

DIVISION 1

General Requirements



Department of Public Works and Utilities
Engineering Division

DIVISION 1. GENERAL REQUIREMENTS

PURPOSE

The purpose of the City of Bremerton Design and Construction Standards is to provide a consistent framework under which physical aspects of design and construction will be implemented. Most of the elements contained in this document are Public Works oriented and are related to the development or platting process; however it is intended that they apply to both public and private work.

These standards cannot apply for all situations. They are not intended to substitute for good technical practices and competent design work. It is expected that the design professional will bring the best of skills from their respective disciplines. These standards also include standard plans which are to be used in conjunction with design activities.

1-10 SHORTEN DESIGNATION: These City of Bremerton Design and Construction Standards shall be cited routinely in the text as the "Standards".

1-20 REFERENCES: The Standards are intended to be consistent with the most currently adopted provisions of:

- 1-20.1 Bremerton Municipal Code (BMC), including all pertinent ordinances
- 1-20.2 State of Washington Shoreline Management Act
- 1-20.3 State and National Environmental Policy Acts
- 1-20.4 City Design Standards
- 1-20.5 Washington State Department of Transportation
- 1-20.6 Uniform Building Code
- 1-20.7 A Policy on Geometric Design of Highways and Streets, AASHTO.

1-30 STANDARD SPECIFICATIONS: Except where the Standards provide otherwise, design detail, workmanship and materials shall be in accordance with the current edition of the "Standard Specifications for Road, Bridge, and Municipal Construction" (APWA Specification) prepared by the Washington State Chapter of the American Public Works Association and the Washington State Department of Transportation.

1-40 OTHER SPECIFICATIONS: The following shall be applicable when pertinent, when specifically cited in the Standards, or when required by higher funding authority:

1-40.1 U.S. Department of Transportation Manual of Uniform Traffic Control Devices (MUTCD), as amended and approved by Washington State Department of Transportation.

1-40.2 Rules and regulations of the State Board of Health regarding public water systems, as published by the State Department of Social and Health Services.

1-45 PERMITS: Permits and approvals are required prior to any construction or demolition work in the public right-of-way. Much work done under these Standards will require multiple permits such as water, sanitary or storm sewer work in addition to the right-of-way permit. Questions should be directed to the City Engineer's Office.

An approved copy of the right-of-way permit together with a set of approved plans and specifications shall be available on the job site whenever work is being done on any portion of the project.

1-50 MODIFICATIONS AND UTILITIES: Modifications from these Standards may be granted by the Public Works Director upon evidence that such modifications are in the public interest, that they are based upon sound engineering practices, and that requirements for safety, function, appearance, maintainability, and durability are fully met. Desired modifications must be submitted in writing and approved in writing prior to construction.

1-60 GUARANTEES: Performance and Warranty Guarantees will be required for all public works improvements, unless waived by the Director. Acceptable methods of guarantees will be as follows:

1. Cash deposit
2. Assignment of Savings Account
3. Letter of credit
4. Bond

Standard documents as approved by the City for the above items are available from the City Engineer.

1-60.1 Performance Guarantee:

1-60.1.1 Performance Guarantees will be required for all public works improvements as detailed on the approved plans, unless conditions are met as noted below:

STREET/ALLEY, SIDEWALK: Estimated cost plus 20% OR for a plat, construct all improvements prior to final plat approval.

UTILITIES: Estimated cost plus 20% OR construct improvements prior to occupancy OR for a plat, construct prior to final plat approval.

1-60.1.2 The initial guarantee and subsequent extensions as approved will be limited to one (1) year increments. If time extensions are approved, the guarantee amount shall be revised to reflect inflation and/or other cost impacts.

1-60.1.3 The developer shall provide an estimate of the improvements based on the approved plans, prepared by an Engineer licensed in Washington.

1-60.1.4 The estimate shall be itemized by description, quantities and costs. The submitted data will be reviewed by City Engineer for adequacy of quantities and comprehensiveness of estimates. The estimate shall be reviewed to reflect the City's cost to complete the improvements.

1-60.2 Warranty Guarantee:

1-60.2.1 Warranty guarantees will be required at the time of final acceptance of the improvements. The Warranty Guarantee amount will be ten percent (10%) of the Performance Guarantee amount or of the documented final cost of the improvements. The Warranty Guarantee is required prior to release of the Performance Guarantee.

1-60.2.2 Methods of posting Warranty Guarantee shall be the same as for Performance Guarantee and shall be for a period of one year.

1-70 AS-BUILTS: Upon completion of work on all projects the "Original" approved plan shall be revised to reflect as-built conditions by the developer's or contractor's engineer and submitted to the City Engineer for permanent records. The "as-builts" shall be submitted in an electronic form and on 24" x 36". The submission of "as-builts" shall be considered part of the performance required to complete a project. The Certificate of Occupancy and the Performance Guarantee as noted in Section 1.60.1 will be retained by the City until this requirement is met.

1-80 PLANS: Work involving the design of street improvements, drainage, water and sewer improvements must be stamped by a registered Civil Engineer licensed in the State of Washington. Any structural work must be stamped by a structural engineer licensed in the State of Washington.

The Engineering Division has established these basic standards so plan checking can be processed efficiently. Plans must meet the following standards before they will be accepted.

1-80.1 Type and Size of Paper for Plans: The minimum acceptable size is to be 24" X 36". Plans submitted must be drawn on polyester drafting film or vellum.

1-80.2 Scale of Plans:

1-80.2(1) All plans are to be drawn utilizing an engineer's scale.

1-80.2(2) The minimum acceptable scale for public works improvement plans shall be 1" = 40' for plan view (horizontal) and 1" = 5' for profile view (vertical). In cases when the horizontal scale is enlarged, the vertical scale shall also be enlarged. A larger scale may be required if the plans are crowded, cluttered or hard to read. On small projects, it shall be expected that the scale will be enlarged to adequately utilize the full plan sheet.

1-80.3 Required Plan Sheets: The following plans for public works improvements shall be prepared:

1-80.3(1) Erosion control and grading plan (during and after construction).

1-80.3(2) Street improvements (including frontage improvements & street trees).

1-80.3(3) Storm drain or drainage plan (drainage and street plans may be combined when approved by the City Engineer).

1-80.3(4) Sanitary sewer plan.

1-80.3(5) Water system plan.

1-80.3(6) Traffic Control.

1-80.3(7) Street Lights & Traffic Lights.

NOTE: Cross-section sheets may be required for plan checking.

1-80.4 Format and Required Data:

1-80.4(1) All public works plans for street improvements and utility systems shall be prepared in a plan/profile format either with sheets printed in half plan and half profile or with separate sheets for plan and profile views.

1-80.4(2) Plans shall be prepared with all utilities, both new and existing, shown on all sets of plans. For example, on the sanitary sewer sets, the water and storm drains shall be shown with the sanitary sewer portions being heavily highlighted. Other utilities are also to be shown in profile views where crossings occur.

1-80.4(3) Whenever possible, use notes specifying City Standards numbers for common items such as catch basins, restrictors, fire hydrant assemblies, etc.

1-80.4(4) Provide signature block on all public works plans for City Engineer's approval.

1-80.4(5) Show complete data for curb radii, utility locations (new and existing), curb elevations, street stationing, street widths, existing adjacent improvements, elevations of existing street improvements and utilities, etc.

1-80.4(6) All elevations and grades on public works plans shall be to Bremerton City datum available from the Public Works and Utilities Department, Engineering Division.

1-80.4(7) At the back of this Section is a plan preparation checklist which includes many items that are to be noted on all plans as applicable. A copy of the checklist with all applicable items for each plan sheet "checked" as addressed by the designer is to be turned in with all plan submittals for plan checking to Engineering. Additional copies of the checklist are available from Engineering as needed.

1-80.4(8) A summary of quantities for all work within the public right-of-way or in easements granted to the City shall be listed on the title sheet or on the first sheet of all plans or sets of plans. The following list can be used as a guideline for the items to be listed but is to be supplemented as necessary for a particular project:

<u>ITEM</u>	<u>ABBREVIATION</u>
1-80.4(8)A Asphalt concrete pavement (roadway)	Ton
1-80.4(8)B Cement concrete pavement (roadway)	S.Y.
1-80.4(8)C Asphalt concrete pavement (alley)	Ton
1-80.4(8)D Cement concrete pavement (alley)	S.Y.
1-80.4(8)E Curb and gutter	L.F.
1-80.4(8)F Concrete sidewalk	S.F.
1-80.4(8)G Concrete driveway approaches	S.F.
1-80.4(8)H Water main (size)	L.F.
1-80.4(8)I Gate valves (size)	Ea.
1-80.4(8)J Butterfly valves (size)	Ea.
1-80.4(8)K Sewer main (size)	L.F.
1-80.4(8)L Side sewer (size)	L.F.
1-80.4(8)M Sewer manholes (type)	Ea.
1-80.4(8)N Drain pipe (size)	L.F.
1-80.4(8)O Catch basins (type)	Ea.
1-80.4(8)P Traffic regulatory signs (type)	Ea.
1-80.4(8)Q Street name signs	Ea.
1-80.4(8)R Fire hydrant assemblies	Ea.
1-80.4(8)S Water main blow-offs	Ea.
1-80.4(8)T Streetscape Trees (species & sizes)	Ea.

1-90 TRAFFIC CONTROL PLAN: Traffic control plans shall be submitted with the permit application for all construction projects which impact any public roadway including but not limited to lane closures, detours, slow-moving vehicles or actual construction within the right-of-way such as trenching, paving, etc.

1-100 CONSTRUCTION SCHEDULE: A schedule of construction activities shall be submitted prior to issuance of a permit.

1-110 INSPECTION:

1-110.1 Materials - Sampling and Testing: Compaction tests, material sampling and testing shall be required at the discretion of the City Engineer. When required, all testing shall be performed by a testing laboratory certified in the State of Washington. Copies of all test reports shall be furnished to the City Engineer. All costs incurred for testing or sampling as required shall be the responsibility of the contractor or developer.

1-110.2 Materials-Submittals: Submittals shall be submitted to the City Engineer with substantial proof that all materials used in construction conform to all applicable Standards.

1-110.3 Compaction Tests: Compaction tests will be required at the discretion of the City Engineer on all construction work within the right-of-way.

1-110.4 Line and Grade: Surveying as required to construct a given project per the approved plans shall be furnished by the developer or contractor at no expense to the City. It is required that survey stakes be set for new curb and gutter construction, for both horizontal and vertical control.

1-110.5 Controlled Density Backfill: The City Engineer may require controlled density backfill in lieu of native or granular backfill. Controlled Density Backfill shall meet the WSDOT/AASHTO specifications.

1-120 LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC:

1-120.1 Laws to be Observed: The contractor, applicant and owner, at all times shall comply with all Federal and State laws, local laws and ordinances, and any regulations which in any manner affect the project. The contractor, applicant and owner, shall release, indemnify and promise to defend and save harmless the City, its officers, employees and agents from and against any and all liability, loss, damage, expense, actions, and claims, including costs and reasonable attorneys fees incurred by the City in defense thereof, asserting or arising directly or indirectly on account of any violation of the laws, ordinances or regulations whether such violations are by the contractor, his subcontractors, his employees, or his agents.

1-120.2 Protection and Restoration of Property: The contractor shall protect and preserve from damage, interference and destruction all private and public property on or in the vicinity of the work. If such property is damaged or destroyed or its use interfered with by the contractor or his agents, it shall be restored immediately to its former condition by the contractor at his expense and such interference terminated. The contractor shall protect all surveying monuments and property corner markers.

1-120.3 Utilities and Similar Facilities:

1-120.3(1) The contractor shall protect from damage private and public utilities, including telephone and telegraph lines, power lines, sewer and water lines, railroad tracks and appurtenances, highway lighting and signal systems, and similar facilities.

1-120.3(2) It is the contractor's responsibility to contact the local underground utilities "one-call" number 48 hours in advance of any construction which requires excavation. The one-call number is 1-800-424-5555. RCW Chap. 19.122.

1-120.4 Traffic Control at Construction Site: Approved traffic control shall be established for all construction projects which impact any public roadway including but not limited to lane closures, detours, slow moving vehicles and actual construction within the right-of-way. See Section 1-9.

1-120.5 Detours and Road Closures: Approval must be received from the City Engineer and Police Department for all detours and road closures. See Section 1-90.

1-120.6 Flagmen, Barricades and Signs: Flaggers, barricades, signs and traffic control shall conform to the Standards established in the latest approved edition of the MUTCD. See Sec. 1-90. All equipment and materials required for traffic control shall be furnished, installed and maintained by the contractor to the satisfaction of the City Engineer.

1-120.7 Inspection:

1-120.7(1) Work performed within the public right-of-way, whether by or for a private developer, by City forces, or by a City contractor, shall be done to the satisfaction of the City Engineer and in accordance with approved plans and Standards. Unless otherwise approved, any subsequent modifications to approved plans must be approved in writing by the Director before being implemented.

1-120.7(2) It is the responsibility of the developer, contractor or their agents to notify the City in advance of the commencement of any work and to have all work inspected as construction progresses. Advance notification of at least 24 hours is required for scheduling of inspections. Timely notification by the contractor is essential for the City to verify the work meets the standards. Failure to notify the City of construction inspection may result in additional and more complex testing and certification of proper construction standards. The City may prohibit or limit further work until all inspections and corrections have been made to the satisfaction of the City Engineer. All costs associated with additional inspection procedures shall be borne by the contractor.

1-120.7(3) A preconstruction conference and/or field review may be required before the start of any work on major projects as determined by the City Engineer.

1-120.8 Site Maintenance:

1-120.8(1) The developer and contractor shall schedule and control his work so as to prevent hazards to public safety, health and welfare.

1-120.8(2) Streets shall be kept free of dirt and debris on a continuous basis.

1-120.8(3) Pedestrian facilities shall be kept free of obstructions, and continuity shall be maintained at all times unless otherwise approved by the Engineering Department.

1-120.8(4) On existing streets, two-way traffic shall be maintained at all times unless detour plans have been approved in advance by the City Engineer.

1-120.8(5) Pedestrian and vehicular access to occupied buildings shall be maintained at all times except where approval from the building owner has been obtained.

1-120.9 Temporary Erosion/Sedimentation Control:

1-120.9(1) Required Plans and Purpose: A temporary erosion/ sedimentation plan is required for the following land alteration activities: on all developments with slopes 15% or greater; or where cut and/or fill slopes 15% or greater will be created by the proposed work. The plan shall clearly indicate the construction sequence for establishment of all erosion control work both temporary and permanent and shall be a separate drawing. The following are the minimum notes required on all temporary erosion/sedimentation control plans:

1-120.9(1)A The temporary erosion control system shall be installed prior to all other construction.

1-120.9(1)B Where possible, maintain natural vegetation for silt control.

1-120.9(1)C As construction progresses and seasonal conditions dictate, the erosion control facilities shall be maintained and/or altered as required by the City Engineer to insure continuing erosion/sedimentation control.

1-120.9(1)D Temporary siltation ponds and all temporary siltation controls shall be maintained in a satisfactory condition until clearing and/or construction is completed, permanent drainage facilities are operational, and the potential for erosion has passed.

1-120.9(1)E All disturbed land areas left for 30 days or more shall be seeded with a mix and by a method approved by the City Engineer and maintained until seed germination is assured.

1-120.9(1)F Approval of this plan does not constitute an approval of design, size, nor

location of pipes, restrictors, or detention facilities; but is an approval of grading and sedimentation control plan only.

1-120.9(1)G The public right-of-way shall be kept clean. Tracking of mud and debris from the site onto the public right-of-way will not be allowed. Failure to comply with this condition will result in all work on the site being stopped.

1-120.9(1)H Cleanup and Restoration. The following procedures shall be followed in cleaning and restoring the construction site:

1. Street shall be swept each day.
2. Disturbed soils shall be final graded, seeded and mulched; or sodded after the installation of the utility.
3. Ditches shall be seeded, jute matted, netted, sodded, or rock lined to control erosion.
4. Any debris including rocks, cobbles, dirt and silt of downstream drainage facilities, whether ditches or pipe and catch basins, which results from the construction, shall be cleaned out and the work restored to a stable condition as a part of site cleanup each day.

INFORMATION TO BE SHOWN ON DRAWINGS:

1. Plot Plan Showing:

Dimensions

North arrow

Scale (engineering, not architectural)

Street name(s)

Right-of-way width(s) (show both sides from centerline)

Property lines

Building location (distances to lot lines)

Driveway location (both proposed and existing and distances from lot lines or corner for each)

Easements (type and width)

Spot elevations at:

Each property corner

Finish grade (at building corners)

Finish floor

Top of curb (at property lines)

Each edge of driveway (at property line)

Cross-section view (may show some of the above)

Parking (proposed traffic flow at entrance and exit)

Address and/or assessor's tax lot number

Short plat (location of all housing planned)

Flood plain data (if applicable)

2. Sanitary Sewer Plan Showing:

Sewer line locations (show relationship to water lines)
Sewer line sizes, material, and class of material
Sewer line slopes
Building location
Elevations at:
 Building line
 Changes in line or grade
 Property line
 Public Sewer
Appurtenances, such as cleanouts and back water valves

3. Storm Sewer Plans Showing:
 - Storm drainage calculation
 - Storm line locations
 - Storm line sizes
 - Storm line slopes
 - Downspout locations
 - Catch basin locations
 - Detention/retention details
 - Elevations at:
 - Catch basins
 - Top of grate
 - Invert elev.
 - Property line
 - Public sewer
 - Area of impervious surface
 - Drainage pattern of impervious surface
 - Oil separators detailed drawing (if required)
 - Connection to public system
 - Location and size of public system
 - Other required best management practices (BMP)

4. Curb, Gutter and Sidewalk Plans Showing:
 - Property lines
 - Street centerline
 - Sidewalk width and location (thickness as per specs.)
 - Driveway width, location and grade (thickness as per specifications)
 - Curb height, slope
 - Gutter width, thickness
 - Wheelchair ramps, location
 - Expansion joints
 - Catch basin locations
 - Spot elevations at:
 - Point of curve (on curb)
 - Point of tangency (on curb)

Top of curb at property lines
Front and back edges of sidewalk at property lines and grade breaks
Details on any retaining walls at right-of-way lines
Topography of opposite side of roadway

5. Lighting Plan

A lighting plan shall be submitted in accordance with City lighting standards.

6. Traffic Plan

A traffic plan shall be submitted in accordance with the MUTCD.