amp	60 Hz
220/240V	6.5 Amp	50 Hz

Suggested Mounting Heights From floor to Bottom of Dryer	
Men's	45" (114 cm)
Ladies	43" (109 cm)
Teenagers	41" (104 cm)
Sm. Children	35" (89 cm)
Handicapped	37" (94 cm)

CONSTRUCTION

- A. Cover shall be a one-piece, heavy-duty, rib-reinforced, die-cast zinc alloy. It shall be lightweight, unbreakable, rustproof and all exposed surfaces shall be bright chrome plated or finished with chip-proof, electrostatically applied epoxy paint and fastened to a wall plate by two chrome plated tamper-proof bolts.
- B. Wall plate shall be equipped with (3) 7/8" (22 mm) diameter holes, one of which shall be suitable for use with surface conduit, for ease of wiring.
- C. All internal parts shall be coated according to Underwriters' Laboratories, Inc. requirements.
- D. Entire mechanism shall be internally grounded.

MECHANISM

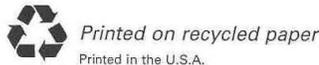
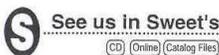
- A. Motor shall be a series commutated through-flow discharge vacuum motor/blower (5/8 HP / 20,000 RPM) which provides air velocity of 16,000 LFM (linear feet per minute) at the air outlet and 14,000 LFM at the hands (4 inches [102 mm] below air outlet).
- B. Heating element is constructed of Nichrome wire and mounted inside the blower housing, thereby being vandal proof. It shall be protected by an automatic resetting thermostat, which shall open whenever air flow is cut off and shall close when flow of air is resumed. It shall produce an air temperature of up to 135°F (57°C) at a 72°F (22°C) ambient room temperature at the hands (4 inches [102 mm] below air outlet).
- C. Control assembly is activated by an infrared optical sensor located next to the air outlet. The dryer shall operate as long as hands are under the air outlet. There is a 35-second lockout feature if hands are not removed.

LIMITED WARRANTY

The dryer shall be guaranteed to be free from defects for a period of three (3) years. Warranty shall include factory performed labor as well as the repair or exchange of defective parts, at manufacturer's option.

QUANTITY RECOMMENDATIONS

One dryer for every two washbasins is sufficient for most applications. If restroom traffic is unusually heavy, we suggest one dryer per washbasin in small installations and two dryers for every three washbasins in larger installations. When a 54" washfountain is used, we suggest four to five dryers.



EXCEL DRYER Inc.
 357 Chestnut Street • P.O. Box 365
 East Longmeadow, MA 01028 U.S.A.
 Tel: (413) 525-4531, Fax: (413) 525-2853
 E-Mail: admin@exceldryer.com
 www.exceldryer.com

END OF SECTION



DESIGN STANDARDS FOR: PLUMBING FIXTURES

Park Restroom Toilets:

1. Acorn stainless steel model #1675-ADA-W-1-CO1-HS-WO3
2. Note: An approved equal will not be accepted. Sole source justification is based on bulk parts on hand; ease on maintenance time, availability, and vandal resistance.

Park Restroom Sinks:

1. Acorn stainless steel model #1953-ADA-1-DMS-3-M-GT-OF
2. Note: An approved equal will not be accepted. Sole source justification is based on bulk parts on hand; ease on maintenance time, availability, and vandal resistance.

Flush Valves:

1. All public toilets shall have concealed flush valves.
2. Sloan hydraulic flush valves model #952-3.5-FW-L8

Wall Mounted Drinking Fountain

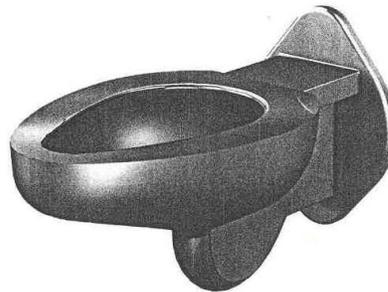
1. Single Mount DF: Haws Model 1109, ADA drinking fountain and 1105 Non-ADA drinking fountain
2. Dual Mount DF: Haws Model 1119 (not frost free)
3. Back panel model BP3
4. www.hawesco.com

Penal-Ware®



1675 Series

Blowout Jet Toilet - Off-Floor



1675-W-1

Fixture May Show Some Available Options

Blowout Jet Toilet - Off-Floor

Fixture is arranged to be installed on finished wall and serviced from an accessible pipe chase. Optional Wall Sleeve or Metal Template is recommended for all installations for required wall openings. Fixture is fabricated from 14 gage, type 304 stainless steel, and is seamless welded construction. Wall flange is structurally reinforced. Exterior has a satin finish, except for the integral contoured toilet seat, that has a sanitary high polish finish. There are no accessible voids or crevices where contraband can be concealed.

Toilet has an elongated bowl and requires a minimum of 25 PSI flow pressure. Trap has a minimum 3-1/2" seal, and will pass a 2-1/8" ball. Toilet waste outlet is 2-3/8" diameter plain end. Toilet will operate with a 1.6 GPF flush valve.

Regularly Furnished items include anchor bolts, washers and nuts, and mounting hardware for walls up to 8" thick.

GUIDE SPECIFICATION

Provide and install Acorn Penal-Ware® Blowout Jet Toilet (specify model number and options). Fixture shall be fabricated from 14 gage, type 304 stainless steel. Construction shall be seamless welded and exposed surfaces shall have a satin finish, except the integral contoured seat which shall have a sanitary high polish finish. Toilet shall be concealed blowout jet type with an elongated bowl and a self-draining flushing rim. Toilet trap shall pass a 2-1/8" diameter ball and be fully enclosed. Toilet to flush with a 1.6 GPF flush valve. Fixture shall withstand loadings of 3,000 pounds without permanent damage. Fixture shall be furnished with necessary fasteners for proper installation.

Page# P.1675

Acorn Engineering Co. • 15125 Proctor Ave. • P.O. Box 3527 • City of Industry, CA 91744-0527 U.S.A.
Tel: (800) 488-8999 • (626) 336-4561 • Fax: (626) 961-2200 • www.acorneng.com • E-mail: info@acorneng.com

Penal-Ware®: 1675 Blowout Jet Toilet - Off-Floor



WALL THICKNESS AND TYPE (Must Specify)
 Thickness _____ Type: ___ Concrete ___ Block ___ Steel

MODEL NUMBER AND OPTIONS SELECTION

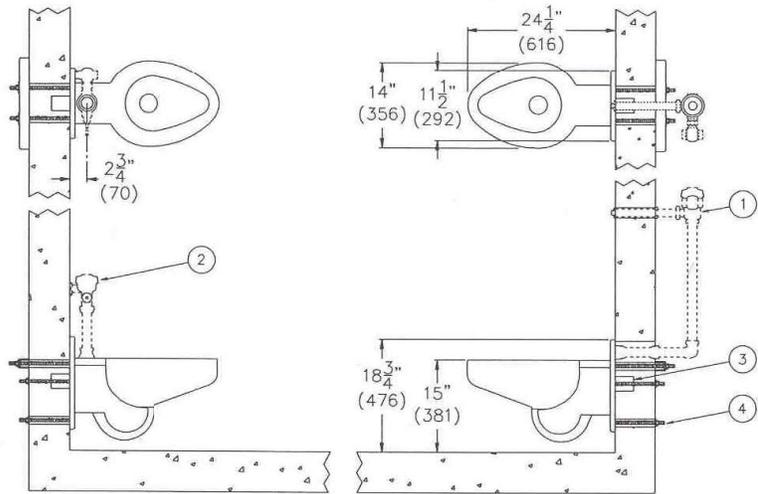
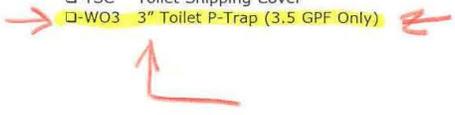
BASE MODEL NUMBER
-1675 Blowout Jet Toilet

SUPPLY (Must Specify)
-T Top (Exposed)
-W Wall (Concealed)

FIXTURE MOUNTING AND WASTE (Must Specify)
-1 Off-Floor, Wall Outlet

Product Options

- ADA ADA Compliant - 18" Integral Seat Height
- CO1 Cleanout w/O-Ring, Connecting to No-Hub 3" 4"
- EG Enviro-Glaze, Specify Color: _____
- FT Flood-Trol (Manual Reset)
- FTA Flood-Trol Auto-reset
- FTE Flood-Trol Electronic
- FV Flush Valve ___ 1.6 GPF ___ 3.5 GPF
- FVC Flush Valve Cover (w/ Flush Valve) ___ 1.6 GPF ___ 3.5 GPF
- FVT Flush Valve Thru Wall Connector
- GW Gasketed Toilet Waste
- HS Hinged Seat
- MT Metal Template (Only 1 Required Per Project)
- PC Pinned Cleanout Plug
- PH Paper Holder (Available Only with -FVC)
- SW Wall Sleeve
- TSC Toilet Shipping Cover
- WO3 3" Toilet P-Trap (3.5 GPF Only)



- NOTES:
- 1. Optional -FV Flush Valve - Wall Supply.
 - 2. Optional -FV Flush Valve - Top Supply.
 - 3. Toilet Waste Outlet.
 - 4. Wall Mounting Hardware.

Important: Installation instructions and current rough-in are furnished with each fixture. Do not rough-in without certified dimensions. Dimensions are subject to manufacturer's tolerance of plus or minus 1/4" and change without notice. Acorn assumes no responsibility for use of void or superseded data. © Copyright 1999 Acorn Engineering Company	
Selection Summary	Approved for Manufacturing
Model No. & Option _____ Quantity _____	Company _____ Title _____ Signature _____ Date _____

Page# P.1675

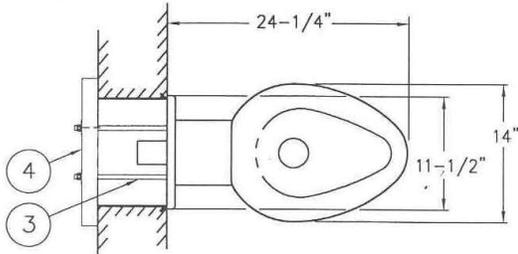
Acorn Engineering Co. • 15125 Proctor Ave. • P.O. Box 3527 • City of Industry, CA 91744-0527 U.S.A.
 Tel: (800) 488-8999 • (626) 336-4561 • Fax: (626) 961-2200 • www.acorneng.com • E-mail: info@acorneng.com

PENAL-WARE FIXTURES

INSTALLATION INSTRUCTIONS

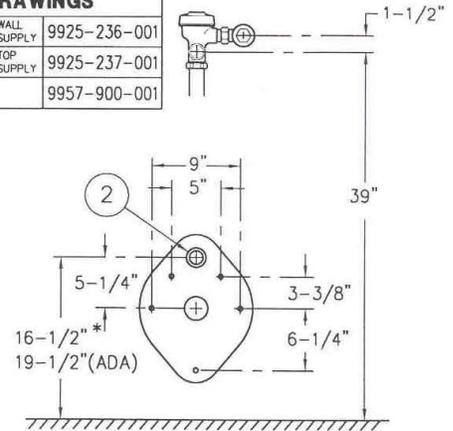


Mass Plot: 1/24/02 * 9:55:2 AM

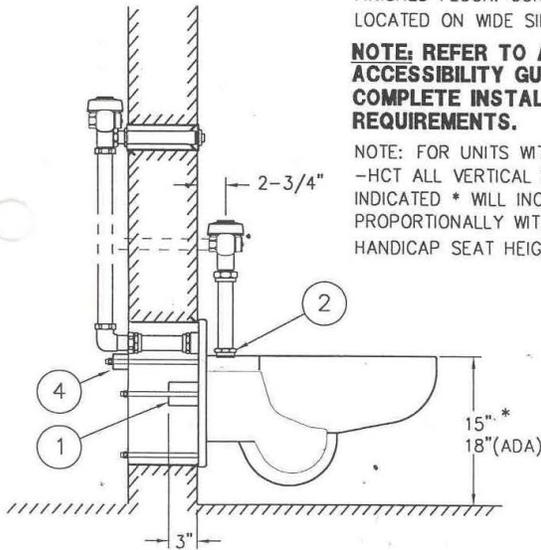


TOP VIEW

REFERENCE DRAWINGS		
-SW WALL SLEEVE /	-W WALL SUPPLY	9925-236-001
-MT METAL TEMPLATE	-T TOP SUPPLY	9925-237-001
MOUNTING HARDWARE		9957-900-001



(-W) WALL SUPPLY

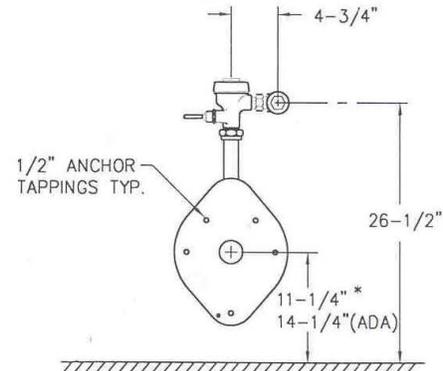


SIDE VIEW

FOR -ADA MODELS -FLUSH VALVE MUST BE HYDRAULICALLY ACTUATED OR SUPPLIED WITH A SPECIAL HANDLE. MAX. CONTROL HEIGHT IS 44" ABOVE FINISHED FLOOR. CONTROLS MUST BE LOCATED ON WIDE SIDE OF TOILET.

NOTE: REFER TO A.D.A. ACCESSIBILITY GUIDELINES FOR COMPLETE INSTALLATION REQUIREMENTS.

NOTE: FOR UNITS WITH SUFFIX OPTION -HCT ALL VERTICAL DIMENSIONS INDICATED * WILL INCREASE PROPORTIONALLY WITH ADD FOR HANDICAP SEAT HEIGHT.



(-T) TOP SUPPLY

INSTALLATION INSTRUCTIONS

- A- SEE REFERENCE DRAWING BOX FOR WALL SLEEVE INSTALLATION INSTRUCTIONS (SUFFIX OPTION -SW)
- B- ROUGH-IN PLUMBING FOR THE FOLLOWING CONNECTIONS:
 - TOILET WALL WASTE OUTLET 2-3/8" O.D. PLAIN END ①
 - SUFFIX OPTION -W03 3" O.D. PLAIN END WASTE ①
 - FLUSHING INLET CONNECTION 1-1/2" NPT ②
- C- INSTALL 1/2"-13 ALL THREAD STUDS ③ INTO ANCHOR TAPPINGS AT REAR OF FIXTURE. STUDS MUST HAVE A MINIMUM 1/2" ENGAGEMENT.
- D- PLACE TOILET UP AGAINST CELL WALL, SLIDING

THE STUDS THROUGH WALL SLEEVE OPENINGS. NOTE: IT MAY BE NECESSARY TO SUPPORT OFF-FLOOR FIXTURES ON CELL SIDE OF WALL TO SECURE PROPERLY FROM PIPE CHASE.

- E- PLACE WASHERS, MOUNTING CHANNEL ④ AND NUTS ONTO STUDS; TIGHTEN TO 60FT/LBS.
- F- FLUSH SUPPLY LINE. MAKE-UP WASTE CONNECTION AND MOUNT FLUSH VALVE PER MANUFACTURERS' RECOMMENDATIONS.

ACORN ENGINEERING COMPANY P.O. BOX 3527 INDUSTRY, CA. 91744 (626) 336-4561 FAX (626) 961-2200 CITY OF BELLINGHAM P 39070*10 39070*20	TITLE BLOWOUT JET TOILET - OFF FLOOR CAT. *1675 / 1675-ADA -W/T	
	MANUFACTURE DATE OCTOBER 1997 TO PRESENT	DATE ISSUED 8/15/97 DATE REVISED 09/10/01

PENAL-WARE FIXTURES

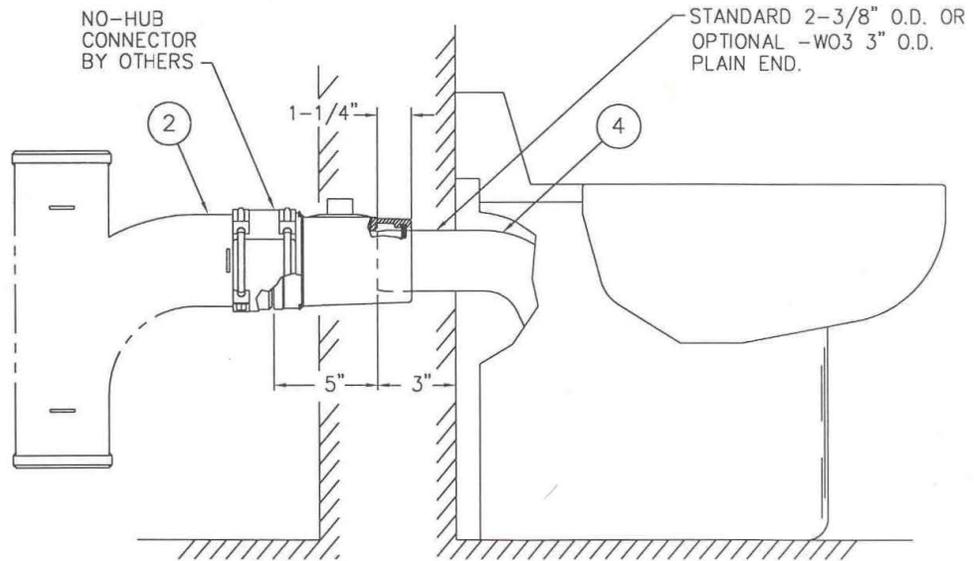
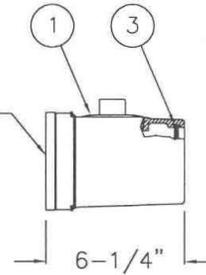
INSTALLATION INSTRUCTIONS



Mass Plot: 1/24/02 * 9:55:40 AM

REFERENCE DRAWING	
WASTE CONNECTION WITH CLEANOUT -C01	9985-125-001

NOTE: STANDARD WASTE FITTING AVAILABLE 3" OR 4" NO-HUB



INSTALLATION INSTRUCTIONS

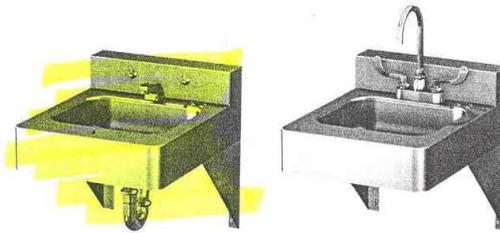
- A- INSERT O-RING ③ INTO GROOVE OF WASTE FITTING ①. LUBRICATE THE O-RING ③ WITH O-RING LUBRICANT.
- B- INSTALL WASTE FITTING ① TO FIXTURE P-TRAP WASTE EXTENSION ④. ENGAGEMENT IS APPROXIMATELY 1-1/4". NOTE: TOILET WASTE EXTENSION ④ IS 3" BEYOND BACK OF FIXTURE. LONGER WASTE EXTENSION MUST BE SPECIFIED AT TIME OF PURCHASE.
- C- MAKE UP WASTE FITTING CONNECTION TO WASTE PIPING ② USING NO-HUB (BAND) CONNECTOR, BY OTHERS.

ACORN ENGINEERING COMPANY P.O. BOX 3527 INDUSTRY, CA. 91744 (626) 336-4561 FAX (626) 961-2200 CITY OF BELLINGHAM P 39070*20 39070*10	TITLE NO-HUB WASTE CONNECTION WITH CLEANOUT -C01		
	MANUFACTURE DATE JULY 1975 TO PRESENT	DATE ISSUED 1/29/96 DATE REVISED 9/3/97	DRAWING NUMBER 9925-054-001

Dura-Ware®



1953 Series
18" Lavatory - ADA Compliant



1953-ADA-1-DMS-4-GT-TPT

1953-ADA-1-CSG-9

Fixture May Show Some Available Options

18" Lavatory - ADA Compliant

Fixture is designed to be installed and serviced on the front side of a finished wall. The fixture is fabricated from 16 gage, type 304 stainless steel and is seamless welded construction. Exterior has a satin finish. Unit conforms with ANSI, UFAS and ADA requirements for accessibility. Compliance is subject to the interpretation and requirements of the local code authority.

Lavatory Rectangular Bowl is 14" x 12" x 5" deep. The deck has an integral, self-draining soap dish. The lavatory has a 1-5/8" diameter drain hole to receive optional suffix -GE or -GT grid strainer. Lavatory angle braces and fasteners for securing the braces to the lavatory are furnished. Wall fasteners by others.

Lavatory Valves (ADA compliant) available are:

1. Air-Control pushbutton valves using atmospheric air; metering non-hold open type. Timing is from 5 to 60 seconds. Air-Control valves can be remotely located up to 10 feet from the operating pushbutton.
2. Electronic valve system using Modular Valve Controller for water metering through precise electronic control of a solenoid valve. Valve timing is from 1 second to 9 minutes. Modular Valve Controller can be remotely located up to 100 feet from the operating pushbutton.
3. Centerset with gooseneck spout and wristblade handles, suffix -CSG.

Regularly furnished are angle braces and fasteners. Mounting screws and anchor shields are furnished by others.

GUIDE SPECIFICATION

Provide and install an Acorn Dura-Ware®, 18" wide ADA Compliant Lavatory (specify model number and options). Fixture shall be fabricated from heavy gage, type 304 stainless steel. Construction shall be seamless welded with a satin finish exterior. Lavatory deck shall have an integral air-circulating, self-draining soap dish. Lavatory angle braces and fasteners shall be furnished by manufacturer. Installation shall be made in accordance with manufacturer's recommendation and details. Units to conform with ANSI, UFAS and ADA requirements for accessibility.

Page#

D.1953

Revised 1/1/01

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Tel: (800) 488-8999 • (626) 336-4561 • Fax: (626) 961-2200 • www.acorneng.com • E-mail: info@acorneng.com



Dura-Ware®: 1953 18" Lavatory - ADA Compliant

WALL THICKNESS AND TYPE (Must Specify)

Thickness _____ Type _____

MODEL NUMBER AND OPTIONS SELECTION

BASE MODEL NUMBER

1953-ADA 18" x 22" Handicapped Lavatory

FIXTURE MOUNTING AND WASTE (Must Specify)

1 Off-Floor, Wall Outlet

BUBBLER OR SPOUT SELECTION (Must Specify)

CSG Centerset with Gooseneck Spout and Wrist Blade Handles

DMS Deck Mounted Spout

VALVE SELECTION (Must Specify)

3 Air-Control, Single Temperature

4 Air-Control, H & C

9 Without Valves

(Standard Punching is (3) 1-5/16" Dia. Holes for 4" Centers)

EVS1 Electronic Valve System - Single Temp

EVS2 Electronic Valve System - Hot & Cold

MVC1 Time-Trol - Single Temp

MVC2 Time-Trol - Hot & Cold

DECK PUNCHING

H1 Single Hole Centered

H24 Two Holes 4" Centered

H28 Two Holes 8" Centered

H38 Three Holes 8" Centerset

Product Options

EE Elbow Enclosure

EG Enviro-Glaze Color, Specify: _____

FG 14 Gage Housing

GE Grid Strainer w/Close Elbow 1-1/4"

GT Grid Strainer w/Tailpiece 1-1/4"

LC Lavatory Carrier (Punched Only, Carrier Not Provided)

M Metering

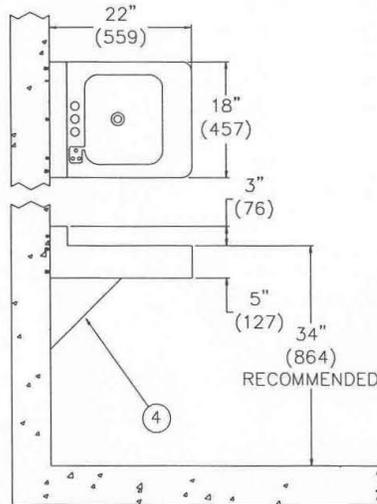
MA Manifolded Valve __2

MH Metering Hot Side Only

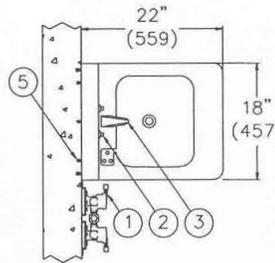
OF Lavatory Overflow

TE Trap Enclosure (Conceals Air-Control Valve)

TPT Tubular P-Trap 1-1/4" x 1-1/2"



1953-1-9



1953-1-DMS-4

NOTES:

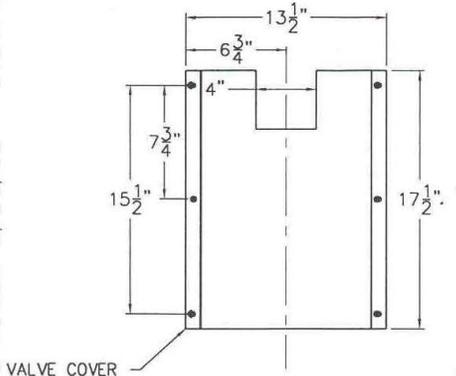
1. Optional -4 Air-Control Valve.
2. Lavy Valve Pushbuttons.
3. Optional -DMS Deck Mounted Spout.
4. Standard Angle Brace.
5. Wall Mounting Anchors (By Others).

Important: Installation instructions and current rough-in are furnished with each fixture. Do not rough-in without certified dimensions. Dimensions are subject to manufacturer's tolerance of plus or minus 1/4" and change without notice. Acorn assumes no responsibility for use of void or superseded data. © Copyright 2000 Acorn Engineering Company	
Selection Summary	Approved for Manufacturing
Model No. & Option _____ Quantity _____	Company _____ Title _____ Signature _____ Date _____

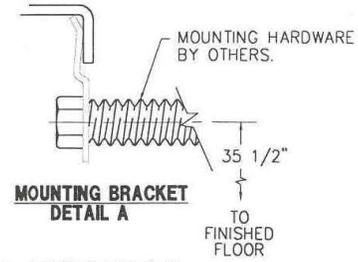
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DURA-WARE

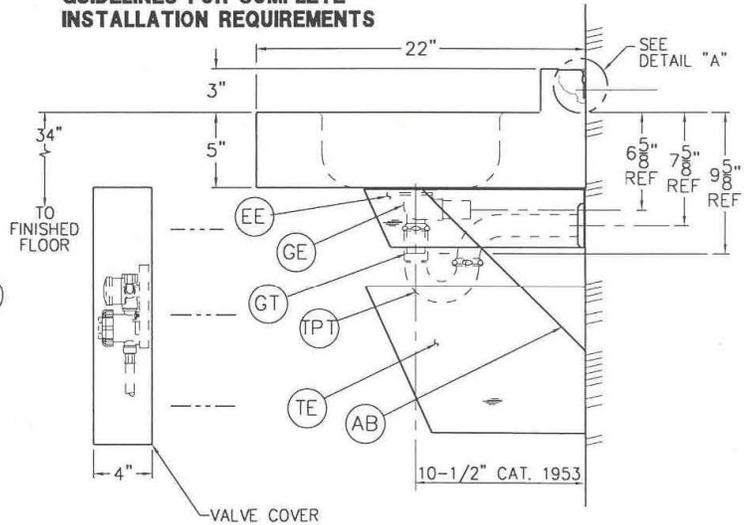
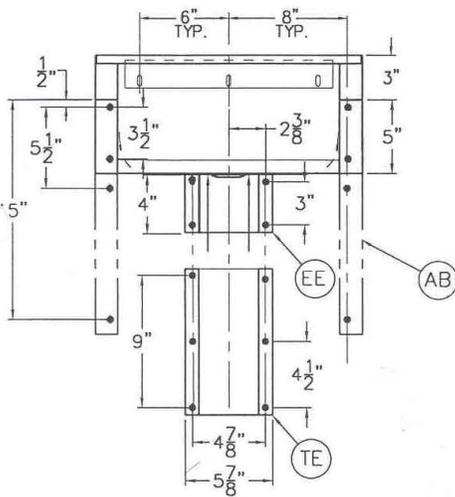
INSTALLATION INSTRUCTIONS



REFERENCE DRAWING	
HOT AND COLD AIR-CONTROL VALVE	9908-105-002
SINGLE TEMP AIR-CONTROL VALVE	9908-106-002



NOTE: REFER TO A.D.A. ACCESSIBILITY GUIDELINES FOR COMPLETE INSTALLATION REQUIREMENTS



INSTALLATION INSTRUCTIONS:

- A- SEE DETAIL FOR CURRENT VALVE INSTALLATION.
- B- INSTALL MOUNTING BRACKET. SEE DETAIL "A".
- C- INSTALL WALL ANCHORS AND ATTACH FIXTURE. COUNTERTOP IS RECOMMENDED AT 34" ABOVE FINISHED FLOOR.
- D- ATTACH -AB ANGLE BRACES FOR ADDITIONAL SUPPORT (FASTENERS PROVIDED).
- E- MAKE WASTE CONNECTIONS. DIMENSIONS VARY DEPENDING ON OPTIONAL WASTE CONNECTION SELECTED:
- (GE) -OPTIONAL GRID STRAINER WITH CLOSE ELBOW 1-1/4" OD COMPRESSION CONNECTION.

- (GT) -OPTIONAL GRID STRAINER WITH TAILPIECE 1-1/4" OD COMPRESSION CONNECTION.
- (TPT) -OPTIONAL TUBING P-TRAP 1-1/4" x 1-1/2" OD.
- E-ROUGH-IN PLUMBING AND FLUSH SUPPLY LINES.
- F- MOUNT TRAP/ELBOW ENCLOSURE AFTER INSTALLING PLUMBING WITH VALVE COVER (SUPPLIED STANDARD) TO WALL. HARDWARE BY OTHERS:
- (EE) -OPTIONAL ELBOW ENCLOSURE AND VALVE COVER FOR USE WITH -GE CLOSE ELBOW.
- (TE) -OPTIONAL TRAP ENCLOSURE (AND VALVE COVER) FOR USE WITH ANY WASTE OPTION.

ACORN ENGINEERING COMPANY
 P.O. BOX 3527 INDUSTRY, CA. 91744
 (626) 336-4561 FAX (626) 961-2200
 CITY OF BELLINGHAM P
 39070*40

TITLE		
ADA COMPLIANT WALL HUNG LAVATORY - CAT. #1953-ADA		
MANUFACTURE DATE	DATE ISSUED	DRAWING NUMBER
JANUARY 1980 TO PRESENT	09-29-92	9908-006-001
	DATE REVISED	
	10/18/99	

Mass Plot: 1/24/02 * 9:54:55 AM

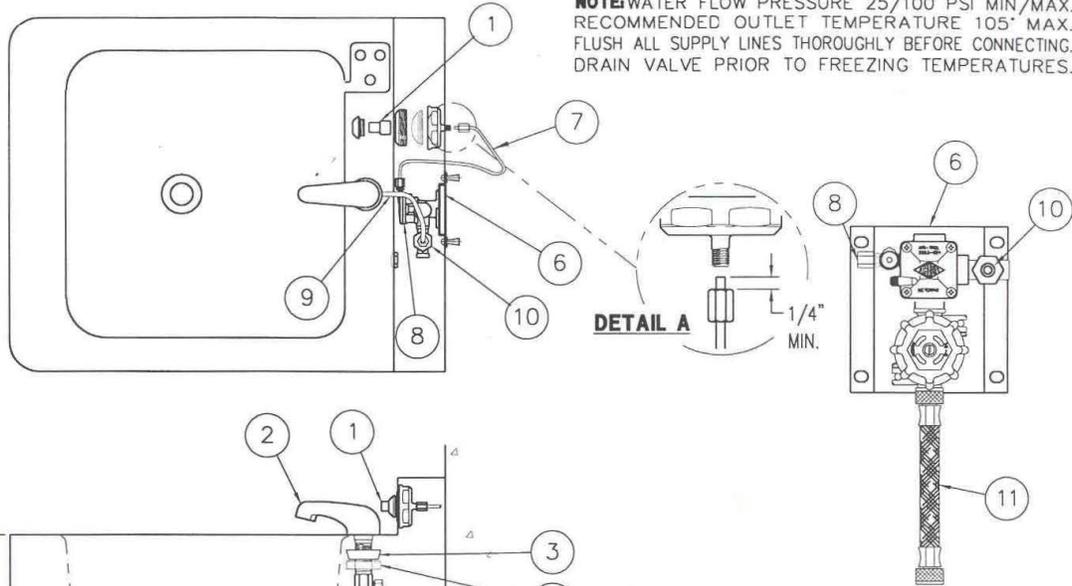
DURA-WARE

INSTALLATION INSTRUCTIONS



AIR-CONTROL VALVE:

NOTE: WATER FLOW PRESSURE 25/100 PSI MIN/MAX. RECOMMENDED OUTLET TEMPERATURE 105° MAX. FLUSH ALL SUPPLY LINES THOROUGHLY BEFORE CONNECTING. DRAIN VALVE PRIOR TO FREEZING TEMPERATURES.



REFERENCE DRAWINGS	
ASSEMBLIES	NUMBERS
VALVE BODY (2.5 GPM)	9955-006-003
STOP	9956-040-002
FIXTURE TRIM	9957-056-001
AIR-CONTROL SERVOMOTORS	
METERING	9955-000-002
NON-METERING	9955-001-002

INSTALLATION INSTRUCTIONS:

- A- PRIOR TO INSTALLATION OF THE FIXTURE, MOUNT PUSHBUTTON/ESCUTCHEON ASSEMBLIES (1) TO THE FIXTURE BACKPLASH. MOUNT THE SPOUT (2) AND GASKET TO THE LAVATORY DECK. INSTALL BELL SPACERS (3), LOCKNUTS (4) AND COMPRESSION ELBOWS (5) TO SPOUT THREADED INLET.
- B- INSTALL THE PLUMBING FIXTURE TO THE WALL PER DRAWING #9908-006-001.
- C- INSTALL TRAP/ELBOW ENCLOSURE (12) TO WALL. MOUNT AIR-CONTROL VALVE ASSY. (6) TO WALL BELOW ENCLOSURE. MOUNTING HARDWARE NOT SUPPLIED BY ACORN.
- D- CONNECT 1/8" OD POLYETHYLENE AIR LINE (7) TO PUSHBUTTON ASSEMBLY (1) AND SERVOMOTOR (8). HANDTIGHT USING FERRULE NUTS PROVIDED; SEE DETAIL "A".

E- CONNECT 1/4" OD POLYETHYLENE WATER LINE (9) TO SPOUT COMPRESSION ELBOW (5) AND SERVOMOTOR COMPRESSION FITTING (10) USING FERRULE NUTS PROVIDED.

F- AFTER THOROUGHLY FLUSHING THE SUPPLY LINE, MAKE-UP SUPPLY CONNECTION (1/2" NPS FEMALE). (NOTE: SUPPLY INLET CONNECTION WILL ACCOMODATE 1/2" NPT MALE ADAPTER). THREAD FLEX CONNECTOR HOSE (11) TO VALVE INLET AND TO SUPPLY STUBOUT.

G- SEE APPROPRIATE SERVOMOTOR REFERENCE DRAWING FOR DETAILS AND TIMING INSTRUCTIONS.

H- INSTALL VALVE COVER (13) (SUPPLIED STANDARD) TO WALL WITH THE NOTCH AROUND TRAP/ELBOW ENCLOSURE (12). MOUNTING HARDWARE NOT SUPPLIED BY ACORN.

NOTE: WHEN METERING VALVES ARE SPECIFIED, THE AIR LINES CONNECT DIRECTLY TO THE TIMER.

<p>ACORN ENGINEERING COMPANY P.O. BOX 3527 INDUSTRY, CA. 91744 (626) 336-4561 FAX (626) 961-2200 CITY OF BELLINGHAM P 39070*40</p>	<p>TITLE FRONT MOUNTED SINGLE TEMP AIR-CONTROL VALVE - CAT. #1953-ADA-03</p>		
	<p>MANUFACTURE DATE APRIL 1994 TO PRESENT</p>	<p>DATE ISSUED 05-18-94</p> <p>DATE REVISED 10/21/99</p>	<p>DRAWING NUMBER 9908-106-002</p>

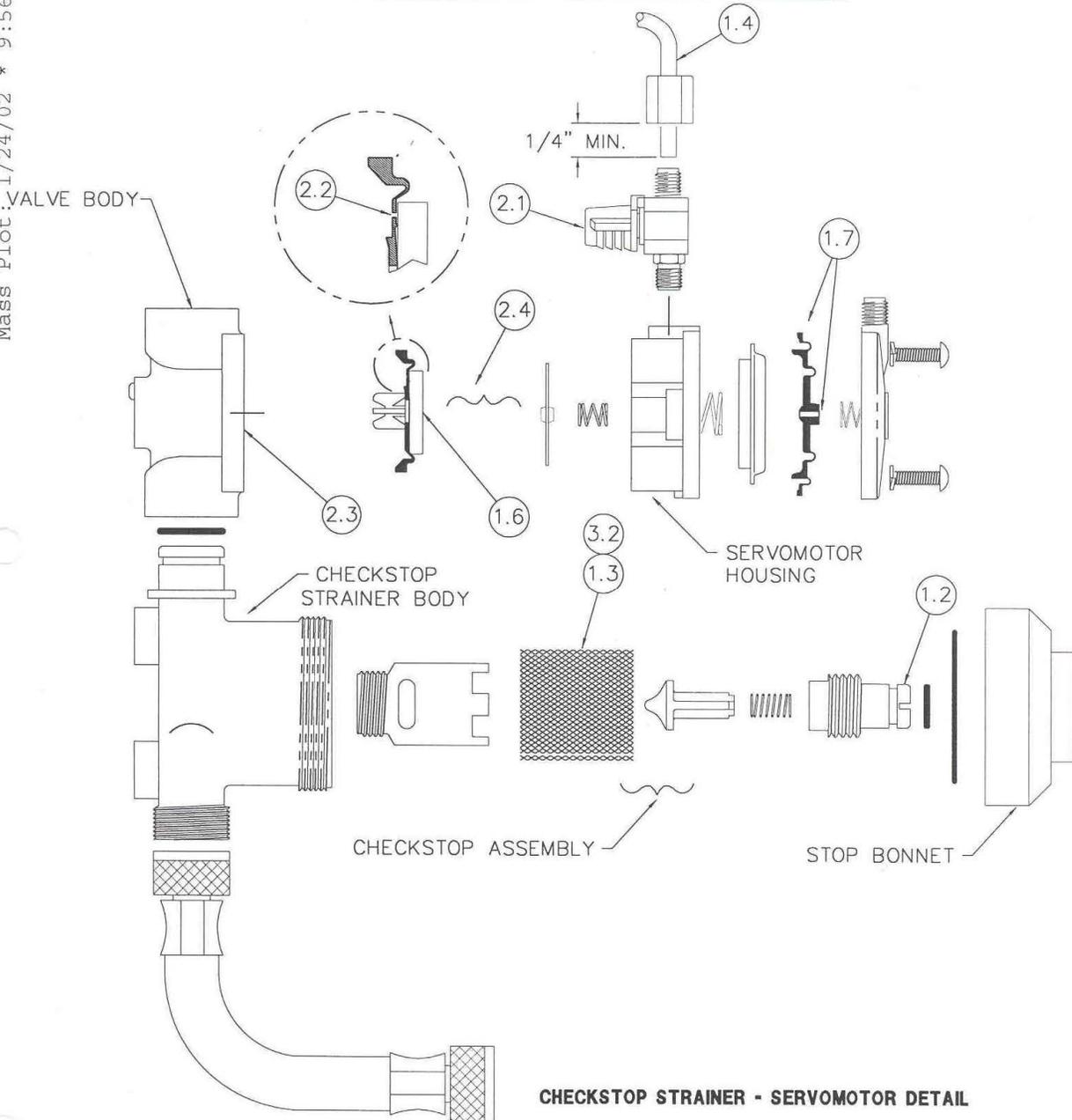
AIR-CONTROLLED VALVES

INSTALLATION INSTRUCTIONS



METERING AIR-CONTROLLED VALVES - (DELAYED ACTING)

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CHECKSTOP STRAINER - SERVO MOTOR DETAIL

<p>AGORN ENGINEERING COMPANY P.O. BOX 3527 INDUSTRY, CA. 91744 (626) 336-4561 FAX (626) 961-2200 CITY OF BELLINGHAM P 39070*40</p>	<p>TITLE AIR-CONTROLLED VALVES MAINTENANCE INSTRUCTIONS - METERING</p>		
	<p>MANUFACTURE DATE SEPTEMBER 1995 TO PRESENT</p>	<p>DATE ISSUED 03/26/01</p>	<p>DRAWING NUMBER 9940-006-003</p>
		<p>DATE REVISED</p>	

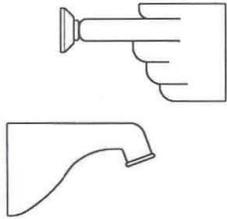
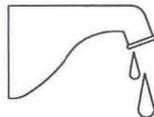
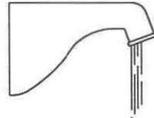
AIR-CONTROLLED VALVES

INSTALLATION INSTRUCTIONS



Mass Plot: 1/24/02 * 9:56:2 AM

METERING AIR-CONTROLLED VALVES - (DELAYED ACTING)

CONDITION:	SOLUTION:
<p>NO WATER FLOW:</p> 	<ol style="list-style-type: none"> 1.1 Check water main supply – open. 1.2 Inspect checkstops – open. 1.3 Inspect checkstop strainer for debris. 1.4 Check 1/8" O.D. tubing and fittings for leaks. 1.5 Check pushbutton air diaphragm for holes. 1.6 Check servomotor diaphragm center hole for blockage. 1.7 Check servomotor upper diaphragm for damage.
<p>WATER DRIPS / WONT SHUT OFF:</p> 	<ol style="list-style-type: none"> 2.1 Check servomotor timer assembly. 2.2 Check servomotor diaphragm offset hole for debris. 2.3 Check servomotor seat for build-up or damage. 2.4 Check servomotor plate and diaphragm for obstruction.
<p>REDUCED WATER FLOW:</p> 	<ol style="list-style-type: none"> 3.1 Check valve riser tubing for crimping. 3.2 Inspect checkstop strainer for debris. 3.3 Check valve flow control for blockage. 3.4 (Washfountains) Check nozzle assembly for debris.

Refer to drawing #9940-006-003 for Air-Controlled Valve Maintenance Detail to locate solutions above. Refer to Acorn Operations And Maintenance Manual for installation instructions and repair parts drawings.

 <p>ACORN ENGINEERING COMPANY P.O. BOX 3527 INDUSTRY, CA. 91744 (626) 336-4561 FAX (626) 961-2200 CITY OF BELLINGHAM P 39070*40</p>	TITLE AIR-CONTROLLED VALVE MAINTENANCE INSTRUCTIONS - METERING		
	<p>MANUFACTURE DATE APRIL 1994 TO PRESENT</p>	<p>DATE ISSUED 8-10-94</p> <p>DATE REVISED 03/26/01</p>	<p>DRAWING NUMBER 9940-005-002</p>

SLOAN®

SERIES 900™ HYDRAULIC FLUSHING SYSTEM REPAIR & MAINTENANCE GUIDE



LIMITED WARRANTY

Sloan Valve Company warrants its Hydraulic Flushometer to be made of first class materials, free from defects of material or workmanship under normal use and to perform the service for which they are intended in a thoroughly reliable and efficient manner when properly installed and serviced for a period of 3 years from date of purchase. During this period, Sloan Valve Company will, at its option, repair or replace any part or part which prove to be thus defective if returned to Sloan Valve Company, at customer's cost, and this shall be the sole remedy available under this warranty. No claims will be allowed for labor, transportation or other incidental costs. This warranty extends only to those persons or organizations who purchase Sloan Valve Company's products directly from Sloan Valve Company for purpose of resale.

THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. IN NO EVENT IS SLOAN VALVE COMPANY RESPONSIBLE FOR ANY CONSEQUENTIAL DAMAGES OF ANY MEASURE WHATSOEVER.

SLOAN VALVE COMPANY • 10500 SEYMOUR AVENUE • FRANKLIN PARK, IL 60131

Ph: 800/9-VALVE-9 847/671-4300 • Fax: 800/447-8329 847/671-4380 • <http://www.sloanvalve.com>



Hydraulic Royal® Model 952 Flushometer 952-1.6

► **Description**
Concealed Hydraulically Operated Water Closet Flushometer, for wall hung concealed back spud bowls.

- **Flush Cycle**
- Model 952 Water Saver (3.5 gpf/13.2 Lpf)
 - Model 952-1.6 Low Consumption (1.6 gpf/6.0 Lpf)

- **Specifications**
Quiet, Concealed, Diaphragm Type, Rough Brass Closet Flushometer for either left or right hand supply with the following features:
- Dual Filtered By-pass
 - ADA Compliant Non-Hold-Open feature type Actuator (specify Actuator type listed below)
 - 1" I.P.S. Wheel Handle Bak-Chek™ Angle Stop
 - Adjustable Tailpiece
 - Vacuum Breaker
 - Double Slip Elbow Flush Connection and Spud Coupling for 1½" Concealed Back Spud
 - Sweat Solder Adapter
 - Diaphragm, Stop Seat and Vacuum Breaker to be molded from PERMEX™ rubber compound for Chloramine resistance

Valve Body, Cover, Tailpiece and Control Stop shall be in conformance with ASTM Alloy Classification for Semi-Red Brass. Valve shall be in compliance to the applicable sections of ASSE 1037, ANSI/ASME 112.19.6, and Military Specification V-29193.

► **L Dimension**
Specify the "L" Dimension for the proper length of the Flush Connection. The "L" Dimension is equal to the Wall Thickness (to the nearest whole inch) plus 2¾".

- **Actuator Types:** (please check one)
- FW** Fixture Wall Actuator (HY-33-A) (rear access required)
 - MP** Metal Partition Actuator (HY-49-A)
 - SW** Side Wall Mounted Actuator (HY-72-A)
 - MBFW** Metal Button Fixture Wall Actuator (HY-100-A)(rear access required)
 - MBPM** Metal Button Panel Mount (HY-108-A)

See Actuator Specification pages in this section for details on Actuators.

- **Variations**
- TP** Trap Primer Elbow
 - YI** Two Wall Bumpers (for open front seat without cover)

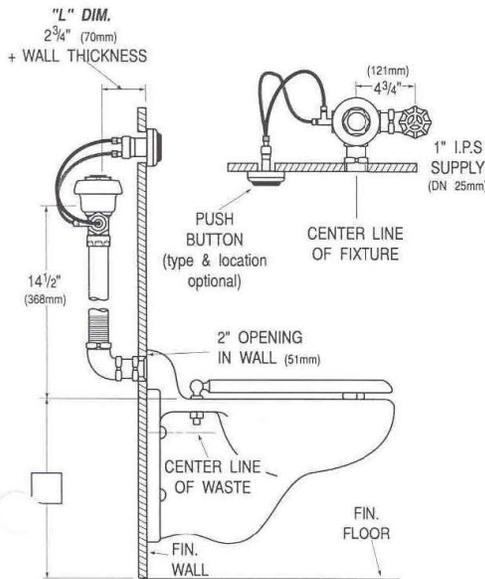
See Accessories Section of the Sloan catalog for details on these and other Flushometer variations.

► Hydraulic Flushometer can also be provided in Regal® Models. All rough-in dimensions remain the same. Consult the factory.



Listed by I.A.P.M.O.

This space for Architect/Engineer approval



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The information contained in this document is subject to change without notice.

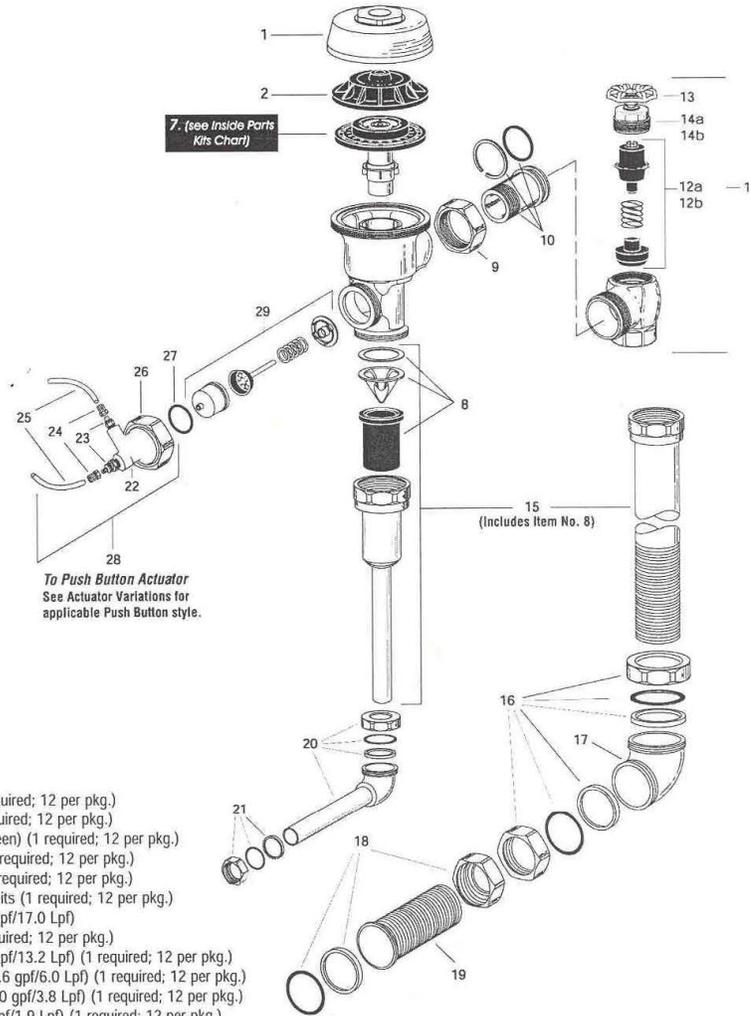
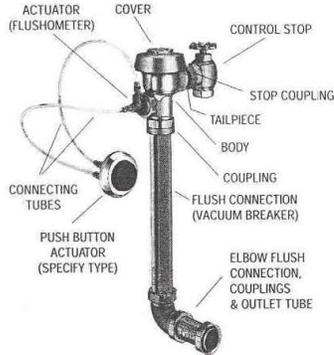
Made in the U.S.A.

SLOAN

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SLOAN® FLUSHOMETERS

Series 900® Hydraulic Flushing System Maintenance Guide



PARTS LIST

Item No.	Code No.	Part No.	Description
1	0301173	A-72	RB Cover
2	0301168	A-71	Inside Cover
3a	5301058	A-19-AC	Relief Valve, Closet (white) (1 required; 12 per pkg.)
3b	5301059	A-19-AU	Relief Valve, Urinal (black) (1 required; 12 per pkg.)
3c	5301211	A-19-ALC	Relief Valve, LC Closet/Urinal (green) (1 required; 12 per pkg.)
3d	5301143	A-19-AL	Relief Valve, 9 L Closet (blue) (1 required; 12 per pkg.)
4	5301111	A-15-A	Disc - for all Inside Parts Kits (1 required; 12 per pkg.)
5	5301188	A-156-A	Diaphragm - for all Inside Parts Kits (1 required; 12 per pkg.)
6a	5301236	A-163-A	Guide Assembly for Closet (4.5 gpf/17.0 Lpf) or Urinal (1.5 gpf/5.7 Lpf) (1 required; 12 per pkg.)
6b	5301032	A-152-A	Guide Assembly for Closet (3.5 gpf/13.2 Lpf) (1 required; 12 per pkg.)
6c	5301031	A-151-A	Guide Assembly for LC Closet (1.6 gpf/6.0 Lpf) (1 required; 12 per pkg.)
6d	5301155	A-155-A	Guide Assembly for LC Urinal (1.0 gpf/3.8 Lpf) (1 required; 12 per pkg.)
6e	5301157	A-157-A	Guide Assembly for Urinal (0.5 gpf/1.9 Lpf) (1 required; 12 per pkg.)
7			SEE THE INSIDE PARTS KIT CHART
8	3323182	V-651-A	Vacuum Breaker Repair Kit
9	0308690	H-550	RB Tailpiece Coupling
10	0308802	H-551-A	RB Adjustable Tailpiece, 2-1/16" (52 mm)
11	0388010	H-730-A	RB Wheel Handle Bak-Chek® Control Stop
12a	3308855	H-541-A	1" Wheel Handle Repair Kit for H-730-A Control Stop
12b	3308858	H-543-A	3/4" Wheel Handle Repair Kit for H-730-A Control Stop
13	0308919	H-558-A	Wheel Handle
14a	0208079	H-561	1" RB Bonnet
14b	0208083	H-623	3/4" RB Bonnet
15			V-500-A Vacuum Breaker Flush Connection (specify size)
16	0306619	F-2-AA	1-1/2" (38 mm) RB Couplings (2 each), Friction Rings (2 each), and Rubber Gaskets (2 each)
17	0206146	F-21	RB Elbow
18	0306087	F-2-A	1" (25 mm) RB Coupling, Friction Ring, and Rubber Gasket
19			F-100 RB Flared End Flush Connection (specify length)
20			F-15-A 3/4" (19 mm) RB Elbow Flush Connection with Coupling and Rubber Gasket (specify length)
21	0306054	F-2-A	3/4" (19 mm) RB Coupling, Friction Ring, and Rubber Gasket
22	0318024	HY-25	RB Valve Actuator Housing only
23	0318023	HY-24	Tube Fitting (2 required)
24	0318033	HY-35	Tube Fitting Nut (2 required)
25	0318093	HY-30	1/4" (6 mm) x 48" (1219 mm) Connecting Tubes (2 required)
26	0301083	A-6	RB Handle Coupling Nut
27	0337086	DO-22	"O" Ring
28	3318005	HY-109-A	Actuator Housing Assembly (includes items 22, 23, 24, 26, and 27)
29	3318001	HY-83-A	Actuator Cartridge Assembly (Replacement Kit, includes item 27)

Each item has been identified by a Part Number and a corresponding Code Number. To expedite your replacement requirements, order by Code Number.

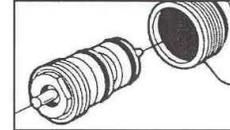
ABBREVIATIONS:
 Assem. = Assembly
 CP = Chrome Plated
 RB = Rough Brass
 gpf = gallons per flush
 Lpf = Liters per flush
 LC = Low Consumption
 WH = Wheel Handle

ROYAL FLUSHOMETER INSIDE PARTS KITS (item #7 from previous page)

7. INSIDE PARTS KITS

A-36-A	A-37-A	A-38-A	A-41-A	A-42-A	A-43-A	A-44-A
3301036	3301037	3301038	3301041	3301044	3301081	3301024
4.5 gpf/17.0 Lpf	1.5 gpf/5.7 Lpf	3.5 gpf/13.2 Lpf	1.6 gpf/6.0 Lpf	1.0 gpf/3.8 Lpf	0.5 gpf/1.9 Lpf	2.4 gpf/9.0 Lpf
CLOSET	URINAL	CLOSET	CLOSET	URINAL	URINAL	CLOSET

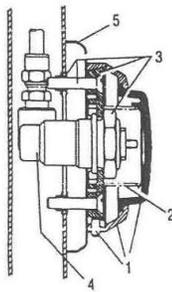
HY-32-A (0318031)
ACTUATOR CARTRIDGE ASSEMBLY



For use with HY-50-A and HY-71-A Actuator Assemblies
(see Actuators listed below)

PUSH BUTTON ACTUATOR VARIATIONS

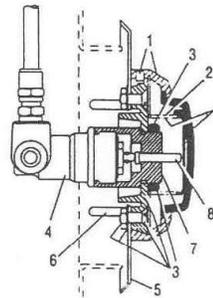
HY-49-A (0318049)
METAL PARTITION PUSH BUTTON



- 1 3318007 **HY-1000-A** Push Button Kit - includes Push Button, Flange, Spring & Set Screw
- 2 0318004 **HY-3** Spring
- 3 3318010 **HY-1003-A** Mounting Flange Kit - includes Mounting Flange, Mounting Nut, Screws (2) & Tinnerman Nuts (2)
- 4 0318123 **HY-71-A** Actuator Assembly
- 5 0218046 **HY-46** Mounting Flange

NOTE: Includes HY-32-A Cartridge (shown above)

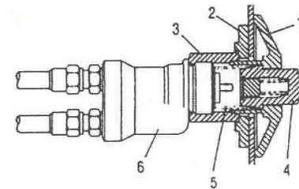
HY-72-A (0318072)
SIDE WALL PUSH BUTTON



- 1 3318007 **HY-1000-A** Push Button Kit - includes Push Button, Flange, Spring & Set Screw
- 2 0318004 **HY-3** Spring
- 3 3318008 **HY-1001-A** Mounting Flange Kit - includes Mounting Flange, Mounting Nut, Screws (2) & Washers (2)
- 4 0318123 **HY-71-A** Actuator Assembly
- 5 0218043 **HY-40** Plate
- 6 0305173 **EL-173** Screws (4)
- 7 0318073 **HY-73** Extension Adapter
- 8 0318074 **HY-74** Extension Stem

NOTE: Includes HY-32-A Cartridge (shown above)

HY-108-A (0318119)
PENAL WARE METAL PUSH BUTTON

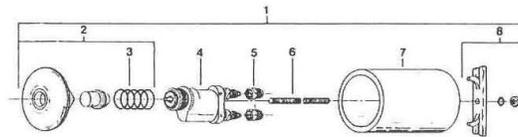


- 1 0318116 **HY-91** Flange
- 2 0318111 **HY-94** Mounting Washer
- 3 0318112 **HY-93** Mounting Nut
- 4 0318115 **HY-86-A** Push Button Assembly
- 5 0305134 **EL-109** Spring
- 6 0318078 **HY-50-A** Actuator Assembly

NOTE: Includes HY-32-A Cartridge (shown above)

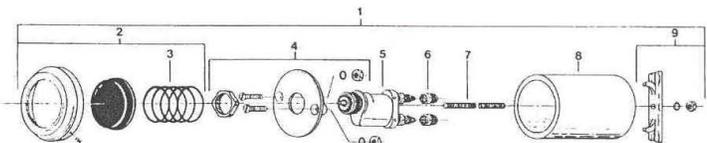
HY-100-A (0318117)
FIXTURE WALL METAL PUSH BUTTON

- 1 0318117 **HY-100-A** Fixture Wall Metal Button Assembly
- 2 3318006 **HY-111-A** Metal Button Kit
- 3 0305134 **EL-109** Spring
- 4 0318078 **HY-50-A** Actuator Assembly
- 5 0318033 **HY-35** Tube Fitting Nut (2 required)
- 6 0318028 **HY-29** Threaded Rod
- 7 0318109 **HY-105** Spacer
- 8 3318009 **HY-1002-A** Mounting Strap Kit



HY-33-A (0318001)
FIXTURE WALL PUSH BUTTON

- 1 0318001 **HY-33-A** Fixture Wall Push Button Assembly
- 2 3318007 **HY-1000-A** Push Button Kit
- 3 0318004 **HY-3** Spring
- 4 3318008 **HY-1001-A** Mounting Flange Kit
- 5 0318078 **HY-50-A** Actuator Assembly
- 6 0318033 **HY-35** Tube Fitting Nut (2 required)
- 7 0318028 **HY-29** Threaded Rod
- 8 0318109 **HY-105** Spacer
- 9 3318009 **HY-1002-A** Mounting Strap Kit



Wall Mounted Drinking Fountain**1109**

Model 1109 is a wall mounted, barrier-free stainless steel drinking fountain with satin finish that includes a push button valve, polished chrome-plated brass bubbler head and waste strainer, vandal-resistant bottom plate and 1-1/4" NPT trap. It features a one-piece stamping with a rounded bowl designed for durability and easy maintenance.

Model 1109 meets all current Federal Regulations for the disabled including those in the Americans with Disabilities Act. Haws manufactures drinking fountains, electric water coolers and electric drinking fountains to be lead-free by all known definitions including ANSI/NSF Standard 61, Section 9, California Proposition 65 and the Federal Safe Drinking Water Act.

Components:

Bubbler Head: Model 5703M, polished chrome-plated forged brass, integral basin shank, shielded, anti-squirt, vandal-resistant bubbler head.

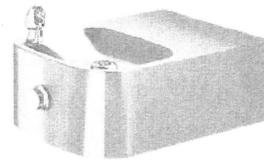
Valve: Model 5874, patented* lead-free forged brass, push activated, front accessible for stream adjustment and servicing, replaceable pressure regulation control cartridge. (Patent No. 6,981,692).

Waste Strainer: Model 6462, polished chrome-plated brass vandal-resistant combination waste strainer and tailpiece assembly.

Push Button: Model PBA6, flanged push button assembly has a polished chrome-plated finish. For flush mounted (not recessed) push button fountains.

Trap: Model 0005982900, low profile trap 1-1/4" NPT x 1-1/4" O.D. satin chrome-plated brass.

Bottom Plate: Model PBM1109, bottom plate with vandal resistant screws.

**Options/Accessories:** (Additional costs may apply)

Wall Mounted Drinking Fountain: Model 1109.14, single bubbler, wall mounted, barrier-free, 14 gauge stainless steel drinking fountain with satin finish.

Wall Mounted Drinking Fountain: Model 1109FR, freeze-resistant, wall mounted, barrier-free, satin finish stainless steel drinking fountain.

Wall Mounted Drinking Fountain: Model 1109BP, single bubbler, barrier-free wall mounted, satin finish stainless steel drinking fountain with back panel.

Barrier-Free Electric Drinking Fountain: Model H1109.8, barrier-free, wall mounted, 18 gauge, stainless steel electric drinking fountain with satin finish.

Filter: Model 6426, 12" x 2", in-line lead removal element that reduces lead from incoming water supply.

Mounting: Model 6700, mounting plate with all thread studs, nuts and washers.

Support Carrier: Model 6800, in-the-wall struts for fountains that may be subjected to excessive leverage. Must be used with mounting plate (not included with carrier).

Chiller: Model HCR8, chiller provides for instantaneous cooling to meet a continuous demand for chilled water.

DISCLAIMER: Continued product improvements make specifications subject to change without notice. Check www.hawsco.com for the latest product information and updates.



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20 July, 2007

Wall Mounted Drinking Fountain



1105

Model 1105 is a wall mounted drinking fountain with 18 gauge, Type 304 stainless steel with satin finish that includes push button valve, polished chrome-plated brass bubbler head and waste strainer, vandal-resistant bottom plate and 1-1/4" NPT trap. It offers durability and maintenance, ideal for many locations. It features a one-piece stamping with a rounded bowl.

Haws manufactures drinking fountains, electric water coolers and electric drinking fountains to be lead-free by all known definitions including ANSI/NSF Standard 61, Section 9, California Proposition 65 and the Federal Safe Drinking Water Act.

Components:

Bubbler Head: Model 5703M, polished chrome-plated forged brass, integral basin shank, shielded, anti-squirt, vandal-resistant bubbler head.

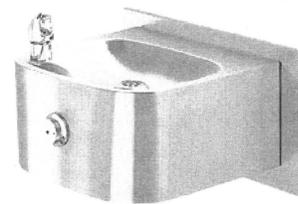
Valve: Model 5874, patented* lead-free forged brass, push activated, front accessible for stream adjustment and servicing, replaceable pressure regulation control cartridge. (Patent No. 6,981,692).

Waste Strainer: Model 6462, polished chrome-plated brass vandal-resistant combination waste strainer and tailpiece assembly.

Push Button: Model PBA6, flanged push button assembly has a polished chrome-plated finish. For flush mounted (not recessed) push button fountains.

Trap: Model 0005982900, low profile trap 1-1/4" NPT x 1-1/4" O.D. satin chrome-plated brass.

Bottom Plate: Model PBM1105, bottom plate with vandal-resistant screws.



Model 1105BP shown. Model shown with optional Back Panel.

Options/Accessories: (Additional costs may apply)

Wall Mounted Drinking Fountain: Model 1109, single bubbler, wall mounted, barrier-free, stainless steel drinking fountain with satin finish.

Wall Mounted Drinking Fountain: Model 1119, "Hi-Lo" wall mounted, 18 gauge Type 304 Stainless Steel drinking fountain with satin finish.

Wall Mounted Drinking Fountain: Model 1105BP single bubbler, wall mounted with back panel, stainless steel drinking fountain with satin finish.

Barrier-Free Electric Drinking Fountain: Model H1109.8, barrier-free, wall mounted, 18 gauge, stainless steel electric drinking fountain with satin finish.

Bubbler Head: Model 5725 EnviroGard™ bubbler is a polished chrome-plated solid brass bubbler head with stainless steel water activated pop up canopy. (Patent No. 7,025,282)

Filter: Model 6426, 12" x 2", in-line lead removal element that reduces lead from incoming water supply.

Back Panel: Model BP3, satin finish stainless steel back panel.

Mounting: Model 6700, mounting plate with all thread studs, nuts and washers.

Support Carrier: Model 6800, in-the-wall struts for fountains that may be subjected to excessive leverage. Must be used with mounting plate (not included with carrier).

Chiller: Model HCR6, chiller provides for instantaneous cooling to meet a continuous demand for chilled water.

DISCLAIMER: Continued product improvements make specifications subject to change without notice. Check www.hawsco.com for the latest product information and updates.



1455 Kleppe Lane, Sparks, NV 89431
v.775.359.4712 f.775.359.7424
e. info@hawsco.com website. www.hawsco.com

20 July, 2007

Wall Mounted Drinking Fountain


1119


Model 1119 is a "Hi-Lo" wall mounted, drinking fountain with 18 gauge, Type 304 Stainless Steel with a satin finish. It includes two one-piece fountains with rounded bowls, push button valves, polished chrome-plated brass bubbler heads and waste strainers, matching stainless steel back panel, vandal-resistant bottom plates and 1-1/4" NPT traps. (Available in 14 gauge for high vandal prone areas. Specify Model 1119.14).

Model 1119 meets all current Federal Regulations for the disabled including those in the Americans with Disabilities Act. Haws manufactures drinking fountains, electric water coolers and electric drinking fountains to be lead-free by all known definitions including ANSI/NSF Standard 61, Section 9, California Proposition 65 and the Federal Safe Drinking Water Act.

Components:

Bubbler Head: Model 5703M, polished chrome-plated forged brass, integral basin shank, shielded, anti-squirt, vandal-resistant bubbler head.

Valve: Model 5874, patented* lead-free forged brass, push activated, front accessible for stream adjustment and servicing, replaceable pressure regulation control cartridge. (Patent No. 6,981,692).

Waste Strainer: Model 6462, polished chrome-plated brass vandal-resistant combination waste strainer and tailpiece assembly.

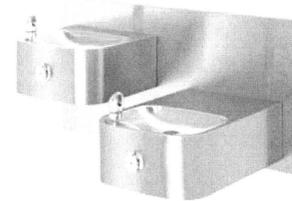
Push Button: Model PBA6, flanged push button assembly has a polished chrome-plated finish. For flush mounted (not recessed) push button fountains.

Trap: Model 0005982900, low profile trap 1-1/4" NPT x 1-1/4" O.D. satin chrome-plated brass.

Bottom Plate: Model PBM1105, bottom plate with vandal-resistant screws.

Bottom Plate: Model PBM1109, bottom plate with vandal resistant screws.

Accessory: 0006983506 Spanner wrench is used to remove the PBA6 and PBA7 push button cover used with the 5874 valve. Also used to remove retaining ring for replacing the cartridge and screen (VRK5874 kit) in 5874 valve assembly.



Options/Accessories: (Additional costs may apply)

Wall Mounted Drinking Fountain: Model 1119.14, "Hi-Lo" 14 gauge, Type 304 Stainless Steel with satin finish, wall mounted drinking fountain .

Wall Mounted Drinking Fountain: Model 1119FR, freeze-resistant, "Hi-Lo", satin finish stainless steel drinking fountain.

Barrier-Free Electric Drinking Fountain: Model H1119.8, barrier-free, "Hi-Lo", wall mounted, 18 gauge stainless steel electric drinking fountain with a satin finish.

Filter: Model 6426, 12" x 2", in-line lead removal element that reduces lead from incoming water supply.

Cane Touch Skirt: Model SK1, satin finish stainless steel cane touch skirt for installation on high unit to comply with ADA protruding objects guidelines.

Mounting: Model 6700.4, mounting plate with all thread studs, nuts and washers.

Support Carrier: Model 6800, in-the-wall struts for fountains that may be subjected to excessive leverage. Must be used with mounting plate (not included with carrier).

Chiller: Model HCR8, chiller provides for instantaneous cooling to meet a continuous demand for chilled water.

DISCLAIMER: Continued product improvements make specifications subject to change without notice. Check www.hawsco.com for the latest product information and updates.



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e. info@hawsco.com website. www.hawsco.com

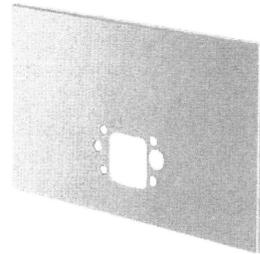
23 July, 2007

Drinking Fountain/Electric Water Cooler Parts & Access.



Model BP3 is a versatile and decorative back panel that increases location visibility of the fountain and also helps protect wall from inadvertent splash. Model BP3 is 15" x 9" stainless steel with a satin finish. Used on 1105 and 1109 series models.

BP3



For Parts Call 1-800-758-9378

DISCLAIMER: Continued product improvements make specifications subject to change without notice. Check www.hawasco.com for the latest product information and updates.

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v.775.359.4712 f.775.359.7424
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20 July, 2007

END OF SECTION



DESIGN STANDARDS FOR: ELECTRIC HEATING EQUIPMENT

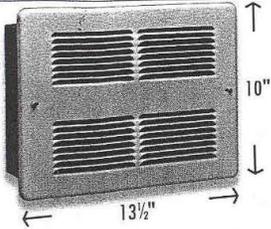
In-Wall Fan Heater Standard:

1. King model #KBP2406 240V manufactured by King Electric Mfg Company.
2. Note: An approved equal will not be accepted. Sole source justification is based on bulk parts on hand; ease on maintenance time, availability, and vandal resistance.



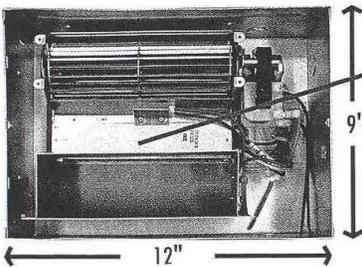
KING ELECTRIC MFG. CO. • 9131 10TH AVENUE SOUTH • SEATTLE, WA 98108 • PH: 206.762.0400 • FAX: 206.763.7738 • www.king-electric.com

DUAL WATTAGE IN-WALL FAN HEATERS



BETTER
WHF SERIES
2 YEAR WARRANTY

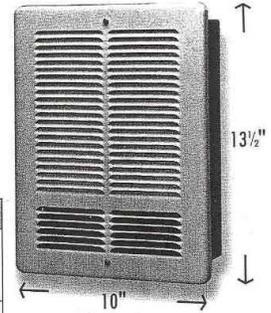
MODEL:	VOLTS:	WATTAGE:
WHF1210	120	500 or 1000
WHF1212	120	600 or 1200
WHF1215	120	750 or 1500
WHF2410	240	500 or 1000
WHF2415	240	750 or 1500
WHF2420	240	1000 or 2000
WHF2424	240	1200 or 2400



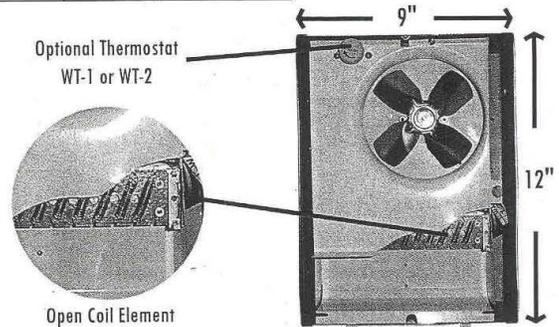
Open Coil Element

Optional Thermostat
WHT-1 or WHT-2

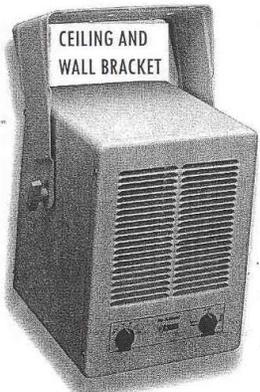
GOOD
W SERIES
1 YEAR WARRANTY



MODEL:	VOLTS:	WATTAGE:
W1210	120	500 or 1000
W1212	120	600 or 1200
W1215	120	750 or 1500
W2410	240	500 or 1000
W2415	240	750 or 1500
W2420	240	1000 or 2000
W2424	240	1200 or 2400

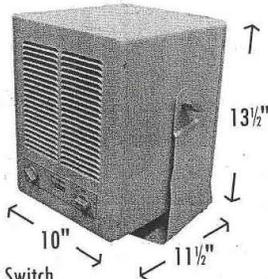


GARAGE/SHOP HEATERS



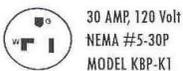
KBP SERIES

FLOOR STANDING



Includes Thermostat and OFF/FAN/HEAT Switch

RECEPTACLE CONFIGURATIONS
NEEDED FOR CORD SET WHEN USED:



30 AMP, 120 Volt
NEMA #5-30P
MODEL KBP-K1

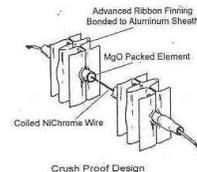
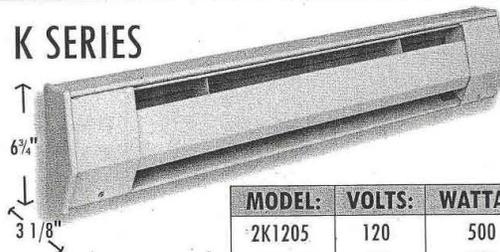


30 AMP, 120 Volt
NEMA #6-30P
MODEL KBP-K2

MODEL:	VOLTS:	WATTAGE:
KBP1230	120	950•1900•2850
KBP2406	240	950•1900•2850 3800•4750•5700
KBP-K1	120V, 1 Phase, 30 AMP, 6ft Cord/Handle Kit	
KBP-K2	240V, 1 Phase, 30 AMP, 6ft Cord/Handle Kit	

BASEBOARD HEATERS

K SERIES



MODEL:	VOLTS:	WATTAGE:	FT.
2K1205	120	500	27"
3K1207	120	750	3ft
4K1210	120	1000	4ft
5K1212	120	1250	5ft
6K1215	120	1500	6ft
2K2405	240	500	27"
3K2407	240	750	3ft
4K2410	240	1000	4ft
5K2412	240	1250	5ft
6K2415	240	1500	6ft
7K2418	240	1750	7ft
8K2420	240	2000	8ft
10K2425	240	2500	10ft

Add Suffix (A) for Almond or (BW) for Bright White finish.

END OF SECTION



DESIGN STANDARDS FOR: BASIC ELECTRICAL MATERIALS AND METHODS

Photocells, General

1. Photocell shall not be used.
2. A manual transfer switch is required.

END OF SECTION



DESIGN STANDARDS FOR: INTERIOR LIGHTING

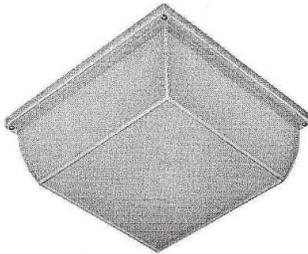
Lighting standard:

1. Herculux model #H1212L series 3800 ceiling mount compact fluorescent 13 watt twin manufactured by Kenall.
2. Note: An approved equal will not be accepted. Sole source justification is based on bulk parts on hand; ease on maintenance time, availability, and vandal resistance.

Herculux™

Institutional High Abuse Lighting

H1212L Series (3800)
 Ceiling Mount/Surface – Compact Fluorescent – Incandescent
 52 Watt Maximum (Compact Fluorescent)
 44 Watt Maximum (Circline Fluorescent)
 150 Watt Maximum (Incandescent)



Width	Width	Depth
12"	12"	4.5"

Specifications

Lens/Housing: One-piece wraparound lens/housing (U.V. stabilized, high impact, virgin injection molded polycarbonate). Clear Prismatic refractor; Nominal thickness .125".

Baseplate: 16-gauge CRS. Baseplate provided with four-point mounting holes, one wireway hole - see Cross Section/Details. White urethane powder coat finished - 5-step pre-treatment; laboratory salt spray test: 1,000 hours. See Options or Accessories for marine grade aluminum baseplate (AL) and CRS surface conduit adapter (SA).

Electrical: Magnetic ballasts normal power factor standard. See Options for power factor corrected ballasts. Electronic ballasts high power factor.

Gasket: Die-cut closed cell neoprene gasket seals lens/housing to mounting surface.

Hardware: Four stainless steel POSIGRIP™ fasteners secure lens/housing to baseplate.

Listings/Certifications: UL and CUL listed for Wet Locations.

Installation: Standard four-point mounting required for Peace of Mind Lifetime Guarantee™.

Ordering Information

Series	Lens Type	Finish	Lamp Type	Lamp Qty*	Voltage*	Options	Accessories		
H1212L	C	NA							
Lens Type C Clear Prismatic		Lamp Type (Qty/Ballast/Voltage/Starting Temp) 13 13 Watt Twin (1.2/MB/120,277/0°F) 13Q 13 Watt Quad (1.2/EB/120,277/0°F) 22 22 Watt Circline (2/MB/120/50°F) 22C 22 Watt Circline (2/CW/120/25°F) 26Q 26 Watt Quad (1.2/EB/120,277/0°F) 75I 75 Watt Incandescent (2/A-19)			Lamp Qty* 1 One Lamp 2 Two Lamps		Options AL Marine Grade Aluminum Baseplate EL One-Lamp Indoor Battery Pack (32°F) (compact fluorescent only, includes SA) FS Single Fuse & Holder PFC Power Factor Corrected Ballast (compact fluorescent magnetic ballasts only-120 Volt only (277 Volt Standard))		
		Voltage* 120 120 Volts 277 277 Volts			Accessories SA Surface Adapter (3800A) 9500 POSIGRIP™ Screwdriver				

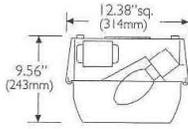
* See Lamp Type for availability.



1020 Lakeside Drive Gurnee, Illinois 60031 847-360-8200 FAX 847-360-1781 www.kenall.com

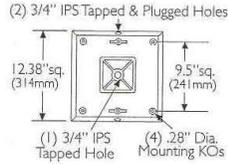
Herculux™

Cross Section/Details

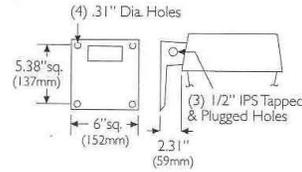


HI212D Series (5700)

Back Mounting View



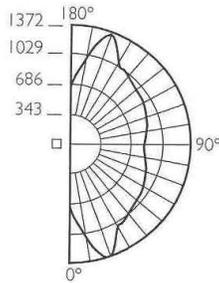
Horizontal Arm Bracket (HRZ)



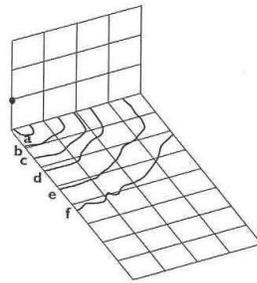
Photometric Information

Candlepower Distribution

Wall



Isofootcandle Curves

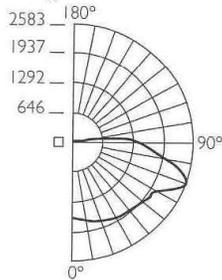


Wall Mount Mounting Height (in feet)

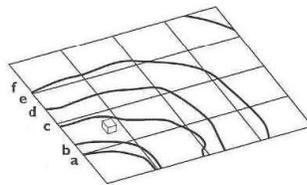
	Horizontal Plane Isofootcandle Line			
	7	8	9	10
a	6.53	5.00	3.95	3.20
b	2.61	2.00	1.58	1.28
c	1.31	1.00	0.79	0.64
d	0.65	0.50	0.40	0.32
e	0.26	0.20	0.16	0.13
f	0.13	0.10	0.08	0.06

Report Number: ITL 39162P
 Lamp: 100 Watt MH, 8500 Lumens
 Lens: Clear Prismatic Polycarbonate
 Grid lines in units of mounting height

Ceiling



Isofootcandle Curves



Ceiling Mount Mounting Height (in feet)

	Horizontal Plane Isofootcandle Line			
	7	8	9	10
a	9.14	7.00	5.53	4.48
b	6.53	5.00	3.95	3.20
c	2.61	2.00	1.58	1.28
d	1.31	1.00	0.79	0.64
e	0.65	0.50	0.40	0.32
f	0.26	0.20	0.16	0.13

Report Number: ITL 39162
 Lamp: 150 Watt HPS, 16000 Lumens
 Lens: Clear Prismatic Polycarbonate
 Grid lines in units of mounting height

Peace of Mind Guarantee

Kenall high abuse luminaires are designed and built to take exceptional physical punishment. When installed according to our instructions, Kenall will repair or replace any fixture rendered inoperable due to physical abuse for the product life of the original installation.

PEACE OF MIND

Lifetime Guarantee™

Quick Specification

- Housing:** Die-cast aluminum housing.
- Lens:** One-piece lens (U.V. stabilized, high impact, virgin injection molded polycarbonate).
- Reflector:** High efficiency textured aluminum reflector.
- Hardware:** Four stainless steel POSIGRIP™ fasteners secure lens to housing.
- Socket:** Shock absorbing lamp socket.
- Listings:** UL and CUL listed for wet locations.

Project Information

Job Name _____

Job Location _____

Fixture Type _____ Quantity _____

Catalog Number _____

Approved by _____

Date _____



END OF SECTION



DESIGN STANDARDS FOR: EXTERIOR LIGHTING

Building Lighting Standard:

1. Wall or Ceiling mount: Herculux model #H1212FD or ED surface mount LED manufactured by Kenall www.kenall.com phone 847-360-8200
2. Doorway security lighting: OLWX1 LED 13 watt wall luminaire by Lithonia Lighting www.lithonia.com phone 800-279-8041

Parking Lot Site Lighting Options (final option to be approved by Parks Project Manager):

1. Gardco Gullwing GL18, LED, with round pole adapter on 5 inch diameter straight aluminum pole, 24ft 10 inches high with black finish. Top of foundation base to be 30 inches above finished grade.

Or the following:

2. Sterner Executive RT-25, LED, with 25ft pole, square tapered steel pole with base plate "B" type mounting.

Walkway Lighting Options (final option to be approved by Parks Project Manager):

1. Gardco Gullwing GL13, LED, with round pole adapter on 4 inch diameter straight aluminum pole, 16ft high with black finish. Top of foundation base to be 2 inches above finished grade in lawn areas. Top of foundation to be flush with finished grade if located within finished concrete walkways.

Site Lighting Options:

1. Optional outlet at base where indicated by Park Project Manager

END OF SECTION

PART 1 - GENERAL

1.1 Low Responsible Bidder: It is the intent of the Owner to award the contract to the low responsible bidder. In determining the bidder's responsibility, the Owner shall consider an overall accounting of the items listed below. The bidder must submit the following information within two (2) working days of receiving Owner notification, demonstrating that the bidder meets the listed criteria:

A. Capacity

Category

Required Information / Criteria

Current Work Load

Using the format of the following Responsibility Criteria Form, list all the major projects (\$250,000 and above) your firm has in progress or are projected to commence during the next 6 months, giving the name of the project, owner, architect/engineer, contract amount, percentage complete and schedule completion date. Failure to list all major projects shall render the bid non-responsive.

List the current or projected workload for the next 12 months including this Contract, expressed in total contract value.

List the actual workload for the previous 12 months, expressed in total contract value.

The bidder's current or contracted workload during the life of this contract shall not exceed 150% of the actual contracted workload over the previous 12 months unless the bidder can demonstrate to the Owner's satisfaction that it has the capacity to assume the additional work of this project, provide adequate staffing, and meet project demands.

B. Previous Experience

Category

Required Information / Criteria

Enter Project Type Here

The Contractor and its proposed Superintendent must demonstrate that they have completed a minimum of two (2) Enter Project Type Here projects (\$250,000 and above) of similar size and scope to this project, within the past five (5) years.

List of Completed Projects

On a separate sheet, list all the major projects (\$250,000 and above) your firm has completed in each of the past five (5) years, giving the name of

the project, owner, architect, contract amount, date of completion and percentage of the cost of work performed with your own forces. This information will be used for references.

- Experience of Superintendent
And Project Manager

Submit a resume and references if different than above of the person proposed by the bidder to superintend the work and the person proposed by the bidder to manage the project. These persons shall have managed a minimum of two (2) projects of similar complexity and similar size and successfully completed the projects within the last five (5) years.

C. Ability to Perform Within Tim Specified

Category

Required Information / Criteria

- Contractor's Ability to Meet the
Project Schedule

On a separate sheet, list the project titles, original contract time, and change order time extensions for three specific completed projects. Bidder shall document that it achieved substantial completion of three previous projects of similar size and scope within no more than 105% of the final contracted time for completion (including change order adjustments).

D. References

Category

Required Information / Criteria

- References from Owners of
Previous Projects

Owner will check references by contacting owners of previous projects on bidder's performance over the last five (5) years. On average, such references shall be satisfactory or better on a five category scale with "satisfactory" at mid scale. A reference score sheet will be utilized for rating completed projects of similar scope and value.

- Public Agency Debarment

State whether you have been debarred by any Public agency within the last two (2) years and give detail as to the name of the agency with contact information and the particular reasons for being debarred.

SAMPLE - Responsibility Criteria Form

Project: _____
Project Number: _____
Contractor Name: _____
Date: _____

A. Current Work Load

- a. List all major projects \$250,000 and above and include the following information for each:

Project Name:
Owner:
Architect/Engineer:
Contract Amount:
Percentage Complete:
Scheduled Completion:

- b. List current or projected workload for next 12 months including this contract expressed in total contract value. \$ _____
- c. List actual workload for previous 12 months expressed in total contract value. \$ _____
- d. If current workload exceeds previous 12 months, explain how the contractor has the capacity to assume additional work for this project, can provide adequate staffing, and can meet the demands of the Project.

B. Previous Experience

- a. List a minimum of two (2) **Enter Project Type Here** projects \$250,000 and above of similar size and scope to the Project that have been completed within the last five (5) years by the Contractor, Project Manager and Superintendent.

Projects by Contractor
Project Name:
Owner:
Architect/Engineer:
Contract Amount:

Projects by Project Manager
Project Name:
Owner:
Architect/Engineer:
Contract Amount:

Projects by Superintendent
Project Name:
Owner:
Architect/Engineer:

Contract Amount:

- b. List all major projects \$250,000 and above your firm has completed in each of the past five (5) years and include the following information:

Project Name:

Owner:

Architect/Engineer:

Contract Amount:

Date of Completion:

Percentage of Cost of Work Performed by Own Forces:

- c. Submit resume and references if different than above for the proposed Project Manager.
- d. Submit resume and references if different than above for the proposed project Superintendent.

C. Ability to Perform Within the Time Specified

- a. List the following information for three (3) specific completed **Enter Project Type Here** projects of similar size and scope of the Project documenting substantial completion was reached within no more than 105% final contracted time.

Project Name:

Original Contract Time:

Change Order Time Extension:

Owner:

D. References

- a. State whether you have been debarred by any Public agency within the last two (2) years and give details as to name of the agency with contact information and the particular reasons for being debarred.

END OF SECTION 00101

PART 1 GENERAL

1.01 SCOPE PROVISIONS

- A. The *Standard Specifications for Road, Bridge and Municipal Construction, current edition*, and the current version of the *Standard Plans for Road, Bridge and Municipal Construction*, both as prepared by the Washington State Department of Transportation (WSDOT) and the *City of Bellingham Development Guidelines and Improvement Standards*, including the Standard Plans, and the Design Standards for Park and Trail Development, all are referred to hereinafter collectively as the “Standard Specifications”. The Standard Specifications are hereby made a part of this Contract. When the City of Bellingham Development Guidelines and Improvement Standards are referred to separately from the WSDOT publications, they are hereinafter referred to as “City Standards”. The Standard Specifications, except as may be modified or superseded by these Contract Documents, shall govern all phases of the work specified in these Contract Documents. In the event of conflict with the Standard Specifications, the modifications given by the special provisions provided in these Contract Documents shall govern.
- B. The current edition of the City Standards and City Standard Plans is available on the internet at <http://www.cob.org/government/rules/guidelines/index.aspx>
- C. Whereas any subsection or portion thereof of the Standard Specifications is deleted, amended, altered, or changed hereafter, it is meant to pertain only to that particular portion of the section and in no way should it be interpreted that the balance of the section does not apply. The Contractor is fully responsible for coordinating the specification requirements in all related sections and divisions of the work.
- D. All references in the Standard Specifications to the “Secretary,” or to the “Engineer” shall be interpreted to mean the City of Bellingham or the City of Bellingham’s designated Project Manager/designated representative(s).
- E. All labor materials, and equipment required to complete the work shown and/or described in the Contract Documents as part of the complete and functioning systems shown on the drawings and/or as described in these specifications and in accordance with the Standard Specifications and specifically including restoration of all existing services, utilities and site improvements and vegetation that may have been disturbed by the work but not specifically identified as to be removed or demolished, is considered incidental to the work described in these Special Provisions.
- F. The Contractor shall maintain traffic control measures as necessary to ensure traffic safety (including bicycle and pedestrian traffic) during all construction activities. All construction signing and temporary pavement markings shall conform to the Manual for Uniform Traffic Control Devices (MUTCD). All traffic control measures shall be in conformance with City Standards and shall be subject to the approval of the City Engineer.
- G. Underground utilities are known to exist in the area of construction. The location of existing utilities as shown on the drawings is approximate and is not warranted to be a representation of all utilities in the project area. The power line locations shown near the

existing basketball court will be relocated by the Owner during construction. The contractor is responsible for contacting all other utility owners for field location of all utilities prior to construction. The one-call number for underground utility location services is 1.800.424.5555. The contractor shall promptly notify the Engineer of any conflicts between the contract documents and field location of existing utilities. The contractor shall be responsible for maintaining the integrity of all existing utilities during construction.

- H. Construction survey services shall be the responsibility of the contractor for all phases of the work.

PART 2 PRODUCTS NOT USED.

PART 3 EXECUTION NOT USED

END OF SECTION

SAMPLE

PART 1 - GENERAL

1.1 Related Documents

- A. Items which, taken together as a whole, comprise the Contract Documents are:
1. This bound set including Project Manual and Technical specifications.
 2. The set of plans entitled: **ENTER NAME HERE**
 3. Modifications issued after execution of contract, i.e., Change Orders, Field Directives.
- B. Location and Scope:
All proposed work is located at **[enter name here]**. The work included under this Contract consists of furnishing all labor, materials, equipment, supervision, and other facilities necessary to successfully complete this work as described in the plans and specifications.
- C. Description of work:
- enter name here**
Schedule A
Enter description here
- Schedule A-1 (Additive Alternate)**
Enter description here

1.2 Use of the Park During Construction

- A. General:
The Contractor shall limit his/her use of the premises to the work area indicated and confine operations at the site to the areas permitted under the Contract. Portions of the site beyond work areas are not to be disturbed unless approved by the Owner. Conform to site rules and regulations affecting the work while engaged in project construction. Notes apply to all sites unless noted otherwise.
1. The Contractor shall also take necessary precaution to protect the health, safety and welfare of the public from harm caused by his work, by providing supplemental fencing and barricades. The Contractor shall exercise due caution in all operations in connection to this project and allow for appropriate safety precautions.
 2. Lock automotive type vehicles, such as passenger cars and trucks and other mechanized or motorized construction equipment, when parked and unattended, so as to prevent unauthorized use. Do not leave such vehicles or equipment unattended with the motor running or the ignition key in place.
 3. The Contractor shall take appropriate measures to protect his/her equipment, materials, work, and other items associated with this project from vandalism. The contractor shall hold the Owner harmless and defend the Owner against all claims relating to vandalism of contractor's equipment, materials, work, or any other items related to this project.

1.3 Cooperation, Coordination, and Scheduling

- A. General Contractor and Subcontractor:
 - 1. The General Contractor is responsible for expediting, coordinating and scheduling the work and that of the subcontractors. S/he shall cooperate with these Subcontractors, who in turn must show themselves cooperative.
 - 2. General Contractor and Subcontractors shall cooperate fully with Owner and comply with their scheduling, safety dust and noise mitigation needs.

1.4 Existing Utilities

- A. The plans show the location of numerous utilities. The location of existing utilities as shown on the drawings is approximate and is not warranted to be a representation of all utilities in the project area. The Contractor is specifically cautioned to call for utility locates no less than two days prior to any excavating or grading in the project area. The contractor shall promptly notify the Engineer of any conflicts between the contract documents and field location of existing utilities. The contractor shall be responsible for maintaining the integrity of all existing utilities and drain lines during construction.
- B. The contractor shall call for locates in a timely manner prior to any construction. The following utility locate number is provided for the convenience of the Contractor: 1.800.424.5555. All costs incidental to determining the location of the existing facilities shall be included in the base bid. Use of the partially complete or completed facilities will not mean acceptance of them according to this contract.
- C. The Contractor shall exercise caution while excavating the designated construction area. Furthermore, the Contractor shall hold harmless and defend the Owner from any and all claims made by the Contractor arising directly or otherwise out of any conflict between the Work under this Contract and any interference or delay for whatever reason including inaccurate locates of all utility lines, public or private.
- D. All materials and labor are to be furnished by the Contractor unless otherwise specifically provided in the Specifications or shown on the Plans. All workmanship, equipment and materials incorporated in the work covered by this contract are to be new and of the best available grade or quality.

1.5 Sequence of Work

The Contractor may use any sequence of operation compatible with construction permits and the completion dates stipulated.

1.6 Schedule of Drawings

Refer to the project drawings for

PROJECT NAME HERE

referred to in this Project manual and the same are hereby made a part of the Contract.

1.7 Omission

Any area, item, unit, etc., not specifically called out herein or shown on the plans and schedules, but which is reasonably implied and necessary for a complete and satisfactory job, shall be included without additional cost to the City.

END OF SECTION 01010

SAMPLE

PART 1- GENERAL

1.1 SUMMARY

This section specifies administrative and procedural requirements governing the Contractor's Applications for Payment.

The provisions of the WSDOT/WPWA Standard Specifications, Section 1-09, latest edition, must apply, except as modified herein.

The Contractor shall submit a comprehensive construction schedule for the Owner's review at least 7 days prior to the first Application for Payment. The schedule shall consist a bar graph timeline that shows the beginning and end of each task to be performed. The time line shall begin at the time of notice to proceed and end at the date of final acceptance. This graph shall be reviewed at regular construction meetings during the life of the construction project.

1.2 Schedule of Values

- A. Coordinate preparation of schedule of values with preparation for Construction Schedule.
- B. Submit Schedule of values to the Owner at the earliest feasible date, but in no case later than 7 calendar days prior to first application of payment.
- C. Use Project Manual and Drawings as a guide to establish format for Schedule of Values.
 1. Identification: Include the following project identification on the Schedule of Values.
 - a. Project Name and Location
 - b. Name of Landscape Architect
 - c. Contractor's name, address, and phone number
 - d. Date of Submittal
 2. Arrange Schedule of Values in tabular form with separate columns to indicate the following for each item listed:
 - a. Generic Name (e.g. demolition, earthwork, etc.)
 - b. Related Specification(s)
 - c. Name of manufacturer and/or fabricator
 - d. Name of Supplier
 - e. Change Orders (numbers) that have affected the value
 - f. Dollar Value
 - g. Percentage of Contract Sum
 3. Provide breakdown of contract sum in sufficient detail to facilitate continued evaluations of applications for payment and progress reports. Break principal subcontractor amounts down into several line items
 4. Round amounts off to the nearest whole dollar. Total shall equal the contract sum.
 5. For each part of Work where an Application for Payment may include materials or equipment, purchased or fabricated and stored, but not yet installed, provide separate line items on Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of Work.
- D. Show items for indirect costs, and margins on actual costs, only to the extent that such items will be listed individually in Applications for Payment. Each item in the

Schedule of Values and Applications for Payment shall be complete including its total cost and proportionate share of general overhead and profit margin.

1. Temporary facilities and other major cost items that are not direct costs of actual work-in-place shall be shown as separate line items in the Schedule of Values.
- E. Schedule updating: Update and resubmit Schedule of Values when Change Orders or Construction Change Directives result in a change in contract sum
- F. Payment Application Times: Date for each progress payment shall be the 15th of each month.

1.3 Applications for Payment

- A. Each Application for Payment shall be consistent with previous Applications as certified by the Owner.
- B. Payment Application Times: Date for each progress payment shall be the 15th of each month. The period of construction covered by each Application is period ending 15 days prior to each progress payment and starting the day following the end of the preceding month.
- C. Contractor shall complete applications for payment on an approved payment format. Contractors shall indicate total retainage and current retainage.
- D. Include amounts of Change Orders issued prior to the last day of period covered by the Application.
- E. Submit **two** copies of each Application to the Owner.
- F. With each Application submit partial waivers of lien on each item for amount requested prior to deduction for retainage.
- G. When Application shows completion of an item, submit final waivers or full waivers.
- H. Submit final Application for Payment with or preceded by final waivers from every entity involved with performance of work covered by the application who could lawfully be entitled to a lien.
- I. Submit waivers of lien on forms acceptable to the Owner.

1.4 Submittals relating to Applications for Payment

- A. The following actions and submittals must precede the first Application for Payment:
 - a. Construction Schedule.
 - b. Initial Progress Report.
 - c. Certificates of Insurance and Insurance Policies.
 - d. State Certified Intents to Pay Prevailing Wages

1.5 Submittals following Certificate of Substantial Completion

- A. Following the issuance of Certificate of Substantial Completion, submit Application for Payment.
- B. Submittals that precede or coincide with this Application include:
 - a. Warranties.
 - b. Maintenance Instructions.
 - c. Final Cleaning.
 - d. Advise on shifting insurance coverage.
 - e. List of incomplete work recognized as exceptions to Certificate of Substantial Completion.
 - f. Schedule of Values.
- C. Administrative actions and submittals which must precede or coincide with submittal of final Application of Payment includes:

- a. State Certified Affidavit of Wages Paid
- b. Completion of Project Closeout Requirements.
- c. Completion of items specified for completion after Substantial Completion.
- d. Assurance that unsettled claims will be settled.
- e. Assurance that work not complete and accepted will be completed without delay.
- f. Transmittal of required project construction records to the Owner.
- g. Proof that taxes, fees, and similar obligations have been paid.
- h. Removal of temporary facilities and services, unless alternate schedule has been agreed upon.
- i. Removal of surplus materials, rubbish, and similar elements.

END OF SECTION 01025

SAMPLE

PART 1 GENERAL

1.01 FORMATS

- A. Format and administrative procedures will be reviewed and discussed at the Preconstruction Conference.

1.02 PROCEDURES

- A. Two copies shall be prepared and delivered to the Owner's Representative.

1.03 SUBCONTRACTOR CHANGE

- A. A change or substitution of any subcontractor listed on the Condition of Contract Award notice to be issued with the Notice of Award, shall be subject to the prior approval of the Owner.

PART 2 EXECUTION

2.01 MODIFICATION PROPOSAL REQUESTS

- A. Changes may be initiated by the Owner's Representative through the reference document submitted to the Contractor. The proposal will include:
1. Description of changes, products, and location of modification in the project.
 2. Supplementary or Revised Drawings.
 3. Reason for requesting changes.
- B. Such request is for information only and is not an authorization to proceed, nor to stop work in progress.
- C. A sample Modification Proposal Form is attached at the end of this section.

2.02 CONTRACTOR PROPOSAL

- A. Changes may be initiated by the Contractor through the reference document submitted to the Owner's Representative. The proposal will include:
1. Effect on Awarded Contract Price and contract time.
 2. Documentation supporting change in contract time, as appropriate.
 - a. Labor required
 - b. Equipment required
 - c. Products required
 - d. Taxes, insurance, and bonds required
 - e. Documented credit for work deleted from the contract
 - f. Overhead and Profit
 - g. Justification for any changes in contract time
 - h. Subcontractor's and supplier's invoices
 3. Such request is for information only and is not an authorization to proceed, stop work in progress.

2.03 DETERMINATION OF PAYMENTS

- A. The payments shall be full payment for all work done by Modification Proposals. The payment shall cover all expenses of every nature, kind, and description, including all overhead profit, occupational tax and any other Federal or State revenue acts (other than sales tax), premiums on public liability and property damage insurance policies.

SAMPLE MODIFICATION PROPOSAL FORM FOLLOWS

MODIFICATION PROPOSAL

PROJECT:

**PROPOSAL NO.
DATE:**

OWNER: Bellingham Dept. of Parks & Recreation
3424 Meridian Street
Bellingham WA 98225

CONTRACTOR:

I. PROPOSAL REQUEST
Please furnish your proposal for executing the following change(s):

II. CONTRACTORS PROPOSAL

(Agreed) or (Maximum)
Cost _____

(Agreed) or (Maximum)
Credit _____

Time Extension (if
required) _____

Authorized Contractor Signature: _____ Date: _____

III. ARCHITECTS REVIEW

We have examined the foregoing proposal and find the cost reasonable and recommend its acceptance.

Architect: _____ Date: _____

IV. OWNER ACCEPTANCE

The Owner hereby accepts the foregoing proposal, pending review and approval of detailed costs and the preparation of a formal change order:

This acceptance **does not** constitute a FIELD ORDER to proceed immediately with the modification.

Owner: _____ Date: _____

PART 1 PART 1 GENERAL

1.01 RELATED REQUIREMENTS

- A. Construction Organization and Start-up
- B. Coordinating Subcontractors' Work
- C. Coordinating Utilities
- D. Close-Out Duties
- E. Owner's Notice

1.02 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

- A. Make particular reference to the following Division One sections:
 - 1. Section 01010: Summary of Work.
 - 2. Section 01200: Meetings.
 - 3. Section 01310: Payment Schedules
 - 4. Section 01340: Shop Drawings.
 - 5. Section 01500: Construction Facilities and Temporary Controls.
 - 6. Section 01630: Product Substitutions
 - 7. Section 01700: Contract Close-out
 - 8. Section 01710: Cleaning

1.03 CONSTRUCTION ORGANIZATION AND START-UP

- A. Comply with procedures for intra-project communications established by the Owner including:
 - 1. Submittals
 - 2. Reports and records
 - 3. Recommendations
 - 4. Coordination drawings
 - 5. Schedules
 - 6. Resolution of conflicts
 - 7. Meetings
 - 8. Change requests and Change Orders
 - 9. Requests for Information
- B. Contract Documents Interpretation:
 - 1. Consult with Architect to obtain interpretation.
 - 2. Assist in resolution of questions and conflicts which may arise.
 - 3. Transmit written interpretations to Subcontractors, and to other concerned parties.
 - 4. Permits and Approvals: Verify in writing to Architect within thirty (30) days after Notice to
 - 5. Proceed that Subcontractors have obtained required permits and inspections for work and for temporary facilities.

C. Control Use of Site:

1. Supervise field engineering and Project layout.
2. Allocate field office and storage space and work and storage area for use of each Subcontract or Contractor.

1.04 COORDINATING SUBCONTRACTORS' WORK

- A. Coordinate the Work of all Subcontractors and make certain that, where the Work of one trade is dependent upon the Work of another trade, the Work first installed is properly placed, installed, aligned, and finished as specified or required to properly receive subsequent materials applied or attached thereto.
- B. Direct Subcontractors to correct defects in substrates they install when Subcontracts of subsequent materials have a reasonable and justifiable objection to such surfaces.
- C. Do not force Subcontractors to apply or install products to improperly finished product.
- D. Coordinate changes to assure that:
1. Requirements of Contract Documents are fulfilled.
 2. Changes in Contract requirements of all affected trades are reflected in executed Change Orders.
- E. Scheduling and Installation Sequence:
1. Coordinate scheduling, submittals, and Work of various sections of specifications to assure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
 2. Schedule work in accordance with current Project construction schedule.
 - a. Coordinate schedules of all trades.
 - b. Verify timely deliveries of products for installation by other trades.
 - c. Verify that labor and equipment are adequate for work and schedule.
 - d. Verify that material deliveries are adequate to maintain schedule.
- F. Ascertain need for cutting and patching, and coordinate with work of other trades, and the Architect.
- G. Completion and Clean Up:
1. Coordinate completion and clean up of Work of separate sections in preparation for Substantial Completion and for portions of Work designated for Owner occupancy.
- H. Start-Up, Inspection, and Acceptance of Equipment:
1. Verify that manufacturer's representative is present.
 2. Verify that utilities, specified connections, and safety devices are complete and equipment is ready to operate.
 3. Verify that equipment has been tested, adjusted, and balanced, is cleaned, repainted as required, and operational prior to inspection.
- I. Access for Corrective Work:
1. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents with Owner, to minimize disruption of Owner's activities.

1.05 COORDINATING UTILITIES

- A. The Contractor shall be responsible for coordination of all utilities to be installed for service to the project and shall cooperate with all utility agencies. The Contractor shall maintain communication with the utilities in order to coordinate time and requirements of the utilities' installation.
- B. The Contractor shall provide all work necessary to comply with the requirements of the Contract Documents for work by the utility company that does not meet the Contract Document requirements, or for work that is disturbed by the utility installation.
- C. The Contractor shall be responsible for compliance with Ch. 19.122 RCW to locate and protect existing utilities.

1.06 CLOSE-OUT DUTIES

- A. At completion of Work of each subcontract, conduct inspection to assure that:
 - 1. Work is acceptable.
 - 2. Assist Architect in inspection.
 - 3. Temporary facilities and debris have been removed from Site.
- B. Substantial Completion:
 - 1. Conduct inspection and prepare list of work to be completed or corrected.
 - 2. Assist Architect in inspection.
 - 3. Supervise correction and completion of Work as established in Architect's inspection reports and "punchlists".
 - 4. Provide written notification of substantial completion with punchlist information.
 - 5. Obtain Certificate of Occupancy from governing authorities.
- C. Final Completion:
 - 1. Submit and obtain approval of all contract close-out documents.
 - 2. Assist Architect and Owner in inspection.

1.07 OWNER'S NOTICE

- A. The Contractor shall give the Owner forty-eight (48) hours advance notice of his intention to work Sundays or holidays, or anytime outside the usual working hours. In no case will the Contractor do any such work without first notifying the Owner to permit arrangements for proper inspection. Unless of an emergency nature, compensation for work performed in violation of this paragraph will not be made. The Contractor shall reimburse the Owner for the additional cost of any testing or inspection work performed on Sundays or recognized holidays. Such reimbursement shall include all additional costs to the Owner.

END SECTION 01040

PART 1 - GENERAL

The provisions of the WSDOT/APWA Standard Specifications, most current edition apply except as modified herein.

The Contractor shall be responsible for all specific safety requirements promulgated by any governmental authority, including the requirements of the Occupational Safety and Health Act of 1970 (OSHA) and WISHA.

1.1 Examination

Inspect site and location of the work and become acquainted with and understand all conditions relating to the work to be performed under this contract.

1.2 Grades, Lines, and Levels

- A. Datum: Locate grades, lines, and levels from established reference points and datum furnished on the drawings.
- B. Staking and Grading: Locate and stake out new construction and facilities. Be responsible for accuracy and correctness of lines and grades, and for establishing location of buried utility lines.
- C. Site Data shown cannot be guaranteed. Exact locations, distances, elevations and similar data shall be governed by field conditions and Landscape Architect's or Engineer's instructions.

1.3 Qualified Services

- A. Obtaining and payment for construction survey services will be the responsibility of the Contractor for all phases of the work. At the Contractor's request, the Owner will provide to the Contractor, at no charge, a digital file containing all survey and design data provided on the drawings. If the Contractor chooses to request the digital file, the Contractor shall be solely responsible for verification of the accuracy of the data and shall be solely responsible for all use of the survey information provided by the Owner. The Owner makes no warranty regarding the suitability of the digital information for the Contractor's purposes.

1.4 Survey Reference Points

- A. Locate and protect control points prior to starting work. Preserve all permanent reference points during construction.

END OF SECTION 01050

PART 1 PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Sections Include
- B. Compliance Requirements
- C. Construction Type
- D. Occupancy Classification

1.02 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

- A. Make particular reference to the following sections:
 - 1. Section 01040 -Project Coordination

1.03 SECTIONS INCLUDE

- A. Contractor is responsible for keeping building department, fire department, and other authorities completely informed of any changes in the work in a timely manner. This includes contract modifications, amendments, additions, shop drawings, and the like, current as of Project Manual date.
- B. Contractor is responsible for gaining approvals as required for Owner occupancy within contract scheduling requirements.
- C. Contractor shall make any and all adjustments and modifications as required to conform to ordinances, and regulations. .

1.04 COMPLIANCE REQUIREMENTS

- A. Referenced codes establish minimum requirement levels. Where provisions of various codes or standards conflict, the more stringent provisions govern. Promptly submit to Architect written notice of observed contract document variations from legal requirements.
- B. Compliance requirements include, but are not limited to following:
 - 1. Washington State Department of Fisheries regulations and HPA Permit requirements.
 - 2. Shoreline Management Act
 - 3. SEPA
 - 4. Uniform Building Code and Related Standards, 1994 Edition, published by the International Conference of Building Officials.
 - 5. Bellingham Amendments to the Uniform Building Code and all local ordinances and regulations.
 - 6. Washington State Building Code, in particular WAC 51-30, CHAPTER 11, ACCESSIBILITY.
 - 7. The Life Safety Code NFPA 101-1991.
 - 8. Rules and Regulations from the State Board of Health.
 - 9. Department of Labor and Industries Regulations.

- a. In particular, note requirements of the Hazard Communication Standard, WAC 296-62054 through -05427.
 10. Department of Ecology Regulations.
 11. Environmental Requirements: All work shall be performed in compliance with applicable provisions of Chapters 43.21 C RCW and 90.50 RCW as amended, 70.105 RCW, Waste Management Act of 1976, and other applicable federal, State and local statutes, ordinances and regulations dealing with prevention of environmental pollution and the preservation of public natural resources that affect or are affected by this project, as well as applicable provisions of Title 39 RCW and Chapter 60.28 RCW are referred to the attention the Contractor and are incorporated herein.
 12. Industrial Risk Insurers (IRI).
 13. Site and site utility work: WSDOT -APWA: 2000 Standard Specifications for Road, Bridge, Municipal Construction.
 14. Vehicle Size, weight, and load requirements: Chapter 46.44 RCW
- C. Permitting: Owner shall pay for all required permits. Owner shall obtain HPA permit and Facilities Construction Agreement for work in Right of Way. Contractor shall obtain all other necessary permits including but not limited to:
1. Building Permit
 2. Stormwater Permit
 3. Clearing and Grading Permit
- D. Specifications of Higher Standards: Drawings and Specifications govern whenever they higher standards than are required by governing codes, regulations, and the like.

1.05 CONSTRUCTION TYPE

See Drawings.

1.06 OCCUPANCY CLASSIFICATION

See Drawings.

PART 1 - GENERAL

1.1 Codes and Standards

- A. This project shall be constructed in conformance with the Standard Specifications for Road, Bridge and Municipal Construction, most recent edition, as prepared by the Washington State Department of Transportation and the Washington State Chapter of the American Public Works Association, referred to hereinafter as "Standard Specifications"; the Standard Plans for Road, Bridge and Municipal Construction, current edition, as prepared by the Washington State Department of Transportation and the Washington State Chapter of the American Public Works Association, referred to hereinafter as "Standard Plans"; and the City of Bellingham Development Guidelines and Improvement Standards, including the City Standard Plans, current edition, referred to hereinafter as "City Standards" and/or "City Standard Plans" are hereby made a part of the Contract Documents, and shall be included as a part of the specifications for this project.

Whereas any subsection or portion thereof of the Standard Specifications or City Standards is deleted, amended, altered, or changed herein, it is meant to pertain only to that particular portion of the section and in no way should it be interpreted that the balance of the section does not apply. These Special Provisions supersede any conflicting provisions of the Standard Specifications, City Standards, and other sections of the Contract Documents. All references in the Standard Specifications to the "Secretary", or to the "Engineer" shall be interpreted to mean the Owner or the Owner's designated representative(s). All communication shall be conducted per the general conditions of this contract. Measurement and payment provisions in the Standard Specifications are hereby deleted. Project components will be paid as described in Section 01100.

The current edition of the City Standards and City Standard Plans is available on the internet at cob.org/cobweb/pw/engineer/index.htm

- B. Contractor shall comply with all local and state codes, ordinances, rules, regulations, and other legal requirements of public authorities, which bear in performance of work.
- C. It must be understood that it shall be the Contractor's responsibility to pay for and obtain any and all necessary and required permits. Obtaining and paying for permits shall be incidental to this contract and no separate measurement will be made for payment purposes.

1.2 Definitions

Provide shall mean that the Contractor shall furnish, install, test and make ready for use any and all items so designated.

Furnish and Install shall mean "provide."

1.3 Associations and Standards

In addition to other associations and standards referenced in APWA Standard Specifications for Municipal Public Works Construction the project shall be built in conformance with the following as determined by the Owner.

UBC	Uniform Building Code of International Conference of Building Officials 50 South Los Robles Pasadena, CA 91101
IBC	International Building Code International Code Council Falls Church, Va
ASTM	American Society for Testing & Materials
CPSC	Consumer Product Safety Commission

1.4 Abbreviations

The following abbreviations are standard with the Landscape Architect for all projects. Many will not appear on this set of Drawings. Some common usage abbreviations have not been included. Others appear on the schedule or on the Drawings.

Abbreviation Meaning

Add.	Additive
Adj.	Adjacent
Alt.	Alternate
Approx.	Approximate
B. or Bot.	Bottom
B&B	Ball and Burlap
B.O.	By Owner
C.B.	Catch Basin
Cal.	Caliper
Clr.	Clearance
C.O.	Clean out
Com.	Common
Conn.	Connection
Cont.	Container
C.Y.	Cubic Yard
L.F.	Linear Foot
L.S.	Lump Sum
S.Y.	Square Yard
M.S.F.	Thousand Square Feet
Dia.	Diameter
Det.	Detail
Dwg.	Drawing
EA.	Each
El.	Elevation
Eq.	Equal
F.E.	Finish Elevation

Fin.	Finish
Ft.	Foot
Ht.	Height
Gal.	Gallon
H.P.	High Point
L.A.	Landscape Architect
Max.	Maximum
Min.	Minimum
M.M.E.	Meet and Match Existing
M.H.	Manhole
O.C.	On Center
O.D.	Outside Diameter
N.I.C.	Not in Contract
O.E.	Or approved Equal
+/-	Plus or Minus
P.E.	Professional Engineer
P.C.	Pipe Sewer
Perf.	Perforated Pipe
P.O.B.	Point of Beginning
P.O.C.	Point of Connection
Rad.	Radius
Req.	Required
R.E.	Rim Elevation
S.C.	Saw Cut
S.D.	Storm Drain
Sheet	Slope
Specs.	Specifications
St.	Street
Typ.	Typical
WSDOT	Washington State Dept. of Transportation

END OF SECTION 01090

1.1 *Related Documents*

A. Conditions of the Contract, and Supplements thereto by City of Bellingham apply to the Work specified in this Section.

B. Owner's Award and Procedures:

It is the intent of the Owner to award one prime Contract for the construction of the project, complete, as shown on the drawings and specifications.

The Owner reserves the right to accept, or to reject any or all of the bids.

Each bidder shall include with his/her proposal, in the spaces provided therefore in the Bid Schedule described below, lump sum bids and unit prices for general construction work for the project. Figures shall indicate and include the total amount of all costs of the materials, labor, equipment, profit, overhead, and incidentals to the construction of the Work.

C. Bid Schedules: Each Bidder shall include with his/her proposal, in the spaces provided, in the Bid Form described below, lump sums, unit process for adding materials, and construction work for the project. Figures shall indicate the total amount of all costs of the materials, labor, equipment, profit, overhead, and incidentals related to and the construction of the work described

1.2 *Base Bid*

Schedule A: The base bid includes the project, in total, through to final acceptance. The Base Bid includes all labor, materials, equipment, costs, overhead, profit, services, and incidentals necessary for the successful completion of the general construction work for the project Complete as shown on the Plans and in the Specifications.

See Section 01010 for more detail description of work.

1.3 *Additive Alternates*

Schedule A-1: The Bid includes all labor, materials, equipment, costs, overhead, profit, services, and incidentals necessary for the successful completion of the work for the **additive alternates** shown on the plans and specifications and as indicated on the Bid form.

See Section 01010 for more detail description of work.

END OF SECTION 01100

PART 1- GENERAL

1.01 SUMMARY

This section specifies administrative and procedural requirements for pre-construction conference and project meetings.

1.02 *Pre-construction Conference*

- A. Schedule a pre-construction conference at a time convenient to the Owner after the execution of the agreement and prior to *Notice to Proceed* with construction. Hold the conference at the Project Site or another location. Conduct the meeting to review responsibilities and personnel assignments.
- B. Attendees:
 - a. Owner
 - b. Designer
 - c. Contractor and its superintendent
 - d. Subcontractors
 - e. Suppliers
 - f. Other concerned parties
- C. All participants shall be familiar with the project and authorized to conclude matters relating to the Work.
- D. Agenda:
 - a. Tentative construction schedule
 - b. Critical Work Sequencing
 - c. Designation of responsible personnel
 - d. Procedures for processing field decisions and change orders.
 - e. Procedures for processing Applications for Payment.
 - f. Distribution of Contract Documents.
 - g. Submittal of Shop Drawings, Samples.
 - h. Preparation of Record Documents.
 - i. Use of the Premises.
 - j. Parking Availability.
 - k. Office, work and storage areas.
 - l. Equipment Deliveries.
 - m. Safety Procedures
 - n. First Aid
 - o. Security
 - p. Housekeeping
 - q. Working hours

1.02 *Progress Meetings*

- A. Conduct meetings at the site at regular intervals to be determined at the Pre-construction Conference. Coordinate meeting dates with preparation of Application for Payment.
- B. Attendees:
 - a. Owner
 - b. Contractor

- c. Subcontractors
- d. Or other entities currently involved in planning, coordination, or performance of future activities may be represented at the meetings. All participants shall be familiar with the project and authorized to conclude matters relating to the Work.
- E. Attendees:
 - a. Owner.
 - b. Name of Subcontractor.
 - c. Name of Manufacturer or Fabricator.
 - d. Name of Supplier.
 - e. Pertinent Change Orders.
 - f. Dollar Value.
 - g. Percentage of Contract Sum, adjusted to 100% total.
- F. Agenda: Review and correct or approve the minutes of the previous progress meeting. Review other items of significance that could affect progress
 - a. Review progress since last meeting.
 - b. Determine how progress might be expedited should the project be determined behind schedule.
 - c. Discuss whether schedule revisions are required to insure that current and subsequent activities will be completed within the Contract Time.
- G. Review present and future needs of each entity present, including:
 - a. Interface requirements.
 - b. Time.
 - c. Sequences.
 - d. Submittals status.
 - e. Deliveries.
 - f. Off site fabrication problems.
 - g. Access.
 - h. Site Utilization.
 - i. Temporary facilities.
 - j. Hours of Work.
 - k. Hazards and Risks.
 - l. Housekeeping.
 - m. Quality of Work standards.
 - n. Change Orders.
 - o. Documentation of Information for pay requests.

END OF SECTION 01200

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. General Requirements
- B. Progress Schedule -Bar Chart
- C. Coordination
- D. Updates and Progress Payments
- E. Float Time
- F. Recovery Schedule

1.02 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

- A. The General Conditions of the Contract and Supplemental General Conditions
- B. Make particular reference to the following Division One sections:
 - 1. Section 01040 -Project Coordination
 - 2. Section 01630 -Product Substitutions

1.03 GENERAL REQUIREMENTS

- A. The Work under this Contract will be planned, scheduled, executed and reported using a bar chart, pursuant to the provisions of Article 3 of the General Conditions and the Supplementary General Conditions.
- B. The primary objectives of the Progress Schedule are to ensure the adequate planning and execution of the construction activities so they may be prosecuted in an orderly and expeditious manner, within the Contract Time and specific dates stipulated by the Contract, to provide optimum coordination between Contractors, to establish the basis for measuring and monitoring individual Contractor progress and overall project progress, to detect problems for the purpose of taking corrective action to maintain the scheduled program and to provide a mechanism, or tool for determining and monitoring such corrective actions.
- C. The Progress Schedule shall be in a bar chart format with a logical association of predecessor and/or successor ties between the activities. Activities shall be overlapped with start-to-start and/or finish-to-finish relationships to evaluate how the Work is to be accomplished. The Progress Schedule shall be produced using either SureTrack version 1.5 or Microsoft Project version 4.0 (or the most current versions). The Contractor may request to use different software as a substitution, in accordance with Division One Section 01640. If the alternate software is accepted, the Contractor will be required to supply the Owner's Representative with an authorized copy of the software with all user support manuals.
- D. If the Contractor plans or intends to complete the Work earlier than any required Completion Date, the Owners, and Owner's Representative shall not be liable to the Contractor for any costs or other damages if the Contractor does not complete the Work before this earlier date for any reason. The duties, obligations and warranties of the Owner to the Contractor shall be consistent with and applicable only to the completion of the Work on the Completion Dates required in the Owner-Contractor Agreement, unless Owner and the Contractor otherwise agree in writing.

1.04 PROGRESS SCHEDULE -BAR CHART

- A. Pursuant to the General Conditions of this Contract, the following additional scheduling requirements are a part of this Contract.
- B. Work under this Section shall consist of furnishing a Progress Schedule showing in detail how the Contractor plans to execute and coordinate the Work. The Progress Schedule shall be based on and incorporate the Contract Completion dates specified in the Owner-Contractor Agreement and shall show the order in which Contractor shall perform the Work, projected dates for the start and completion of separable portions of the Work, and other information concerning Contractor's Work scheduling as Owner may request.
- C. Schedule Requirements
1. Schedule Requirements The Progress Schedule shall be in the form of a bar chart and shall consist of horizontal lines, or bars, plotted along a daily time scale. The horizontal bar(s) shall indicate the start and finish dates as well as the total time period of performance for each activity. The Contractor shall arrange the chart so as to show the activities that are necessary to fulfill each and every Milestone and Specific Completion Date requirement.
 2. The Schedule Content:
 - a. The Contractor's Progress Schedule shall include, but not be limited to:
 1. Procurement activities including mobilization, shop drawings and sample submittals, Owner/Architect review of submittals, fabrication, and delivery of all key and long-lead equipment and materials;
 2. Construction/erection activities;
 3. Testing activities;
 4. Any offsite activities including interfaces with the work of outside contractors, e.g. utilities, power, or any separate contractor.
 5. Activities for project closeout including punch list, as-built drawings, Substantial Completion, and Final Completion.
 - b. The identity and logic of activities comprising the Schedule shall meet the following criteria:
 1. The description of work by activity. Activity descriptions and coding shall contain the area of the work as well as the specific type of work.
 2. Activity boundaries shall be easily measurable and descriptions shall be clear and concise. Do not preface activity descriptions with "Begin" or "Complete." The beginning and end of each activity shall be readily verifiable, and progress shall be quantifiable.
 3. Responsibility for each activity shall be identified with a single performing organization.
 4. Activity duration's over fourteen (14) working days shall not be used except for non- construction activities such as shop drawing and sample submittals, fabrication and delivery of materials and equipment, concrete curing, and General Conditions activities, or as approved in writing by the Construction Manager.
 5. Activity durations shall be in workdays.
 6. The costs for the project shall be broken down according to a Schedule of Values that corresponds to the work schedule activities. The Schedule of values shall include costs for each of the activities identified under paragraph 1.04.C.2.a above of this Section.

7. Potential problems or constraints related to the implementation of the construction plan shall be identified in writing.
8. Foreseeable delays to activities such as normal seasonal weather shall be considered and included in the planning and scheduling of all work.
9. In assigning logical ties between activities, maximize Start- To- Start and Finish- To- Finish activity relationships. Overlapping activities minimizes out-of-sequence problems that arise when most relationships are Finish- To-Start with zero lead or lag.
10. Imposed completion dates for events other than the Substantial Completion Date are not permitted. Artificial Constraints are also not permitted.

D. Submittals

1. The submittal of the schedule documents shall include:
 - a. A computer-generated graphic time-scaled bar chart showing activity descriptions, durations and relationships between activities. The critical path should be easily identifiable.
 - b. A narrative that explains the basis for the Contractor's schedule of construction and any constraints.
 - c. A 3 1/2" computer diskette containing the schedule data files.

E. Approval Process

1. The Contractor shall perform the following immediately after receipt of the Notice to Proceed:
 - a. Prepare a detailed Progress Schedule that represents the Contractor's best judgment on how it shall prosecute and complete the Work in compliance with the Contract Substantial and Final Completion dates stipulated in the Contract Documents.
2. Within 5 calendar days following Notice to Proceed, submit to the Owners Representative a draft of the Progress Schedule for review and comment. Before the first Application for Payment, the Contractor shall submit to the Owners Representative a Schedule of Values allocated to various portions of the Work, prepared in such form and supported by such data to substantiate its accuracy as the Owners Representative may require. This schedule, unless objected to by the Owners Representative, shall be used as a basis for reviewing the Contractor's Applications for Payment. The Schedule of Values shall correspond to the Work segments/activities identified in the Progress Schedule.
3. The Progress Schedule shall indicate Completion Dates for the project that are not later than the project's required Completion Dates. All activity durations shall be given in Work days.
4. It is to be expressly understood and agreed by the Contractor that the Progress Schedule is an estimate to be revised from time to time as progress proceeds, and that the Owner does not guarantee that Contractor can start work activities on the start dates or complete work activities on the finish date shown in the schedule, or as same may be updated or revised; nor does the Owner guarantee that Contractor can proceed at all times in the sequence established by said schedule.
5. The Owner's Representative and Architect will review the Contractor's Schedule. If required, a meeting will be held between the Owner's Representative and Architect and the Contractor to resolve any conflicts between the Contractor's schedule and the overall Project Construction. The Contractor shall revise his

schedule as required by the Construction Manager and Architect to support the Project Construction and shall submit its revised schedule to the Owner's Representative within five (5) days for final review and acceptance.

6. Acceptance by the Architect and Owner's Representative of the Contractor's Progress Schedule is advisory only and shall not release the Contractor of the responsibility for accomplishing the Work within each and every Contract-required Completion Date. Omissions and errors in the Progress Schedule shall not excuse performance that is not in compliance with the Contract. Acceptance by the Owner, Construction Manager or Architect in no way makes the Owner, Owner's Representative or the Architect an insurer or guarantor of the Progress Schedule's success or liable for time or cost overruns flowing from its shortcomings. The Owner hereby disclaims any obligation or liability by reason of Owner's Representative or Architect acceptance of the Construction Schedule.

1.05 COORDINATION

- A. The Contractor shall coordinate the work with that of the other contractors and shall cooperate fully with the Owners Representative in maintaining orderly progress toward completion of the Work as scheduled.
- B. The Contractor shall inform the Subcontractors of progress while the Work is underway regarding delivery status of Owner-furnished equipment and material and of the progress of construction work being performed under separate contracts.
- C. The Contractor shall involve all applicable Subcontractors in the schedule development, updating and revisions.

1.06 UPDATES AND PROGRESS PAYMENTS

- A. Update Procedures
 1. The Contractor understands and agrees that its schedule is intended to accurately reflect at all times the status of the Project construction and projected activities. The Contractor also understands and agrees that updating the schedule is a key component of this requirement and will make every reasonable effort to provide current information.
 2. The bar chart schedule graphic format of the update shall include a dual line entry for each activity; the top bar graph shall indicate planned start/finish requirements with the bottom bar graph indicating actual start and finish of the activity. For activities in progress, the forecasted completion shall indicate the earliest the activity can be completed based upon current project status. Activity and project float time shall also be shown with dashed lines.
 3. The Contractor understands and agrees that updating the schedule is independent from updating the cost for progress payment purposes.
 4. The Contractor shall submit the proposed updated schedule information and a hand written copy of the previous pay application with the new payment percentages. The Contractor and Owner's Representative and Architect shall meet to go over the Update and approve the Pay Application percentages. Then Contractor shall submit a diskette with the approved updated schedule and the pay application along with a written narrative describing the overall progress of the Work and discussing possible problems, the status of major changes and any changes in sequence.

5. The Architect and the Owner's Representative will not be obligated to review or to process any Application for Progress Payment until the Contractor has submitted all update information.
6. Throughout the progress of the Work, the Contractor shall prepare and maintain a two week look ahead bar chart field schedule reflecting the schedule of work activities accomplished for the previous week and the work scheduled for the forthcoming two weeks.
7. The initial updating shall take place within fourteen (14) calendar days after the approval of the Contractor's schedule. Dates for subsequent updates shall be established by the Owner's Representative.
8. One initial Application for Payment for expenditures not directly related to Work accomplished at the project will be allowed before the acceptance of the Contractor's schedule. This payment will be limited to such items as Permits, Bonds, Mobilization, and Insurance. A second payment or requests for payment for work items not included above will not be allowed without an approved schedule.

1.07 FLOAT TIME

- A. Float time is the amount of time between the earliest start date and the latest start date, or between the earliest finish date and the latest finish date of a chain of activities on the Progress Schedule. Float time is not for the exclusive use or benefit of either the Contractor or the Owner.
- B. Extensions of time will be granted only to the extent that the activity or activities affected exceed the total float or slack along the path of activities affected at the time of Notice to Proceed of a Change Order or the commencement of any delay or condition for which an adjustment is warranted under the Contract Documents. The Contractor shall submit documentation supporting its request for a time extension in a form acceptable to the Owner's Representative and consistent with the requirements of the General Conditions.

1.08 RECOVERY SCHEDULE

- A. Should any conditions exist, for which the Contractor is responsible, such that certain activities shown on the Contractor's Progress Schedule fall behind schedule to the extent that any of the contracted Completion Dates are in jeopardy, the Contractor shall be required to, at no cost to the Owner, prepare and submit to the Owner's Representative a supplementary Recovery Schedule, in a form and detail appropriate to the need, to explain and display how it intends to reschedule those activities to regain compliance with the Baseline Progress Schedule during the immediate subsequent pay period.
- B. The Contractor and Construction Manager shall do the following after determination of the requirement for a Recovery Schedule:
 1. Within five (5) calendar days, the Contractor shall present to Owner's Representative the Recovery Schedule. The Recovery Schedule shall represent the Contractor's best judgment as to how he shall reorganize his work so that he may return to the approved Construction Schedule within the immediate subsequent pay period. The Recovery Schedule shall be prepared to a similar level of detail as the Progress Schedule.
- C. Five (5) calendar days prior to the expiration of the Recovery Schedule, Owner's Representative and the Contractor will meet at the job site to determine whether the

Contractor has regained compliance with the Construction Schedule. At the direction of the Owner's Representative, one of the following will happen:

1. If, in the opinion of the Owner's Representative, the Contractor is still behind schedule, the Contractor will prepare another Recovery Schedule, at the Contractor's expense, to take effect during the immediate subsequent pay period.
2. If, in the opinion of the Owner's Representative, the Contractor has sufficiently regained compliance with the Progress Schedule, the use of the Progress Schedule will be resumed.

SAMPLE

PART 1 - GENERAL

1.1 Summary

- A. Items requiring shop drawings, product data, and samples are specified in the individual sections. Submission of shop drawings, product data, and samples is required only where submittals are specifically required.
- B. Unspecified submittals will not be reviewed by the Owner. Subcontractor's drawings, setting diagrams and similar information required by the Contractor for coordination shall remain between the Contractor and his/her subcontractors, and will not be reviewed by the Owner.

1.2 Shop Drawings

- A. Present shop drawing information in a clear and thorough manner. Identify details by reference to drawing and detail, schedule shown or specified.
- B. The Contractor is responsible for shop drawing accuracy.

1.3 Product Data

- A. Clearly mark each copy to identify pertinent products or methods. Show performance characteristics, capabilities, dimensions, and clearances required diagrams and controls.
- B. Modify manufacturer's standard schematic drawings and diagrams to delete information which is not applicable to the work.
- C. Supplement standard information to provide information especially applicable to the work.

1.4 Samples

- A. Samples shall be of sufficient size and quality to clearly illustrate functional characteristics of product, with integrally related parts and attachment devices.

1.5 Contractor's Responsibilities

- A. Review, mark up as appropriate, and stamp Shop Drawings, product data, and samples prior to submission
- B. Determine and verify field measurements, field construction criteria, catalogue numbers and similar data, and conformance with the requirements of the Contract Documents.
- C. Coordinate each submittal with requirements of the work and contract documents.
- D. Notify Owner in writing at time of submittal of any deviation from the requirements of the Contract Documents.
- E. Contractor shall not begin fabrication or work prior to return of approved submittals.

1.6 Submission Requirements

- A. Make submittals promptly in accordance with approved schedule and such manner as to cause no delay in the work.

- B. Shop Drawings: Submit two opaque reproductions which will be used for checking, and which will not be returned. Resubmit as required until final action by the Owner.
- C. Product Data: unless otherwise noted in the individual sections, submit two copies of product data to the Owner, which will not be returned.
- D. Samples: Submit as required in the individual sections.

1.7 Submittals shall contain:

- A. Date of submission and dates of previous submissions. Identify any revisions on any resubmittal.
- B. Project Title, Contract Identification, Name of Contractor and Subcontractor, Supplier and Manufacturer
- C. Relation of adjacent and or critical features of the work
- D. Applicable standards, e.g. ASTM, etc.
- E. Applicable Section number

1.8 Submittal Schedule

- A. Clearly Time of submission of shop drawings, product data, and samples by the Contractor and their processing and return by the Owner is a matter that must be jointly agreed to by both parties in order that items covered by required submittals will be available when needed by the construction process and so that each party can plan their workload in an orderly manner.
- B. Contractor shall prepare a submittal register, coordinated with the progress schedule and submit to the Owner 15 days prior to submission of the first submittals or simultaneously with the progress schedule, whichever is earlier. No submittals will be processed before a submittal register is reviewed by the Owner.
- C. The contractor shall first determine from the progress schedule when the particular item is needed for installation. Contractor shall work backwards from this moment and include time required for submittal review, ordering, fabrication, and shipment.
- D. The intent is to adjust the schedule to produce an orderly, even workload, without peak loads if possible and to meet the needs of the construction process. After the schedule is completed the contractor will provide copies to the owner at contractor's expense.

END OF SECTION 01335

PART 1 - GENERAL

1. 1 Related Documents

- A. Conditions of the Contract, and the Supplements thereto by City of Bellingham apply to the work specified in this Section.

1. 2 Related Work in Other Sections

- A. Contractor is responsible for maintaining all survey control points until the work is completed. If they are destroyed or disturbed, replacement will be at the Contractor's expense.
- B. For Control of Work, Control of Materials and Legal Relations and Responsibilities to the Public, see General and Special Conditions.

1. 3 Tests and Inspections

- A. Refer to Section 1410.

1. 4 Record Drawings and Project Manual

- A. Keep **one set of record drawings and project manual** at the site for the purpose of recording, and recording all changes made during construction. Show actual locations of encountered and new underground utilities, both vertical and horizontal, to the closest .1 foot measured from permanent fixed objects such as manholes, fences, or buildings. Surface revisions such as planting bed edges shall be recorded to the nearest .1 foot.
- B. Mark the record drawing set and project manual to record all materials used where options or additives were indicated or specified.
- C. Deliver one set of clearly legible marked up drawings and project manuals to the Owner upon completion of Work.

1.5 Guarantee, Workmen, & Workmanship

- A. None but skilled workers or skilled subcontractors shall be employed on work requiring special qualifications. When required in writing by the City, the Contractor or any subcontractors shall discharge any person or subcontractor who is, in the opinion of the City, incompetent, unfaithful, disorderly, or otherwise unsatisfactory. The Contractor shall not again employ such discharged person or subcontractor on the work except with the consent of the City. Such discharge shall not be the basis for any claim for compensation against the City or its officers.
- B. It is the intent of these Plans and Specifications to obtain good workmanship throughout upon completion. The Work will not be accepted unless this result is obtained.
- C. The Contractor is required, upon completion of the Work, to furnish the Owner a written guarantee covering all material and workmanship for a period of one year after the date of final acceptance. The Contractor shall make all necessary repairs and/or replacements during that period at his/her own expense, if such

repairs are necessitated as the result of furnishing, under this Contract, poor materials and/or workmanship

END OF SECTION 01400

SAMPLE

PART 1 GENERAL

The provisions of the WSDOT/WPWA Standard Specifications, most current edition apply except as modified herein.

The Contractor shall be responsible for all specific safety requirements promulgated by any governmental authority, including the requirements of the Occupational Safety and Health Act of 1970 (OSHA) and WISHA.

1.01 Related Requirements Specified Elsewhere:

- A. Inspections and testing required by laws, ordinances, rules, regulations or orders of public authorities: General Conditions.
- B. Certification of products: Respective specification sections.
- C. Soil Testing: Section 02900
- D. Tests and Standards: Pertinent sections.

1.02 Independent Testing Laboratory:

- A. The City will employ and pay for services of an Independent Testing Laboratory to perform compaction, concrete, and related testing services.
- B. The Contractor shall provide certification that seed complies with the specification herein. The Contractor shall provide a test report showing topsoil complies with the specification herein.
- C. Employment of Testing Laboratory will in no way relieve Contractor of its obligation to perform work in accord with contract.

1.03 Laboratory Duties; Limitations of Warranties

- A. Cooperate with Agency and Contractor; provide qualified personnel promptly on notice.
- B. Perform specified inspections, sampling and testing of materials and methods of construction. Comply with specified standards. Ascertain compliance with requirements of Contract Documents.
- C. Notify Engineer and Contractor promptly of irregular ties or deficiencies of work observed during performance of services.
- D. Submit promptly 5 copies of reports of inspections and tests to Agency for further distribution.
- E. Perform additional services as required by Agency.
- F. No authority to release, revoke, alter or enlarge on requirements of Contract Documents; approve or accept any portion of the work; perform any duties of the Contractor.

1.04 Contractor's Responsibilities

- A. Cooperate with Laboratory personnel, provide access to work, arrange access to manufacturer's operations.
- B. Provide Laboratory preliminary representative samples of materials to be tested, in required quantities.

- C. Furnish copies of mill test reports. Casual labor and facilities for access to work to be tested; to obtain and handle samples at the site; to facilitate inspection and tests; for Laboratory's exclusive use for storage and curing of test samples.
- D. Notify Laboratory sufficiently in advance of operations to allow for its assignment of personnel and scheduling of tests.
- E. Arrange with Laboratory and pay for additional inspections, sampling and testing required for the Contractor's convenience and when initial tests indicate work does not comply with Contract Documents.
- F. Coordinate requests for services through City employed Testing Laboratory through Agency Representative.
- G. Cooperate with Laboratory personnel, provide access to work, arrange access to manufacturer's instructions, specifications, or other written directions.

1.05 Testing & Inspections

- A. The Contractor shall arrange for grading, stormwater, and mechanical inspections with the City of Bellingham Building Services Department. This item shall be incidental to the Contracts and shall not be measured for payment.
- B. In the event the Owner grants the Contractor permission to work outside normal working hours, the contractor shall bear any additional costs or surcharges arising from materials testing by an independent testing agency. These testing costs may include mileage, park staff overtime, testing agency overtime, and a 15% service fee.
- C. The Owner may require additional tests and inspections because of:
 - 1. Failure on the part of the Contractor to satisfy all items on the final punchlist prior to scheduled punch list inspection (Final Inspection).
 - 2. Defective installation of materials that appear during construction, or during guarantee period.
- D. For each additional inspection or test required, Contractor shall pay for cost of testing and the Owner's current hourly rate of pay plus 15% service fee, and for travel expense by private automobile at the current I.R.S. approved mileage rate.

END OF SECTION 01410

PART 1 - GENERAL

- 1.1 Related Documents
- A. Conditions of the Contract, and the Supplements thereto by City of Bellingham apply to the work specified in this Section.
- 1.2 Work Area
- A. The Contractor shall confine operations and storage to the designated work and storage/staging areas. Keep all areas and adjacent surfaces clean and orderly.
- 1.3 Required City of Bellingham Permits
- A. A City business license must be obtained by the Contractor prior to the City issuing any permits.
 - B. The Contractor will be required to pay for the City business license.
 - C. The Contractor shall make applications and pay for all required permits (e.g. Stormwater, Grading, etc.) from the City of Bellingham prior to starting construction of the associated improvements.
- 1.4 Emergency Service
- A. The Contractor shall designate and shall provide the Owner and the Landscape Architect with names and telephone numbers of those persons who will be available at all times in case of emergency. The Contractor will be charged for such expenses as may be incurred by the Owner to provide such service, if said emergency is not immediately rectified.
- 1.5 Temporary Facilities
- A. The Contractor shall provide all temporary facilities required to execute work in a safe, workmanlike manner.
- 1.6 Electrical Power
- A. Contractor to provide all electrical power as required for Construction. Costs related to providing electrical power are incidental to this project.
- 1.7 Telephone
- A. Contractor shall provide a mobile phone with back-up answering service to insure communication access during normal working hours.
- 1.8 Water
- A. Water is not available on site.
- 1.9 Toilet
- A. Contractor shall provide his/her own restroom facilities.
- 1.10 Dust & Dirt Control (See Sheet C4 and Section 02374)
- A. The water placement includes that required for dust control while site grading excavating for the installation of the structures and appurtenances for processing and compacting the subgrade, for dust control between the time of subgrade preparation for the restoration, seeding, pavement repair and crushed surfacing.
 - B. Dust control water shall be applied as designated by the Owner, and for such period of time as he deems necessary.

- C. Contractor shall ensure that dust and debris resulting from construction activities are removed from local streets.
 - D. The cost of water placement shall be incidental to the base bid.
 - E. The contractor shall obtain a water hydrant use permit from the City of Bellingham at his/her expense.
 - F. Provide dust and dirt control. Sprinkle as required to quell dust. Protect occupants, neighboring property, passers-by and visitors from injury or discomfort from dust. Protect in accordance with requirements of Air Pollution Control Authority and local and State standards.
- 1.11 Guards & Barricades
- A. The Contractor shall provide temporary barricades, safety guards and warning lights at all open excavations and other unsafe areas outside of the fenced work area. Barricades shall physically prohibit passage of pedestrians into excavations and protect the health, safety and welfare of the public.
- 1.12 Noise
- A. Perform construction work during standard 7am to 5pm, Monday through Friday business hours per City of Bellingham Supplements to the APWA Standard Specifications. Contractor requests to work other than standard hours including a description of work must be submitted in writing and approved by the Owner twenty-four hours prior to the alternate start of work.
- 1.13 Traffic Control
- A. If at any time the Contractor's activities result in closure, substandard condition, restrictions to traffic use of all or portions of the roadway which are specified to remain open to traffic, the Contractor shall immediately, at his own expense, furnish all material, labor, equipment, necessary to restore the streets to the satisfaction of the Engineer. Work necessary to restore the streets to traffic shall continue on a round-the-clock basis until they are reopened to traffic in conformance with the specifications. Upon failure of the Contractor to immediately provide the necessary material, labor, equipment, to restore the streets to traffic when ordered to do so by the Engineer, the City shall be at liberty without further notice to the Contractor or his Surety, to provide the necessary material, labor and equipment to restore the streets to traffic and to deduct all costs thereof from any moneys or payments due or to become due the Contractor.
 - B. All costs of traffic control shall be incidental to the project.
- 1.14 Cleaning During Construction
- A. Cleaning for Specific Products
 - 1. See Specification Section for that work.
 - B. Safety Requirements
 - 1. Maintain project in accordance with applicable safety and insurance standards. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
 - 2. Store volatile wastes in covered metal containers, and remove from premises daily. Prevent accumulation of wastes that create hazardous conditions. Provide adequate ventilation during use of volatile or noxious substances.
 - 3. Do not burn or bury rubbish and waste materials on project site. Burning of timber slash will be permitted only as approved by City of Bellingham Fire

Department and State Agencies. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.

C. Materials

1. Use only cleaning materials recommended by manufacturer of surface to be cleaned. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

D. Cleaning During Construction

1. Execute cleaning to ensure that neighboring grounds, and public properties are maintained free from accumulations of waste materials and rubbish. Wet down dry materials and rubbish to lay dust and prevent blowing dust.
2. Each day during progress of work, clean site and public properties and dispose of waste materials, debris and rubbish. Provide on-site dump containers for collection of waste materials, debris and rubbish. Remove waste materials, debris and rubbish from site and legally dispose of at public or private dumping areas.
3. Where the Contractor, subcontractors, and/or suppliers are using Local street for hauling debris, disposal material, imported material, equipment, or other purposes, special care shall be exercised to prevent spillage or scattering of debris, materials, liquids, dirt rock, mud and/or other foreign matter upon the street right -of -way. Should spillage or scattering occur and be deemed as dangerous to public safety by the Owner, the Contractor shall clean the spillage or scattering immediately. If the spillage or scatterings are not cleaned up within a reasonable time, the Owner shall order the work done by others and the costs are to be paid by the Contractor.

E. Final Cleaning, See Section 01700.

1.15 Temporary Field Offices & Sheds

- B. Not required.

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Definitions
- B. Transportation and Handling
- C. Storage and Protection
- D. Materials and Equipment
- E. Manufactured and Fabricated Products
- F. Preparation
- G. Installation
- H. Starting Systems

1.02 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

- A. Make particular reference to the following Division One sections:
 - 1. Section 01410 -Testing Laboratory Services.
 - 2. Section 017540 -Warranties.

1.03 DEFINITIONS

- A. Definition of "Products":
 - 1. "Products" include new material, machinery, components, equipment, fixtures, and systems forming Work.
 - 2. "Products" do not include machinery and equipment used for preparation, fabrication, conveying and erection of Work.
 - 3. "Products" may also include existing materials or components required for reuse.
- B. Comply with Specifications and referenced standards as minimum requirements.
- C. Components required to be supplied in quantity within a Specification section shall be the same, and shall be interchangeable.
- D. Do not use materials and equipment removed from existing structure, except as specifically required, or allowed, by Contract Documents.

1.04 TRANSPORTATION AND HANDLING

- A. Coordinate product deliveries to avoid work schedule conflicts or delays.
- B. Transport and handle products in accordance with manufacturer's instructions.
- C. Deliver products undamaged, in manufacturer's original' containers, with labels intact and legible.
- D. Promptly inspect shipments to assure that products comply with requirements, quantities are correct, and products are undamaged.

- E. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

1.05 STORAGE AND PROTECTION

- A. Assume full responsibility for protection and safekeeping of products stored on premises.
- B. Store stockpiled materials in designated area.
- C. Store and protect products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive products in weather-tight, climate controlled enclosures.
- D. For exterior storage of fabricated products, place on sloped supports, above ground.
- E. Provide off-site storage and protection when site does not permit on-site storage or protection.
- F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation.
- G. Store loose granular materials on solid flat surfaces in well-drained area. Prevent mixing with foreign matter.
- H. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- I. Arrange storage of products to permit access for inspection. Periodically inspect to assure products are undamaged and are maintained under specified conditions.

PART 2 PRODUCTS

2.01 MATERIALS AND EQUIPMENT

- A. All materials and equipment shall be new (except existing items specifically designated for re-use) and free from defects impairing strength, durability, or appearances.
 - 1. When two or more items of same kind are required under work, use items of single manufacturer except where specifically exempted.
- B. All items incorporated into Work shall conform to Contract Documents and designated standards.

2.02 MANUFACTURED AND FABRICATED PRODUCTS

- A. Design, fabricate and assemble products in accordance with current best engineering, industry, and shop practices.
- B. Provide interchangeable components of same manufacturer, for similar components.
- C. Contract Documents are based upon specific manufacturers listed in various Specification sections. Alternate manufacturers may require deviations from Contract Documents to properly install their particular product and to provide required results.
 - 1. Provide all additional work necessary to install such products, if approved, at no extra charge to Owner.
 - 2. Submit Shop Drawings showing all deviations from Contract Documents for each specific item.

PART 3 EXECUTION

3.01 PREPARATION

- A. Examine existing conditions, Project requirements and Contract Documents. Verify that materials and equipment furnished meet specified requirements.

3.02 INSTALLATION

- A. Perform Work, handle, install, connect, clean, condition and adjust products in strict accordance with manufacturers' printed Instructions, and with Contract Document requirements.
- B. In case of conflict, Contract Documents shall govern. When in doubt, request clarification.
- C. All work to conform to recommendations of the Geotech report.

SAMPLE

PART 1 - GENERAL

The provisions of the WSDOT/APWA Standard Specifications, most current edition apply except as modified herein.

The Contractor shall be responsible for all specific safety requirements promulgated by any governmental authority, including the requirements of the Occupational Safety and Health Act of 1970 (OSHA) and WISHA.

1.1 Description

- A. The materials and products described in the Bidding Documents establish a standard of required function, dimension, appearance, and quality to be met by any proposed substitution.
- B. Request for approval of substitution shall be made in writing to the Project Manager by 5:00 p.m., at least seven calendar days prior to the date and time designated as the bid opening. Requests for substitutions received after this date will not be considered.
- C. The written request shall include the reason for the substitution, a list of the benefits the substitution will provide to the work. The Bidder will confirm that the substitution will not change, compromise or reduce the function and the aesthetic of the work.
- D. If the Project Manager approves any proposed substitution, the approved substitution shall be set forth as an addendum to the bid. No other manner of approval is allowed.
- E. Acceptance of proposed substitutions in materials, products, etc. shall not result in claims for additional compensation if the implementation of the substitute results in delays or additional costs in the construction and installation of the work.

1.2 Submittal Requirements

- A. Submit two copies of the substitution request
- B. Burden of proof is upon substitution request. Submit drawings, revised grading schemes, revised layout, dimensions, product data, samples, certified test results, etc. to fully describe substitution request for evaluation by the Owner.
- C. Document that the substitution request fully complies with the Contract Documents.
- D. Submission of request for substitution constitutes that the Bidder or Contractor:
 - 1. Has investigated the proposed product and determined that it meets or exceeds in all respects the specified product.
 - 2. Shall provide the same or better warranty as the specified product.
 - 3. Shall be responsible for the effect for the substitution on related work, shall coordinate installation and be responsible for additional changes which may be required to complete the work in all respects, in compliance with all applicable codes and regulations.
 - 4. Be responsible for any additional costs which become subsequently apparent.

1.3 Owner will not consider:

- A. Substitutions received after the specified deadline.
- B. Substitutions not providing adequate or clearly defined information for complete and timely appraisal.
- C. Substitutions, which if accepted, will require substantial revisions to the contract documents.
- D. Substitutions implied by Shop Drawings and other submittals.
- E. Substitutions not submitted on completed Substitution Request Form.

END SECTION 01630

SAMPLE

PART 1 - GENERAL

1.1 Related Documents

- A. Conditions of the Contract, and the Supplements thereto by City of Bellingham apply to the work specified in this Section.

1.2 Submittals upon Completion of Work

- A. Furnish record data as noted in Special Provision Section 01400, Quality Control.
- B. Application for Final Payment showing all items at one hundred percent completion.
- C. Written Request to the City of Bellingham, Project Manager for Final Inspection.

1.3 Preliminary Deficiency List (Punch List)

- A. At a time prior to the Contractor's request for Final Inspection the Owner will perform one combined pre-final inspection of the work and provide the Contractor a list of items requiring additional work. All items appearing on the Pre-final inspection Deficiency List shall be corrected and the Owner notified in writing prior to the request for Final Inspection.

1.4 Final Cleaning

- A. All adjacent paved surfaces shall be washed clean; and all other areas made neat prior to request for Final Inspection.
- B. Contractor disturbed turf areas outside the construction limits shall be smoothed and re-seeded with the below described seed mix described in Section 02900.
- C. The plant maintenance period shall include sufficient applications of water a healthy stand of uniform grass cover over disturbed areas is achieved. The Landscape Architect shall be sole judge of the quality of seeding.

END OF SECTION 01700

PART 1 GENERAL

1.01 REQUIREMENTS

- A. Summary
- B. Quality Assurance
- C. Cleaning Materials and Equipment
- D. Progress Cleaning
- E. Dust Control
- F. Closeout Cleaning

1.02 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

- A. Make particular reference to the following sections:
 - 1. Related work described elsewhere: In addition to standards described in this Section, comply with all requirements for cleaning as described in other various Sections of these Specifications.

1.03 SUMMARY

- A. Work included: Throughout the construction period, maintain the project site where work is carried out in a standard of cleanliness as described in this section.

1.04 QUALITY ASSURANCE

- A. Inspection: Conduct daily inspection, and more often if necessary, to verify that requirements of cleanliness are being met.
- B. Codes and Standards: In addition to the standard described in this section, comply with all pertinent requirements of governmental agencies having jurisdiction.

PART 2 PRODUCTS

2.01 CLEANING MATERIALS AND EQUIPMENT

- A. Provide all required personnel, equipment, and materials needed to maintain specified standard of cleanliness.

PART 3 EXECUTION

3.01 PROGRESS CLEANING

- A. General:
 - 1. Retain all stored items in an orderly arrangement allowing maximum access, not impeding drainage or traffic, and providing the required protection of materials.
 - 2. Do not allow the accumulation of scrap, debris, waste material, and other items not required for construction of this Work.

3. Provide adequate storage for all items, awaiting removal from the job site, observing all requirements for fire prevention and protection of the ecology.

B. Site:

1. Weekly, and more often if necessary, inspect all arrangements of materials stored on the site; restack, tidy, or otherwise service. All arrangements to meet the requirements of paragraph 3.01-A-1 above.
2. Maintain the site in a neat and orderly condition at all times to the satisfaction of the Owner.

3.02 DUST CONTROL

- A. Maintain continuous cleaning and wetting procedures to control dust pollution at project site and haul routes as required by governing authorities and the Contract Documents. Use power sweepers for street cleaning, if necessary.
- B. Schedule cleaning so that resultant dust and contaminants will not fall on wet or newly coated surfaces.

3.03 CLOSEOUT CLEANING

- A. Cleaning: Provide final cleaning of Work prior to Substantial Completion Inspection at time indicated. Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit of work to condition expected from normal commercial building cleaning and maintenance program. Comply with manufacturer's recommendations. Complete following cleaning operations before requesting Architect's review for Certification of Substantial Completion:
 1. Clean equipment and fixtures to sanitary condition.
 2. Clean debris from drainage systems.
 3. Remove grease, mastic, adhesives, dust dirt, stains, fingerprints, labels, and other foreign matter from sight exposed surfaces.
 4. Hose-clean exterior paved surfaces; rake clean other surfaces of grounds.
- B. Removal of protection: Except as otherwise indicated or requested by Architect, remove temporary protection devices and facilities which were installed during course of Work to protect previously completed Work during remainder of construction period or to protect public.
- C. Compliance:
 1. Comply with safety standards and governing regulations for cleaning operations.
 2. Do not burn waste materials at Site.
 3. Do not bury debris or excess materials on Owner's property.
 4. Do not discharge volatile or other harmful or dangerous materials into drainage systems.
 5. Remove waste materials from Site and dispose of in lawful manner.

PART 1 - GENERAL

1.1 Section Includes

Maintain for Owner at site one Record Copy of Civil, Landscape Architectural Work.

Process for Request for information

1.2 Related Work in Other Sections

- A. Coordinate related requirements specified in other parts of this project manual including but limited to General Conditions, Supplementary Conditions and Sections in Division 1. Other requirements affecting Project Record Documents may appear in other pertinent sections.

1.3 Maintenance of Record Drawings and Samples

- A. Maintain and store apart from documents used in construction:
 - a. Contract Drawings annotated as work progresses.
 - b. Specifications, as work progresses.
 - c. Addenda.
 - d. Change Orders and other Contract Modifications.
 - e. Accepted Shop Drawings, product data, samples, etc.
 - f. Field Test Reports.
 - g. Current Construction Schedule.
- B. Maintain Record Drawing in clean orderly and legible condition. Do not use for construction purposes.
- C. Make documents available at all times for inspection by Owner.
- D. Label each document "PROJECT RECORD" in neat large block letters.
- E. Record information concurrently with construction progress.
- F. Clearly mark all changes using an erasable colored pencil. Use different color pencil for overlapping changes.
- G. Indicate the following:
 - a. Accurate measurements of underground utilities and services
 - b. Note changes in directions and locations, slopes, and vertical and horizontal dimensions, as construction progresses.
 - c. Record accurate locations of underground sleeves, piping, valves, etc.
 - d. Show all detail and locations not on original drawings.
 - e. Indicate field changes of dimension and detail.
 - f. Indicate revisions to drawings with a "cloud" drawn around the revision and note revision and date of revision.

1.3 Submittals

- A. With each submittal of Payment Application and Certificate form, record drawings, specifications, updated construction schedule and other documents will be made available for inspection by the Owner for complete and timely maintenance in accordance with the Contract Documents.
- B. At Contract Closeout and before final payment, deliver record documents to the Owner.

- a. One set Record Drawings legibly marked to record actual construction
- b. As-Built drawings shall include the exact location of all underground and aboveground utilities, including the horizontal and vertical location of all service connections, valves, tees, and elbows. Upon completion a certified as-built drawing shall be provided to the City.
- C. Request for Information: Contractor shall report, in writing, any errors, inconsistencies, omissions, or other questions regarding the work to the Owner in a timely fashion
 - a. Form: The request for information shall include Date, related section and sheet number, detail number, as applicable, project name, contractor name, contract number, and the issue being discussed.
 - b. The owner shall be allowed seven calendar days to respond to Contractor generated Request for Information.

END OF SECTION 01720

SAMPLE

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Compile specified Warranties and Bonds.
- B. Compile specified Service and Maintenance Contracts.
- C. Review submittals to verify compliance with Contract Documents.
- D. See Landscaping Specification for additional warranty and bond information.

1.02 RELATED REQUIREMENTS

- A. Make particular reference to the following:
 - 1. Bid Bond: See General and Supplemental Conditions.
 - 2. Performance Bond and Labor and Material Payment Bond: See General and Supplemental Conditions.
 - 3. Warranty of Work After Final Payment: See General and Supplemental Conditions.
 - 4. Section 01700 -Contract Closeout

1.03 SUMMARY

- A. Definitions
 - 1. "Standard product warranties" are preprinted written warranties published by individual manufacturer's for particular products and are specifically endorsed by the manufacturer to the Owner.
 - 2. "Special warranties" are written warranties required by or incorporated in the contract documents, either to extend time limits provided by standard warranties or to provide greater rights for the Owner.
- B. Types: Categories of warranties require for the Work include:
 - 1. Special product warranty issued by Contractor and, where required, countersigned by installer or other recognized entity involved in performance of the work.
 - 2. Specified product warranty issued by a manufacturer or fabricator for compliance with requirements in contract documents.
 - 3. Coincidental product warranty, available on a product incorporated into the work, by virtue of manufacturer's publication of warranty without regard for application requirements (nonspecified warranty).
 - 4. Refer to sections of Division 2 through 16 for requirements of specified warranties.
- C. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the work that incorporates the products nor does it relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.

1.04 SUBMITTAL REQUIREMENTS

- A. Assemble Warranties, Bonds, and Service and Maintenance Contracts, executed by each of the respective Manufacturer, Suppliers and Subcontractors.
- B. Contractor and each Subcontractor shall submit a completed Warranty Contact List as attached to this section or in a similar format.
- C. Format
 - 1. Bind each manual in a three-ring, heavy-duty, vinyl, hardboard cover binder.
 - 2. On cover, imprint the "Warranty Manual"; name of project, Owner, Architect; and date of substantial completion.
 - 3. On bound edge, imprint name of project and owner and date of substantial completion.
 - 4. Pages to be neat clean sheets, 8-1/2 by 11-inch maximum size or accordion foldouts to same size.
 - 5. Items to be identified with tabbed dividers showing name and number of appropriate specification sections.
 - 6. Arrange dividers and items in order they occur in specifications.
- D. Information Required
 - 1. Table of contents identifying separate warranties by specification section number and name.
 - 2. Contractor's warranty of the work per contract documents.
 - 3. Warranties, certificates, and bonds for all portions of the work per specifications, Divisions 1 through 16.
- E. Provide complete information for each item:
 - 1. Product or Work Item.
 - 2. Firm, with name of principal, address, and telephone number.
 - 3. Beginning date of Warranty, Bond, or Service and Maintenance Contract.
 - 4. Duration of Warranty, Bond, or Service and Maintenance Contract.
 - 5. Provide the following information for Owner's Personnel:
 - a. Procedure in case of failure or malfunction.
 - b. Instances which affect Warranty or Bond validity.
 - 6. Contractor, name of responsible principal, address, and telephone number.
- F. Distribution
 - 1. Submit one preliminary copy to Owner's Representative for approval prior to final submittal.
 - 2. After approval of preliminary copy and within ten (10) days following Substantial Completion, prepare and submit four final copies to Architect -one for Architect and three for Owner.

1.05 WARRANTY OBLIGATIONS

- A. Following completion of field testing and before building and/or phase commissioning, the Contractor will be responsible for required interim maintenance. A record of the interim maintenance will be kept and made available to the Owner upon final completion of the project.

- B. Conducting of tests and inspections, review of specifications or plans, payment for goods and services, or acceptance by the Owner does not constitute a waiver, modification, or exclusion of any express or implied warranty or any right under the contract or in law.
- C. If the Contractor elects to store equipment or any subcomponent thereof on the project site or in an offsite storage facility, such storage shall be in accordance with the vendor's recommendations. All precautions to protect the original vendor's warranty, including interim maintenance, shall be exercised by the Contractor at the Contractor's expense.

SAMPLE

PART 1 GENERAL

1.01 SUMMARY

- A. This section includes subgrade soil materials and topsoil materials obtained from on-site excavation.

1.02 REFERENCES

- A. ASTM D1557 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10 lb Rammer and 18 inch Drop. All compaction testing references in the Standard Specification to the Standard Proctor Test are hereby substituted with ASTM D1557, Modified Proctor Test.
- B. ASTM D2922 - Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
- C. ASTM D3017 - Test Method for Moisture Content of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
- D. A Geotechnical Report prepared by GeoTest Services, Inc. is attached in Appendix A to the specifications for reference only and is not a part of the contract documents.

PART 2 PRODUCTS

2.01 TOPSOIL

- A. Export top 4" layer of existing topsoil to Contractor supplied disposal site.

2.02 QUALITY CONTROL

- A. Testing and Analysis of Subgrade Material: Perform in accordance with ASTM D1557, ASTM D2922, ASTM D3017.

PART 3 EXECUTION

3.01 STOCKPILING

- A. On-site soils to be excavated are not suitable for reuse. Do not stockpile on-site soils. Remove excavated soil from the site in a timely manner.

END OF SECTION

PART 1 GENERAL

1.01 GENERAL

- A. In general, all sod and grass material shall be cleared and grubbed where fill or cut is less than one (1) foot. All shrubs, trees, roots, and stumps shall be cleared and grubbed as shown on the Drawings. (EXCEPT WHERE SHOWN TO REMAIN).
- B. Contractor may grind up all limbs and miscellaneous organic matter into medium coarse organic mulch. Spread on site under direction of Landscape Architect or remove from site.

1.02 SCOPE OF WORK

- A. Furnish all labor, materials, equipment and related items required to complete the work indicated on the Drawings and/or as specified in the Specifications. The items of work, shall include, but not be limited to:
 - 1. Removal and disposal of trees, roots, shrubs, brush, rubbish and any other materials.

1.03 RELATED WORK DESCRIBED ELSEWHERE

- A. Related work in other sections of these Specifications include but is not limited to:
 - 1. Demolition
 - 2. Grading, Embankment, and Backfill
 - 3. Landscaping
 - 4. Asphaltic Concrete Paving and Surfacing
 - 5. Portland Cement Concrete Paving and Surfacing
 - 6. Tree Protection

1.04 UTILITIES

- A. Verify location of all utilities before commencement of the Work. Remove no utilities, unless shown on the Drawings or as specified in the Specifications or directed by Owner's Representative. If unexpected conditions arise, stop work and immediately notify Owner's Representative. In all phases of the work, damage caused by Contractor to any existing utilities shall be repaired by the Contractor at no additional cost to Owner. The power line locations shown within limit of work will be relocated by the Owner during construction, see Section 02315 Excavation and Trenching. Contact Jonathan Schilk at 360.676.6985 for coordination.

1.06 HERBICIDES APPLICATION QUALIFICATION

- A. Applications of herbicides shall be made only by an Applicator licensed under Washington State Law.

1.07 PROTECTION

- A. Provide protective cover and barriers as necessary to prevent damage and staining to all existing site improvements.

PART 2 PRODUCTS

2.01 PRODUCTS AND EQUIPMENT

- A. As required for work involved.

PART 3 EXECUTION

3.01 CLEARING AND GRUBBING OF TREES AND SHRUBS

- A. Remove existing trees and shrubs within all areas, as indicated on the Drawings. Tree and shrub locations noted are approximate.
- B. Roots of trees and shrubs whose diameter is one (1) inch or greater shall be grubbed to a depth of twelve (12) inches below existing grade, unless located in proposed grass or field areas with a minimum of three (3) feet of cover. In such cases, cut off at ground level. Care shall be taken not to damage roots of trees and shrubs scheduled to remain. APPLY AN APPROVED STUMP AND ROOT KILLER TO REMAINING ROOTS OF TREES AND SHRUBS (TO BE REMOVED) PER MANUFACTURERS RECOMMENDATIONS.
- C. Cut, section and/or chip all cleared trees, shrubs, stumps and roots and spread throughout work area in unconcentrated lifts; not exceeding three (3) inch depth, or haul off-site and dispose of in such a manner as to meet all State, County, and Municipal regulations. In no instance shall trees, shrubs, or any other organic debris, except chipped material, be buried in fills.
- D. All "holes," "pits," or "voids" resulting from the stump and root removal shall be backfilled and compacted to provide a neat appearance and suitable structural base where required by subsequent construction.

- A. Remove or spray as required to eradicate/control weed and grass growth as shown on the Drawings. Herbicide shall be a non-selective liquid herbicide with no soil residue for immediate plant back. Contractor shall be responsible to coordinate herbicide application with a licensed herbicide applicator. HERBICIDE APPLICATION MUST ALLOW THE PLANTING OF GRASS DURING THIS CONTRACT PERIOD.

3.03 CLEARING AND GRUBBING OF IMPERISHABLE DEBRIS

- A. Remove all imperishable debris that would be unsuitable for bearing including, but not limited to, rocks, concrete pipe, and existing construction.

3.04 PROTECTION

- A. Protect benchmarks, monuments and other reference points, and existing work from damage or displacement. If disturbed or destroyed, replace at Contractor's expense. Any benchmarks or survey control points that will be disturbed by the work shall be surveyed by a Licensed Professional Land Surveyor prior to disturbance. Said benchmark or control point shall be restored by said Licensed Professional Land Surveyor in accordance with professional standards of practice.
- B. Maintain designated site access for vehicle and pedestrian traffic.

3.05 SCARIFYING EXISTING SURFACE

- A. All existing grass areas shall be thoroughly rototilled, after application of herbicide, to a minimum six (6) inch depth in two directions, each ninety (90) degrees to each other, prior to stripping topsoil.

3.06 TEMPORARY CONSTRUCTION FENCE

- A. Contractor shall survey and stake limit of construction line and provide a six (6) foot high temporary chainlink fence to be installed prior to Site Preparation operations (SEE DRAWINGS).

PROJECT NAME
BELLINGHAM, WASHINGTON
3.07 DISPOSAL

SITE PREPARATION
SECTION 02100

- A. Remove and dispose of all materials off-site unless otherwise noted on the Drawings.
Obtain approval of local governmental authority for off-site disposal sites.
- B. No on-site burning will be permitted unless otherwise noted on the Drawings.

END OF SECTION

SAMPLE

PART 1 GENERAL

1.01 DESCRIPTION

A. Scope Of Work

The work includes labor, equipment, and materials necessary for existing tree protection and trimming.

1.02 RELATED WORK

A. Related Work Specified Elsewhere

Coordinate related work specified in other parts of the Project Specifications, including but limited to the following:

1. Site Preparation
2. Grading, Embankment, and Backfill
3. Demolition
4. Site Improvements

1.03 QUALITY ASSURANCE

A. Standards

Code of Standards of the American Association of Nurserymen in the American Standard for Nursery Stock and National Arborist Association Standards for Pruning and Buying of Shade Trees.

1.04 PROJECT CONDITIONS

A. Existing Conditions

1. Carefully examine the site before submitting a bid. Be informed of the site conditions including adjacent properties, utilities, and soil conditions.
2. Should the Contractor find any discrepancies between Drawings and physical conditions, inform the Owner's Representative and Landscape Architect immediately for clarification.

1.05 TREE PROTECTION

- #### A. Protect all trees and other plant material scheduled to remain. Do not park any vehicles or equipment, store materials or stockpiled soil, dispose of building materials, chemicals, petroleum products, or other detrimental substances within limits of tree protection fencing of any existing tree to remain. Protect existing trees from flame, smoke, and heat. Construction access to site shall not occur beneath drip line of existing trees until special provisions have been met to protect all existing vegetation to remain. The Contractor shall be responsible for all damage to existing trees and plant material during construction. All clearing and grubbing or excavation within limits of tree protection fencing shall be done by hand methods.

- B. Provide protective temporary fencing during the work as necessary to protect existing vegetation to remain.

1.06 FAILURE TO PRESERVE TREES

- A. Trees that are designated to remain, which become damaged or die, shall be reviewed by the Owner's Representative prior to tree replacement. (NOT INCLUDING SIGNIFICANT TREES.).
- B. If the Contractor damages or destroys an existing tree, shrub and/or groundcover which he/she has been directed to preserve due to failure to comply with Specifications and Drawings, the Contractor shall replace it with trees at twelve (12) foot height, shrubs at twenty-four (24) inch height and groundcovers at one (1) gallon containers spaced at eighteen (18) inches on center with same plant species, size and grade, with a healthy tree and/or shrub acceptable to the Owner, and the contractor shall guarantee that the tree, shrub and/or groundcover shall live for a period of one (1) year from Owner's Acceptance.
- C. The Owner shall charge the Contractor damages to any **SIGNIFICANT EXISTING TREE** (twelve (12) inch caliper and larger) as measured 3' above lowest grade immediately adjacent to said tree. The Owner shall charge the Contractor at the rate of one hundred (100) dollars per square inch of damaged area. The following are examples of damage to a tree above and below ground surface: scrapes and other abrasions penetrating to the cambium layer of the main or lateral stem, splits in the bark and between main stem and lateral stems, rips, shredding, gouges, cuts, avulsions of tree parts, and dents. The calculated value of the significant tree, as described above, shall be deducted from the contract amount. It is the Contractor's responsibility to notify the Owner immediately after damage has occurred.
- D. The Owner shall charge the Contractor the following rates for destroyed existing trees, which cannot be replaced: \$100.00 per square inch of cross sectional area measured three (3) feet above existing grade for trees up to and including six (6) inch caliper; and at the rate of \$200.00 per square inch of cross sectional areas measure three (3) feet above existing grade for trees between seven (7) to eleven (11) inch caliper. This amount shall be credited to the Owner. (NOT INCLUDING SIGNIFICANT TREES TWELVE (12) INCH CALIPER AND LARGER).
- E. Remove any damaged and destroyed trees from the site. All trees are not to be removed unless evaluated by the Landscape Architect prior to being cut down and removed from the site. Grub stumps and repair the ground surface. All costs shall be borne by the Contractor.

PART 2 PRODUCTS

2.01 PRODUCTS AND EQUIPMENT

- A. As required for work involved.

PART 3 - EXECUTION

3.01 PREPARATION

A. Flagging Of Existing Trees

1. Flag existing trees to be removed with a bright colored ribbon. Notify the Owner's Representative and the Landscape Architect at least 48 hours prior to commencing of work to verify all existing trees that are flagged for removal.
2. Do not park any vehicles or equipment, store materials or stockpiled soil, dispose of building materials, chemicals, petroleum products, or other detrimental substances within limits of tree protection fencing of any existing tree to remain. Protect existing trees from flame, smoke, and heat. Construction access to site shall not occur beneath drip line of existing trees until special provisions have been met to protect all existing vegetation to remain.

3.03 EXISTING TREES TO REMAIN

A. GENERAL

1. Restrict foot and vehicular traffic over root systems to prevent excessive compaction of soil.
2. Existing individual trees and planting areas, shown on the Drawings to remain, shall be protected by a temporary six (6) foot high chainlink fence. Install fencing demolition before site preparation, grading, clearing, and grubbing operations.
3. Under no circumstances shall the Contractor, for the convenience or ease of construction, remove or damage existing trees designated to remain.
4. Prior to installation the location of the chainlink fencing around the existing trees to remain shall be reviewed by the City Arborist prior to demolition.

B. EXCAVATION AROUND TREES

1. Excavate by hand within limits of tree protection fencing of the existing trees to remain.
2. Where trenching for utilities and irrigation pipe is required within limits of tree protection fencing, tunnel under or around roots by hand digging. Do not cut main lateral roots or tap roots. The Contractor shall notify the Landscape Architect prior to cutting roots over one (1) inch in diameter. Roots up to and including 3/4" shall be cut by hand pruners. Roots above 3/4" shall be cut by hand saws. Do not leave roots exposed to sun or drying for more than 24 hours. Protect all exposed roots with minimum four (4) inches of moist organic mulch or burlap, and backfill as soon as possible.
3. Where excavating for new construction is required within limits of tree protection fencing, excavate by hand to minimize damage to roots and perform as follows:
 - a. Use narrow tine spading forks and comb soil to expose roots.

- b. If main lateral roots are immediately adjacent to location of new construction, the Contractor shall notify the Owner's Representative prior to any excavation.
- c. Do not allow exposed roots to dry out before permanent backfill is placed.
- d. Provide temporary earth cover and/or moist organic mulch, or pack with peat moss and wrap with burlap.
- e. Water and maintain in moist condition until covered with backfill.

3.04 PRUNING/TRIMMING OF EXISTING TREES

A. REMOVAL AND PRUNING

1. Removal and pruning shall be accomplished in such a manner as not to damage existing utilities, landscaping or other permanent improvements to remain. Any damage to existing improvements shall be repaired or the item replaced or otherwise restored to the satisfaction of the Owner's Representative and Owner at the Contractor's expense.
2. Where shown on plans, or where designated by these Specifications or the Owner's Representative and the City Representative, the Contractor shall utilize an International Society of Arboriculture Certified Arborist to carefully and skillfully trim, prune and remove extraneous limbs, growth, brush or vegetation adjacent to the work to facilitate construction in such a manner as to enhance the appearance of the plantings without disfiguring them. All trees and shrubs designated to remain shall be pruned per ANSI-A300 1995 Plant Maintenance Standards as indicated on the "Tree/Shrub Pruning Detail".
3. Contractor may grind up all limbs, brush, trimmings, debris, etc. and miscellaneous organic matter into medium course organic mulch per Section 02915 of these specifications. Spread on site (in non-planted areas) under field direction of the Owner's Representative or remove from site. (Contractor's Option).

END OF SECTION

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes site grading and excavating for site improvements and utility trenching.

1.02 REFERENCES

- A. ASTM C136 - Method for Sieve Analysis of Fine and Coarse Aggregates.
- B. ASTM D1557 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10 lb Rammer and 18 inch Drop.
- C. ASTM D2922 - Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
- D. ASTM D3017 - Test Methods for Moisture Content of Soil and Soil-Aggregate Mixtures.
- E. Utility location standards when working in the vicinity of utility lines.

1.03 SUBMITTALS

- A. Identify and describe in as-built drawings all unexpected variations to subsoil conditions or discovery of uncharted utilities, including perforated drain lines and irrigation lines.

1.04 COORDINATION WITH CITY FOR POWERLINE RELOCATION

- A. The lump sum base bid shall include five days of coordination with the City for power line relocations. One day shall be defined as when the City is working on-site for more than two hours on the power line relocation. Contact Jonathan Schilk at 360.676.6985 for scheduling and coordination.

PART 2 PRODUCTS

NOT USED.

PART 3 EXECUTION

3.01 UNCLASSIFIED EXCAVATION

- A. All Excavation is unclassified and includes excavation to subgrade elevations indicated on the plans, or as required to construct the work, regardless of character or materials and obstructions encountered, except as allowed in the provisions for unsuitable excavation.
- B. Excavate as necessary for work shown on drawings or specified. Leave bearing surfaces undisturbed, level and true. Obtain Engineer acceptance of subgrade.

- C. Grade top perimeter of excavation and all work areas to prevent surface water from draining into excavation. All work required to maintain positive drainage is incidental to the work.
- D. Notify Engineer immediately of subsurface conditions that are not as noted in the Geotechnical Report and discontinue affected work in area until notified to resume work.
- E. Unauthorized excavations consist of removal of materials beyond indicated subgrade elevations or dimensions without specific direction of the Engineer. Unauthorized excavation, as well as remedial work required as a result of unauthorized excavation as directed by Engineer, shall be at Contractor's sole expense. Correct areas over excavated with gravel base and compact suitable replacement material as specified for authorized excavation as directed by Engineer.
- F. Remove excavated material from site in a timely manner.

3.02 TRENCHING

- A. Do not advance open trench more than 200 feet ahead of installed pipe. All open trenches, regardless of depth shall be covered at the end of the day except as allowed by the Engineer. Exceptions will only be allowed if the trenches are barricaded, provided with lighting, signed, and protected from pedestrian traffic
- B. Provide uniform and continuous bearing and support for bedding material and pipe utilities.
- C. When subsurface materials at bottom of trench are loose or soft, notify Owner's Representative and request instructions.
- D. Remove excavated material from site and deliver to a Contractor provided, permitted disposal site.

3.03 UNSUITABLE EXCAVATION

- A. Unsuitable excavation shall be limited to the excavation of material below the grades established by the requirements of the Contract Documents due to encountering unstable or unsuitable earthen subgrades. Determination of the existence and quantity of unsuitable material shall be at the sole discretion of the Engineer.
- B. If it becomes apparent that a change order will be necessary due to encountering unstable or unsuitable earth the following procedure will be followed:
 - 1. A quantity survey shall be made by the Contractor with review by the Owner's Representative.
 - 2. The Engineer will determine if the survey is accurate and will determine if adequate dewatering measures have been established by the Contractor.
 - 3. The total estimated cost based on the Unit Price provisions of this Contract will be determined for additional excavation or material supplied.
 - 4. Excavation or backfill will proceed after agreement is reached by Owner's Representative and Contractor.

3.04 SHEETING AND SHORING

- A. The Contractor is solely responsible for all excavation safety systems.
- B. Support trench side walls more than 4 feet deep excavated through unstable, loose, or soft material. Provide sheeting, shoring, bracing, or other protection to maintain stability of excavation.
- C. Design sheeting and shoring to be removed at completion of the work.
- D. Repair damage caused by failure of the sheeting, shoring, or bracing and for settlement of filled excavations or adjacent soil.
- E. Repair damage to new and existing work from settlement, water or earth pressure or other causes resulting from inadequate sheeting, shoring, or bracing.

3.05 PROTECTION

- A. Carefully maintain bench marks, monuments, property corners, and other reference points that do not need to be disturbed by the work. The Contractor shall be responsible for establishing the existing coordinate position of any monuments, bench marks or property corners that may be disturbed by the work prior to disturbance. Replacement of said monuments and/or property corners shall be in accordance with professional standards of practice for land survey and applicable City standards.
- B. Prevent loose soil from falling into excavation; maintain soil stability.
- C. Protect bottom of excavations and soil adjacent to and beneath foundation from freezing.
- D. Protect structures, utilities, landscaping, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.
- E. Identify required lines, levels, contours, and datum locations.

END OF SECTION

PART 1 GENERAL

1.01 GENERAL

Work includes but is not limited to the following:

- A. This work shall consist of one or more courses of plant mixed asphalt concrete placed on a prepared foundation or base in accordance with the Washington State Department of Transportation Standard Specifications and in reasonably close conformity with the lines, grades, thicknesses, and typical cross-sections shown in the plans or established by the Landscape Architect.
- B. Asphalt concrete shall be composed of asphalt and aggregate which, with or without the addition of mineral filler and blending sand as may be required, shall be mixed in the proportions specified to provide a homogeneous, stable, and workable mixture.

1.02 SCOPE OF WORK

- A. Furnish all materials, equipment, labor, and related items necessary to complete the work shown on the Drawings and as specified in the Specifications for Asphaltic Concrete Paving. The items of work to be performed shall include but are not limited to:
 1. Subgrade preparation
 2. Base course and pavement surfacing
 3. All other related items required to complete the work shown on the Drawings and as specified.

1.03 RELATED WORK DESCRIBED ELSEWHERE

- A. Related work in other sections of these Specifications includes but is not limited to:
 1. Demolition
 2. Site Preparation
 3. Grading, Embankment, and Backfill

1.04 QUALITY ASSURANCE

- A. Standard Specifications:
 1. This section references the latest edition of the Washington State Department of Transportation (W.S.D.O.T.) Standard Specifications for Road, Bridge, and Municipal Construction, including all necessary amendments. In case of conflict between the Standard Specifications and these modifications, the requirements of this section shall prevail.

B. Samples and Submittals

1. Refer to Section 5-04.3(12) of the W.S.D.O.T. Standard Specifications. The last sentence is revised to read as follows:

Where samples have been taken from the uncompressed asphalt concrete, new material shall be placed and compacted to conform with the surrounding area at no additional expense to the Owner.

2. In addition to the above Standard, the following submittals shall be provided:
 - a. Truck load tickets for aggregate base and asphalt concrete at the time of delivery.
 - b. Technical data of asphalt to be used for tack coat.
 - c. Technical data of asphalt to be used in paving mix.
 - d. A sample (5 gallons) of the aggregate base.
 - e. Gradation data for asphalt concrete aggregates.
 - f. A sample (5 gallons) of asphalt concrete aggregates.

- C. Construction shall conform to the details, cross-sections, dimensions, and grades specified. All elevations and grade stakes shall be established to provide a smooth and even surface.

The Contractor shall immediately notify the Landscape Architect of any discrepancy of line and level.

- D. Qualifications of Asphalt Concrete Supplier:

Refer to Section 5-04.3(1) of the W.S.D.O.T. Standard Specifications.

1.05 GUARANTEE

- A. Any settlement in paved areas which occur within the one (1) year guarantee period will be considered to be caused by improper compaction methods and shall be corrected within thirty (30) days of notice at no cost to the Owner. Repair damage caused by settlement at no cost to the Owner.

1.06 JOB CONDITIONS

- A. Weather Limitations:

1. Refer to Section 5-04.3(16) of the W.S.D.O.T. Standard Specifications.
2. Base course may be placed when air temperature is not below thirty degrees (30°) F.

PART 2 PRODUCTS

2.01 AGGREGATE BASE

- A. A base course of one and one-quarter (1-1/4) inches maximum crushed aggregate, per W.S.D.O.T. Standard Specifications Section 9-03.9(3), shall be installed over the subgrade as shown on Drawings.

2.02 ASPHALT CONCRETE

- A. TRAIL SURFACE 3/8" AGGREGATE – Aggregate shall be Type Class B as shown on Drawings, conforming to Section 9-03.8 of the WSDOT-APWA. Asphalt binder shall be paving asphalt, Grade AR-4000, and shall comply with Section 9-02.1 of WSDOT-APWA. Asphalt concrete mixing and proportioning shall comply with Section 9-03.8 of the WSDOT-APWA.

2.03 SOIL STERILANT (Under Asphalt Only)

- A. Non-organic water-soluble herbicide "Polyborchlorate" by U.S. Borax Company, Caseron, or approved equal. Shall be applied in accordance with the W.S.D.O.T. Standard Specifications Section 5-04.3(5)D.

2.04 PAINT STRIPING

- A. Paint for pavement markings shall comply with Washington State Department of Transportation Specifications. The paint shall be factory mixed, quick drying and non-bleeding. Color: white.

PART 3 EXECUTION

3.01 PREPARATION OF SUBGRADE

- A. Preparation of subgrade shall occur in all areas to receive asphalt cement paving in accordance with the W.S.D.O.T. Standard Specifications Sections 2-06.3(1), 2-06.3(2), and 2-09.3(1)C. The second item under Section 2-06.3(1) is revised to read:

“Remove excess material from site unless otherwise approved by the Landscape Architect for use on the project site.”

The first sentence of the sixth item under Section 2-06.3(1) is revised to read:

“Compact the subgrade to a depth of six (6) inches and three (3) feet beyond all areas to receive asphalt concrete paving.”

- B. INSTALL ALL SLEEVING AND CONDUIT AS REQUIRED FOR IRRIGATION AND OTHER UTILITIES PRIOR TO THE FINAL COMPACTION OPERATION. COORDINATE WORK AS REQUIRED.
All ends of sleeves and/or conduit shall be capped and staked as directed by the Landscape Architect.

3.02 BASE COURSE

- A. Refer to Section 4-04.3 of the W.S.D.O.T. Standard Specifications.
- B. The final surface shall be unyielding course, free from inequities, with a smooth, tight, even surface, true to grade, line, and cross section shown on the Drawings and approved in field. Depth shown on Drawings is as measured after compaction. Maximum variation in any direction in the surface of the base course shall be a maximum of one four (1/4) inch in ten (10) feet.
- C. Apply soil sterilant to all crushed rock areas to receive pavement per the manufacturers' recommendation. A licensed applicator shall be responsible for mixing and applying soil sterilant under pavement surfaces. The Contractor shall certify in writing as to the sterilization materials used, the quantity used, and the method of application prior to applying pavement.
- D. The Contractor shall maintain the crushed rock surface until it is paved.
- E. Extend based course minimum six (6) inches beyond asphalt pavement width.

3.03 PRIMING PREPARED STABILIZED BASE COURSE

- A. Ensure stabilized base course is dry and free of loose or foreign material before priming.
- B. Coat metal surfaces of manholes and catch basins, which are to remain free of asphalt, with oil to prevent asphalt adhesion.
- C. Refer to Section 5-04.3(5)A of the W.S.D.O.T. Standard Specifications.

3.04 PRIMING EXISTING ASPHALT PAVING

- A. All joints between new pavement and existing pavement shall be tack coated and sealed with hot AR 4000W immediately prior to placement of new asphalt paving and immediately after compaction of subgrade. Tack and seal coats shall be uniformly applied to all vertical edges to be joined.

3.05 ASPHALT PAVING

- A. Refer to Section 5-04.3 of the W.S.D.O.T. Standard Specifications.
- B. Section 5.04.3(2) of the W.S.D.O.T. Standard Specifications is supplemented with the following:

The asphalt concrete mixture shall leave the mixing plant at a temperature between 260°F. and 350°F. and when deposited on the road it shall have a temperature of not less than 250°F. The exact temperature range within the above limits shall be directed by the Landscape Architect and Owner's Representative.

- C. Paragraph 1 of Section 5-04.3(9) is supplemented with the following:

"Where the compacted depth of any asphalt concrete pavement exceeds the depth specified above for the particular class of mixture, the course shall be constructed in two or more equal layers."

Paragraph 2 of Section 5-04.3(9) is supplemented with the following:

"Tamp edges at forty-five (45) degrees unless otherwise shown on the Drawings.

Remove and replace defective pavement sections and/or that pavement sections which do not drain properly. **PATCHING IS NOT ACCEPTABLE.**"

- D. Section 5-04.3(11) of the W.S.D.O.T. Standard Specifications is supplemented with the following:

Meets lines shall be sealed while the new asphalt concrete is still warm by painting with Special Tack Coat (STE-1) asphalt and immediately covering the asphalt paint strip with clean, dry paving sand meeting the requirements of Section 9-03.8(4).

- E. The second sentence of the first paragraph of Section 5-04.3(13) of the W.S.D.O.T. Standard Specifications is revised to read:

Maximum variation in any direction in the completed surface of the pavement shall be a maximum of one eighth (1/8) inch in ten (10) feet.

- F. Adjustment of all castings, such as manhole frames and covers, catch basin frame and covers of various types of gate valves, etc., and concrete footings/slabs/curbs shall conform to the exact finished grade of new asphalt concrete pavement. After such castings have been set to final grade, they shall not be disturbed by the rolling operations. The course shall be compacted thoroughly around the perimeter of the castings and concrete by rolling with sufficient number of crisscross passes around the casting and concrete with the wheel just touching the casting and concrete but not shaving or rolling over the casting and concrete.
- G. All manhole covers, inlet covers, other similar cast iron items, and concrete located in the paved area shall be left clean of all asphalt material.

- H. Ensure that each pass of roller overlaps previous passes to ensure a smooth surface free of roller marks.

3.06 PAINT STRIPING

- A. Clean surface to eliminate loose material and dust. Allow pavement to cure for a period of not less than thirty (30) days prior to the application of striping.
- B. Apply paint with mechanical equipment to produce uniform straight lines and per manufacturer's recommendations. Apply two (2) coats minimum.

3.07 DEFECTIVE WORK

- A. All costs involved in making the corrections of defects described in this specification section shall be borne by the Contractor, and no additional compensation will be made for this work.

3.08 FINAL ACCEPTANCE

- A. The Contractor shall be responsible for maintaining all asphalt concrete paving until Final Acceptance of the project. If ruts, soft spots, or other damage occurs before such time, the Contractor shall repair the surface at no extra cost or extension of time.

3.09 PROTECTION

- A. Execute all paving in an orderly and careful manner with due consideration for any existing structures, including any parts of the surrounding areas that are to remain. Barricade and cover as necessary to protect pedestrian, workmen, and adjacent properties.
- B. Avoid any encroachment on adjacent properties. Repair and make good any damage to adjoining properties or improvements caused by operations, including any damage or loss to adjoining tenants or property owners whether to buildings, stocks or merchandise, trade fixtures, or the like.

3.10 CLEAN-UP

- A. Upon completion, the Contractor shall remove all containers, surplus materials, equipment, and debris and leave the site in a clean and orderly condition acceptable to the Owner's Representative and the Landscape Architect.

END OF SECTION

PART 1 GENERAL

1.01 GENERAL

- A. Provide and install all items hereinafter identified.
- B. Catalog cut sheets of site improvements have been included for reference only as Appendix C.

1.02 SCOPE OF WORK

- A. Furnish all materials, equipment, labor, and related items necessary to complete the work shown on the Drawings and/or Specifications. The items of work to be performed shall include but are not limited to:

- 1. Basketball Goal/Post
- 2. Picnic Table
- 3. Play Equipment
- 4. Trash Receptacle
- 5. Barbeque
- 6. Crushed Limestone Path
- 7. Play Surface & Drainage System
- 8. Bike Rack

- B. Other miscellaneous site construction.

1.03 RELATED WORK DESCRIBED ELSEWHERE

- A. Related work in other sections of these specifications includes but is not limited to:

- 1. Asphaltic Concrete Paving and Surfacing
- 2. Portland Cement Concrete Paving and Surfacing
- 3. Grading, Embankment, and Backfill
- 4. Cast-In-Place Concrete

1.04 QUALITY ASSURANCE

- A. Standard Specifications

- 1. State of Washington Standard Specifications for Road and Bridge Construction, Latest Edition.
- 2. Standard Specifications for Municipal Public Works Construction, APWA, Latest Edition.
- 3. "West Coast Lumber Inspection Bureau Grading and Dressing Rules" issued by the West Coast Lumber Inspection Bureau, and hereinafter called WCLB.

1.05 PREPARATION OF SUBGRADE

The Contractor shall be responsible for grading and compacting sub-grade to ninety-five (95) percent compaction immediately before placement of all items specified in this Section.

PART 2 PRODUCTS

2.01 CRUSHED GRAVEL BASE COURSE

- A. As specified in Section 02520, Portland Cement Concrete Paving & Surfacing.

2.02 MISCELLANEOUS CAST-IN-PLACE CONCRETE

- A. As specified in Section 03300, Cast-In-Place Concrete.

2.03 HARDWARE

- A. All metal hardware including bolts, deformed bars for connections, threaded rod, anchor bolts, nuts, washers - shall be hot-dipped galvanized unless otherwise noted. All bolts, threaded rod and anchor bolts conform to ASTM A-307, Grade A, unless otherwise noted. Hex head and nut on all bolts and threaded rod unless otherwise indicated. All bolts, threaded rod shall have standard cut washers respective size, unless otherwise indicated - bolts to have washers each end, galvanized steel bolts, rods, etc. shall have galvanized steel washers and nuts. Hardware not noted by size shall be sufficient to draw and hold members securely.

2.04 BIKE RACK

[note to user: pick option]

- A. Bike rack shall be Horseshoe Rack Model HS2FG. Manufactured and supplied by Creative Pipe, Inc.; P.O. Box 2458; Rancho Mirage, CA 92270-1087. Phone: (800) 644-8467. Bike rack shall be round pipe, flanged surface mount, powdercoat color: black.

2.05 PICNIC TABLE

- A. Picnic Table A: Homestead Series Model CP-4. Manufactured by Victor Stanley, Inc. and supplied by Parkforms, LLC; 3707 NE Columbia Blvd.; Portland, OR 97211. Phone: (800) 875-7529. Standard permanent (in-ground) mount, standard 4' square table with 4 seats, 2" x 4" recycled 2nd Site Systems slats with reinforcing bar. Frame color: black. Recycled slats color: grey.
- B. Picnic Table B: Homestead Series Model CP-3. Manufactured by Victor Stanley, Inc. and supplied by Parkforms, LLC; 3707 NE Columbia Blvd.; Portland, OR 97211. Phone: (800) 875-7529. Standard permanent (in-ground) mount, standard 4' square table with 3 seats, 2" x 4" recycled 2nd Site Systems slats with reinforcing bar. Frame color: black. Recycled slats color: grey.

2.06 BARBEQUE

- A. Barbeque shall be Premier Park Grill Model B-24 B2. Manufactured by Pilot Rock Play Equipment and supplied by SiteLines Park & Playground Products, Inc.; 626 128th Street SW #104A; Everett, Washington 98204. Phone: (800) 235-2440. No side shelf, permanent imbedded installation. Color: standard black.

2.07 PLAY EQUIPMENT

A. Play Area 'A'

1. All Play Area 'A' components manufactured and supplied by Kompan, Inc.; 7717 New Market Street; Olympia, Washington 98501. Phone: (800) 553-2446.
2. Play Components
 - a. Model USEL2209 Elements Custom Structure. One (1) required. Color: red.
 - b. Model ELE400024 Spinner Bowl. One (1) required. Color: red.
 - c. Model ELE400020 Stinger. One (1) required. Color: yellow.
 - d. Model M626 Bow. One (1) required. Color: Blue.
 - e. Model M627 Little Daisy. One (1) required. Color: Red.

B. Play Area 'B'

1. All Play Area 'B' components manufactured by Playworld Systems and supplied by Northwest Playground Equipment; 120 1st Avenue NW; Issaquah, Washington 98027. Phone: (800) 726-0031.
2. Play Components
 - a. Model ZZXX0287 Arch Swing. One (1) required. Swing shall be five (5) inch, two (2) swing unit, powdercoat finish. Color: red.
 - b. Belt seat. Two (2) required.

C. Play Area 'C'

1. All Play Area 'A' components manufactured and supplied by Kompan, Inc.; 7717 New Market Street; Olympia, Washington 98501. Phone: (800) 553-2446.
2. Play Components
 - a. Model GXY914001-3717 Bellatrix. One (1) required. Color: standard.
 - b. Model GXY801421-3717 Spica 1 (Fast Runner). One (1) required. Color: standard.
 - c. Model GXY801521-3717 Spica 2 (Fast Runner). One (1) required. Color: standard.
 - d. Model GXY801621-3717 Spica 3 (Fast Runner). One (1) required. Color: standard.
 - e. Model GXY801700-3717 Vega. One (1) required. Color: standard.
 - f. Model GXY916000-3417 Supernova. One (1) required. Color: standard.
 - g. Model M628 Twin Toadstool. One (1) required. Color: red.

2.08 BASKETBALL GOAL/POST

- A. All basketball equipment shall be manufactured and supplied by Goalsetter Systems; P.O. Box 552; Pella, Iowa 50219. Phone: 1-800-362-4625.

1. Goal & Post: MVP Fixed ACR Plus Ultra Flex Model SS76072P4. Two (2) required. Double ring static rim. Color: standard.
2. Backboard: 42 x 72 Polycarbonate Model B172P. Two (2) required. Color: standard.

2.09 TRASH RECEPTACLE

- A. Trash receptacle shall be Model OT manufactured by Urban Accessories, bolt down option, powdercoat color: matte black. Trash receptacle lid shall be Model 1855 Drum Top manufactured by United Receptacle, powdercoat color: black. Trash receptacle and top supplied by ArchiteCreations; 85 S. Washington, Suite 200; Seattle, WA 98104. Phone: (206)932-4730.

2.10 PLAY SURFACE & DRAINAGE SYSTEM

- A. Play surface and drainage material shall be Fibar System 300, manufactured by FIBAR SYSTEMS: Supplied by SiteLines, Everett, Washington, (425) 355-5655. The system includes all components necessary to install the System 300 (Fibar Surfacing, Fibar-Drains, Fibar-Felt, etc.).

2.11 CRUSHED LIMESTONE PATH

- A. Crushed limestone for pedestrian path construction shall be a clean mixture free from organic matter and conforming to the following gradation when tested in accordance with ASTM D422:

U.S. Standard Sieve Size	Percent Passing, by Weight
1/2"	99
1/4"	60-80
#4	45-75
#10	30-50
#40	18-32
#200	22 Max.
Sand Equivalent	15 Min.

PART 3 EXECUTION

3.01 GENERAL

- A. Stake alignment and locations of all site improvements for review by Landscape Architect prior to installation. Incorrectly located work shall be removed/replaced by the Contractor at no additional cost to the Owner.
- B. Verify that subgrade has been properly compacted and compaction tests, if required, have been accomplished. Guarantee against settlement for one (1) year.
- C. Install rigid, plumb and true to lines and levels shown. Verify that all elements called for in this Section "fit" according to the Drawings and existing site features.
- D. All ends of bolts to be ballpeened or otherwise tamperproof. Remove all sharp edges and metal burrs.
- E. Welded pieces shall be free of burrs, slag, or other waste material prior to galvanizing. All welds to be continuous without gaps. All exposed welds or other metal shall be coated with Galvicon as per manufacturer's instructions.
- F. Assemble (if required) and install all equipment specified by name/manufacturer as per approved manufacturer's printed instructions/recommendations.

3.02 CAST-IN-PLACE CONCRETE

- A. Conform to requirements of Cast-In-Place Concrete, Section 03300 of these Specifications. Layout as shown on Drawings. Unless otherwise indicated exposed concrete shall have a medium broom finish. Contractor shall take particular care to install expansion joints and control joints at regular intervals or as indicated on Drawings.
- B. Install following items with concrete footing sized as per manufacturer's recommendations or as noted on the Drawings:
 - 1. Play Equipment
 - 2. Barbeque
 - 3. Basketball Posts
- D. Concrete footing for other site elements shall be sized as per Drawings, standard plans, or as specified herein.
- E. Tops of all footings shall be installed per manufacturer's recommendation, unless otherwise indicated on Drawings or specified herein.

3.03 BIKE RACK

- A. Install plumb as detailed in locations shown on Drawings and per manufacturer's recommendation.

3.04 PICNIC TABLE A AND PICNIC TABLE B

- A. Install plumb and level as detailed in locations shown on Drawings and per manufacturer's recommendation. Orient Picnic Table B as approved by Landscape Architect.

3.05 BARBEQUE

- A. Install plumb and level as detailed in locations shown on Drawings and per manufacturer's recommendation.

3.06 PLAY EQUIPMENT

- A. Install plumb and level as per manufacturer's printed instructions in locations on Drawings. Orient structure as shown on Drawings and as approved by Landscape Architect. Maintain minimum clearance between all ends of play structure and edges of play area as shown on Drawings.

3.07 BASKETBALL GOAL/POST

- A. Install plumb and level as detailed in locations shown on Drawings and per manufacturer's instructions. Top of hoop rim shall be exactly 10'-0" above concrete grade.

3.08 BASKETBALL COURT STRIPING

- A. Provide stripping per Asphaltic Concrete Paving and Surfacing Section of these Specifications and as shown on the Drawings. All lines shall be painted two (2) inches wide with approved outdoor line paint unless otherwise shown on the Drawings.

3.09 TRASH RECEPTACLE

- A. Install plumb and level as detailed in locations shown on Drawings and per manufacturer's recommendation. Trash receptacles will be oriented in field by Landscape Architect.

3.10 PLAY AREA SURFACING & DRAINAGE SYSTEM

- A. Install as detailed on the Drawings and per manufacturer's written instructions..

3.11 CRUSHED LIMESTONE PATH

- A. Install as detailed on the Drawings. Depth shown on Drawings is as measured after compaction.

END OF SECTION

PART 1 GENERAL

1.01 GENERAL

- A. The underground sprinkler irrigation system shall be constructed using the sprinkler heads, valves, piping, fittings, existing controller, wiring, etc. of sizes and types as shown on the Drawings and as called for in these Specifications. The system shall be constructed to grades and conform to areas and locations as shown on the Drawings.
- B. The term "Contractor" as used in this Specification section shall refer to the Underground Sprinkler System Contractor.
- C. Prior to final acceptance of the Irrigation System, the Contractor shall cooperate with the Landscape Contractor in providing the Owner's Representative with a written "watering schedule" to ensure adequate watering of all plant materials during the Guarantee Period of this Contract.
- D. Prior to beginning construction, the Contractor and Landscape Architect shall meet on site to document the working order of the existing irrigation system. The Contractor must provide twenty-four (24) hours written notice to the Landscape Architect prior to the meeting on site.
- E. The Contractor shall coordinate existing underground sprinkler irrigation with new irrigation. Repair all damage to existing irrigation system caused by construction, and return existing irrigation system to a fully operational pre-construction condition at no additional cost to Owner. Portions of existing irrigation system shall be abandoned (capped) where required by new construction. Existing irrigation "As-Built" Drawings are available from Owner.
- F. The Contractor shall be responsible for watering existing grass lawn areas outside limit of work within park boundary during construction.

1.02 SCOPE OF WORK

- A. Furnish and install a complete underground sprinkler irrigation system to provide efficient and even irrigation (WITH MINIMUM OVERSPRAY ONTO SIGNS, PAVED OR NON-PLANTED AREAS AND NO OVERSPRAY ONTO BUILDINGS) of all planting areas shown on the Drawings and as specified in the Specifications, complete and ready for operation. The work included in this Specification (whether mentioned or not) shall consist of all labor, tools, materials, tests, permits and other related items necessary for the installation and operation of the irrigation system.
- B. Irrigation equipment shall be coordinated with utility location to avoid overspray onto or spray blockage from above grade utilities, such as electric transformers, light standards, etc.
- C. Any item of labor, material or equipment not specified or shown in detail, but incidental to or necessary for the complete installation and proper operation of the system, shall be furnished by the Contractor without additional cost to the Owner.
- D. All sleeving required for the execution of the work is to be provided under this Section.

1.03 RELATED WORK DESCRIBED ELSEWHERE

A. Related work in other sections of these Specifications includes but is not limited to:

1. Landscaping
2. Grading, Embankment, and Backfill
3. Demolition

1.04 QUALIFICATIONS OF INSTALLER

A. Contractor must be a bonded sprinkler irrigation contractor. The sprinkler irrigation system must be installed by an experienced sprinkler irrigation mechanic or journeyman plumber. All electrical service connection work must be done by a licensed Electrical Contractor.

1.05 VERIFICATION

- A. Before proceeding with any work, the Contractor shall inspect the site, carefully check all grades and verify all dimensions and conditions affecting the work in order to proceed safely.
- B. Contractor shall report to the Landscape Architect all deviation and/or conflicts between Drawings, Specifications and site conditions. Extra work arising from failure to do so shall be done at the Contractor's expense.
- C. Prior to the start of any work, the Contractor shall verify available static water pressure (PSI) and gallons per minute (GPM) at point of connection to water service. Any replacement, relocation or additional materials required as a failure to check (PSI) and (GPM) shall be done at the Contractor's expense.

1.06 CHANGE ORDERS AND SUBSTITUTIONS

- A. The Contractor shall do no work for extra compensation without prior written approval of the Owner's Representative in the form of a Change Order.
- B. The intent of the Drawings and Specifications is to provide a totally integrated irrigation system. Substitutions will be accepted only if they are proven to be wholly compatible with this system. If standardization of products is requested by the Owner's Representative, NO SUBSTITUTIONS will be permitted.

1.07 PERMITS, CODES AND REGULATIONS

- A. The Contractor shall apply for and pay for all necessary permits and fees as required by Local Authority and prevailing ordinances and/or codes.
- B. The Contractor shall keep fully informed and shall comply with all existing laws, codes, ordinances, and regulations which in any way affect the conduct of the work.

1.08 INTERPRETATION OF DRAWINGS

- A. Irrigation Drawing is diagrammatic and is not intended to show exact location of piping, or valves. Locate these items as closely as possible or as per related details to curbs, headerboards, fences or edges of paving. Where possible, locate mainline and valves inside property line.
- B. Pipe lines shown parallel on Drawings may be placed in a common trench. Sprinkler heads are shown accurately and shall be installed as indicated by center of symbol.

- C. Trenching that may potentially disturb root systems of existing trees is to be brought to the attention of the Landscape Architect before proceeding.

1.09 PROTECTION OF WORK, PROPERTY AND PERSONS

- A. Take all necessary precautions to protect work in progress, all property, persons, utilities, walks, curbs, pavement and buildings from any damage that might be incurred arising from this Contract. Repair to the satisfaction of the Owner's Representative, at Contractor's expense, any damage to the above and existing landscape.

1.10 CONDUCT OF WORK

- A. The Contractor shall continuously maintain a competent superintendent or foreman during progress of the work, with the authority to act in all matters pertaining to the work. The Contractor shall give personal attention to the fulfillment of the contract and shall keep the work under control.
- B. The Contractor shall confine operations to the working areas allotted by the Owner's Representative, including material and equipment storage.
- C. The Contractor shall progressively clean the work site of debris and rubbish as the work proceeds.
- D. The Contractor shall repair to the satisfaction of the Owner's Representative any damage to existing utilities. Existing known utilities have been shown on the Architectural/Engineering and Survey Drawings and will be made available from the Owner's Representative or Utility Companies. It will be the Contractor's responsibility to verify these locations on the ground with a pipe-finder or by other means. The Contractor shall be responsible for the protection of existing known utilities. Should the ditching intercept and damage any existing utilities, all further work within said area shall stop until the Owner's Representative is advised and the Owner's Representative can review a repair method and schedule.
- E. The Contractor shall be responsible for the provisions of barricades and safety guards, and any other structures or improvements necessary for the complete protection of the public.
- F. Any of the Owner's property, including existing buildings, equipment, piping, pipe covering, sewers, sidewalks, landscaping, etc., damaged by Contractor shall be replaced or repaired by Contractor in a manner satisfactory to the Owner's Representative at the Contractor's expense before Final Payment is made.
- G. Contractor is responsible for all damages to the grounds, walks, roads, buildings, piping systems, electrical systems and their equipment and contents caused by leaks in the piping systems being installed or having been installed by him. The Contractor shall repair all damages at his expense and in a manner satisfactory to the Owner's Representative at the Contractor's expense before Final Payment is made.

1.11 SYSTEM PROTECTION

- A. As a part of the guarantee under this contract, the Contractor shall be responsible for the deactivating and draining of the system prior to the onset of the freezing season and for reactivating the system at the onset of the spring growing season; each task must be accomplished once during the one (1) year guarantee. In the event the system is completed in a season when the system will not be in use, the Contractor will winterize the system upon completion of testing (and approval by the Landscape Architect) and reactivate the system in the

spring. The Contractor shall, upon completion of the winterizing phase, submit a letter to the Owner's Representative and the Landscape Architect certifying that the system was winterized and drained and indicate the date that such action was accomplished. The Contractor shall be liable for any damage resulting from failure to comply. The Contractor shall notify both the Owner's Representative and the Landscape Architect twenty-four (24) hours prior to the work so that a Landscape Architect can be present during the winterizing and reactivating phases of work.

1.12 GUARANTEE

- A. The system shall be guaranteed for all workmanship and material for a period of one (1) year from the date of acceptance of the system. Repair and/or replace defective irrigation equipment as determined by the Owner's Representative for the duration of the guarantee period. Repairs and/or replacements shall be made in the same manner as specified for the original irrigation system and shall be done at no cost to the Owner.
- B. It is expressly understood the Owner will be responsible during the Guarantee Period for normal maintenance of the project, as defined in the Contractor's Operation and Maintenance Manual and Watering Schedule Submittals.

1.13 TESTS

- A. Where indicated on the Drawings and/or as specified in the Specifications, tests are to be witnessed by the Landscape Architect. The Contractor shall give advance notice of twenty-four (24) hours in writing to the Landscape Architect before proceeding with tests.
 - 1. Pressure Test: All system joints, connections, couplings, valves and all other junction points shall be left exposed until completion and acceptance of the pressure test. All leaks, however minor, shall be repaired and corrected. The Landscape Architect shall be present during the test. The total sprinkler irrigation system shall be pressure tested for acceptance.
 - 2. Performance Coverage Tests: Upon completion of the system installation and after the flushing and pressure tests are completed, the Contractor shall operate the system in the presence of the Landscape Architect. The automatic system shall be cycled to the satisfaction of the Landscape Architect. The Landscape Architect may request that up to five (5) percent of the total nozzles and five (5) percent of the heads may also be relocated at no extra cost to the Owner.
- B. The Contractor shall PRE-TEST for Pressure and Performance Coverage prior to the Landscape Architect's review of said tests to confirm that the sprinkler irrigation system will meet the requirements of the specified tests. SHOULD ADDITIONAL TEST REVIEWS BE REQUIRED DUE TO THE FAILURE OF THE CONTRACTOR TO PERFORM SAID TESTS, THE CONTRACTOR SHALL PAY TO THE LANDSCAPE ARCHITECT THE SUM OF NINETY-FOUR DOLLARS (\$94.00) PER HOUR AND ACTUAL COST OF EXPENSES FOR EACH ADDITIONAL TEST.

1.14 SUBMITTALS

- A. Contractor shall submit four (4) sets of samples and/or manufacturer's "Catalog Cuts" of all material as noted in Specifications. Failure to do so may result in non-acceptance of materials already used or hauled to the site. Any removal or delays incurred will be at the expense of the Contractor. All samples submitted for approval must be unaltered and of quantity sufficient to allow for proper inspection and review.

- B. Contractor shall submit such items as: As-Built Drawings; Keys; Tools; Permits; Water Schedule; Instructions; Maintenance/Operation Manuals; etc.; as required per these Specifications.

1.15 AS BUILT DRAWINGS

- A. The Contractor shall maintain a current record of all pipe, head and other equipment placement and shall record any variations of the original Drawings approved by the Landscape Architect. Upon completion of the irrigation system and prior to release of the final payment, the Contractor shall provide the Landscape Architect with a neat and legible reproducible Mylar "As Built Drawing(s)" of the complete irrigation system. Any pipe not installed in accordance with the Drawings, as originally contracted, shall be dimensioned to a permanent structure sufficient for location after burial.

1.16 PIPE SLEEVES

- A. Provided and installed by the Contractor as shown on the Drawings and as specified in these Specifications. CONTRACTOR SHALL COORDINATE LOCATION AND INSTALLATION OF PIPE SLEEVING WITH GENERAL CONTRACTOR PRIOR TO PAVING OPERATIONS.

PART 2 PRODUCTS

2.01 GENERAL

- A. All materials and equipment shall be new and of the best quality. All items of equipment or material shall be as specified or approved equal.

2.02 PLASTIC PIPE

- A. PVC pipe upstream of the control valves shall be Schedule 80 and conform to all requirements of ASTM D2241.
- B. PVC pipe (zone lines) downstream of the control valves shall be Schedule 40 (pressure rated for 200 psi), and conform to all requirements of ASTM D1784 and D1785.
- C. PVC Pipe sleeving shall be Schedule 40 and conform to all requirements of ASTM D1784 and D1785 unless otherwise noted on the Drawings.
- D. All pipe shall be marked with manufacturer's name, class of pipe and NSF seal. Pipe shall bear no evidence of interior or exterior extrusion marks. Pipe walls shall be uniform, smooth and glossy. Pipe may be pre-belled or with individual solvent-weld couplings.
- E. All fittings for lateral lines shall conform to the requirements of ASTM D2466 SCHEDULE 40 PVC with exception to steam rotor head riser assembly nipples which shall be ASTM D2464 SCHEDULE 80 PVC. All lateral line fittings shall be of the solvent weld type except where risers, valves, etc. require threaded transition fittings.
- F. All threaded fittings for mainlines shall conform to requirements of ASTM D2464, SCHEDULE 80 PVC. All glued fittings for mainlines shall conform to the requirements of ASTM D2466, Schedule 40 PVC.
- G. All pipe must be delivered in at least twenty (20) foot lengths.

H. All PVC pipe and fittings shall conform to the following minimums:

- | | |
|-----------------------------------|----------------|
| 1. Tensile strength 78F | 5,000 psi |
| 2. Izod impact strength (notched) | 15 ft. lb./in. |
| 3. Modulus of elasticity | 300,000 psi |
| 4. Compressive strength | 8,500 psi |
| 5. Flexural strength | 10,000 psi |

2.03 SPRINKLER HEADS

A. Shall be of the type, manufacturer and size shown on the Drawings or approved equal.

2.04 AUTOMATIC VALVE/REMOTE CONTROL VALVES

A. Shall be of the type, manufacturer and size shown on the Drawings or approved equal.

2.05 CONTROL WIRE FOR AUTOMATIC VALVE OPERATIONS

- A. Control wire must be insulated single strand copper designed for twenty (20) to fifty (50) volts and UL approved as Type U.F. (Underground Feeder).
- B. Copper conductor must meet or exceed ASTM B-3 requirements.
- C. Red and white colors shall be available for common and lead-in wires.
- D. Yellow color shall be provided for spare wires (if spare wire(s) are existing).

2.06 QUICK COUPLING VALVES

- A. Shall be of type, manufacturer and size shown on the Drawings. ONE (1) INCH VALVE AND SWING JOINT SHALL BE USED AT "AIR-BLOW" CONNECTION TO REDUCE AIR FRICTION.
- B. Provide two (2) matching valve keys, two (2) cap keys and two (2) hose swivels as shown on the Drawings or approved equal.

2.07 MANUAL GATE VALVES

A. Shall be of the type, manufacturer and size shown on the Drawings or approved equal.

2.08 MANUAL DRAIN VALVE

A. Shall be of the type, manufacturer and size shown on the Drawings or approved equal. AUTOMATIC DRAIN VALVES WILL NOT BE ACCEPTED.

2.09 VALVE BOXES

- A. Unless otherwise specified, all automatic valves and manual gate valves shall be enclosed in Carson Industries with locking lid or approved equal.
- B. Manual drain valves shall be enclosed in a two (2) inch PVC pipe and covered with a Weathermatic 906L locking cap and PVC pipe or approved equal.

- C. Provide two (2) lid keys and two (2) valve keys per Valve Box type to Owner's Representative.
- D. Size valve boxes as required to provide approximately three (3) inches clear between valve box and valve on all sides. Provide and install valve box extensions as required.

2.10 PRESSURE-REDUCING VALVE

- A. Shall be of the type, manufacturer and size shown on the Drawings.

2.11 BACKFILL MATERIALS

- A. Sump Gravel (for use under valve boxes only):

1. Three-quarter (3/4) minus round, water worn, washed pea gravel.

- B. Sand (backfill soils around PVC pipe within ballfield areas):

1. Fine granular material naturally produced by rock disintegration and free from organic material, loam, clay and other deleterious substances.

- C. Native Material (backfill soil around PVC pipe – non-ballfield areas):

1. Soil native to project site free of wood and other deleterious materials and rocks over one (1) inch diameter.

2.12 OTHER SUPPLIES

- A. Electrical tape shall be black plastic, three-quarters (3/4) inch wide and a minimum of 0.007 inches thick and the all-weather type.
- B. All flexible nipples or pipe joints shall be "Toro Funny Pipe"; "Rainbird Swing Pipe"; "Triple Swing Joint Assembly" or approved equal.
- C. All electrical wire splices must be made watertight with sealing 3M Direct Burial Splice Kit or approved equal.
- D. Thrust blocking shall be on three (3) inch and larger mainline only.

PART 3 EXECUTION

3.01 TRENCHING

- A. Trenches shall allow for twelve (12) inches of cover over sprinkler lines, eighteen (18) inches of cover for irrigation main lines and twenty-four (24) inches of cover for main supply line from point of connection to backflow preventer unless otherwise noted on Drawings. Maintain a minimum clearance of three (3) inches between irrigation lines within a common trench. Trenches for sleeves shall allow for a minimum of eighteen (18) inches of cover unless otherwise noted on the Drawings. Excavate no wider at any point than is necessary to lay pipe or install equipment. Excavate with vertical sides and provide bracing and shoring as required.

- B. All trenches must be straight and not have abrupt changes in grade. Trenching that may potentially disturb root systems of existing trees shall be brought to the attention of the Landscape Architect before proceeding with work.
- C. The trench bottoms and bedding material surrounding all pipes must be free of rocks greater than one (1) inch in diameter and all sharp-edged objects. Bed and surround all pipe with approved specified "BACKFILL MATERIAL" (see Main and/or Lateral Pipe Trench Detail).
- D. Pulling of pipe is not permitted unless otherwise approved by the Owner's Representative and Landscape Architect.

3.02 INSTALLATION

- A. PVC Pipe and Fittings (includes pipe sleeves):
 - 1. Due to the nature of PVC pipe and fittings, the Contractor shall exercise care in handling, loading, unloading and storing to avoid damage. Any pipe that has been dented or damaged shall be discarded until such damage has been cut out and the pipe is rejoined with a coupling.
 - 2. PVC pipe ends shall be cut to ninety (90) degrees to the pipe length and cleaned of all cutting burrs prior to cementing. Use approved reaming tool. Pipe ends shall be wiped clean with a rag lightly wetted with PVC thinner. Cement shall be applied with a light coat on the inside of the fitting and a heavier coat on the outside of the pipe. Pipe shall be inserted into the fitting and given a quarter turn to seat the cement. Excess Cement Shall Not Be Used. Pipe will be tested as indicated elsewhere in these specifications. No backfilling will be permitted other than at the centers of pipe lengths until the pressure test is completed.
 - 3. Backfilling shall be done when pipe is not in an expanded condition due to heat or pressure. Cooling of the pipe can be accomplished by operating the system for a short time before backfill or by backfilling in the early part of the morning before the heat of the day.
 - 4. No PVC pipe may be threaded or connected to a threaded fitting without an adapter.
 - 5. Great care must be taken to insure that the inside of the pipe is absolutely clean. Any pipe ends not being worked on must be protected and not left open.
 - 6. All threaded joints are to have Teflon tape or pipe dope applied to male threads only.
 - 7. Provide and install bare copper trace wire with all piping, main and lateral lines. Attach trace wire to pipes with nylon wire ties at 10' intervals and at all changes in direction. All trace wire splices shall be made by twisting wire ends together and attaching with water tight splices as specified.
- B. Head Locations.
 - 1. Heads immediately adjacent to walks, curbs, shrub/groundcover planting bed edge, etc. shall have one (1) inch clearance between head and walks, curbs, shrub/groundcover planting bed edge etc. unless otherwise noted. Sprinkler heads located adjacent to parking area curb shall be located on-center with parking stall striping. CONTRACTOR SHALL REMOVE AND DISPOSE OF PAVEMENT (THAT PORTION OF PAVEMENT FOR HEAD AND PIPE ONLY) ADJACENT TO CURBS TO ALLOW ONE (1) INCH CLEARANCE PER THE ABOVE.

- C. Control Wire:

1. Control wires are to be taped together at five (5) foot intervals: then this bundle is to be taped to the bottom of the supply line at ten (10) foot intervals with at least three (3) wraps of electrical tape.
 2. All splices must be made watertight with sealing 3M Direct Burial Splice Kit and contained in valve boxes.
 3. Splices will be permitted only at the valves and never between valves or valve and controller unless in a separate valve box. There must be a separate lead or "hot" wire to each automatic valve. One (1) common wire will be acceptable.
 4. Minimum size of wire is to be determined strictly by the wire sizing chart provided by Rainbird or approved equal.
 5. The control wires shall be color coded to match existing wires.
 6. Arrange valve stations to operate in sequence shown on "As-Built" Drawings.
 7. Contractor shall field verify if spare wires exist. If spare wires are existing, spare wire(s) shall be provided to all control valves. The spare wire(s) shall be shared by all the valves and shall complete the circuit back to the controller. Wire sizes shall be the same as the Ground Wire.
- D. Risers:
1. All sprinklers and quick coupler head risers must be constructed according to the "Riser Assembly" details. The pipe risers must have the same inlet size as the sprinkler and quick coupler heads.
 2. Minimum riser size shall be the pipe size of the sprinkler head.
 3. Risers are to be capped after installation to keep inside of pipe clean.
 4. Care must be taken not to over-tighten the steel pipe into the PVC fittings.
- E. Existing Automatic Controller:
1. An updated diagram or schedule sealed in a plastic cover shall be posted in the controller to facilitate the selection of the valves to be operated.
- F. Manual Drain Valve:
1. See "Manual Drain Valve Assembly" detail for installation of three-quarter (3/4) inch drain valves. DRAIN VALVES ARE NOT REQUIRED FOR GENERAL DRAINAGE OF THE IRRIGATION SYSTEM UNLESS OTHERWISE NOTED ON THE DRAWINGS; IRRIGATION SYSTEM SHALL BE AIR BLOWN TO DRAIN. DO NOT EXCEED MANUFACTURER'S RECOMMENDED PRESSURE FOR AIR BLOWING IRRIGATION SYSTEM.
- G. Automatic Valves:
1. Install as shown on "Automatic Valve Assembly" detail.

2. Before installation of any automatic valves, the supply line must be thoroughly flushed.
3. All automatic valves shall be enclosed in valve boxes set above finish grade as shown on details. Valve box extension may be required. Locate valve boxes in shrub and groundcover planting beds wherever possible and at points of easy access from paved and/or lawn areas.
4. Locate outside of paved areas and grouped together where possible. Where valves occur adjacent to paved areas, install so that valve boxes will not be closer than twelve (12) inches to paving and perpendicular or parallel to it. Group boxes shall be spaced evenly to provide a neat appearance.

H. Quick Coupling Valves:

1. Locate all quick couplers in shrub and/or groundcover planting beds when possible and at points of easy access from paved and/or lawn areas.

I. Pipe Sleeves:

1. All sleeves shall extend a minimum of twelve (12) inches beyond the edges of pavement.
2. Pipe for irrigation mains and laterals may be installed with sleeves but shall not include any pipes with couplers whenever possible.
3. Plug all ends of sleeves and irrigation mains and laterals to prevent soil from entering.

J. Pressure Testing:

1. Before backfilling, flush all new steel, cast iron and PVC main water lines; then pressure test at ninety (90) psi. This pressure shall be maintained until all joints, fittings and pipes have been inspected. Correct any leakage and repeat test until the system is watertight. Maximum psi loss in a fifteen (15) minute test shall be five (5) psi. Contractor to test system prior to Landscape Architect final test.
2. Before backfilling, all PVC sprinkler lateral lines shall be flushed and pressure tested with the system exposed to static pressure. This pressure shall be maintained until all joints, fittings and pipes have been inspected. Correct any major leakage and repeat test until the system is reasonably watertight. Contractor to test system prior to Landscape Architect final test. **DO NOT INSTALL HEADS PRIOR TO TESTING -- PLUG RISERS AT LOCATION OF HEAD CONNECTION.**
3. To be valid, all tests must be witnessed by the Landscape Architect. The Contractor must give twenty-four (24) hours written notice to the Landscape Architect prior to the anticipated date of inspection.

K. Backfilling:

1. In refilling trenches, the bedding around the pipe and fittings shall be approved "Backfill Material" and shall be well tamped. If necessary, provide suitable imported backfill. Trenches shall be thoroughly compacted and water-settled. Trenches shall be backfilled uniform with the surrounding grade, raked to a slight mound, then rolled with a two hundred fifty (250) pound roller, or compacted with a vibrator.

2. All roots, rocks and surplus excavation shall be removed from the site unless otherwise directed.
3. Trenches or tunnels under roads or paved areas shall be backfilled and tamped with a mechanical tamper in successive six (6) inch lifts to at least ninety-five (95) percent density as determined by ASTM:D 1557. Paving shall be replaced to the satisfaction of the Owner's Representative's.
4. Before backfilling, all underground appurtenances including risers, valves, etc., must remain exposed so that they can be viewed during testing. Leave all joints exposed; then complete backfilling after flushing, pressure testing, inspection and preparation of "As-Built Drawings". The location, inspecting and testing provisions of these specifications will be strictly adhered to. If, for any reason, any part of the sprinkler system is backfilled before approved location, testing, or inspection is authorized by Landscape Architect, it must be completely uncovered and exposed until approved for backfilling by the Landscape Architect.

3.03 CLEAN-UP

- A. Clean all work areas including paving, curbs, catch basins, manholes and lawn, or debris caused by the Contractor's work on this project, or any part of the project, on completion of operations and prior to watering. All hard surfaced areas shall be washed clean. Daily clean up shall be required on all areas used for circulation, parking, or other daily use.

3.04 FINAL TESTING

- A. Before the sprinkler system will be accepted, the Contractor, in the presence of the Landscape Architect and/or Owner's Representative, shall perform a water "Performance Coverage Test" to determine if the water coverage and operation of the system is complete and satisfactory. If any part of the system is inadequate, it shall be repaired or replaced at the Contractor's expense and the test repeated until accepted. The Contractor must give twenty-four (24) hours written notice to the Landscape Architect prior to the field review. The Contractor shall also adjust and balance sprinkler heads for optimum and uniform coverage without excessive fogging or overthrow on to signage, pavement(s), structure(s) and building(s); adjust all sprinkler head heights and set all valve boxes to proper grade prior to final review by Landscape Architect.

3.05 SYSTEM FAMILIARIZATION

- A. Upon acceptance of the system by the Owner's Representative, the Contractor shall provide the Owner's Representative the necessary keys and/or other tools necessary to operate/drain/activate the system and spend sufficient time with the Owner's Representative to insure that the system operation/maintenance/winterizing can continue after the departure of the Contractor. The Contractor will be liable for all damages or losses resulting from failure to comply with the provisions of this paragraph.

3.06 FINAL ACCEPTANCE

- A. Upon completion and approval of all tests, final acceptance of the system will be contingent upon Contractor providing signed and approved sprinkler/plumbing/health/electrical permits as may be applicable in the area as well as reproducible mylar "As Built Drawings" and two (2) three (3) ring binders of all catalog cuts/manufacturers' instructions/maintenance and operation information.
- B. Prior to final acceptance of the irrigation system, the Contractor shall cooperate with Landscape Contractor in recommending watering schedules.

3.07 GUARANTEE

- A. The entire sprinkler system shall be guaranteed by the Contractor to give complete and satisfactory service as to materials and workmanship for a period of one (1) year from the date of final acceptance of the work by the Owner's Representative.
- B. Should any trouble develop within one (1) year which, in the opinion of the Owner's Representative, is due to inferior or faulty material and/or workmanship, the trouble shall be corrected, without delay, to the satisfaction of the Owner's Representative's and at the Contractor's expense.
- C. Any settling of backfilled trenches shall be repaired by the Contractor at the Contractor's expense, including but not limited to, restoration of pavement, seeded, sodded and/or planted areas.

3.08 DETAILED DRAWINGS SHOWN ON DRAWINGS

- A. Quick Coupling Valve
- B. Head Riser Assembly (Pop-up)
- C. Automatic Valve Assembly-PVC
- D. Main And/Or Lateral Pipe Trench Detail
- E. Manual Drain Valve Assembly
- F. Irrigation Equipment Assembly and Pressure Reducing Valve

END OF SECTION

PART 1 GENERAL

1.01 GENERAL

- A. The provisions of the WSDOT/AWPA Standard Specifications for Road, Bridge, and Municipal Construction, most current edition apply except as modified herein.
- B. The landscaping shall be installed using the materials as shown on the Drawings and/or as specified in the Specifications. The landscaping shall be installed to grades and conform to areas and locations as shown on the Drawings.
- C. The term "Contractor" as used in this Specification section shall refer to the Landscape Contractor.

1.02 SCOPE OF WORK

- A. Furnish all materials, equipment, labor and related items necessary to complete the work shown on the Drawings and/or as specified in the Specifications, to include installation of compost, topsoil, soil amendments, contractor provided plants, fertilizing, staking and guying, and mulching of trees, protection and other work necessary. The work included in this Specification (whether mentioned or not) shall consist of all labor, tools, materials, tests, permits and other related items necessary for the installation of all plant-related materials in a first quality workmanlike manner. This specification also includes the seeding of areas disturbed by construction and installation operations related to the Work. Restoration seeding shall be incidental to this contract and shall not be measured for purposes of payment.

1.03 RELATED WORK DESCRIBED ELSEWHERE

- A. Related work in other sections of these Specifications includes but is not limited to:
 - 1. Grading, Embankment, and Backfill

1.04 QUALITY ASSURANCE

- A. Standard Specifications
 - 1. *American Standard for Nursery Stock, ANSI Z60.1-2004.* American Nursery and Landscape Association, 1250 Eye Street NW, Suite 500, Washington, D.C. 20005.
 - 2. *Hortus Third, The Staff of the L. H. Bailey Hortorium.* 1976. MacMillan Publishing Co., New York.
 - 3. All standards shall include the latest additions and amendments as of the date of advertisement for bids.
 - 4. All materials and workmanship for rough grading the site shall conform to the requirements of the most current edition *Standard Specifications for Road, Bridge, and Municipal Construction* by WSDOT and APWA with supplements by the City of Bellingham unless amended herein.

1.05 SUBMITTALS

- A. Plant Documentation:
 - 1. Within 30 days after award of Contract, submit documentation that all specified plant materials have been ordered. Should the Contractor neglect to provide this documentation within the allocated time, Contractor may forfeit any substitution benefits.
 - 2. List respective growing or storage locations with addresses.
 - 3. List suppliers' names, addresses, and phone number.
- B. Topsoil:
 - 1. 5 gallon sample.
 - 2. Sieve analysis.
 - 3. Soil Tests and Soil Supplier Certifications: See Section 2.01 and 2.02 of these Specifications.

4. Topsoil analysis showing nutrients, micronutrients and lab recommendations to bring the topsoil into compliance with the Specifications, to grown turf or ornamental plants.
5. Topsoil burnoff test report showing specified proportion of organic to inorganic proportions.
- C. Compost:
 1. Provide a 5-gallon sample for Owner approval three days prior to installation.
 2. Contractor certification that the compost complies with the specifications.
- D. Mulch:
 1. 5 gallon sample of ground wood mulch required for the project in a labeled plastic bag.
- E. Planting Schedule
- F. Soil Supplier Certifications: See Subgrade and Planting Soil Section
- G. Sod Sample: thirty (30) square inch sample of sod for approval by the Owner's Representative.
- H. Statement of Disease Free Certification for:
 1. Sod
 2. Plants
- I. Watering Schedule: the Contractor shall submit a written "watering schedule" to the Owner's Representative, coordinated with the Irrigation Contractor, to ensure adequate watering (summer, fall, winter & spring) of all plant materials during the Guarantee Period of this Contract.
- J. Complete analysis of the seed shall be include percent of pure seed, germination, other crop seed, inert and weeds, and the germination test data. All crop seed in excess of one (1) percent must be itemized. Contractor must submit original label to Owner.
- K. Commercial Fertilizer product information, including product label, fertilizer analysis, release rate, release mechanism, etc.
- L. Mulch for hydroseeding product information
- M. Seed: Certification of mixture with purity, proportion by weight, weed seed content, and germination percentage as specified in Part 2.10 of this section.
- N. Rootball: Meet WSDOT submittal requirements.

1.06 CHANGE ORDERS

- A. The Contractor shall do no work for extra compensation without prior written approval of the Owner's Representative in the form of a Change Order.
- B. The Contractor shall provide all plant materials of the, species, variety and quality noted and specified. If unavailable, the Contractor shall notify the Owner's Representative in writing immediately and provide the names and telephone numbers of five (5) suppliers that he has contacted. If substitution should be permitted, it can be made only with the prior written approval of the Owner's Representative. The nearest variety, and grade as approved by the Owner's Representative shall then be furnished.

1.07 CONDITIONS AT SITE

- A. Before proceeding with any work, the Contractor shall inspect the site, carefully check all grades and verify all dimensions and conditions affecting the work.
- B. Contractor shall report to the Owner all deviation and/or conflicts between Drawings, Specifications and Site Conditions. Extra work arising from failure to do so shall be done at the Contractor's expense.

1.08 QUALIFICATIONS OF INSTALLER

- A. Installer Qualifications: The Landscape Contractor shall be licensed in the State of Washington, shall have a minimum of 3 years experience and shall have completed landscaping work similar in material, design, and extent to that indicated for this Project and with a record of successful landscape establishment.
- B. Contractor must be familiar and comply with American Standard for Nursery Stock published by the American Association of Nurserymen.

1.09 UNDERGROUND UTILITIES AND OBSTRUCTIONS

- A. Existing known utilities have been shown on Architectural/Engineering and Survey Drawings and will be made available from the Owner's Representative or the Utility Companies. The Contractor shall be responsible for the protection of known utilities. Promptly notify the Owner of any conflict between

proposed work and obstruction(s). Failure to follow this procedure places upon the Contractor the responsibility and expense of making any and all repairs for damage from work therefrom.

- B. In the event that undisclosed rock, soils contaminated with toxic substances, hardpan, or underground construction work and/or obstructions are encountered in any plant excavation work to be done under this contract, alternate planting locations may be selected by the Owner. Where alternate planting locations are not approved, the obstruction shall be removed to a depth of not less than one (1) foot below the bottom of roots when planting is properly set at the required grade or other solutions to the planting problem will be reviewed with the Owner's Representative. The Contractor shall be paid for work required to solve the planting problem, such as, the removal of such rock, contaminated soils, hardpan or underground obstruction encountered at a unit price basis and agreed upon by a Change Order prior to commencement of work.

1.10 PROTECTION OF WORK, PROPERTY AND PERSONS

- A. Take all necessary precautions to protect work in progress, all property, persons, walks, curbs, pavement and buildings from any damage that might be incurred arising from this Contract. Do not mix planting soil directly on paved surfaces. Locate all underground utilities prior to commencement of work. The Contractor shall pay for any damage at Contractor's expense.

1.11 PERMITS, CODES AND REGULATIONS

- A. The Contractor shall obtain and pay for all necessary permits and fees as required by Local Authority and prevailing ordinances and/or codes to fully complete the Work described herein.
- B. The Contractor shall keep fully informed and shall comply with all existing laws, codes, ordinances and regulations which in any way affect the conduct of the work.

1.12 SUBGRADE

- A. The subgrade is to be established per Section 3.02 of these Specifications.
- B. It shall be the Contractor's responsibility to verify the existence of a proper subgrade prior to beginning finish grading.

1.13 FINISH GRADING

- A. The Contractor shall be responsible for establishing a finished grade as indicated on the plans. The depths of planting soils will vary with existing conditions and as shown on the Drawings and/or as specified within these Specifications.

1.14 CONDUCT OF WORK

- A. The Contractor shall continuously maintain a competent superintendent or foreman during the progress of the work, with the authority to act for the Contractor in all matters pertaining to the work. The Contractor shall give personal attention to the fulfillment of the Contract and shall keep the work under control. Subcontractors shall not be recognized and all persons engaged in the work will be considered employees of the Contractor and their work shall be subject to the provisions of the Contract and Specifications.
- B. The Contractor shall confine operations to the working areas allotted by the Owner's Representative for operations, including material and equipment storage.
- C. The Contractor shall progressively clean the work site of debris and rubbish as the work proceeds.

1.15 Quality Assurance

A. Plant Material:

1. Provide quality, size, genus, species, and variety of trees and shrubs indicated, complying with applicable requirements of the current edition of ANSI Z 60.1 "American Standard for Nursery Stock."

2. All plants shall be shipped with certificates of inspection, as required by law.
3. Each tree and shrub shall bear a securely attached waterproof tag bearing legible designation of botanical and common name.
4. Plant names shall conform to the latest edition of *Standard Plant Names* as adopted by the American Joint Committee of Horticulture Nomenclature.
- B. Fertilizer: Conform to most current Washington State Department of Agriculture and Federal Specifications pertaining to commercial fertilizer.
- C. Finish Grades/Compaction of Planting Beds: Firm surfaces, no specific compaction is required other than mentioned in other sections of these Specifications.
- D. Measurements: Measure trees and shrubs according to the current edition of ANSI Z 60.1 with branches and trunks or canes in their normal position. Do not prune to obtain required sizes. Take caliper measurement 6 inches above ground for trees up to 4-inch caliper size, and 12 inches above ground for larger sizes. Measure main body of tree or shrub for height and spread; do not measure branches or roots tip-to-tip.
- E. Field quality control and inspections:
 1. Notification: All plant material shall be inspected and approved by the Owner prior to planting. The Contractor shall give 48 hours notice to the Owner when an inspection is desired.
- F. Any plant material installed as part of this Contract not found to be in a healthy thriving condition shall be immediately replaced with healthy specified plants as specified and planted at no cost or expense to the Owner, and guaranteed until active healthy growth is evident.
- G. The Contractor shall maintain all plants through the construction period until final acceptance of the project .
- H. Contractor's Responsibility: The Contractor shall not be responsible for replacing plants destroyed by vehicles other than the Contractor's, or *Acts of God*, after final inspection/acceptance. Should replacement becomes necessary during a non-planting season, the Contractor may request the Owner's permission to defer planting until the proper season. However, the Contractor shall immediately remove and dispose dead/dying plants and their roots, backfill the planting pit flush with surrounding grade. Plants used for replacement shall be the same species/variety, size, quality as that originally specified in the Special Provisions and they shall be planted as specified.
- I. Upon completion of all planting and all other work required under this Contract, the Contractor shall request a pre-final inspection.
- J. The Contractor shall request a final inspection upon satisfactory completion of all punch list items and any other work required under this Contract. Final inspection and final acceptance of the work shall establish the beginning of the guarantee period.
- K. Take all necessary precautions to protect work in progress, all property, persons, walks, curbs.
- L. Delivery, Storage, and Handling
 1. Packaged Materials: Deliver packaged materials including, but not limited to fertilizers, pesticides, herbicides, and lime in containers showing weight, analysis, and name of manufacturer. Protect materials from deterioration during delivery and while stored at site.
 2. Store packaged materials in secure separate structure or vehicle.
 3. Grass Seed: Deliver in clean containers of uniform weight and label as required by law.
 4. Fertilizer. Packaged in new unopened water-proof 50 pound bags, clearly labeled as to weight, manufacturer, and ad content.
- M. Time of Seeding:
 1. Grass seed shall be installed after April 15th and before October 20th. The Owner may grant approval to the contractor's request to seed grass outside the stated time of seeding, weather conditions permitting and depending on method of seeding.
 2. Do not seed during windy weather or when the ground is excessively wet.

1.15 GUARANTEE / MAINTENANCE

- A. In accordance with Final acceptance will be certified in writing by the Owner's Representative.
- B. Contractor has the right to enter upon the property for inspection and curative treatment of any materials needing such which are still under warranty during the entire warranty period. Owner's Representative is to be notified in advance of any corrective or curative treatment measures so as to arrange for convenient access to the area.

- C. The above guarantee shall be applicable to any growing conditions through which sod and seed areas of like kind could be expected to survive, and any deformity or cause of death which could be attributed to, or affected by, the physiological condition of the plant shall be deemed replaceable cause; however, this would not apply to losses due to ABNORMAL WEATHER conditions such as floods, excessive wind damage, drought, severe freezing or abnormal rains, as determined by the National Weather Service.
- D. Replacements made by the Contractor shall be completed during the periods set out as planting periods and shall be subject to the same conditions and shall be made in the same manner as specified for the original planting area, and shall be done at no extra cost to the Owner.
- E. Replace all sod and seed areas when plants are no longer in a satisfactory growing condition as determined by the Owner's Representative for the duration of the guarantee period. Make replacements within seven (7) days of notification from the Owner's Representative. Remove dead sod and seed areas within two (2) days of notification and mark planting plan showing the exact location of replaced areas.
- F. It is expressly understood that the Contractor will be responsible, during the Guarantee Period, for normal landscape maintenance of the project. Maintenance of the landscape shall include, but not be limited to, watering, mowing, weeding, monitoring and treating any disease and/or pest-problems, cultivating and any other maintenance requirements (per standard trade practices) to keep the planting areas in a normal healthy growing condition.

PART 2 PRODUCTS

2.01 EXISTING SUBGRADE SOIL

- A. The contractor shall take samples of existing soil in two locations within each of the following trail segments:
 - 1. List Trail Segments Here
- B. Each soil sample listed above shall consist of an equal proportion of three individual samples thoroughly mixed together. The soil mixture shall be individually packaged and identified with the sample site, and submitted to a soil testing lab for analysis.
- C. Soil tests of the subgrade soil shall be made by the Contractor to determine MECHANICAL ANALYSIS (per USDA Particle Size and Organic Matter Test) and FERTILITY ANALYSIS (to determine magnesium, nitrogen, potassium, and phosphorus levels; soluble salts/conductivity and pH). Contractor shall send a minimum of three (3) representative samples of subgrade soil to an approved soil testing laboratory (state laboratory or recognized commercial laboratory). The cost for testing must be borne by the Contractor. The Contractor shall be paid for the soil additives at a unit price basis and agreed upon by a Change Order prior to commencement of work. TEST RESULTS AND LABORATORY RECOMMENDATIONS FOR ORNAMENTAL PLANT GROWTH must be submitted to the Owner for approval prior to incorporating soil additives into the subgrade and placing planting soil.
- D. The Contractor shall be responsible for all soil additives required for the performance of this Contract and for determining the quantity of additives required to fulfill Contract obligations.

2.02 PLANTING SOIL FOR TURF

- A. The Contractor shall be responsible for the supply of all natural soil and soil additives required for the performance of this Contract and for determining the volume of soil and additives required to fulfill Contract obligations. Soil shall be free of weeds, pests, toxic substances and other undesirable material harmful to ornamental plant growth.
- B. Planting soil mix shall be a mixture of compost and loamy sand.
 - 1. Loamy Sand shall meet the following chemical and mechanical analysis:

<u>Size</u>	<u>Percent Passing</u>
3"	100
1-1/2"	100
3/4"	100
3/8"	95-100
No. 4	95-100
No. 10	80-90
No. 20	65-70
No. 40	30-35
No. 60	13-18
No. 140	15-19
No. 200	8-10

PERMISSIBLE RANGE

- a. Salinity (millimhos per centimeter of Saturation extract @ 25°C) Nil – 3.0
- b. Boron (saturation extract Concentration) Nil – 1.0 ppm
- c. Sodium (sodium absorption ratio – SAR) Nil – 6.0
- 2. Grading Equipment: Appropriate size and flexibility to achieve the sculptural forms, profiles, straight slopes, and slope rounding indicated on the Grading Drawings.
- C. Planting soil shall be a biologically active, two-way mix soil consisting of 80% loamy sand and 20% recycled plant waste compost or composted dairy manure by volume thoroughly mixed together. Mixed soil shall have pH range of 5.2 to 6.5 with dolomite limestone added as necessary to attain this range.
- D. Contractor shall send minimum of one (1) representative sample of MIXED SOIL; to an approved soil testing laboratory (state or commercial laboratory) to determine FERTILITY ANALYSIS (to determine magnesium, nitrogen, potassium, phosphorus levels, calcium, minor elements, soluble salts/conductivity and pH).
- E. The results shall be submitted to the Owner (WITH LAB TEST RESULTS AND LABORATORY RECOMMENDATIONS FOR ORNAMENTAL PLANT GROWTH) for approval prior to use on the project site. The contractor shall be responsible for whatever soil additives may be required, as recommended by the testing laboratory. The cost for testing and soil additions must be borne by the Contractor.
- F. Special Planting Soil for *Arbutus menziesii* (Pacific Madrone).

- 1. Soil for planting a Pacific Madrone shall be loamy sand and shall meet the following sieve analysis:

<u>Size</u>	<u>Percent Passing</u>
3"	100
1-1/2"	100
3/4"	100
3/8"	91-94
No. 4	83-85
No. 10	72-75
No. 20	55-60
No. 40	37-41
No. 60	23-27
No. 100	18-22
No. 140	16-19
No. 200	15-17

- 2. pH: 6.2-6.4
- 3. Organic Matter: 2.3-2.5% by volume
- 4. NO3:
- 5. Nitrogen:
- 6. Phosphorus: 55 ppm

- 7. Potassium: 197 ppm
- 8. Sulfur: 3ppm

2.03 COMPOST

A. Applicability of State Law: Compost used in this project shall be obtained from a composting facility that complies with all state laws and regulations governing composting facilities, I.E. WAC173.350.220, RCW 90.64, etc. Compost shall be tested in accordance with WAC173.350.220. This code is available online at www.ecy.wa.gov/programs/swfa/facilities/350.html.

B. Compost shall meet the definition for "composted materials" in WAC 173-350 section 220. This code is available online at www.ecy.wa.gov/programs/swfa/facilities/350.html. Compost shall be a stable, mature compost derived from Aerobically well decomposed/naturally processed and mixed organic waste materials including yard debris, manures, bio-solids, wood wastes or other organic. B. Content:, un-leached cattle and/or horse manure mixed not more than 50 percent by volume of sawdust, wood shavings or other bedding materials. Compost comprised of mainly wood shavings will be rejected. Compost shall be free from matter or chemicals harmful to tender plant life (cedar products are unacceptable). The Owner's Representative shall judge the quality of compost on the basis of the criteria listed below:

- Odor: Earthy smell that is not sour, sweet or ammonia-like.
- Color: Brown to black in color.
- Texture: Crumbly ,mixed particle sizes.
- Temperature: Stable temperature. Does not get hot when re-wetted.
- Content:
 - Texture: Friable with particle sizes: 1" minus diameter
 - Aging: Composted material shall have been aged no less than one-half year at 130-140degrees Fahrenheit, and turned at regular intervals, prior to installation.
 -
 - Organic matter content between 35 and 65 percent as determined by loss of ignition test method (ASTM D 2974).
 - pH between 5.5 and 7.0
 - Carbon:nitrogen ratio between 20:1 and 35:1 (a CN ratio of 35:1 is preferred for native plantings).
 - Maxinum electrical conductivity of 3 ohmsfcm.
 - Moisture content range between 35 and 50 percent .No viable weed seeds.
 - Manufactured inert material (plastic, concrete, ceramics, etc.) should be less than 1 percent on a dry weight or volume basis.
 - Metals shall not be in excess of limits in the following table:

Metal	Limit (mg/kg dry weight)
<i>Arsenic</i>	$\leq 20 \text{ ppm}$
<i>Cadmium</i>	$\leq 10 \text{ ppm}$
<i>Copper</i>	$\leq 750 \text{ ppm}$
<i>Lead</i>	$\leq 150 \text{ ppm}$
<i>Mercury</i>	$\leq 8 \text{ ppm}$
<i>Molybdenum</i>	$\leq 9 \text{ ppm}$
<i>Nickel</i>	$\leq 210 \text{ ppm}$
<i>Selenium I</i>	$\leq 18 \text{ ppm}$

- The City shall reject compost showing any of the following qualities: large particles, lumps, clumps, pathogens, heavy metals, or a foul offensive odor.

- Test for suitability: take a 4 x 6 ft. x4" high pile, separate from batch, take temp day 1, record, temp day 2, record, temp day 3 record. All should be within 20 degrees of ambient temperature.

C. Recommended Source:

Smit Compost, or approved equal
9039 Guide Meridian Road
Lynden, WA 98264
360.354.3583

2.04 FERTILIZER A

- A. Shall be complete commercial brand fertilizer with chemical analysis shown on unopened container when delivered.
- B. Commercial Fertilizer "A (install before seeding)" for sod and seed lawn areas during planting shall exhibit the following analysis:

Analysis:

Total Nitrogen (N)	10%	
4.6% Ammoniacal Nitrogen		
3.2% Urea Nitrogen		
3.3% Coated Slow Release Urea Nitrogen		
2.3% Slowly Available Water Soluble Nitrogen*		
1.6% Water Insoluble Nitrogen		
Available Phosphoric Acid (P ₂ O ₅)	Slow Release	20%
Soluble Potash (K ₂ O)	Slow Release	20%
Sulfur (S)		4%
Boron (B)		0.06%
Copper (Cu)		0.06%
Iron (Fe)		1%
Manganese (Mn)		0.15%
Zinc (Zn)		0.14%

Derived from Urea, Sulfur-Coated Urea, Methylene Ureas, Ammonium Phosphate, Sulfate of Potash, Muriate of Potash, Iron Sulfate, Calcium and Sodium Borate, Copper Oxide and Sulfate, Iron Oxide Sulfate and Frit, Manganese Oxide and Sulfate, Zinc Oxide and Sulfate.

* Slowly Available Water Soluble Nitrogen from Methylene Ureas.

Pre-planting Fertilizer "A" is a minimum requirement, additional fertilizer may be required per the planting soil test as described above.

Fertilizer shall be standard free flowing. Fertilizer shall be packaged in new, waterproof, non-overlaid bags clearly labeled as to weight, manufacturer and content.

Commercial Fertilizer for maintenance of sod and seed lawn areas during planting shall be the following proportions of N-P-K: 3N:1P:1K.

Application rate of nitrogen: 1 lb N₂/100 s.f.

2.05 SOIL ADDITIVES

- A. Soil additives for correction of pH and trace element deficiencies shall be factory labeled containers and approved prior to application.

2.06 LIME

- A. Lime shall be dolomitic limestone containing not less than eighty-five (85) percent of total carbonates. Limestone shall be ground to such fineness that one hundred (100) percent will pass a No. 20 sieve.

2.07 WATER

- A. Contractor shall make, at Contractor expense, whatever arrangements are necessary to ensure an adequate supply of water to maintain all plants in this Contract. Contractor shall also furnish necessary hose, equipment, attachments, and accessories for the adequate irrigation of planted areas as may be required to complete the work specified. All costs for water incurred during the contract period shall be borne by the Contractor unless other arrangements are made with the Owner's Representative.

2.08 PLANTS

- A. Quantities and Species/Varieties
1. Compliance with Types and Quantities: The Contractor shall plant the specified plant species, varieties, quantities as shown on the Plans, the plant list and as described herein.
 2. Plants shall be from stock well acclimated to prevailing conditions at the project and which have been consistently cultivated in these conditions. Cold storage plants shall be rejected. Grafted trees shall be grafted at or above ground level or as required in ANSI Z 60.1. Grafts showing acute angles exceeding more than 15 degrees formed between scion and root stock shall be rejected.
 3. Quality: Plants shall be First Quality, fresh, well foliated, in prime condition when in leaf, exhibiting normal habit of growth, having all buds intact, viable. Plants shall be free from disease, injury, insects, insect eggs, root and other types of weevils, larva, all seeds, weed roots, and defects such as knots, sun scald, injuries, abrasions, disfigurement and irregular growth arising from frost damage.
 4. Encircling Roots: The Contractor shall not deliver any tree with encircling roots to the job site. Shrubs with roots encircling the root mass more than once shall be rejected. Otherwise the contractor shall carefully pry the encircling roots away from the main root mass and extend the same into the planting mix.
 5. Container grown plants are required to have sufficient growth to hold the earth intact when removed from containers but shall not be root bound.
 6. Trees and Shrubs: Deliver freshly dug trees and shrubs. Do not prune or top the plant before delivery, except as approved by Owner. Protect bark, branches, and root systems from sun scald, drying, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy natural shape. Provide protective covering during delivery. Do not drop trees and shrubs during delivery.
 7. Root Crowns: Root crowns shall be above ground level. Plants delivered to the site with root crowns buried in root ball or nursery ground level shall be inspected by the owner to determine if removing the soil above the root crown is sufficient a measure to gain acceptance of the plant. If removing soil from the top of the root ball to expose the top of the root crown is insufficient measure to gain acceptance, then the Contractor shall remove the plant from the site and replace it with another acceptable plant.
 8. Handle ball and burlap stock by the root ball, never by the main stem. Trees found to be handled by the main stem shall be rejected by the Owner.
 9. Dry and/or broken root balls shall be rejected. Ball and burlap stock shall be dug with firm, natural balls of earth of sufficient diameter to encompass fibrous and feeding root systems necessary for the full recovery of the plant, in accordance with *American Standard for Nursery Stock*. Root ends shall have been cleanly cut flush with the sides of the root ball.
 10. Deliver trees, shrubs, ground covers, and plants after preparations for planting have been completed and install immediately.
 11. If planting is delayed more than 6 hours after delivery, set planting materials in a nursery area as approved by the Owner.
 12. Protect from weather and mechanical damage.
 13. Set balled stock on ground and heal-in in nursery area. Healing-in includes covering root ball with topsoil mix, coarse ground wood mulch or compost. Contractor shall maintain a moist condition in the healing mix. For the time plants are healed in.

- 14. Do not remove container-grown stock from containers before time of planting.
- 12. Water as often as necessary with a fine-mist spray to maintain root systems in a moist condition.

13. Abbreviations:

- BR Bare Root
- B&B Ball and Burlap
- Cont. Container
- Cal. Caliper
- Ea. Each
- Gal. Gallon
- Ht. Height
- L.S. Lump Sum
- M.S.F. Thousand Square Feet
- S.F. Square Feet

- 14. A list of specified plants, quantities, condition, and sizes can be found on the plans.
- 15. Substitutions: Substitutions are strongly discouraged. No substitutions shall be made without written approval by the Owner. Requests for substitutions must be accompanied by written proof, on supplier letterhead, from no less than five sources, I.E. major sources that supply the specified plant material, that any plant is not available.
- 16. The following is a list of suggested plant sources:

- a. Wayside Growers
6361 Hannegan Rd.
Lynden, WA 98264
Phone: 360.398.7158
- b. Plants Unlimited
P.O. Box 26
Boring, OR 97009
Phone: 503.663.5267 or 800.541.8824
- c. Fourth Corner Nurseries
3057 E. Bakerview Road
Bellingham, WA 98226
360.360.734.0079
- d. Urban Forestry Services Inc/Consulting Arborist
15119 Mclean Rd
Mount Vernon, WA 98273-8734
(360) 428-5810

2.10 SEED LAWN

A. 2.01 SEEDING
A. Seed Mixes.

1. Seed Mix :

Seed Type	% by weight
Perennial Ryegrass	60
(1/3 Palmer or Manhattan, 1/3 Saturn or Competitor, 1/3 Charger or Dandy)	
Red Fescue	20
Chewings Fescue	20

Application Rate 8 lbs/1000 sq. ft.

- 2. All seed shall be 98% pure with a minimum of 90% germination. Total weed seed shall not exceed 0.5%. Maximum percent inert and other crop shall be 1.50% of total seed mix

3. Seed Law. All seeds shall conform to the requirements of the Washington State Seed Laws, and where applicable, the Federal Seed Act.
4. Noxious Weed Seed. All seed shall be free of seeds of weeds listed as primary noxious by the Washington State Seed Law. Seeds shall not contain seeds of weeds listed as secondary noxious by the Washington State Seed Law, singly or collectively in excess of the labeling tolerance specified by the Washington State Seed Law.
5. Rejection. When seeds furnished under this specification fail to meet the requirements within tolerance, as provided by the Washington State Seed Law, the lot shall be rejected or subjected to fiscal adjustment.
6. Re-cleaning. Seeds shall be thoroughly re-cleaned and of uniformly good quality and appearance throughout each lot.
7. Preparation for Delivery. Seeds shall be packed in clean, sound containers of uniform weight. Seed shall be labeled as required by Law.
8. Reference Specifications. Chapter 15.49, Washington State Seed Law.

C. General:

1. All seeds shall conform to the requirements of the Washington State Seed Law and when applicable, the Federal Seed Act.
2. All seeds shall be free of weed seed listed as primary noxious by the Washington State Seed Law. Seeds shall not contain weed seeds listed as secondary noxious by Washington State Seed Law single or collective in excess of the labeling tolerance specified by the Washington State Seed Law.
3. Seeds shall be packed in clean, sound containers of uniform weight. Seeds shall be labeled as required by law.
4. Reference Specification; Chapter 15.49, Washington State Seed Act.
5. Mulch: The Contractor shall apply 200 pounds per acre of mulch from wood fiber.

2.11 STAKES AND GUYS

- A. Stakes: Round, rough-sawn, sound, new hardwood or pressure-preservative-treated softwood, free of knots, holes, cross grain, and other defects, 2" O.D. inches by length indicated, pointed at one end.
- B. Guying material: Arbortape -flat woven tape constructed from high tensile synthetic fiber, 3/4" wide, with a break strength of 900 lbs. (white or green), by NEPTCO Inc. (800) 354-5445, or approved equal.

2.12 MULCH

A. Description

This item includes all materials, equipment, and labor that is necessary for the complete installation of wood chip mulch in planting areas shown on the plans.

B. Materials

1. Wood chip mulch shall be coarse ground waste by-product wood chips (approximately 1/2"-6" along the longest dimension) derived from the mechanical grinding or shredding of whole trees or portions of trees. Tree species shall be mixed hardwood and softwood species such as hemlock and alder. Mulch may contain ground or shredded wood, wood fiber, roots, root wads, branches, leaves, etc.
2. Wood mulch shall be free from weeds, weed seed, deleterious materials, and foreign materials, resin, or other compounds detrimental to plant life. Mulch containing any amount of cedar wood over 70% by volume is unacceptable. Submit sample for approval by Project Owner.
3. Suggested Source:

Northwest Chip and Grind
4243 Hannegan Road, Bellingham, WA 98226

P/N: 360.676.9569.

2.13 ROOT BARRIER

- A. Root Barrier shall be "Deep Root" polypropylene twenty-four (24) inch panels, twenty-four (24) inch depth or approved equal. Supplied by K-C Sales, Inc., Woodinville, WA; telephone: (425) 483-8317.

PART 3 EXECUTION

3.01 GENERAL

- A. All areas shall be finish graded and approved by the Owner before planting of seed, sod, and all other plants. Finished grades and elevations in all areas shall allow for planting soil and mulch added to individual planting areas as specified herein. All grades shall flow smoothly into one another and produce positive drainage. The Contractor is responsible for any adverse drainage conditions that may affect plant growth unless the Contractor contacts the Owner immediately, indicating any possible problem. Verify all grades with Owner before commencement of planting.

3.02 SUBGRADE

- A. All rough grading of the subgrade has been completed.
- B. Rototill or scarify compacted all subgrade soils to a minimum depth of 12 inches prior to placement of planting soil. If additional rototilling or scarifying, below six (6) inches, is required to eliminate surface water ponding, the Contractor shall notify Owner of problem areas. Additional work shall be paid at unit price basis and agreed upon by a Change Order prior to commencement of work.
- C. Remove debris and rocks over one (1) inch in size, establish proper grades and lightly compact.
- D. Placing of planting soil shall constitute acceptance of subgrade conditions by Contractor.

3.03 SOIL PREPARATION

- A. All areas to seed lawn planting shall be cleared of all debris, such as: rocks greater than 1" in the largest dimension, concrete lumps, spalls, wood debris, garbage, and other deleterious materials, before rototilling. Provide and install a two (2) inch depth, after compaction, of recycled plant waste compost, per Section 2.02 (B) (1), over all planting areas, and rototill to a depth of six (6) inches into the subgrade. Provide and install a four (4) inch depth, after compaction, of compacted planting soil over all planting areas and rototill to a depth of six (6) inches into the subgrade. Drag to even grade, remove debris and rocks larger than one (1) inch in diameter, and then compact to specified density prior to planting.
- B. Special planting soil for *Arbutus menziesii*
1. Remove existing native soil in locations planned for Arbutus planting, to a 3' depth x 6' diameter circle.
 2. In all cases storm water must be allowed to percolate out of the planting pit via a permeable vent, also backfilled with the special planting soil. The planting vent shall be oriented towards the down hill grade where the invert elevation of the low end of the vent is lower than the bottom of the planting pit. Dispose of this soil off site a contractor provided disposal area.
 3. Back fill this cavity with the special arbutus soil to the specified grades. And compact to 85% maximum density.
 4. Plant the Arbutus.
- C. Finish Grading
1. Finish grade is defined as the top surface of planting soil prior to the installation of seed lawn unless otherwise noted on the Drawings. The top surface of sod shall be finish grade. The top surface of soil before adding mulch shall be finish grade.

2. Finish grading shall consist of placing, grading and lightly specified compaction planting soil, providing for surface drainage, cutting all necessary drainage swales and generally conforming to finish grades shown on the Drawings and as directed by the Owner.
3. Compact finish grade to eighty-five (85) percent of maximum dry density as determined by ASTM: D 1557 unless otherwise defined in GRADING, EMBANKMENT, AND BACKFILL Section.
4. After settling, finish grades in seed lawn areas shall be one half (1/2) inch below all walks, curbs and/or other hard surfaces.
5. After settling, finish grades in sod lawn areas shall be one (1) inch below all walks, curbs and/or other hard surface edges.
6. The contractor shall finish grade all planting areas for inspection and acceptance by the Owner before the Contractor proceeds with planting. Inspection shall occur at time of staking and layout.
7. Notify Engineer of all subsurface drainage conditions detrimental to growth or survival of hydroseed.
8. Seeding: Notify Owner no less than 24 hours prior to seeding operations for approval of grade.

3.04 TREE INSTALLATION

All plant material shall be inspected and approved by the Owner prior to installation. Plants shall be inspected after delivery to the job site. Plant inspections shall be scheduled for times when reasonable quantities of plant materials are on the job site.

A. Plant Locations

1. Lay out individual tree and shrub locations and areas for plant masses. Stake locations, outline areas, and secure Owner's acceptance before the start of planting work. Make minor adjustments as may be required

B. Planting Trees

1. Transport carefully. Prevent damage. Tie branches as necessary. Use burlap bags to protect bark from rope chafing. Do not drag plant material without proper root and branch protection.
2. Dig pits for trees as indicated in Planting Details herein and consistent with good horticultural practice. The inside surfaces of all planting pits are to be rough, not smooth. Backfill material for plantings is to be native local soil as specified. If the Contractor encounters clay soil or any unusual condition which may be detrimental to the new planting, the Contractor shall notify the Owner's Representative immediately. Unsuitable material, if encountered, shall be removed from the site and planting soil distributed to replace the unsuitable material as Extra Work in accordance with the Specification. Unsuitable material removal will be paid for as a Change Order in accordance with the Specifications.
3. Soak all balled and burlapped rootballs and container plants which have become dry prior to planting. Prune broken roots one-half (1/2) inch or more in diameter cleanly.
4. Plant at the time plant materials are available, and plant in spring or fall of the year in which dug and when weather conditions are consistent with good horticultural practice.
5. The Contractor will ensure that the sides of the planting pit are roughened and scarified to help in root penetration.
6. Contractor shall construct a planting shelf in the berm to contain irrigation water.
7. Trees shall be planted at sufficient depth that when planted the top of the root crown will be slightly above finish grade.
8. Place the tree in an upright and vertical position in the center of the hole.
9. Wire baskets, twine, burlap shall be removed completely. Should removing burlap risk damaging the rootball, then the Contractor may cut and remove 2/3's of burlap measured from the top of the rootball downward. Wire, chords, plastic rope shall be cut away from the root ball and main stem of the tree, and disposed.
10. The rootcrown shall not be buried in the originally dug rootball. If the root crown of a plant is found to be buried in the rootball, the Contractor shall remove soil from the top of the rootball to expose the top of the root crown. If this measure is insufficient to gain acceptance from the Owner, then the Contractor shall immediately replace the plant with another acceptable specimen.

11. Place backfill mix around ball in layers, tamping to settle backfill and eliminate voids and air pockets. When pit is approximately $\frac{1}{2}$ back filled, water thoroughly before placing remainder of backfill. Allow water to infiltrate into soil. Repeat watering until no more is absorbed. Water again after placing and tamping final layer of backfill.
 12. Pull mulch around the plant, to the depth shown on the detail. Do not allow mulch to touch the main stem.
 13. Weeds in the top of the rootballs must be removed prior to planting.
- C. Tree Pruning
1. During maintenance, prune as needed, according to standard horticultural practice. Unless otherwise directed by Owner, do not cut tree leaders; remove only injured or dead branches. Prune shrubs to retain natural character. Shrub sizes indicated are size after pruning.
- D. Tree Staking and Guying
1. Stake trees of 1-1/2-inch through 5-inch caliper. Stake trees of less than 1-1/2-inch caliper only as required to prevent wind tip-out. Use a minimum of 3 stakes of length required to penetrate at least 18 inches below bottom of backfilled excavation and to extend at least 72 inches above grade. Set vertical stakes and space to avoid penetrating balls or root masses. Do not penetrate the rootball with the tree stake. Cut off any broken or splintered stake ends.
 2. Support trees with Arbortape, or approved equal. Attach Arbortape to tree with "Arborknot", as specified by manufacturer. Tie tape to staking and systems. Contractor is responsible for acquiring installation information from manufacturer. Attach tree guy at 48" above the top of the root crown.
- E. Evergreen Staking and Guying
1. Stake trees of 3-foot height and taller only as required to prevent wind tip-out. Use a minimum of 3 stakes of length required to penetrate at least 18 inches below bottom of backfilled excavation and set as shown on the drawings. Space stakes to avoid penetrating balls or root masses. Cut off any broken or splintered stake ends.
 2. Support trees with Arbortape, or approved equal. Attach Arbortape to tree with "Arborknot", as specified by manufacturer. Tie tape to staking and systems. Contractor is responsible for acquiring installation information from manufacturer. Attach tree guy as shown on the planting detail.
- F. Cleanup and Protection
1. The Contractor shall not stockpile materials or equipment in any manner that may create a hazard and/or obstacle to pedestrians and/or park users. At the end of each day and as each planting bed is completed, it shall be dressed and all surrounding walkways shall be swept to the satisfaction of the Owner.
 2. Protect landscaping from damage due to landscape operations, operations by other contractors and trades, and trespassers. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged landscape work as directed.
 3. Disposal of Surplus and Waste Materials:
Remove surplus soil and waste material, including pots, wire cages, twine, grow bags, bulap, excess subsoil, unsuitable soil, trash, and debris, and legally dispose of it off the Owner's property.
- G. Maintenance for new and transplanted trees, shrubs, and ground covers.
1. Maintenance shall be as specified as below, coincide with and be continuous with and during the planting operations and continue for a period of one calendar year after final acceptance.
 2. Watering: Maintain without over watering, constant moisture to a depth of 8 " at all planting areas.
 3. Keep areas free from weeds and grasses by the application of suitable herbicides per manufacturer's instructions, or hand pulling. Use anti-desiccant as approved the Owner and as required to prevent desiccation of plants.
 4. Plants: Maintain in a vigorous thriving condition by watering, correct pruning practices, cultivating, weeding, fertilizing and other necessary operations. Application of pesticides shall be done only as approved by the Owner by workers possessing a State Pesticide Certification. Consult with the owner before pruning trees and shrubs.
 5. All staking and guying, and saucers shall be kept intact and adjusted as required to provide firm support. Maintain fully formed watering saucers.

3.05 SEED LAWN INSTALLATION

- A. General:

1. Seed for lawn between April 15 and October 20 when weather conditions are favorable for proper working of the soil and seed germination. Any seeding must be approved in writing by the Owner.
 2. Seed shall be spread by approved mechanical (hopper or culti-packer) or hydro-seed/mulch methods only. Hydro-seeding shall include first application with seed and 10% mulch fiber; second application with no seed and 90% mulch fiber.
 3. Seeding shall be done only after planting soil placement, finish grading and adjacent construction and plantings have been completed.
 4. Mulch shall be SILVA MULCH at forty-five (45) pounds per 1,000 square feet.
 5. Binder shall be J-TAC at two (2) pounds per 1,000 square feet.
- B. Any seeded areas that have become compacted prior to seeding must be scarified to a depth of six (6) inches by approved means, then finish graded as herein before described.
- C. Seeding
1. After finish grading of the seed lawn planting areas, the Contractor shall apply Fertilizer "A" at the minimum rate to comply with soil test laboratory recommendations. Add dolomitic limestone as required to have a pH range of 5.2 to 7.5. After mixing has been completed, remove any debris or rocks over one (1) inch in size. Rake to true grade and roll for firmness. If soil is dry, lightly sprinkle prior to specified compaction. Grades after compaction shall be approved by the Owner prior to seeding.
 2. The application rate for seed lawn areas shall be eight (8) pounds of seed per one thousand (1,000) square feet.
- C. Seed Area Establishment
1. General:
Before the Owner pays the Contractor in full for items related to establishing seed lawn areas, the Contractor shall:
 - a. Plant the lawn
 - b. Grow and maintain the lawn until it is in a full, healthy, and vigorous condition
 - c. Request the Owner inspect the lawn and begin the 60-day Seed Lawn Maintenance Period. The Owner may authorize a 25% payment of the lawn seed payment item.
 - d. The Contractor shall maintain the lawn during the 60-day Seed Lawn Establishment Period.
 - e. The Owner shall inspect and accept the seed lawn if it meets the performance specification. This shall constitute provisional acceptance of the lawn. The Contractor shall be paid 100% of the lawn seed payment item. If the Owner finds the lawn unacceptable, the Contractor shall immediately repair problem areas until the Owner accepts the Lawn.
 2. The Contractor shall be responsible for the watering, weeding, reseeding, mowing, fertilizing and other necessary operations of seed lawn areas until Final Acceptance of the project.
 3. First and second mowings shall be done when lawn areas are well established and grass lawn reaches an average height of three (3) inches at each mowing. Mowing shall be done by an approved "reel" type mower. A rotary style mower must be approved in advance by the owner, before used in this contract. Mower blade shall be set at one and one-half (2-1/2) inches high for first, second and subsequent mowings until final acceptance of the project. Catch and dispose of grass trimmings off site.
 4. Seed beds must show vigorous growth with a FULL stand of grass and be uniform in appearance, free of weeds and/or other undesirable plant species as approved by the Owner's Representative. A FULL stand of grass is defined as a uniform grass cover with no bare spots over four square inches in area.

5. To encourage deep rooting, each watering shall be thorough enough to provide soil moisture a minimum of six (6) inches below soil surface. Permit soil to dry sufficiently between watering, but not so dry as to damage the planting.
6. Check for barren areas [nine square inches] in seed bed approximately twenty-one (21) days after seeding and overseed as originally specified at the time or at such time as weather and season permit for seed germination or as approved by the Owner.
7. Seed Lawn Establishment Period follows inspection and approval of the lawn :
The lawn establishment period includes the time required to germinate grass seed to the point in time the Owner accepts the lawn showing characteristics described below. Landscape maintenance period to commence on the day the Owner accepts the seeding, and will continue for a sixty (60) calendar day period. Work on other bid items may continue during the Maintenance and Guarantee period. All maintenance requirements including, but not limited to, watering, fertilization, mowing, clean-up, etc., will be required and enforced. In the event the sixty (60) calendar day period extends beyond November 1st, a winter suspension of work will be issued, (effective November 1); and the maintenance and guarantee period will resume March 15 and continue until the end of the sixty (60) calendar day period.

During the germination period for turf and seeded areas, the seed bed shall be kept evenly moist at all times. To achieve this goal, it may be required to water seeded areas daily, depending upon weather conditions, during the germination period. Care shall be given to apply water at such a rate so as to not erode or wash away seed. Daily inspections will be conducted by the Owner during the germination period following application of seed to verify the application of adequate amounts of water. Should inspection reveal that an adequate amount of moisture is not being supplied or evenly distributed to all the seeded areas, the Owner will place the Contractor on notice that immediate applications of water be applied and failure to do so will result in immediate suspension of the 60 calendar day maintenance period. No additional compensation will be allowed the Contractor for these applications of water.

If the Contractor continues to fail to apply adequate moisture during the germination period for five (5) consecutive calendar days, the Owner may declare the seeding unacceptable. Within three (3) working days of notification, the Contractor will be required to reseed areas that have not been kept moist. Once adequate water is applied, the Owner shall reinstate the sixty (60) calendar day maintenance period for entire project beginning the day of proper application of moisture or reseeding.

One application of fertilizer shall be applied at the specified rate thirty (30) calendar days after application of seed and at thirty (30) calendar day intervals until final acceptance of the seeded areas. If the Contractor fails to fertilize within the thirty (30) calendar day intervals or it becomes apparent that the fertilizer has not been applied evenly or watered when needed, the Owner will place the Contractor on notice. If after a five (5) calendar days notice the Contractor fails to fertilize or water as directed, the Owner may declare the seeding unacceptable and immediate suspension of the sixty (60) calendar day maintenance period will ensue.

If, in the opinion of the Owner, there is not a full, healthy, uniform stand of grass at the conclusion of the sixty (60) calendar day maintenance period, maintenance shall continue until such time a healthy, uniform stand of grass is established. The Owner will be the sole judge of the adequacy of the grass. The Contractor has ten (10) calendar days from notice of deficiencies to correct work related to seeding. Owner may then arrange to have seeding done by others with full cost of this work to be paid by the Contractor. Any costs incurred by the Contractor for maintenance that occurs beyond the sixty (60) calendar day period shall be borne by the Contractor.

3.06 MULCH PLACEMENT

1. Prior to mulch installation, execute all surface grading as may be necessary or incidental to the planting operation.

2. The Contractor shall place wood chips on the planting bed and around plantings in turf areas in a uniform layer, at a thickness and area noted on the plans.
3. Rake smooth all ridges and depressions to achieve smooth grades and transitions between grades.

3.07 ROOT BARRIER

- A. Install per Manufacturer's written recommendations.

3.08 PROTECTION

- A. All planting areas shall be properly protected against harm from normal weather conditions and the public by the Contractor until Final Acceptance. Maintenance of all the planted areas until Final Acceptance, shall include, but not be limited to, watering, mowing, and weeding, as well as replacement of any seed or sod lawn areas that appear to be in distress. Although planting shall occur in spring or fall of year when weather conditions are favorable, special planting techniques may be required should unseasonable planting conditions occur. No work shall be performed in, over or adjacent to planting areas without approved protection and safeguards.
- B. Plant losses due to ABNORMAL WEATHER conditions such as, floods, excessive wind damage, drought, severe freezing or abnormal rains; as determined by the National Weather Service, Telephone Number (206) 526-6087; will not be the responsibility of the Contractor.

3.09 CLEAN-UP

- A. Areas to be kept clean during progress of work and until completion. Water, dirt and rubbish to be kept off of all paved areas. Remove surplus materials and rubbish from planting beds, rake beds neatly to an even, fine grade around all plants and wash clean all paved areas. Leave project in first quality condition.

3.10 FINAL ACCEPTANCE

- A. Final acceptance of all landscaping work described in this Specification section, with the exclusion of possible replacements of plant materials under the Guarantee, shall be made by the Owner's Representative to determine one hundred (100) percent completion of the Contract work. This review shall be made upon written request to the Owner no less than forty-eight (48) hours prior to the anticipated date of inspection. The Owner shall be the final judge for all work under this section. The contract maintenance period begins the day following Owner's Final Acceptance of the work described in this section.
- B. SHOULD ADDITIONAL FINAL ACCEPTANCE REVIEW(S) BE REQUIRED BY THE OWNER DUE TO THE FAILURE OF THE CONTRACTOR TO HAVE THE PROJECT LANDSCAPING READY FOR FINAL ACCEPTANCE, THE CONTRACTOR SHALL PAY TO THE OWNER THE SUM OF EIGHTY-FOUR DOLLARS (\$84.00) PER HOUR AND ACTUAL COST OF EXPENSES FOR EACH ADDITIONAL FINAL ACCEPTANCE REVIEW.

3.11 LANDSCAPE MAINTENANCE PERIOD (NON-LAWN)

- A. Extended Tree, Shrub, Ground Cover Maintenance Complete:
 1. This item shall consist of the Contractor's maintaining all planted areas, including owner provided nursery stock and transplanted shrubs, installed under the Contract for two additional calendar years from the date of project final acceptance.
 2. The Contractor shall post a two-year maintenance bond.
 3. Maintenance shall include weeding, adjusting stakes or watering as required, fertilizing, straightening trees by adjusting guys, and any other operations required to maintain the project in first class appearance.
 4. Remove and replace dead plants within 7 calendar days of the date written on the letter of notification from the Owner.
 5. The Contractor shall keep a diary of all site maintenance, and shall submit a monthly copy of the diary to the Owner.

6. The Contractor and Owner shall conduct a final inspection of the planting area(s) at the completion of the extended maintenance period.
7. Contractor is not held responsible for theft or damage to trees and shrubs due to vandalism or extreme weather conditions leading to deep freeze, flooding, extreme heat and other anomalous atmospheric conditions atypical of Bellingham weather.
8. The extended maintenance agreement shall be incidental to the cost of plant materials and shall not be measured for payment purposes.

B. Owner's recourse to lack of maintenance:

It is agreed that the City will suffer damage and be put to additional expense in the event that the Contractor does not perform maintenance duties as specified above, and as it may be difficult to accurately compute the amount of such damage, the Contractor hereby expressly covenants and agrees to the following maintenance performance measures:

1. Weeding: The Owner will issue the Contractor up to two written notices during the maintenance period to weed contract planting areas. Whereupon the Contractor shall have seven calendar days, per notice, to complete the weeding. If weeding is not performed after the second notice, the Owner shall terminate the contract with the Contractor and contact the Contractor's Bonding Company to perform the work for the rest of the maintenance period.
2. Replacing Dead or Dying Plants: The Owner will issue the Contractor up to two written notices during the maintenance period to replace dead or dying plants. Whereupon the Contractor shall have seven calendar days, per notice, to replace the dead or dying plants. If plant replacement is not performed after the second notice, the Owner shall terminate the contract with the Contractor and contact the Contractor's Bonding Company to perform the work for the rest of the maintenance period.
3. Regular watering: The Owner will issue the Contractor up to two written notices during the maintenance period to water the contract plants. Whereupon the Contractor shall have three calendar days, per notice, to water contract plants. If plant irrigation is not performed after the second notice, the Owner shall terminate the contract with the Contractor and contact the Contractor's Bonding Company to perform the work for the rest of the maintenance period.
4. Maintenance Period Restart: If the Owner reckons that 25% of the total combined number of trees, shrubs, and ground covers installed under this contract are, or have been in, either dead or in a dying state during the length of the maintenance period, the maintenance period for the entire planting portion of the project, sans lawn planting, shall restart from the planting completion date of plant replacement and run for a full two year period. If the maintenance period for the planting restarts, the warranty period for the planting portion of the project shall restart the same day the new maintenance period begins.

3.12 FINAL ACCEPTANCE

- A. Final acceptance of all landscaping work described in this Specification section, with the exclusion of possible replacements of plant materials under the Guarantee, shall be made by the Owner's Representative to determine one hundred (100) percent completion of the Contract work. This review shall be made upon written request to the Owner's Representative no less than forty-eight (48) hours prior to the anticipated date of inspection. The Owner shall be the final judge for all work under this section.

PART 4 MEASUREMENT & PAYMENT

- 4.01 All work in this section will be measured on a lump sum basis and shall include all labor, profit, materials, mobilization, supervision, compaction, equipment and all work necessary to fully construct the improvements in place.

Payment for all work in this section will be made under the following Base Bid Items.

"Landscaping", per L.S.

PART 4 – PAYMENT (OPTIONAL)

4.1 Method of Measurement

DATE: 8/21/07

02900 - 18

Plants:

Payment for plants shall be per each as listed on the Bid Form and on the plant list found on the Plans and shall be full compensation for furnishing all labor, equipment, fertilizer, and polymer pellets and other materials to complete the work as specified, in place.

It is the Contractors responsibility to make any required deposit for the plants, specified herein, which are held for a period of time prior to installation. The City shall nor make any partial payments for plants not on site and installed.

Compost:

Measurement shall be based on the furnishing, loading, transport, unloading, and installation of compost, in place, to the grades specified on the plans. Measurement shall be by the CUBIC YARD (C.Y.) Costs relating to testing compost shall be incidental to this item.

Hog Fuel Mulch

Measurement shall be based on the furnishing, loading, transport, unloading, and installation of wood chip mulch, in place, to the grades specified on the plans, in planting beds and on turf plantings. Measurement shall be by the cubic yard (C.Y.).

Medium Texture Wood Chip Mulch:

Measurement shall be based on the furnishing, loading, transport, unloading, and installation of wood chip mulch, in place, to the grades specified on the plans, in exisitng planting beds. Measurement shall be by the cubic yard (C.Y.).

4.2 Basis of Payment

Basis of payment for this item shall be in accordance with General Requirements of the most current edition of the Standard Specifications for Roads, Bridges, and Municipal Construction by WSDOT Section 1-09 and shall be full payment for the work described herein. Payment shall be made under:

<u>PAY ITEM</u>	<u>UNIT</u>
Compost	Cubic Yard (C.Y.)
Tree	Each (EA.)
Shrub	Each (EA.)
Medium Wood Chip Mulch – 4” depth	Cubic Yard (C.Y.)
Hog Fuel	Cubic Yard (C.Y.)

END OF SECTION

PART 1 GENERAL

1.01 GENERAL

- A. All concrete shall be installed using the materials as shown on the Drawings and as called for in these Specifications.

1.02 SCOPE OF WORK

- A. Furnish all material, equipment, labor, and related items necessary to complete the work shown on the Drawings and/or as specified in the Specifications. The items of work to be performed shall include but are not limited to:
 - 1. Subgrade preparation
 - 2. Concrete anchors as shown on the Drawings
 - 3. Concrete wall
 - 4. Concrete bench
 - 5. Extruded concrete curb

1.03 RELATED WORK DESCRIBED ELSEWHERE

- A. Related work in other sections of these Specifications includes but is not limited to:
 - 1. Site Preparation
 - 2. Grading, Embankment, and Backfill
 - 3. Site Improvements

1.04 QUALITY ASSURANCE

- A. Standard Specifications:
 - 1. Conform to State of Washington Standard Specifications for Road and Bridge Construction, Latest Edition
 - 2. Standard Specifications for Municipal Public Works Construction, APWA, Latest Edition
 - 3. Concrete Reinforcing Steel Institute, "Manual of Standard Practice"
 - 4. Comply with building code and other local requirements, which are more stringent than the above.
- B. The Contractor shall establish all necessary elevations and grade stakes to provide a smooth and even surface. The Contractor shall immediately notify the Landscape Architect of any discrepancy of line and level. The Landscape Architect reserves the right to make minor changes in line or level to suit existing or developed conditions at no additional cost to the Owner.

1.05 SUBMITTALS

- A. Submit for review and approval, prior to placing concrete, a materials list naming manufacturer of cement and admixture proposed to be used and percentages incorporated into the mix.
- B. Provide shop drawings where noted on Drawings for Landscape Architect review and approval prior to construction.

1.06 ENVIRONMENTAL

- A. Concrete placement in cold weather, forty (40) degrees Fahrenheit or less, will be permitted only under conditions which shall meet the approval of the Landscape Architect, and the concrete in place shall receive special protection. In general, cold weather placing shall conform to ACI 306-66 (Recommended Practice for Cold Weather Concreting). Salts, chemical or other foreign materials shall not be mixed with the concrete to prevent freezing, unless such use is authorized by the Landscape Architect in writing.

1.07 PROTECTION

- A. Protect new concrete work from damage by construction traffic or equipment by covering with paper, cardboard or plywood as circumstances require.

1.08 GUARANTEE

- A. Any settlement in areas paved with concrete which may occur within the one (1) year guarantee period will be considered to be caused by improper compaction methods and shall be corrected at no cost to the Owner.
- B. Repair any damage caused by the settlement at no cost to the Owner.

PART 2 PRODUCTS

2.01 FORMWORK

- A. Forms shall be of steel, wood, or other suitable material of size and strength to resist movement during concrete placement and to retain horizontal and vertical alignment until removal. Use straight forms, free of distortion and defects. Coat forms with a non-staining form release agent that will not discolor or deface surface of concrete or prevent subsequent application of concrete coatings.
- B. Materials selected shall offer optimum smooth, stain-free final appearance and minimum number of joints. Provide materials with sufficient strength to resist hydrostatic head without bow or deflection in excess of allowable tolerances.
- C. Overlaid Plywood: PS-1, "B-B High-Density Concrete Form Overlay", Class 1; or approved equal

- D. Snap Ties: Burke Concrete Accessories "Super-Tie", or approved equal. Standard snap tie assembly consisting of high-strength wire with flattened breakoffs; the portion of tie remaining within concrete shall leave no metal with one (1) inch of concrete surface.
- A. Cones: Plastic bond-free finish; tapered from one (1) inch to three-eighth (3/8) inch diameter.

2.02 CONCRETE

- A. Unless otherwise noted, cement shall be standard brand Portland Cement ASTM C 150, Type I. All cement to be of same brand with no interchanging of types.
- B. Concrete aggregates shall conform to the requirements of the Standard Specifications, APWA. Maximum size to be three-fourth (3/4) inch.
- C. Water used in the concrete mix shall be clear and free from injurious amounts of oil, salts, acid, alkali, organic matter or other deleterious substances.
- D. Concrete bonding agent shall be Grace Darwald, Larson Products, Weldcrete, Sonneborn, Sonobond or approved equal. Apply in accordance with manufacturer's written instructions.
- E. Curing agent shall be Grace "Harnoure," Sonneborn "Kure-N-Seal, Sike Grand "RH," or approved equal. Apply in accordance with manufacturer's written instruction.
- F. The concrete mix design for extruded cement concrete curb shall be ASTM C94, Type 1-2 Portland Cement, building sand aggregate curb mix.
- G. Air-entraining admixture shall meet the requirements of AASHTO M 154.

Chemical admixtures for concrete shall conform to the requirements of AASHTO M 194, Type A, B, or D. Chemical admixtures containing more than one (1) percent chloride ion (C1-) by weight shall not be used.

Acceptance for air entraining or chemical admixture will be based on the Manufacturer's Certification of Compliance.

If required by the Landscape Architect, the air-entraining or chemical admixture shall be sampled and tested by the Materials Laboratory before use.

2.04 REINFORCING MATERIALS

- A. Steel reinforcing bars shall be Number Four (4) bar, free from rust, dirt, grease and other defects affecting the strength or bond with the concrete.
- B. Provide supports for reinforcement including bolsters, chairs, spacers and other devices for spacing, supporting and fastening reinforcing bars in place. Use wire bar type supports complying with CRSI recommendations, unless otherwise acceptable.

2.05 WIRE MESH

- A. ASTM A 185 specification for welded wire fabric. 6" x 6", No. 10 wire, unless otherwise noted.

2.06 TIE WIRE

- A. No. 16-gauge double annealed wire. Provide galvanized wire for exposed concrete.

2.07 EXPANSION JOINTS

- A. Pre-molded expansion joint filler shall be one-half (1/2) inch thick felt of sufficient size to cover the full depth of the concrete section, of the non-extruding type.
- B. Joint sealant for concrete shall be a gun grade, two component, Class A, Type II sealant complying with Federal Specification TT-S-00227E, color: black.

2.08 MANUFACTURER'S DATA

- A. Submit manufacturer's product data with installation instructions for proprietary materials, including reinforcement and forming accessories, admixtures, joint materials, hardeners, curing materials and others for Landscape Architect approval.

2.09 DOWEL JOINT

- A. "Dayton Superior", D-15 Paper Tubing, No. 3 for one-half (1/2) inch rod.

2.10 CRUSHED GRAVEL BASE

- A. Crushed gravel base shall be five-eighths (5/8) inch minus, and shall meet the requirements of the Standard Specifications. Provide thickness as shown on the Drawings.

2.11 SKATE BARRIER

- 2.12 Skate deterrent shall be Brass Flat Bar with 3/4" to 1" bevel: "FB1.OB" with 5/8" Dia A307 Galvanized post-installed anchor bolt with counter sunk bolt head, 4" embedment, as manufactured by Ravensforge, or approved equal, and approved by sales@skateabate.com, phone: (619) 218-1343. The anchor bolt shall be secured using an epoxy injection adhesive by Hilti or equivalent. The entire backing of the flat bar shall also be epoxied to the concrete surface. The contractor shall provide shop drawings showing all details before installation. STEEL PIPE

- A. Steel pipe shall be 2" inside diameter schedule 40 galvanized steel pipe with 3/8" x 6" long j-bolts welded to pipe at 12" on-center.

2.13 SEALER

- A. L&M Construction Chemicals, SILOSEAL, or approved equal. Sealer shall not discolor concrete.

PART 3 EXECUTION

3.01 SUBGRADE

- A. Subgrades for all concrete work shall be constructed to the grade and cross-section as shown on the Drawings. All soft and spongy material shall be removed to a depth of not less than six (6) inches below subgrade. All subgrades shall be de-watered or dried as necessary and compacted as specified for fills within Section 02320 Grading, Embankment, and Backfill. The compaction shall be completed before any forms are constructed.

3.02 FORMWORK

- A. The Contractor is responsible for design, engineering and construction of formwork, and for its timely removal. Design and fabricate forms for easy removal without impact, shock, or damage to concrete surfaces or other portions of the work. Design to support all applied loads until concrete is adequately cured within allowable tolerances and deflection limits.
- B. Construct and brace formwork to accurately achieve end results required by contract documents, with all elements properly located and free of distortion. Provide for necessary openings, inserts, anchorages and other features shown or otherwise required.
- C. All forms shall be smooth, mortar-tight and true to the required lines, grades and dimension, of sufficient strength to resist springing out of shape during the placement of concrete, and shall have a smooth, straight upper edge. All dirt, chips, sawdust, and other debris shall be removed from the forms before any concrete is deposited therein. Forms previously used shall be thoroughly cleaned of all dirt, mortar, and foreign matter before being reused.
- D. Forms shall be held rigidly in place by steel stakes placed at intervals not to exceed four feet. Clamps, spreaders, and braces shall be used where required to insure rigidity of the forms.
- E. Apply form release agents or wet forms as required. Re-tighten forms during concrete placement, if required, to eliminate mortar leaks.
- F. Tolerances for Formed Surfaces: Comply with minimum tolerances established in ACI 117, unless more stringent requirements are indicated on the drawings.
- G. Release Agent: Provide either form materials with factory-applied nonabsorptive liner or field-applied for coating. If field-applied coating is employed, thoroughly clean and recondition formwork and reapply coating before each use. Rust on form surfaces is unacceptable.

3.03 EXPANSION/CONTROL JOINTS AND SCREEDS

- A. Expansion joints shall be constructed as shown on the Drawings. Expansion joint filler shall be shaped to fit the entire concrete section of the respective application.

- B. Control joints, cold joints and screeds shall be constructed as shown on the Drawings. Other joints and screeds, if necessary and not specified herein, shall be placed only at locations approved by Landscape Architect.

3.04 REINFORCEMENT

- A. Install reinforcement in as long lengths as practicable. Lap adjoining pieces at least twelve (12) inches, securely tie with wire and support at the proper elevation by suitable chairs or concrete "dobie" blocks. Off-set and lap in adjacent width, to prevent continuous laps in either direction.
- B. Position, support and secure reinforcement against displacement. Locate and support with metal chairs, runners, bolsters, spacers and hangers as required. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces.

3.05 CONCRETE

A. Ready-mixed Concrete

- 1. Ready-mixed concrete shall be batched at a central batching plant and transit-mixed in truck mixers, in accordance with the requirements of the Standard Specifications, APWA. Batching weight of all ingredients per cubic yard shall be furnished by the Contractor to the Landscape Architect when so requested.

B. Embedded Items

- 1. Set and build into work anchorage devices and other embedded items required for other work that is attached to or supported by cast-in-place concrete. Use setting diagrams, templates and instructions provided by others for locating and setting.

C. Job-Mixed Concrete

- 1. Any concrete mixed at the job site shall be mixed in a power operated, rotary batch mixer, with hoppers and controls permitted accurate measurement by weight of all materials. All such equipment and procedures shall be subject to the approval of the Landscape Architect.

D. Concrete Quality

- 1. Concrete shall be of a consistency suitable for satisfactory placing with reasonable amount of vibration and spading.

Comply with the following:

COMPRESSIVE STRENGTH - 3,000 PSI, MINIMUM AT 28 DAYS.

SLUMP RANGE - Two (2) to four (4) inches.

E. Placing Concrete

1. Concrete shall be deposited as nearly as practicable in its final position, to avoid rehandling and flowing. It shall be deposited in uniform horizontal layers, avoiding inclined planes; and each layer shall be placed before the previous layer has taken its initial set. Concrete shall be compacted as it is placed, to obtain maximum density and to eliminate voids and rock pockets, by means of hand spading, rodding, and tamping as required. No water may be added during placement or finishing.

F. Concrete Curing

1. All concrete shall be cured for at least seven (7) days after placing. Curing shall be accomplished by applying a membrane curing compound as required. Mix and apply material in accordance with manufacturer's recommendation. Provide protection as required to prevent damage to exposed concrete surfaces.

G. Concrete Bond

1. Where patching or joining new concrete with hardened concrete (joints must be approved) coat hardened surfaces with concrete bonding agent. Mix and apply material in accordance with manufacturer's recommendations.

3.06 CONCRETE FINISHING

- A. After striking-off and consolidating concrete, smooth surface by screeding and floating. Adjust floating to compact surface and produce uniform texture. After floating test surface for trueness of grade and line. Distribute concrete as required to remove surface irregularities and refloat repaired areas to provide a continuous smooth finish. Work edges of slab and formed joints with an edging tool and round to one-half (1/2) inch radius unless otherwise indicated.
- B. After completion of floating and when excess moisture of surface sheen has disappeared, exposed surfaces shall be uniform in appearance and finished to a smooth form finish, such that the exposed face is free of any architectural finish, including wood grain from plywood formwork.
- C. Do not remove forms for twenty-four (24) hours after concrete has been placed. 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 Landscape Architect.
- D. Do not remove ties for four (4) days after concrete has been placed.

3.07 SKATE BARRIER

- A. Install per manufacturer's recommendations in locations shown on Drawings.

3.08 STEEL PIPE

- A. Install per manufacturer's recommendations in locations shown on Drawings.

3.09 SEALER

- A. Install per manufacturer's recommendations.

3.10 REPAIRS AND PROTECTIONS

- A. Repair formed surfaces by removing minor honeycombs, pits greater than 1-square inch surface area or 0.25-inch maximum depth or otherwise defective areas. Provide edges perpendicular to the surface and patch with nonshrink grout. Patch defects when the forms are removed. Concrete with extensive honeycomb, including exposed entrapped debris, separated aggregate, or other defects which affect the serviceability, structural strength or aesthetics as determined by the Landscape Architect, will be rejected, unless correction of defects is approved. Obtain approval of corrective action prior to repair. The surface of the concrete shall not vary more than the allowable tolerances of ACI 347R.
- B. Protect concrete from damage, graffiti, stains and all other foreign de-facing materials until final acceptance of work.
- C. Sweep concrete pavement and wash free of stains, discolorations, dirt and other foreign material just prior to final inspection.

END OF SECTION



PARKS AND RECREATION DEPARTMENT, 3424 Meridian, Bellingham, Washington 98225
Telephone: (360) 778-7000 Fax: (360) 778-7001 TTY (360) 738-7366

Certificate of Final Completion

Project Name: _____ Contract No. _____

Prime Contractor: _____

Subcontractors: _____

Begin Construction Date: _____

Substantial Completion Date: _____ 1-01.3 WSDOT

Physical Completion Date: _____

Final Completion Date: _____

Final Amount: _____

Sales Tax: _____

Total Amount: _____

Contractor's Certification

I, the undersigned, certify that I am authorized to sign for the claimant: that the attached final estimate is a true and correct statement showing all the monies due me from the City of Bellingham under this Contract; that I have carefully examined said final estimate and understand the same; and that all outstanding claims have been settled; and that all taxes, fees and other similar conditions have been met; and that I hereby release the City of Bellingham from any and all claims of whatsoever nature which I may have arising out of the performance of said Contract. The warranty for the project started on _____ and will lapse on _____. The landscaping maintenance period began on _____ and will lapse on _____. Guarantees for work and products shall be as stated in the contract specifications and per the manufacturer's warranty.

Contractor's Signature: _____ Date: _____

Project Acceptance

Project Manager Signature: _____ Date: _____

Cc: Leslie Bryson, Manager, Parks/Design & Development
Bonding Company

Certificate of Substantial Completion

PROJECT: (Name and Address)

Contract No.:

Contract Date:

TO: (Contractor Name and Address)

Date of Issuance:

Project or Designated Portion Shall Include:

The work performed under this contract has been reviewed and found to be substantially complete. The date of substantial completion of the project or portion thereof designated above is hereby established as _____ which is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below.

Definition of Date of Substantial Completion

The Date of Substantial Completion of the Work or designated portion thereof is the date certified by the project administrator when construction is sufficiently complete in accordance with the Contract Documents, so the City can occupy or utilize the work or designated portion thereof for the use for which it is intended, as expressed in the Contract Documents.

A list of items to be completed or corrected, prepared by the Contractor and verified and amended by the project administrator is attached hereto. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all work in accordance with the Contract documents. The date of commencement of warranties for items on the attached list will be the date of final payment unless otherwise agreed to in writing.

Project Administrator

By

Date

The Contractor will complete or correct the work on the list of items attached hereto within 30 calendar days from the above Date of Substantial Completion. Liquidated damages shall be in the total amount per day as specified in the contract for each calendar day in excess of thirty (30) working days after substantial completion that final completion is not attained, as determined by the Owner. It is agreed that such amount shall be deducted from progress or final payments to the Contractor.

Contractor

By

Date

The City accepts the work or designated portion thereof as substantially complete and will assume full possession thereof at:

Time

on

Date

Project Manager

By

Date

The responsibilities of the City and Contract for security, maintenance, heat, utilities, damage to the work, and insurance shall be as follows:

Note: City's and Contractor's legal and insurance counsel should determine and review insurance requirements and coverage. Contractor shall secure consent of surety company, if any.



City of Bellingham
 210 Lottie Street
 Bellingham WA 98225

CONTRACT CHANGE ORDER

Change Order Number:	
PO Number:	
Date:	
Project#:	
Contract:	

Contract Title: _____
 Contractor: _____

You are hereby requested to comply with the following changes from the contract plans and specifications:

Summary Changes:						
Bid Item #	Description	Qty	Unit	Unit Cost	Total Amount	
1						\$0.00
2						\$0.00
3						\$0.00
4						\$0.00
5						\$0.00
6						\$0.00
Total Amount of Request						\$0.00
8.7% Sales Tax - applicable? <input checked="" type="checkbox"/>						\$0.00
Total Contract Increase						\$0.00

Revised Special Provisions:	
1	
2	
3	
4	
5	
6	

Measurement & Payment:	
1	
2	
3	
4	
5	
6	

<input type="radio"/> ADD or	\$0.00
<input type="radio"/> DEDUCT the sum of	to/from the total contract price
<input type="radio"/> INCREASE	the time provided for completion by
<input type="radio"/> DECREASE	_____ day(s).
<input type="radio"/> NOT CHANGED	

Summary:

Original Contract Amount w/tax (if applicable)	_____
Current Contract Amount	_____
Net Change This Order	\$0.00
Contract Total After Change	\$0.00

Analysis/Justification/Independent Evaluation:

This document will become a supplement to the contract and all provisions of the contract will apply hereto.
 Price adjustments shall be considered full compensation for all costs required to complete the work noted herein.

Accepted:

 Contractor

 Date:

Recommended:

 Project Manager

 Date:

Approved:

 Approving Authority

 Date:



DESIGN CHANGE NOTICE

DCN No.: _____

Date: _____

Project: _____

To: _____

From: _____

These instructions are issued for the purpose of clarifying or revising the Contract Documents. This DCN may change the contract price and/or time to complete the project as indicated below:

Subject: _____

Attachments: _____

Issued By: _____ **Date:** _____

Contractor's Evaluation of Impacts:

Cost Impact: Increase Decrease None
Schedule Impact: Increase Decrease None

COMMENTS:

Evaluated By: _____ **Date:** _____

When a DCN instruction results in either a cost or schedule impact (increase or decrease), the Contractor shall initiate a change request (CR) using an approved form within 20 days of receiving this DCN form. Any work performed prior to approval of the Change Order is at the Contractor's risk. If a CR is not submitted within 20 days, the Contractor shall perform the work with no change in contract price or time.

Daily Report of Force Account Worked

Contract Number	Date	Item Number	Item Name
Contractor		Subcontractor / Lower Tier Subcontractor	
Line / Station	Group	Basis of Material Acceptance	RAMS Number
Description of Work Performed			

Time Worked Record							
	Workers and/or Equipment Working	Occupation of Workers or Equipment Size	Hours Worked		Reg. Rate	O.T. Rate	Amount
			Reg.	O.T.			
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

Calculated By	Date	Checked By	Date	Total
---------------	------	------------	------	--------------

Inspector	Contractor's Representative	Title
-----------	-----------------------------	-------



PARKS AND RECREATION DEPARTMENT, 3424 Meridian, Bellingham, Washington
98225 Telephone: (360) 778-7000 Fax: (360) 778-7001 TTY (360) 738-7366

MEETING AGENDA NO. X (Sample)

MEETING DATE: Month Day, Year
PROJECT: Project Name
RECORDED BY: Name
LOCATION: Street Address
DATE ISSUED: Month Day, Year

1. ATTENDANCE & DISTRIBUTION LIST

<u>Name</u>	<u>Company</u>	<u>Email</u>	<u>Phone</u>
List of Names	Company	Email	Phone

2. GENERAL: Preconstruction Meeting Minutes: No Exceptions Taken

3. SCHEDULE:

- a. Schedule:
 - i. Discussion
- b. Weekly Statement of Working Days:
 - i. Notice to proceed: Issued Month Day, Year
 - ii. Substantial Completion: XX working days, Month Day, Year

4. REQUEST FOR INFORMATION (RFI) / CLARIFICATION MEMOS

#	Description	Reference	Date Iss'd	Date Res'd
	List Here			

5. PROPOSAL REQUESTS / CONSTRUCTION CHANGE DIRECTIVES

- a. Discussion

6. CHANGE ORDERS

- a. Discussion

7. SUBMITTALS

- a. Discussion.

8. RECORD DOCUMENTS

- a. Discussion

9. QUALITY CONTROL/INSPECTIONS

- a. Discussion

10. PARK LOGISTICS:

- a. Discussion

11. APPLICATION FOR PAYMENT:

- a. Discussion

12. OTHER TOPICS:

- a. Discussion

13. NEXT MEETING:

- a. The next progress meeting will be on Month Day, Year at XX AM at the project site.

Notice: *These minutes (or agenda) are issued to serve as a general overview of the items discussed or proposed to be discussed at the subject meeting. These meeting minutes shall stand as written, unless discrepancies are discovered and brought to the attention of Gina Gobo Austin, P.E. within seven (7) calendar days of issuance, 360-778-7000, gaustin@cob.org.*

Date: enter date here

Contractor Name: enter contractor Name
Contractor Address: enter contractor street address
enter contractor City, State and Zip
Description of Work: enter description of work
Period Covered this Pay Estimate: enter dates here

City of Bellingham
Parks and Recreation Department
PARTIAL PAY ESTIMATE - CONTRACT PERFORMANCE
Federal Aid No. enter federal aid number here
Contract No. enter contract number here

Sheet 1 of 2
Location: Bellingham, WA
enter number here

Schedule	Contract Amount	Previous Earnings	Amount This Estimate	Total Amount Earned
1 <i>Project</i> Schedule A - Base Bid + Alternate 1	\$0.00	\$0.00	\$0.00	\$0.00
TOTAL CONTRACT AMOUNT	\$0.00	\$0.00	\$0.00	\$0.00

Sales Tax 8.4%	\$0.00		
Original Contract Amount:	\$0.00	Total Earnings To Date (No Sales Tax Included)	\$0.00
Revised Contract Amount:		5% Retained This Estimate	\$0.00
C.O. # 1 through C.O. # 0 Amount:	\$0.00	Total Retained Amount to date	\$0.00
8.7% Sales Tax on Change Orders	\$0.00	8.4% Sales Tax This Estimate	\$0.00
Total Revised Contract Amount:	\$0.00	Total Sales Tax to date	\$0.00
Original Contract Completion Date:	month day, year	Previous Payments	\$0.00
Revised Completion Date:	N/A	Liquidated Damages	\$0.00
		Total Deductions	\$0.00
		AMOUNT DUE CONTRACTOR	\$0.00

Project Manager _____ Date: _____

I certify that I have checked the quantities covered by the estimate; that the work was actually performed; that the quantities are correct and that the quantities and amounts are apparently consistent with the requirements of the contract. The Contractor hereby certifies that the prevailing wages have been paid in accordance with the prefilled statement or statements of intent to pay prevailing wages on file with the public agency. The amount included for payment this period is full and final payment for all work included herein.

CA Representative _____ Date: _____

Contractor's Representative _____ Date: _____

Date: enter date here
 Contractor Name: enter contractor Name
 Contractor Address: enter contractor street address
 enter contractor City, State and Zip
 Description of Work: enter description of work
 Period Covered this Pay Estimate: enter dates here

City of Bellingham
 Parks and Recreation Department
PARTIAL PAY ESTIMATE - CONTRACT PERFORMANCE

Sheet 2 of 2
 Location: Bellingham, WA
 enter number here

Item Number	Description	CONTRACT			TOTAL PREVIOUS ESTIMATE		TOTAL THIS ESTIMATE		TOTAL TO DATE	
		Quantity & Unit	Unit Price	Amount	Quantity & Unit	Amount	Quantity & Unit	Amount	Quantity & Unit	Amount
<i>Base Bid</i>										
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
<i>Change Orders</i>										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
	Total Schedule A			\$0.00			\$0.00			\$0.00
	8.4% Sales Tax			\$0.00			\$0.00			\$0.00
	Total Schedule A plus sales tax			\$0.00			\$0.00			\$0.00

SURETY BOND
Plantings on Bellingham Park Property

The **CITY OF BELLINGHAM**, a first-class municipal corporation of the State of Washington, the SECURED; _____, a Surety Company licensed to do business in the State of Washington, the SURETY; and a, _____, the PRINCIPAL; do hereby agree as follows:

The Principal has entered into an agreement with the City for Plantings on Bellingham Park Property Project. The work is to be carried out in conformance with all applicable laws and City of Bellingham Plantings on Bellingham Park Property Project Name _____, attached hereto; and incorporated by this reference.

The maximum financial obligation of the Surety under this Bond is \$ _____, the same being 150% of the total estimated cost of the work.

The Surety agrees to either undertake and complete the work, or pay the Secured sufficient funds to administer and complete the work, including reasonable liquidated damages, attorney's fees and other reasonable costs incurred, on the happening of the following events:

- A. Failure of the Principal to complete the-work in accordance with good and accepted engineering practice;
- B. Any material breach of the Plantings on Bellingham Park Property Project referenced above;
- C. Any failure of the Principal to comply with the requirements imposed by law or by any government agency with jurisdiction;

This obligation shall remain in full force and effect during the performance of the work or until affirmatively released, in writing, by the Secured. Further, the Surety agrees to hold the project's actual cost for at least _____ year(s) after completion of the work, or until an affirmative, written release of the deposit is received from the City, to remedy the detection by the City of any defect in workmanship or materials in the design or construction of the work.

EXECUTED, this the _____ day of _____, 20____, for the PRINCIPAL, _____, a _____,:

EXECUTED, this the _____ day of _____,
20____,
for the SURETY, _____:

Title: _____

Address: _____

ACCEPTED and **APPROVED** for the SECURED, **THE CITY OF BELLINGHAM**, this the _____
day of _____, 20____,

Mayor

ATTEST: _____
Finance Director

APPROVED AS TO FORM:

Office of the City Attorney

ACCEPTED FOR ADMINISTRATION:

Department Head

**ASSIGNMENT OF FUNDS IN LIEU OF BOND
Plantings on Bellingham Park Property**

THIS ASSIGNMENT is for ensuring completion and guarantee of the Assignor's commitment to Plantings on Bellingham Park Property for the City.

The undersigned, _____,
_____,
acting for _____,
does hereby assign to the City of Bellingham all right, title, and interest in funds in the
amount of \$ _____, deposited in account number _____,
at the _____ in the name of _____
_____.

The City is hereby authorized to draw upon the funds in case of the happening of any of the following events:

1. Failure of the Assignor to complete the work described in the Plantings on Bellingham Park Property Project: _____ (attached hereto and incorporated by this reference) in accordance with good and accepted engineering practice;
2. Any material breach of the Plantings on Bellingham Park Property Project referenced above; or,
3. Any failure of the Assignor to comply with requirements imposed by law or by any government agency with jurisdiction.

This obligation shall remain in full force and effect during the performance of the work or until affirmatively released, in writing by the Secured. Further, the Bank agrees to hold 150% of the project's actual cost for at least _____ year(s) after completion of the work, estimated to be _____, or until an affirmative, written release of the deposit is received from the City, to remedy the detection by the City of any defect in workmanship or materials in the design or construction of the work.

The City is authorized, in case of happening of any of the described events, to draw upon the account to complete the work, to correct any defects' discovered, to collect liquidated damages, to pay required costs and fees, or do any other thing required to bring the project to timely and proper completion.

If the City draws down part but not all the funds held by the Bank, pursuant to this Assignment, any residual funds shall be released to the Assignor upon written release by the City, but subject to any demand made by the City for monies owing the City for any reason.

EXECUTED, this the _____ day of _____,

20____,

for the Assignor, _____:

ACCEPTANCE

The undersigned warrants that _____ is authorized to execute this Assignment of Funds for the Bank; that the account named has the required funds in it; that the Bank accepts this Assignment and all the terms contained in it; and the funds will be held until either drawn down by the City in accordance with this Assignment, or a release, in writing, is received from the City.

ACCEPTED, this the _____ day of _____,
20____,
for the Assignor, _____:

Signature: _____

Title: _____

Address: _____

ACCEPTED, this the _____ day of _____,
20____,
for the **CITY OF BELLINGHAM**

Mayor

ATTEST: _____
Finance Director

APPROVED AS TO FORM:

Office of the City Attorney

ACCEPTED FOR ADMINISTRATION:

Department Head



PARKS AND RECREATION DEPARTMENT, 3424 Meridian, Bellingham, Washington 98225
Telephone: (360) 778-7000 Fax: (360) 778-7001 TTY (360) 738-7366

PRECONSTRUCTION MEETING AGENDA (sample)

DATE: Month Day, Year

PROJECT: Project Name

RECORDED BY:

ATTENDANCE:

I. ORDER OF WORK (Progress Schedule)

II. UTILITIES AND RAILROADS

- a. Project Engineer prepare list of affected services and representative to be contacted.
- b. Underground services should be located.
- c. Notification time required by organizations.
- d. Insurance required, if any.

III. SUBCONTRACTORS AND AGENTS

- a. Request for approval must be submitted along with a Statement of Intent to Pay Prevailing Wage and Subcontractor or Agent Certification.
- b. Nature of work to be performed by each.
- c. Subcontractor's route correspondence via prime contractor.
- d. Prime contractor must have a representative with authority on the job at all times (designated by letter).
- e. DBE subcontract work

IV. RECORDS AND REPORTS

- a. Description of required forms and initial supply should be handed out or mailed to prime contractor.
- b. All reports must be handled through prime contractor's office.
- c. Request for approval of sources of material should be submitted as soon as possible.
- d. False work plans, if required.
- e. Certified payrolls must be submitted on time and wage rate interviews will be conducted.
- f. EEO and trainee requirements — in depth discussion.
- g. DBE requirements when the contract contains DBE goals — in depth discussion.
- h. Required job site posters (provided to Prime Contractor).
- i. Davis-Bacon statement regarding the USDOL, WSDOT and local agency's role in investigations for labor compliance.
- j. ADA requirements.

V. TRAFFIC CONTROL AND SAFETY

- a. *Manual on Uniform Traffic Control Devices* will control signing.
- b. Review and discussion of Traffic Control Plan (TCP).
- c. Safety control on structures.
- d. Flagman should use standard paddle and vest and must be certified with flagman card.
- e. Speed regulation of construction equipment.
- f. Contractor and project engineer designate by name the individual responsible for construction traffic control.
- g. Safety and health requirements.
- h. Request police to report all construction zone accidents to the contracting authority.
- i. Gross legal load limits shall be adhered to.
- j. The local agency will monitor the requirements of RCW 46.61.655 as amended by Substitute House Bill No. 1363 and cooperate with law enforcement agencies in the enforcement as provided in Section 1-07.1 of the Standard Specifications. Substitute House Bill No. 1363 deals with covered loads or 6 inches of freeboard.

VI. ENVIRONMENTAL CONSIDERATIONS

- a. Commitment files.
- b. Standard Specifications/Special Provisions.
- c. Contractor responsibility to obtain permits.
- d. Department of Ecology requires registration of rock crushers in accordance with WAC 173-400.

VII. PERMITS

- a. Permit requirements
- b. Special Inspection
- c. Parks Inspection
- d. Structural Observation
- e. Geotechnical Inspection
- f. Contact information for Special Inspection Agency

VIII. DISMISS DISINTERESTED PARTIES (list those leaving)

IX. REOPEN WITH GENERAL CONSTRUCTION DISCUSSION

- a. Contractor explains how he plans to pursue the work.
- b. Review of anticipated construction problems.
- c. Conflict resolution — need for partnering.

PROJECT NAME

Record of Materials - SAMPLE

WSDOT Standard Specification 1-06.1 Approval of Materials Prior To Use

Date

Item Number	Item Qty	Unit of Measure	Bid Item Name	Material/Component	Documentation Requirement	Specification Reference	Drawing Reference	Submittal No.	Complete	Notes
G-25			Incidental, General Conditions		City of Bellingham Business License Prime Contractor	Terms & Conditions, page 8, item 19 and General Provisions G-25 Page 36				
G-28			Incidental, General Conditions		Approved Pedestrian Control and Protection	General Provision G-28, Page 36				
G-31			Incidental, General Conditions		Traffic Control Plan	General Provision G-31, Page 39				
G-38			Incidental, General Conditions		Contractor's Daily Activity Log	General Provision G-38, Page 40				
G-68			Incidental, General Conditions		Construction Recycling Plan	General Provisions G-68, Page 42				
G-70			Incidental, General Conditions		Fill and Grade Permit for Disposal of Surplus Excavated Material	General Provisions G-70, Page 43				
G-72			Incidental, General Conditions		Stormwater Management Permit	General Provisions G-72, Page 43				
G-95			Incidental, General Conditions	-	Accident Prevention Program & Site Specific Safety Plan	General Provisions G-95, Page 44				
n/a			Incidental, General Conditions		List of Subcontractors	Terms and Conditions, Page 8, Item 15, WSDOT 1-08.1				
n/a			Incidental, General Conditions		Approved Statement of Intent to Pay Prevailing Wages, Prime Contractor	Terms & Conditions, page 9, Item 23, WSDOT 1-07.9(5)				
n/a			Incidental, General Conditions		Approved Affidavit of Wages Paid, Prime Contractor	Terms & Conditions, page 9, Item 23, WSDOT 1-07.9(5)				
n/a			Incidental, General Conditions		Spill Prevention, Control and Countermeasures Plan	WSDOT 1-07.15(1)				
n/a			Incidental, General Conditions		Progress Schedule, Weekly Look-Ahead Schedule	WSDOT 1-08.3(1), 1-08.3(2)D				
n/a			Incidental, General Conditions		Emergency Contact List	WSDOT 1-05.13(1)				
1.0			Mobilization		Written Access Plan	Special Provisions Page 46				
3.0			Select Borrow		Approved Submittal	Special Provisions Page 48				
4.0			Restoration Seeding		Approved Submittal	Special Provisions Page 48				
5.0			Wood Chip Mulch		Approval Submittal, Approved Sample	Special Provisions Page 49				
6.0			Force Account		Labor & Equipment Rates	WSDOT 1-09.6				

Inspections/Notifications

Phase of Work			Who	Specification Reference	Dwg Ref.
		Notification of Adjacent Residents and Businesses	Contractor	G-32	
		Utility Locate	Contractor	G-35	
		Tree Protection	Contractor	Special Provisions Page 49	
		Substantial Completion	Contractor/Parks	WSDOT 1-08.5	
		Final Inspection	Contractor/Parks	WSDOT 1-05.11 and Special Inspection Note 3	

Examples:

1 Acceptance sample per 1000 C.Y. of concrete
1 Acceptance Sample per 4000 Tons
1 Acceptance Sample(s) Required
Acceptance per 9-4.44 of Const. Manual
Acceptance per 9-4.50 of Const. Man. or See Current QPL
Acceptance per 9-4.75 of Const. Manual or See Current QPL
Acceptance per Stnd. Spec. 6-02.3(5)
'APPROVED FOR SHIPMENT' Stamp/Tag
Catalog Cut
Certificate of treatment and lumber grading stamp
Certification of Compliance per 6-02.3(5)B
Certified concrete delivery ticket or See Current QPL
Document conformance to approved plan
Lumber Grade Cert or APPR'D FOR SHIPMENT Tag/Stamp or See Current QPL
Mfr. Cert. per Stnd. Spec. 1-06.3
Mill Test Report Number or See Current QPL
Obtain Current Plant Certificate
Proprietary item
Proprietary item
Sample per 9-4 of Const Manual
Satisfactory Test Report
Satisfactory test report from State Materials Laboratory or See Current QPL
Verification of "FABRICATION APPROVED" decal
Verification of "FABRICATION APPROVED" decal or See Current QPL
Visual Inspection
Visual Inspection or See Current QPL
'WSDOT Inspected' Tag/Stamp



REQUEST FOR INFORMATION

RFI No.: _____
Issued Date: _____

Project: _____

Issued To: City of Bellingham Parks
3424 Meridian Street
Bellingham, Washington 98225

Attn: _____

Issued By: _____

Copy To: _____

Subject: _____

Reference: _____
Enclosures: _____

Cost Impact: Increase Decrease None
Schedule Impact: Increase Decrease None

DESCRIPTION OF REQUEST:

Reply by: _____ Author: _____

RESPONSE:

Reviewer: _____ Date: _____

Proceed as _____ Date: _____
Indicated: (Owner Authorized Representative)

This RFI is intended to provide an efficient mechanism for responding to Contractor's request for information only. This RFI DOES NOT authorize the Contractor to proceed with work - to do so, the Contractor proceeds at his own risk. If the Contractor considers the RFI response a changed condition, written notice to the Owner is required within the time limit identified in the contract.



PARKS AND RECREATION DEPARTMENT DESIGN & DEVELOPMENT DIVISION

3424 Meridian, Bellingham, Washington 98225
 Telephone: (360)778-7000 Fax: (360) 778-7001 TTY (360) 738-7366

Request for Approval of Material

Contract	FA Number	SR/Street	Date
Section			County
Contractor		Subcontractor	

**For Official Use Only
RAM #**

Bid Item No.	Material or Manufacturer's Product/Type	Name and Location of Fabricator, Manufacturer or Pit Number	Specification Reference	PE Appr'l Code

Project Engineer	Date
------------------	------

Approval Action Codes for use by Project Engineer

1. Conditionally Approved: Acceptance based upon 'Satisfactory' Test Report for samples of materials to be incorporated into project.
2. Conditionally Approved: Submit Mfg. Cert. of Compliance for 'Approval' prior to use of material.
3. Conditionally Approved: Submit Catalog Cuts for 'Approval' prior to use of material.
4. Conditionally Approved: Submit Shop Drawings for 'Approval' prior to fabrication of material.
5. Conditionally Approved: Only 'Approved for Shipment' or 'WSDOT Inspected' material shall be used.
6. Conditionally Approved: Submit Materials Certificate of Origin to Project Engineer.
7. Approval Pending: Request Transmitted to State Materials Laboratory for Approval Action.
8. Source Approved:
9. Approval Withheld: Submit samples for preliminary evaluation.
10. Approval Withheld:
- 11.

Remarks:

Project Engineer Distribution

- Contractor
 Park Inspector
 Engineer of Record
 Testing Agency
 Planning Department



PARKS AND RECREATION DEPARTMENT, 3424 Meridian, Bellingham, Washington 98225
Telephone: (360) 778-7000 Fax: (360) 778-7001 TTY (360) 738-7366

SUBMITTAL REVIEW COMMENTS

Date: _____
Submittal: _____
To: _____

From: _____

This submittal is being returned with the following status:

- | | |
|---|---|
| <input type="checkbox"/> No Exceptions Taken | <input type="checkbox"/> Make Corrections Noted |
| <input type="checkbox"/> Rejected - See Remarks | <input type="checkbox"/> Revise and Resubmit |

REMARKS:

1.

Note:

Corrections and Comments made on the shop drawings during this review do not relieve contractor from compliance with requirements of the drawings and specifications. This check is only for review of general conformance with the design concept of the project and general compliance with the information given in the contract documents. The contractor is responsible for: confirming and correlating all quantities and



PARKS AND RECREATION DEPARTMENT, 3424 Meridian, Bellingham, Washington 98225
Telephone: (360) 778-7000 Fax: (360) 778-7001 TTY (360) 738-7366

SUBSTITUTION REQUEST FORM

SUBMITTED TO: _____

PROJECT: _____

SPECIFIED ITEM:

SECTION NO.	PARAGRAPH NO.	DESCRIPTION OF SPECIFIED ITEM
-------------	---------------	-------------------------------

The Undersigned requests consideration for the following substitution to the specified item.

PROPOSED SUBSTITUTION

ATTACHED DATA:

Include product description, specifications, drawings, photographs, performance data, and test data, as necessary for evaluation. Clearly identify proposed substitution and portions of data from other items where more than one item is described.

Include description of changes to Contract Documents required by the proposed substitution.

CERTIFICATION:

The Undersigned certifies that in addition to the requirements of Section 01630-1.5, the following paragraphs are correct, except as modified by attachments:

1. Proposed substitution does not affect dimensions shown on the Drawings.
2. The Undersigned will pay for changes to building design, engineering design, detailing, and associate construction costs, caused by the requested substitution.
3. Proposed schedule will have no adverse effect on other trades, Construction Schedule, or specified warranty requirements.
4. Maintenance and service parts will be locally available for proposed substitution.
5. Proposed substitution is in compliance with all applicable codes and regulatory requirements.

Undersigned further states that function, appearance, and quality of proposed substitution are equivalent or superior to the specified item.

This form must be submitted in accordance with the project specifications.



PARKS AND RECREATION DEPARTMENT, 3424 Meridian, Bellingham, Washington 98225
Telephone: (360) 778-7000 Fax: (360) 778-7001 TTY (360) 738-7366

SUBMITTED BY:

SIGNATURE: _____

FIRM: _____

ADDRESS: _____

DATE: _____

TELEPHONE: _____

FAX: _____

LIST ATTACHMENTS: _____

FOR USE BY OWNER:

_____**APPROVED** _____**APPROVED WITH CONDITIONS** _____**NOT APPROVED**

_____**RECEIVED TOO LATE**

BY: _____

DATE: _____

REMARKS: _____



PARKS AND RECREATION DEPARTMENT DESIGN & DEVELOPMENT DIVISION

3424 Meridian, Bellingham, Washington 98225

Telephone: (360)778-7000 Fax: (360) 778-7001 TTY (360) 738-7366

WEEKLY STATEMENT OF WORKING DAYS

PROJECT NAME	
CONTRACTOR	
ADDRESS (Street, City, State, ZIP Code)	
CONTRACT NO.	DATE:

THE FOLLOWING STATEMENT SHOWS THE NUMBER OF WORKING DAYS CHARGED TO YOUR CONTRACT FOR THE WEEK ENDING:

DATE	DAY	WEATHER CONDITION	WORKABLE DAYS	UNWORKABLE DAYS	NOTES/ REASON FOR UNWORKABLE DAYS
	Sunday				
	Monday				
	Tuesday				
	Wednesday				
	Thursday				
	Friday				
	Saturday				
DAYS THIS WEEK					NOTE: ROUND ALL TIME TO THE NEAREST 1/2 DAY.
DAYS PREVIOUSLY REPORTED					
TOTAL DAYS TO DATE					

CURRENT STATUS	
WORKING DAYS SPECIFIED IN CONTRACT	
APPROVED EXTENSION OF TIME	
TOTAL AUTHORIZED TIME OF CONTRACT	
LESS WORKABLE DAYS CHARGED	
WORKING DAYS REMAINING	

SUMMARY OF WEEK'S ACTIVITIES

	Project Engineer
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<p>NOTE: The contractor will be allowed 10 days from the date of this report in which to protest in writing the correctness of this statement, otherwise it shall be deemed to have been accepted as correct.</p>
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