CITY OF BLACK DIAMOND

February 26, 2009 Workstudy Agenda

25510 Lawson St., Black Diamond, Washington

Workstudies are meetings for Council to review upcoming and pertinent business of the City. Public testimony is only accepted at the discretion of the Council

6:00 P.M. – CALL TO ORDER, ROLL CALL

1.) Water Standards – Mr. Boettcher

2.) Adjournment

CHAPTER 6
WATER

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CHAPTER 6 - WATER

6.1 WATER PLANNING / DESIGN STANDARDS

6.1.01 OVERVIEW

These Engineering Standards set forth the minimum standards for the planning, design, and construction of water facilities.

The Black Diamond Municipal Code Public Service Chapter 13.04 is the basis for these Standards.

These standards do not include design of special facilities, such as Pump Stations or Reservoirs. These special facilities require unique design requirements and will be subject to individual review and approval by the City.

Although these standards are intended to apply to physical development within the City, the standards will not apply for all situations. Compliance with these standards does not relieve the designer of the responsibility to apply conservative and sound professional judgment. These are minimum standards and are intended to assist, but not substitute for competent work by design professionals. The City may at its sole discretion due to special conditions and/or environmental constraints, require more stringent requirements than would normally be required under these standards.

6.1.02 GENERAL REQUIREMENTS

See Chapter One. Stand alone

6.1.03 GENERAL WATER DESIGN STANDARDS

A. Prior to construction, the Contractor shall notify the City for a pre-construction meeting. The Contractor's representative who will be the day-to-day on-site person in charge shall be in attendance with the applicant at the preconstruction meeting. A video tape of the project before construction shall be performed.

B. Work shall be performed only by contractors experienced in laying public water mains.

C. Prior to any work being performed, the Contractor shall contact the City's Utilities Superintendent or City Engineer to set forth his proposed work schedule.

D. Contractor shall deliver material submittal for all materials to be used ~~from~~ to the City's Water Superintendent and/or City Engineer prior to delivery of materials to the site. City Water Department representative shall be on site to inspect materials prior to ~~unloading~~ installation. Contact the City's Utility Superintendent to schedule delivery time and date. ~~Any materials unloaded without inspection shall be removed from the site~~.

E. Water mains shall be laid only in dedicated streets or in 15' (minimum width) easements which have been granted to the City. Off-site easements shall be dedicated to the City prior to any work within such easements. All easements shall be clearly shown and labeled on plans.

F. All water main distribution pipeline construction shall have a minimum 36" cover from finished grade and 42" cover over transmission mains. Water mains shall be extended to the far property line(s) of the property being served. Off-site extensions may be required to hydraulically loop existing and new systems. Oversizing of water mains may be required to be installed per City's current Water Comprehensive Plan. 8" ductile iron pipe is the minimum size required.

G. Fire hydrants are generally required approximately every 500' in residential areas, and every 250' in commercial areas. However, fire hydrants shall be furnished and installed at all locations as specifically mandated by the fire marshall and/or per City Building Code.

H. Fire hydrants on dead end streets and roads shall be located within approximately 300' from the frontage center of the farthest lot. Distances required herein shall be measured linearly along street or road.

Pipes connecting hydrants to mains shall be at least 6" diameter and not longer than 50'.

J. Dead end lines are not permitted ~~except where the Developer can demonstrate to the City's satisfaction that it would be impractical to extend the line at a future date~~. Water mains on platted cul-de-sacs shall be extended ~~off-site~~ to create a hydraulic loop. ~~When this is impractical, the water mains shall extend to the plat line beyond the cul-de-sac to neighboring property for a convenient future connection. Fire hydrants shall be installed at or on the termination point~~.

K. All materials shall be new and undamaged.

L. The water main shall be cement lined, ductile iron pipe class 52. The minimum nominal size for water mains shall be 8", unless otherwise approved/required by City Engineer. EXCEPTION: 6" hydrant spools and pipelines located beneath rock or retaining walls shall be Cl. 53 and shall be contained inside steel sleeves.

M. All fittings shall be cement-lined ductile iron.

N. Pipe deflection at the joints shall be in accordandance with pipe manufacturer's recommendations.

O. All valve marker posts shall be painted yellow and marked with the distance to valve being referenced in unpaved areas.

combine to one section

move to this section

move to this section and combine

P. Residential water service pipe shall be 1" high plastic "Poly" pipe (no joints beneath pavement areas or from main to setter), meeting or exceed ASTM D2239, SDR-7 as manufactured by Driscopipe (CL 200), or City approved equivalent.

Q. Meter services and meter boxes shall be set to final grade. Centerline of service inlets shall be located to match bottom elevation of meter box in such a manner that meter inlet and outlet will be the same elevation as bottom of meter box. Service inlet shall be centered at inlet end of box and faced toward outlet end of box parallel with long sides.

R. All water services shall end within road right-of-way or easements and are not allowed in driveways or sidewalks unless approved by the City.

S. All meters shall be installed by the City, and the Developer/Owner shall pay the current meter installation charge and any other water system fees, costs or charges.

T. One water sampling station may be required for developments in size of five lots or larger as required by the City. The water sampling shall be ~~furnished and~~ installed at a location determined by the City. One additional sampling station may be required for each additional 50 lots or portion thereof. Location(s) shall be determined by the City of Black Diamond Water Department.

U. All new buildings and residences shall include in their water service a suitable shut off check valve ~~unless waived on the application form of the City~~. Shut off shall be accessibly located on the customer side of the meter setter.

V. All new construction shall comply with the "Accepted procedure and practice in Cross Connection Control Manual" as published by the Pacific Northwest Section of the American Water Works Association", 1996, Sixth Edition, and current amendments thereto. ~~A copy of such is available for review at the City office.~~

W. Each fitting/valve shall have attachment type listed (e.g. FL, MJ, FL x MJ, etc.). Watermain shut-off shall be coordinated with the Water Department for preferred timing during flow control conditions. Cut in connections shall not be made on Fridays, holidays or weekends. All tapping sleeves and tapping valves shall be pressure tested prior to making connection to existing mains.

X. Contractor shall notify City's Water Superintendent and obtain approval of schedule for water shut-off or turn-on, affecting the water system, a minimum of 48 hours in advance. Valves shall only be operated by City forces.

Y. Road restoration shall be per City, County or State design and construction standards, as may be applicable. Developer and Contractor shall become familiar with all State, County and City conditions of required permits, and shall adhere to all conditions and requirements.

Z. Provide air vacuum release assemblies where required (typically at the high points of the water system).

AA. List pipe length (from center-of-fitting to center-of-fitting), size, and material along side of each pipe, e.g. 150 L.F. - 8" D.I.. Pipe material can be listed in a general note in lieu of listing along each pipe.

BB. Dimension existing and new main locations from right-of-way line and/or property line, or label stations and offsets.

CC. Blocking

Provide thrust blocking at all fittings and bends in accordance with the City standards. ~~Provide anchor blocking at all fittings and bends in accordance with the City Standards. All blocking shall be designed by the Developer's Engineer.~~ At vertical bends, pipe shall be restrained a minimum of 36' (2 joints) from each side of bend. Reduced-size concrete blocks shall be installed at bends. No change in pipe direction or diameter shall occur within 36' of the vertical bend. In addition, bends, tees, reducers, etc., beyond the 36' limit, shall be restrained with standard blocking. Where this criteria cannot be met, plans should call for vertical blocking without joint restraint, or a restraint method should be designed and detailed on the plan.

- Check if special blocking or joint restraint designs are necessary (e.g. poor soil, conflicting utility, etc.).
- Show all blocking on any detail drawing that shows vertical bends.
- See Approved Materials List for joint restraint methods, other than concrete blocking.

DD. Drawings shall reference distance to nearest existing valve and/or hydrant from new point of connection to existing watermain.

EE. Where hydrants are not available, provide temporary 2" blow off assemblies for testing and disinfection of new 8" watermains or 4" blow off assemblies for 12" or larger watermains. Place blow-off at high end of line, where possible.

FF. Cap end of existing water lines to be abandoned as follows:

- Asbestos cement lines: use end cap coupling.
- Cast or ductile iron lines: use MJ cap or plug.

GG. Pressure reducing station plans should show location of pressure relief discharge pipe and discharge point of floor drain piping (drain to daylight or sump pump if drain to daylight is unavailable). Pressure relief discharge pipe shall be shown at a location that will not be subject to damage or erosion during discharge of water (to storm system if available).

HH. All water vaults (water service, backflow device, pressure reducing station, etc.) shall include designs for floor drain piping draining to daylight. Discharge point of vault floor drains shall be shown on the plan. Where vault floor drain cannot drain to daylight, consult with the City during project design review to determine the best alternative to a daylight drain (to storm if necessary).

6.1.04 WATER GENERAL PLAN NOTES

The following is a listing of General Notes that should be incorporated on the first water plan sheet. All the notes on the list may not pertain to every project. The Engineer should include only those notes that are relevant to the project and may omit non-relevant notes. If additional notes are needed for specific aspects, they should be added after the General Notes.

Water General Notes: ← space or delete

1. All work shall conform to City of Black Diamond City Engineering Standards and the Developer Extension Agreement.

2. All pipes shall be cement lined, ductile iron class 52 unless otherwise shown. Minimum size water line is 8".

3. All pipe and fittings not to be disinfected in place shall be swabbed with 1% available chlorine solution prior to installation.

4. The new watermain shall be connected to the existing system only after new main is pressure tested, flushed, disinfected, and satisfactory bacteriological sample results are obtained.

5. After disinfecting the watermain, chlorinated water shall be disposed of in a manner that does no physical or environmental damage to property, streams, storm sewers or any waterways.

6. Watermain shut-off shall be coordinated with the City's Utilities Superintendent for preferred timing during flow control conditions. Watermain shut-offs shall not be scheduled to take place on Fridays, or on the day before a City holiday, unless otherwise approved by the City.

7. The locations of all existing utilities shown hereon have been established by field survey or obtained from available records and should therefore be considered approximate only and not necessarily complete. It is the sole responsibility of the contractor to independently verify the accuracy of all utility locations shown, and to further discover and avoid any other utilities not shown hereon which may be affected by the implementation of this plan.

8. Deflect the watermain above or below existing utilities as required to maintain 3' minimum cover and 12" minimum vertical clearance between utilities unless otherwise specified.

9. The watermain shall be installed only after the roadway subgrade is backfilled, graded and compacted in cut and fill areas.

10. Trench backfill of 5/8"-minus crushed rock and surface restoration of existing asphalt pavement shall be as required by these standards (see Trench Restoration detail).

11. All fittings shall be blocked per Standard Detail unless otherwise specified.

12. All water meters shall be 5/8" x 3/4" unless otherwise specified.

13. When working with asbestos cement pipe, the Contractor is required to maintain workers' exposure to asbestos material at or below the limit prescribed in WAC 296-62-07705.

14. Call 1-800-424-5555 a minimum of 48 hours before construction for utility locations.

15. Uniform plumbing code requires the installation of privately owned and operated pressure reducing valves where the operating pressure exceeds 80 psi.

16. The Contractor shall use a vacuum street sweeper to remove dust and debris from pavement areas ~~as directed by the Engineer~~. Care shall be taken to control fugitive dust. Flushing of streets shall not be permitted. delete

17. Before commencement of trenching, the Contractor shall provide erosion control measures in accordance with these standards and the Department of Ecology requirements.

18. Abandonment of existing water services shall be accomplished as follows:

    a. Remove existing service saddle from water main and replace with new stainless steel repair band, Romac SS2, Romac Service Saddle 101S, or approved equal (will not be required when water main is to be abandoned prior to service demolition).

    b. Remove and return existing meter, setter and meter box to the City of Black Diamond Water Department.

    c. Cap or crimp (if copper) existing service line to be abandoned in place, each end.

19. Where new utility line crosses below an existing AC main, the AC pipe shall be replaced with DI pipe to 3' past each side of the trench. Alternatively, where directed by the Engineer, the trench shall be backfilled with controlled density fill (CDF, aka flowable fill) from bottom of trench to spring line of the AC main.

20. Avoid crossing water or sewer mains at highly acute angles. The smallest angle measure between utilities should be 45 to 90-degrees.

21. Where watermain crosses above or below sanitary sewer, one full length of water pipe shall be centered for maximum joint separation. Encasement may be required at the discretion of the City Engineer.

22. At points where existing thrust blocking is found, minimum clearance between the concrete blocking and other buried utilities or structures shall be 5'.

23. All new buildings and residences shall include in their water service a suitable shut off check valve and PRV ~~unless waived on the application form of the City.~~ Code 1640 Shut off shall be accessibly located on the customer side of the meter setter. SEE Customer Service detail.

6.1.05 PLANNING CRITERIA

6.1.05.1 MAIN EXTENSIONS AND UPSIZING WATER LINES TO PROPERTY

See City of Black Diamond Municipal Code Section 13.04.040 for specific requirements. Watermains shall be extended to the far property line(s) of the property being served. Off-site extensions may be required to hydraulically loop existing and new system. Dead end lines are not permitted, except by approval of the Public Works Director.

6.1.05.2 PIPE SIZING

Minimum water main size is 8" ductile, larger size pipe will be required if shown in the city's current Comprehensive Water Plan or as deemed necessary based on the project demands. Verification of capacity by the developer's engineer may be required at the request of the City.

6.1.05.3 SYSTEM PARAMETERS

A. Water velocity in mains - velocities shall not exceed 10 feet per second during highest demand and fireflow.

B. Distribution System Pressures (Measured at Finished Floor Building Elevation):

Desirable	-	Minimum	50 psi
		Maximum	80 psi
Allowable	-	Minimum	43 psi
		Maximum	125 psi

Minimum 30 psi is allowed for existing systems.

Individual pressure reducing valves are required to be installed by Developer/Owner on all services.

B. Reservoir Replenishment - Facilities (i.e. transmission mains, pump stations) shall be sized to enable storage facilities to be refilled within 3 days after an emergency or major fire.

6.1.05.4 FIREFLOW REQUIREMENTS

Fireflow requirements shall be as determined by City of Black Diamond. Insert table 4.15 out of water comp plan Page 4-16

The City will determine available fireflow using its computer simulated model. The Developer/Owner shall be responsible for all costs associated with project-specific computer modeling.

Minimum system pressure during fireflow analysis is 20 psi throughout the system.

6.1.06 VALVING

600' maximum distance between valves on distribution mains.

Provide a valve at each end of an easement, except when the developer can demonstrate to the City's satisfaction that it would be impractical.

At watermain intersections, valves shall be placed on 3 out of 4 legs at each cross, and 2 out of 3 legs at each tee (unless tapping an existing watermain).

Additional valves may be required for area isolation.

Air/vacuum relief valves shall be installed at local high points in watermain.

Only one valve is required on the tee serving a fire hydrant.

6.1.07 FIRE HYDRANTS

The following information is provided as a guideline to be used during design. The final number of hydrants and their location shall be approved by the City of Black Diamond and the City's Fire Marshall.

A. ~~Guard posts are to be used only in parking lots when no curbs are present or in exposed areas in parking lots.~~ delete same longer

B. Pipes connecting hydrants to mains shall be 6" in diameter and not longer than 50'.

C. Between the time that the fire hydrant is installed and the completed facility is placed in operation, the fire hydrant shall at all times be wrapped in burlap, or covered in some other suitable manner to clearly indicate that the fire hydrant is not in service.

D. Fire hydrant location:

Single-family residential: Spacing = 500' apart. Coverage =250' from front property line.

Multi-family/commercial: As determined by the fire department,

E. 3' minimum clearance shall be provided around hydrant for operation.

F. When fire hydrants are located in parking lots, or other areas subject to vehicular traffic, hydrant guard posts shall be installed as follows:

Hydrant guard post shall be installed in areas where the hydrant is not protected by a cement concrete curb on all sides where vehicles may have access.

6.1.08 PIPE CLASS / PROTECTION / COVER

A. Pipe shall be ductile iron, class 52. All ductile iron pipe shall conform to ANSI/AWWA C151/A21.51 standards. The pipe shall be cement lined to a minimum thickness of 1/16".

B. Ductile iron pipe shall be encased in a steel or ductile iron casing when crossing under improvements where the ability to remove and replace pipe without disturbance to the improvement is needed. Casings are required when:

- Crossing under rockeries over 5' high.
- Crossing under retaining wall footings over 5' wide.
- Crossing under reinforced earth retaining walls (both wall and reinforcing material).

Casings shall extend a minimum of 5' past each edge of the improvement, or a distance equal to the depth of pipe whichever is greater. The carrier pipe shall be supported by casing spacers and filled with sand.

Minimum clearance between bottom of rockery and top of pipe or casing shall be 2'. The trench shall be backfilled with crushed rock when clearance is less than 3'.

C. Watermain depth of cover:
- 3' minimum from final grade
- 6' maximum from final grade

D. Building setback requirements:
- ~~5' minimum from covered parking to watermain.~~ delete
- 10' minimum from building (and retaining walls) to watermain.
- 20' minimum easement shall be provided between buildings.
- ~~When passing between buildings which are 25' apart or less, ductile iron pipe shall be installed with 2' of pipe cover (5' beyond the limits of each building).~~ delete

6.1.09 CLEARANCES / OTHER UTILITIES

A. All clearances listed below are from edge-to-edge of each pipe and/or appurtenances.

B. Water services and sewer stubs shall have at least 10' horizontal separation.

C. Check for crossing or parallel utilities. Maintain minimum vertical and horizontal clearances. Avoid crossing at highly acute angles (smallest angle measure between utilities should be between 45 and 90-degrees).

D. At points where thrust blocking is required, minimum clearance between the concrete blocking and other buried utilities or structures shall be 5'.

E. Horizontal clearances from watermain:

Cable TV	5'
Gas	5'
Power	5'
Storm	5'
Sanitary	10'
Telephone, Fiber Optics	5'

F. Vertical clearances from watermain:

Cable TV	12"
Gas	12"
Power	12"
Storm	12"
Sanitary	18" below the water main
Telephone, Fiber Optics	12"

G. Where watermain crosses above or below sanitary sewer, one full length of water pipe shall be used with the pipes centered for maximum joint separation. Washington Department of Ecology criteria will also apply.

H. Send letter and preliminary plan to existing utilities to inform them of new construction. Request as-built information and incorporate into plans. At minimum the following utilities should be contacted:

Cable Television
Natural Gas
Power
Sanitary Sewer
Storm Drainage
Telephone, Fiber Optics

I. Draft plans shall be sent to the above listed utilities to allow coordination of projects.

6.1.10 SLOPES

A. Vertical bends shall be used when joint deflection would exceed one-half of pipe manufacturer's recommended maximum deflection.

B. Pipe joints shall be restrained where slopes are 20% or greater. Joint restraint on slopes shall be megalug restrainer for mechanical joint fittings and tie rod/retainer clamp assemblies for DI push on joints or other methods from approved materials list. Anchor blocks shall be used in conjunction with joint restraint where slopes are 20% or greater.

C. Timber baffle/hill holders shall be required on unpaved slopes that exceed 20%, minimum spacing shall be 20' on center.

6.1.11 CONNECTIONS TO EXISTING SYSTEM

A. Cut-in connections are the preferred method of connections to the existing system. When tapping water mains use stainless steel or full-bodied cast iron Mueller-type tapping tee.

B. Size-on-size tapping tees are not allowed.

C. Connections to existing mains smaller than 8" diameter shall be made by cutting in a tee, unless otherwise approved by the City.

6.1.12 EASEMENTS

A. Show easements on plans and identify width.

B. Show easements on all private property. If easement is defined as a constant width on each side of watermain, then show a segment of the easement and label as typical (typ).

C. All easements shall be a minimum of 15' width, unless otherwise approved or required by the City. 20' minimum easements shall be provided between buildings on the same property, or through a side yard.

D. Also see Section 6.1.07.D. "Building Setback Requirements".

6.1.13 SERVICES

A. The minimum water service size shall be 1" diameter minimum from main to meter. Minimum allowable water meter size shall be 5/8" x 3/4". Check that minimum pressure can be maintained when service is flowing at anticipated maximum levels. If friction losses will cause pressure at building to drop below minimum, increase service line size as necessary to raise pressure.

B. Private water services shall be 1" minimum H.D. poly pipe with no joints. Sand may be utilized as an acceptable bedding material for services on private property. Maximum bends shall be in accordance with manufacturer's specifications.

B. Show location of water services on plan and indicate size. Sizes shall be determined by the Developer per the Uniform Plumbing Code. ~~Minimum meter size is 5/8" x 3/4".~~ delete Same language in A.

C. Irrigation for commercial, institutional or industrial uses shall be by separate water meter installed by the City at the applicant's cost. Location and size of irrigation service shall be approved by the City. See dual service detail.

D. Static service pressures at ground floor elevation shall be determined at all lots/buildings to ensure compliance with system pressure standards. Minimum system pressure shall be 30 psi as measured at the meter location. System pressures in the range of 40-60 psi are desired.

E. Plan shall identify lots/buildings where builder/owner should install individual pressure reducing valves. Individual pressure reducing valves are required on customer side of service lines (after water meter box) when service pressures exceed 80 psi.

F. 2" and larger service installations shall include an adequate bypass.

6.1.14 BACKFLOW PREVENTION

"Per City Code 13.04.070, irrigation systems, fire sprinkler systems, and other water uses which may or will cause the contamination of the potable water supply by backflow, shall be required to install approved backflow prevention assemblies, and/or otherwise meet the requirements of the WAC 246-290-490 "Cross Connection Control Regulation in Washington State", and the recommendations of the PNWS-AWWA Cross Connection Control Manual, latest edition. Requirements may include premise, facility, or fixture isolation, or a combination of such, depending upon the degree of hazard. All backflow prevention assemblies installed shall be on the Washington State DOH list of approved backflow prevention assemblies, most recent edition at the time of installation, and shall be installed per the Standard Details.

Fire sprinkler system connections to the City's water system shall be owned and maintained by the property owner, beginning immediately downstream of the gate valve where the system connects to the City's water main.

All commercial buildings shall be required to install Reduced Pressure Backflow Assemblies as approved by the Washington State Department of Health.

The backflow prevention assembly on fire sprinkler system connections shall be located as close to the serving water main as possible, either on the owner's property or an easement dedicated to the owner's property.

Interior backflow prevention, when permitted, must meet the Uniform Plumbing Code requirements as administered by the Building Division. Such backflow prevention must also meet the requirements of the Black Diamond Utilities Department.

Multi-family projects require a double check valve assembly. Multi-family projects that have eight or more units will require a bypass with equal backflow prevention to avoid loss of service during maintenance and repair.

6.2 WATER MATERIALS

6.2.01 GENERAL

All materials shall be new and undamaged. The same manufacturer of each item shall be used throughout the work.

Where reference is made to other specifications, it shall be the latest revision at the time of construction, except as noted on the plans or herein.

All materials not specifically referenced shall comply with applicable sections of ANSI, ASTM, AWWA or the WSDOT Standard Specifications.

Approved manufacturers and model numbers of various materials are listed in the Approved Water Materials List published by the City. When specific manufacturers or models are listed, no substitutions will be allowed without prior approval by the City.

6.2.02 WATER PIPE

Water pipe shall be ductile iron pipe, minimum thickness Class 52, cement-lined unless otherwise specified and shall conform to ANSI/AWWA C151/A21.51 or as shown on plans.

Any installation requiring polyethylene encasement for ductile iron pipe, the encasement shall be installed in accordance with ANSI/SWWA C105/A2.5.

Rubber gasket pipe joints to be push-on-joint (Tyton) or mechanical joint (M.J.) in accordance with ANSI/AWWA C111/A21.11, unless otherwise specified.

Flanged joints shall conform to ANSI B16.1, class 125 drilling pattern, rated for 250 psi working pressure.

Standard thickness cement lining shall be in accordance with ANSI/AWWA C104/A21.4.

The Contractor shall furnish certification from the manufacturer of the pipe and gasket being supplied that the inspection and all of the specified tests have been made and the results thereof comply with the requirements of the above referenced standards.

6.2.03 WATER SAMPLING STATION delete

One water sampling station shall be provided for developments in size of five to ten lots. The water sampling shall be ~~furnished and~~ installed at a location determined by the City. One additional sampling station shall be provided for each additional 50 lots or portion thereof. Model #88 Eclipse Sampling Station with aluminum enclosure shall be used.

→ if required

6.2.04 FITTINGS

All water main fittings shall be ductile iron, short body, cement lined, and for pressure rating of 350 psi for mechanical joint fittings and 250 psi for flange joint fittings, unless otherwise noted. Metal thickness and manufacturing process shall conform to applicable portions of ANSI/AWWA C110/A21.10. Mechanical joint, ductile iron, compact fittings 24" and less shall be in accordance with ANSI/AWWA C153/A21.53. Flanged fittings, cast or ductile iron, shall conform to ANSI B16.1, class 125 drilling pattern.

Standard cement lining shall be in accordance with ANSI/AWWA C104/A21.4.

Rubber gaskets for push-on-joints (Tyton) or mechanical joint (M.J.) shall be in accordance with ANSI/AWWA C111/A21.11.

Gasket material for flanges shall be neoprene, Buna N, chlorinated butyl, or cloth-inserted rubber.

Type of connections shall be specified as push-on joint (Tyton), mechanical joint (M.J.), plain end (P.E.), flanged (FL), and threaded.

Approved manufacturers of brass fittings and valves up to 2" sizes include Ford, Mueller, and James Jones Company (except James Jones meter setters, which are not approved).

6.2.05 GALVANIZED IRON PIPE

Where galvanized iron pipe is specified, the pipe shall be standard weight, Schedule 40, steel pipe per Standard Specification for black and hot-dipped, zinc-coated (galvanized) welded and seamless steel pipe for ordinary uses (ASTM A-120). Fittings shall be screwed malleable iron galvanized per ANSI B16.3. Galvanized pipe shall be used only for dry pipe in pressure relief vacuum breaker assemblies.

6.2.06 COUPLINGS

Flexible coupling and transition coupling cast components shall be ductile iron. Center rings and end rings shall be ductile iron in accordance with ASTM 536-80, Grade 65-45-12.

Gasket material shall be virgin SBR in accordance with ASTM D2000 3 BA715.

Bolts shall be high strength, low alloy steel trackhead bolts with national course rolled thread and heavy hex nuts. Steel shall meet ANSI/AWWA C111/A21.11 composition specifications.

Approved couplings include Romac, Smith-Blair (Rockwell), Mueller MaxiFit, and Mueller MaxiStep.

6.2.07 ADAPTERS

All flange by mechanical joint (FL x MJ) adapters shall be ductile iron.

6.2.08 BOLTS IN PIPING

Bolts shall be malleable iron, Cor-ten, or stainless steel.

Bolts and nuts for flanged pipe and fittings shall conform in size and length with ANSI/AWWA C115/A21.15. T-bolts shall be malleable iron or Cor-ten in accordance with ANSI/AWWA 111/A21.11. Stainless steel bolts shall meet the requirements of ASTM A-193, Grade B8. Shackle rods, nuts and washers shall be hot-dipped galvanized in accordance with AASHTO M 232 and coated thoroughly with asphaltic material. Stainless steel nuts, bolts and washers shall be type 304.

6.2.09 FLANGE GASKETS

Gasket material shall be neoprene, Buna N, chlorinated butyl, or cloth inserted rubber.

6.2.10 GATE VALVE

The minimum requirement for all gate valves, 2" to 12" shall conform to ANSI/AWWA C509-87 Standards for resilient-seated, high strength, bronze stemmed gate valves. The valves shall be iron-bodied, iron disk completely encapsulated with polyurethane rubber and bronze, non-rising stem with "O" ring seals. The polyurethane sealing rubber shall be fusion bonded to the wedge to meet ASTM tests for rubber to metal bond ASTM D429. The valves shall open counter-clockwise and be furnished with 2" square operating nuts except valves in vaults shall be furnished with handwheels. All surfaces, interior and exterior shall be fusion bonded epoxy coated, acceptable for potable water. Valves shall be rated 250 psi or higher.

The valves shall be set with stems vertical. The axis of the valve box shall be common with the axis projected off the valve stem. The tops of the adjustable valve boxes shall be set to the existing or established grade, whichever is applicable.

Valves 2" to 12" shall be Dresser, M&H, or Waterous. Valves larger than 12" must be approved by the City Engineer.

6.2.11 VALVE BOX

Each valve shall be provided with an adjustable two-piece cast iron valve box of 5" minimum inside diameter. Valve boxes shall have a top section with a 18" minimum length. The valve boxes lid shall be cast iron, 3 ½" deep, with recessed lifting handle, and the letter "W" cast into it. Valve box riser ears shall be installed with the ears parallel to the direction of water flow.

The valve box shall be set in a telescoping fashion around the 5" pipe cut to the correct length to allow future adjustment up or down.

6.2.12 VALVE OPERATING NUT EXTENSION

Use where valves are installed more than 3' below finished grade. Extensions are to be a minimum of 1' with only one extension per valve.

6.2.13 BUTTERFLY VALVE

Butterfly valves shall conform to ANSI/AWWA C504, Class 150B. Valves in chambers shall have a manual handwheel operation. Buried valves shall have a stem extension with AWWA 2" operating nut and suitable valve box. where to use on larger than 12"?

6.2.14 TAPPING SLEEVES AND TAPPING VALVES

The tapping sleeves shall be rated for a working pressure of 200 psi minimum and furnished complete with joint accessories. Tapping sleeves shall be constructed in two sections for ease of installation and shall be assembled around the main without interrupting service.

Mechanical joint style sleeves shall be ductile iron and is required for size-on-size connection to cast iron pipe. Mechanical joint sleeves shall be cast by Clow, Dresser, Mueller, Tyler, U.S. Pipe, or approved equal.

Fabricated steel style sleeves shall be fusion bonded coated, acceptable for potable water, and is acceptable for A.C. pipe taps only. Fabricated steel sleeves shall be manufactured by JCM, Romac or approved equal.

Tapping valves shall be provided with a standard mechanical joint outlet for use with ductile iron pipe and shall have oversized seat rings to permit entry of the tapping machine cutters. In all other respects, the tapping valves shall conform to the resilient seat gate valves herein specified with regards to operation and materials.

The installation of the tapping sleeves and valves shall be performed by a qualified contractor such as Spear Tap, Pacific Water Works, or owner approved equal.

6.2.15 AIR AND VACUUM RELEASE VALVE

Combination Air Valves shall be of the single housing style that combines the operating features of both an Air/Vacuum and Air Release Valve.

The Air/Vacuum portion shall automatically exhaust large quantities of air during the filling of the pipeline and automatically allows air to re-enter the pipeline when the internal pressure of the pipeline approaches a negative value due to column separation, draining of the pipeline, power outage, pipeline break, etc.

The Air Release portion shall automatically release small pockets of air from the pipeline while the pipeline is in operation and under pressure.

The Combination Air Valve shall have minimum 1" NPT inlet and outlet connections and be able to withstand a working pressure of 300 PSI.

The valve body and cover shall be cast iron with stainless steel float.

Acceptable air and vacuum release valves include APCO No. 143-C, Val-Matic No. 201C, or Crispin UL10.

6.2.16 PRESSURE REDUCING STATION

The Station shall be sized by the Engineer using the City's hydraulic model. A pressure reducing valve shall maintain constant downstream pressure regardless of varying inlet pressure. Pressure reducing stations shall be GCS Systems Incorporated Pre-Assembled, Pre-Tested packaged systems. or equal

6.2.17 FIRE HYDRANT

All fire hydrants shall be approved by the National Board of Fire Underwriters and conform to AWWA Specification C502, break-away type, in which the valve will remain closed if the barrel is broken. The hydrant barrel shall have a diameter of not less than 8-1/2", and the valve diameter shall be not less than 5-1/4". Each hydrant shall be equipped with two 2-1/2" hose ports (National Standard Thread), and one 4" pumper connection (National Standard Thread), with permanent Storz hydrant adaptor and Storz blind cap. Each hydrant shall be equipped with a suitable positive acting drain valve and 1-1/4" pentagonal operating nut (counter-clockwise opening). The fire hydrants shall be M&H "Reliant" #929 or City approved equal. Equivalent fire hydrants shall utilize parts and tools as required for the M&H hydrants in order to facilitate operations and maintenance. Is this a standard size

The holding spools between the gate valve and fire hydrant shall be made from 6" Class 52 ductile iron pipe, 0.34" wall thickness. The hydrant and gate valve shall be anchored in place using holding spools and mechanical joint restraint device. Holding spools with length in excess of 17' shall be supplied with an M. J. sleeve and mechanical joint restraint device.

The fire hydrants shall be painted ~~per fire marshal requirements~~ delete with two (2) coats of Preservative Brand caterpillar or international yellow paint. After installation, they shall be wire brushed and field painted with two additional coats of the same yellow enamel paint. Distance to the hydrant valve shall be clearly stenciled in black numerals 2" in height on the fire hydrant below the pumper port.

6.2.18 FIRE HYDRANT GUARD POSTS

Hydrant guard posts shall be 6" diameter concrete filled ductile iron pipe class 52, 6' long. Pipe shall be painted with two (2) coats of Preservative Brand caterpillar or international yellow paint.

6.2.19 METER SETTER

Meter setters shall have double purpose couplings, unless otherwise specified, and angle meter valve with drilled wings for padlock, 12" high. Equal to Ford VBH92-12W-11-33-A with a PVC spacer to reinforce the setter and to keep it aligned.

2" meter setters shall have vertical inlet and outlet tees with 1" lateral bypass, flanged ball meter valve on inlet, flanged key meter valve on outlet, ball valve on bypass, and padlock wings on all valves.

Acceptable meter setters are Ford 90 Series – VBH 92-12W-11-33-A, VBH 86-12B-11-66, or VBH 87-12B-11-77.

1-1/2" Angle meter valves for irrigation shall be type Ford FV13-666W or Mueller 1-1/2" H-14286.

2" Angle meter valves for irrigation shall be type Ford FV13-777W or Mueller 2" H-14286.

6.2.20 CORPORATION STOP / Service Saddles

Corporation stops shall be brass in accordance with AWWA Standard C800 with AWWA tapered thread (CC) inlet by compression fitting for poly iron pipe-size outlet, complete with coupling nut for poly service.

Corporation stops for 1", 1 1/2" and 2" tap shall be the ball valve type.

Service saddles for a 1" tap shall be type Romac 101S. Service saddles for a 1-1/2" tap or 2" tap shall be type Romac 202S. For use on PVC & asbestos pipe, Romac 101 for Ductile

1" Corporation stops shall be Ford F10000, FB1000, or Mueller No. H-15008.
1-1/2" Corporation stops shall be Ford Ballcorp FB400 or Mueller No. H-15008.
2" Corporation stops shall be Ford Ballcorp FB400 or Mueller Oriseal No. H-9968.

6.2.21 METER BOX

For 5/8", ¾", or 1" Water Meter, a high-density Polyethylene homogeneously molded as one unit meter box, Model MSBCF1324-18XL as manufactured by Mid-State Plastics, Inc. or approved equal (equal meeting the exact same measurements so lids are

interchangeable) shall be required. For 1-1/2" or 2" service, Model MSBCF1730-18XL shall be utilized. Ductile iron lids as manufactured by Carson Industries shall be required. All lids shall ~~be~~ have a 1-3/4" touch read hole, with a meter inspection lid.

6.2.22 PLASTIC SERVICE PIPE

Plastic service pipe shall be 1" Class 200 SDR-7. All connections with plastic pipe shall be made utilizing stainless steel inserts along with couplings or adapters. No joints will be allowed from the corporation stop to the setter.

Materials: Pipe shall be manufactured from ultrahigh molecular weight, high density polyethylene resin PE 3408. It shall meet the requirements of Type III, Class C, Category 5-P34-08 polyethylene as defined by ASTM specification D-1248 "Polyethylene Plastics Molding material", and pipe shall conform to product standard 11-70 or ASTM-D-2239.

Marking: Pipe shall be permanently imprinted with manufacturer's brand name, pipe size, product standard (pipe only), identification of the NSF approval, ASTM specification, recommended working pressure, and production code. Letters shall be at least 3/16 in. high and should appear on the pipe at intervals no less than every 24".

Dimensions: Pipe dimensions and tolerances shall correspond with the values listed in U.S. Department of Commerce PS-11-70 or ASTM-D-2239 for flexible plastic pipe with a standard dimension ratio (SDR) of 7 I.P.S.

Pressure: Pipe shall have working pressure of 200psi at 73.4°F.

Plastic service pipe shall be Drisco pipe 5100 ultra line or approved equal.

6.2.23 PIPE INSULATION

All pipe for above ground service shall have 2" thick foam insulation with an aluminum jacket. Aluminum jacketing shall be manufactured from Type 3003 or 5005 alloy; temper of H-14 gauge 0.016. Foam insulation shall conform to the following:

Foam insulation shall be closed cell polystyrene foam manufactured by extrusion process. Foam insulation shall be odorless, chemically inert, with no food value and shall be resistant to ground chemicals and microorganism. Foam insulation shall conform to the properties included in the following table.

PROPERTIES	ASTM TEST	AVERAGE
Thermal Conductivity "K" Factor BTU HR./SQ. FT./+F/IN. Mean Temp. 40+	C518-70 & C177-63	0.23
Moisture Resistance Water Absorption % By Volume	D2842-69	0.8
Water Vapor Transmission (Parm-Inch)	C355-64	0.9
Physical Density (lb./cu. ft.)	C303-56	1.8
Compressive Strength (PSI) Perpendicular to Board Face (5% Deflection or Yield)	D1621-64	40

6.2.24 CONCRETE BEDDING AND BLOCKING

Bedding, blocking, encasement, or slope anchor concrete shall be mixed from materials acceptable to the City Engineer and shall have a 30-day compressive strength of not less than 2,500 psi. The mix shall contain five (5) sacks of cement per cubic yard. All concrete shall be mechanically mixed. All bolts and nuts shall be poly-wrapped prior to pouring concrete.

6.2.25 JOINT RESTRAINT

Acceptable joint restraint systems are as follows:

EBAA Iron (MEGALUG Series 1100)
Griffin Pipe Products Company (Snap-Lok, Bolt-Lok)
Romac (Grip Ring)
Star National Products (Shackle Products)
US Pipe (TR FLEX)
Uni-Flange Corporation (Series 1300 and 1390)

Where shackle restraint is used, all parts shall be hot-dipped galvanized.

6.2.26 INDIVIDUAL PRESSURE REDUCING VALVES

Individual pressure reducing valves shall be installed on individual services. Acceptable valves for residential use are Wilkins 600 with built-in bypass. Acceptable pressure reducing valves for commercial use are Wilkins 600 with built-in bypass. Acceptable pressure relief valves for commercial use are CLA-VAL 55F.

6.2.27 REDUCED PRESSURE BACKFLOW ASSEMBLY

All Reduced Pressure Backflow Assemblies shall be as listed on the most current copy of "Accepted Cross-Connection Control Assemblies" published by Washington State Department of Health (D.O.H.). The assembly shall include a tightly closing resilient seated shut-off valve on each end of the body and each assembly shall be fitted with four properly located resilient seated test cocks.

6.2.28 REDUCED PRESSURE BACKFLOW ASSEMBLY WITH DETECTOR

This assembly shall include a line-sized D.O.H. approved (listed on the most current copy of "Accepted Cross-Connection Control Assemblies" published by Washington State D.O.H.) Reduced Pressure Backflow Assembly with a parallel 3/4" meter and 3/4" D.O.H. approved Reduced Pressure Backflow Assembly. Each assembly shall include a tightly closing resilient seated shut-off valve on each end of the body and each assembly shall be fitted with four properly located resilient seated test cocks.

6.2.29 DOUBLE CHECK VALVE ASSEMBLY

All Double Check Valve Assemblies shall be as listed on the most current copy of "Accepted Cross-Connection Control Assemblies" published by Washington State D.O.H. The assembly shall include a tightly closing resilient seated shut-off valve on each end of the body and each assembly shall be fitted with four properly located resilient seated test cocks.

6.2.30 DOUBLE CHECK VALVE ASSEMBLY WITH DETECTOR

This assembly shall include a line sized D.O.H. approved (listed on the most current copy of "Accepted Cross-Connection Control Assemblies" published by Washington State D.O.H.) Double Check Valve Assembly with a parallel 3/4" meter and 3/4" D.O.H. approved double check Valve Assembly. Each assembly shall include a tightly closing resilient seated shut-off valve on each end of the body and each assembly shall be fitted with four properly located resilient seated test-cocks.

6.2.31 BACKFLOW DEVICE RESILIENT SEATED SHUT-OFF VALVES

Each valve shall be marked with model number with designation of resilient seat; such as "RS" or "R", which must be cast, molded, or affixed onto the body or bonnet of the valve. All ferrous-bodied valves shall be coated with a minimum of 4 mls. of epoxy or equivalent polymerized coating. 2" and smaller R.P.B.A.s and D.C.V.A.s shall use ball valves, and all 2-1/2" and larger R.P.B.A.s and D.C.V.A.s shall use resilient seated gate valves for domestic supply and resilient seated O.S. and Y. valves for firelines.

The minimum requirements for all resilient seated gate valves shall, in design, material and workmanship, conform to the standards of AWWA C509.

6.2.32 STEEL CASING

Steel casing shall be black steel pipe conforming to ASTM A53.

Casing wall thickness shall be 0.250" for casings 24" or less in diameter and 0.375" for casings over 24" in diameter.

Carrier pipe for water shall be Ductile Iron, Class 52.

6.2.33 CASING SPACER

Casing spacer shell shall be manufactured in two pieces from heavy gauge T-304 stainless steel or 14 gauge hot rolled pickled steel joined with ribbed flanges. The shell shall be lined with a PVC liner 0.090" thick with 85-90 durometer.

Carbon steel casing spacer shell and risers shall be coated with a heat fused polyvinyl chloride coating, or hot-dip galvanized.

Polyvinyl Chloride Coating Specifications:

Durometer - Shore A2 (10 Sec.) (ASTM D1706-61T)	-	80
Maximum operating temperature (constant)	-	150° (65°C)
Electrical properties (ASTM D149-61) (short time .010")	-	1380 V/Mil

Resistance:

Salt spray (ASTM B117)	-	Excellent
Acids	-	Good
Alkalies	-	Good

All nuts and bolts shall be 18-8 stainless steel.

Runners shall be supported by risers made from heavy gauge T-304 stainless steel or 12 gauge hot rolled pickled steel.

Runners shall be ultra high molecular weight polymer with high resistance to abrasion and sliding wear.

TYPICAL DATA			
PROPERTY	ASTM METHOD	UNITS	VALUE
Specific Gravity	D-792	gm/cc	.934
Tensile Strength (Break)	D-638	PSI	3500
Elongation (Break)	D-638	%	380
Izod Impact	D-256	Ft.Lbs./in. of notch	No break
Hardness	D-2240	Shore D	67
Coefficient of Friction	D-1894	-	0.11 - 0.13
Heat Distortion Temp. 66 PSI	D-648	C	88
Coefficient of Thermal	D-696	F-1	5.5 x 10-5
ABRASION CHARACTERISTICS:			
Taber Abrasion	D-1044	Mg/loss	N
Sand Slurry *			7

**Sand slurry condition - 7 hours in one part sand/ one part water slurry at 1725 RPM. Carbon steel - 100, Hifax - 15. The lower the value, the more resistant to abrasion.*

Casing spacers shall be "center positioning" type. Height of risers and runners combined shall be sufficient to keep the carrier pipe bell, couplings, or fittings at least 0.75" from the casing pipe wall at all times and provide at least 1" clearance between runners and top of casing wall, to prevent jamming during installation.

Acceptable casing spacers are:

Pipeline Seal and Insulator Co.:

8" band, carbon steel with fusion-bonded coating, Model C8G-2

12" band, carbon steel with fusion-bonded coating, Model C12G-2

Cascade Waterworks Mfg. Co.:

Stainless Steel or hot-dip galvanized carbon steel Casing Spacers (catalog number depends on size)

Advance Products & Systems, Inc.:

8" band, stainless steel, Model SSI8

12" band, stainless steel, Model SSI12

8" band, carbon steel with fusion-bonded coating, Model SI8

12" band, carbon steel with fusion-bonded coating, Model SI12

Acceptable Casing End Seals are:

Pipeline Seal and Insulator Co.:

Standard Pull-on (Model S)

Custom Pull-on (Model G)

Cascade Waterworks Mfg. Co.:

CCES End Seal

Advance Products & Systems, Inc.

Molded End Seal, Model AM

6.3 WATER METHODS OF CONSTRUCTION

6.3.01 GENERAL CONSTRUCTION REQUIREMENTS

The improvements shall be constructed as shown on the plans and in accordance with these Standards, Standard Details, and Standard Specifications. Manufacturer's equipment shall be installed in compliance with specifications of the manufacturer, except where a higher quality of workmanship is required by the plans and specifications. All materials and work shall be in strict accordance with any applicable regulations of the State, County and local authorities. The Contractor shall arrange for such inspection by these agencies as may be required and shall submit evidence of their approval, if requested by the Engineer.

The plans may show the approximate locations of various existing utilities known to the engineer, such as gas lines, water mains, storm drainage, power lines, telephone lines, television cables, and other obstructions based on information obtained from various sources. This information is not guaranteed to be accurate, and the Contractor is directed to check for interferences and obstructions by inquiry from the different utilities and by underground exploration ahead of his regular excavation.

The Contractor shall request field locates and notify the owners of underground facilities about the scheduled commencement of excavation through a one-call number:
(1-800-424-5555).

Notice shall be made to owners of underground utilities not less than three (3) business days or more than ten (10) business days prior to scheduled date of commencement of excavation.

The Contractor shall excavate around and under service pipes with special care and shall support and maintain them in service. Where it is necessary to cut, move or reconnect any service lines, arrangements shall be made with the respective utility.

6.3.02 ALIGNMENT & STAKING

All work done under a Project shall be to the lines shown on the plans or to approved revisions. All surveying and/or staking shall be performed by a surveying or engineering firm currently licensed by the State of Washington to perform said tasks. All construction staking shall be inspected by the City prior to construction. Cut sheets shall be delivered to the City prior to the commencement of construction. Video or DVD footage shall be provided to the City showing the pre-existing condition of the construction site and all staking of all proposed fire hydrants, blow-offs, air vac, tees, elbows, bends, valves, and meters, etc.

The minimum staking of water systems shall be as follows:

A. Provide staking sufficient to satisfy City Utilities Superintendent. In new plat development roadway centerline staking must be readily identifiable.

B. Stake locations of all proposed fire hydrant, blow-off, air-vac, tees, elbows, bends, valves, meters, etc. prior to construction.

move to section 6.3.17

6.3.03 CONNECTION TO EXISTING WATERMAIN

Points of connection to existing water mains shall be exposed prior to trenching of the new line, and not less than 48 hours prior to the anticipated connection time. The contractor shall notify the City 48 hours in advance prior to any watermain shut-off or connection. Watermain shut-offs shall not be scheduled to take place on Fridays, or on the day before a City holiday, unless otherwise approved by the City. The Contractor shall ensure that the existing fittings are in accordance with the Contract Plans and that the connection can be made in accordance with the Contract Plans. The Contractor shall immediately notify the Engineer if the connection cannot be made in accordance with the plans in order that the connection detail may be revised.

Connection to the existing main shall take place only after the new main is flushed, disinfected, has satisfactorily passed a hydrostatic pressure test, and satisfactory bacteriological sample results are obtained. An approved backflow prevention assembly shall be installed between the existing and new water lines during disinfection and flushing of new main. All connections to the existing system and all testing of the new line must be with the authorization of, and in the presence of, the authorized representative of the City. Opening and closing of valves and use of water from the City's system will be done only by the City. The backflow preventer and supply hose must be disconnected during hydrostatic pressure testing of new main.

Connections may be made to existing pipes under pressure with a tapping machine by determining the size and type of pipe and installing tapping tee to fit complete with tapping gate valve. Where a cut-in is permitted to be made in an existing pipe, the work shall be conducted at such a time and in such a manner as to minimize the interruption of service. Cut-in time must be approved by the City. Necessary pipe, fittings and gate valves shall be assembled at the site ready for installation prior to the shutting-off of water in the existing main. Once the water has been shut off, the work shall be prosecuted vigorously and shall not be halted until the line is restored to service. The interiors of all pipe and fittings to be used in final connection shall be swabbed or sprayed with a 1% available chlorine solution.

Unless specifically provided for elsewhere in these specifications, the Contractor shall have the responsibility of giving at least forty-eight (48) hours notice to the City and affected water customers of intention to disrupt service.

6.3.04 LAYING DUCTILE IRON PIPE

Work shall be accomplished in accordance with AWWA Standard C600 and the manufacturer's recommendation.

Every precaution shall be taken to prevent foreign material from entering the pipe while it is being placed in the line. After placing a length of pipe in the trench, the spigot end shall be centered in the bell and pipe forced home and brought to correct line and grade. The pipe shall be secured in place with select backfill tamped under it. 5/8 minus gravel Precaution shall be taken to prevent dirt from entering the joint space. At times when pipe laying is not in progress, the open ends of pipe shall be closed by a water-tight plug. If water is in the trench when work resumes, the seal shall remain in place until the trench is completely dewatered. No pipe shall be laid in water or when trench conditions are unsuitable.

The cutting of pipe for inserting fittings or closure pieces shall be done in a neat and workmanlike manner, without damage to the pipe or cement lining, and so as to leave a smooth end at right angles to the axis of the pipe. Pipe shall be laid with bell ends facing in the direction of the laying, unless approved or directed otherwise by the City. Wherever it is necessary to deflect pipe from a straight line, the amount of deflection allowed shall not exceed pipe manufacturer's recommendations.

The bottom of the trench shall be finished to grade in such a manner that the pipe will have bearing along the entire length of the barrel. Bolts on mechanical pipe and fittings shall be tightened uniformly with a "Torque" wrench which measures the torque for mechanical joints shall be as follows:

8" - 24" pipe size 3/4" Bolts	60 - 90 ft-lbs torque

Installation of push-on joint (Tyton) pipe shall be in accordance with the manufacturer's instructions.

6.3.05 PIPE ZONE BEDDING AND BACKFILL

Pipe shall be placed on a prepared subgrade of imported material at least 6" deep below the barrel of the pipe and filled around the pipe as shown in the Standard Details. The imported material shall be 5/8" minus crushed rock in conformance with Section 9-03.4(2) of the 2008 WSDOT Standard Specifications. After preparation of the subgrade, bell holes shall be excavated so the pipe, when laid, will have a uniform bearing under the full length of the pipe. The Contractor shall be responsible for adequate support and bedding for the pipe. The trench shall be hand backfilled and compacted from the spring line of the pipe to 6" above the top of the pipe as shown in the Standard Detail. The material shall be placed and compacted to no less than 95 percent of the maximum theoretical density as measured by ASTM D-1557 prior to placement of the next layer.

Where the undisturbed trench below the bedding is unstable, the unstable materials shall be removed and backfilled ~~with 5/8" minus crushed~~ rock as necessary to produce a stable foundation upon which to place the bedding. The Contractor shall be responsible for providing a stable foundation for placing of the bedding.

with a Geotech or engineers recommendation

Boulders, rocks, and other obstructions shall be entirely removed or cut out the full width of the trench and to a depth 6" below the pipe bottom and backfilled as provided above.

Whenever the trench is excavated below the depth required for proper bedding, it shall be backfilled with 5/8" minus crushed rock and compacted.

6.3.06 TRENCH BACKFILL

Trench backfill for waterline construction shall be in accordance with Section 3.3.09 of these Standards. Compaction of backfill from the bottom of the trench to 6" above the top of the pipe shall be as specified in Section 3.3.08, Pipe Bedding.

Backfilling and surface restoration shall closely follow installation of pipe so that not more than 100' are left exposed during construction hours without approval of the City. Backfill shall not be deposited in the trench in any manner which will damage or disturb the pipe or the initial backfill. Compaction of the backfill may be accomplished by mechanical tamper, by vibrating, rolling, jetting, or a combination of these methods, as approved by the City. The Contractor shall provide the services of a testing laboratory acceptable to the Engineer to perform in place density tests to show that the specified density has been obtained. The approval of the compaction method and the achievement of the specified density shall, in no way, relieve the Contractor of responsibility for all repairs caused by settlement of the backfill prior to acceptance and during the two-year period after acceptance of the project.

All trenching shall be backfilled with bank run gravel for trench backfill materials conforming to the WSDOT Standard Specifications Section 9-03.19, unless otherwise approved by the City. The City shall be the sole judge of approving materials to be utilized for backfill. All backfill material shall be free from cinders, ashes, refuse, vegetable or organic material, boulders, rocks or stones, frozen soil, or other unsuitable material.

Backfill shall be compacted to 95% of the maximum density in traveled areas and road prisms, driveways, roadways, shoulders, parking lots or other traveled areas and 90% in all other areas. Backfill compaction shall be performed in 8" to 12" lifts. Compaction test results shall be supplied to the City for review and approval prior to paving.

6.3.07 FIRE HYDRANT INSTALLATION

Fire hydrants shall be set as shown in the Standard Details and AWWA Standard C600. Hydrant and the gate valve must have lugs. The tee on the main line shall not be considered as part of the assembly. The portion of the hydrants above the ground shall be painted with Preservative Brand Caterpillar or International yellow paint. The hydrant run shall be restrained with MEGALUG restrainer at M.J. end on hydrant and gate

valve. If more than one pipe is required on hydrant run, connect pipes with mechanical joint sleeve and MEGALUG restrainers.

Between the time that the fire hydrant is installed and the completed facility is placed in operation, the fire hydrant shall at all times be wrapped in burlap, or covered in some other suitable manner to clearly indicate that the fire hydrant is not in service.

6.3.08 AIR VACUUM INSTALLATION

Iron piping and fittings shall be galvanized. Location of the air release valves as shown on the plans is approximate. The installation shall be set at the high point of the line. The water line must be constructed so the air release valve may be installed in a convenient location.

6.3.09 VALVE INSTALLATION

Before installation, valves shall be cleaned of all foreign material. Such blocking as the Engineer may deem necessary shall be provided. The valve and valve box shall be set plumb with the valve box centered on the valve. The top of the valve box shall be set with all valves except auxiliary valves for hydrants. Where valve operating nut is more than 3' below finished grade, a stem extension must be installed. Tapping valves shall be water tested prior to tapping water main.

The top of the valve box base section shall be located a minimum of 6" and maximum of 9" below finished grade. A polyethylene sheet, 8-mils thick, shall be placed between the top and base valve box sections to prevent metal to metal contact where the sections overlap.

Valve box top sections shall be adjusted flush with the finished pavement and, in those areas to be excavated for future roadway grades, enough adjustment shall be provided in the valve box to allow the top of the box to be adjusted to the required grade.

6.3.10 VALVE BOX MARKER INSTALLATION

Preservative Brand #0.43-616 yellow enamel

Concrete marker posts, painted with two coats ~~Rust-Oleum No. 2766 Hi-Gloss white~~ paint, shall be set for all valves except auxiliary hydrant valves. The marker shall be set on a line through the valve at right angles to the center line of the road. The marker shall generally be set on the property line unless the Engineer decides another location is safer or more conspicuous. Distance to the valves shall be neatly stenciled on the post with 2" numerals. Valve markers shall be installed only in unimproved or unpaved areas.

6.3.11 VAULT INSTALLATION

Vaults for water facilities (pressure reducing station, water service, backflow device, etc.) shall be constructed at the locations shown in the plan and as staked. It shall be constructed as shown in the plans, Standard Details and as directed by the Engineer.

The excavation shall have minimum 1' clearance between the vault outer surfaces and the earth bank. The vault shall be placed on firm soil. If the foundation material is inadequate, the contractor shall use foundation gravel or bedding concrete to support the vault. The vault shall be plumb and watertight. The access cover shall be seated properly to prevent rocking and shall be adjusted to match the finished grade.

Vault floor shall drain to daylight, or to location shown on the plan. Drain pipe shall be minimum 4" diameter.

Where knockout locations for pipe do not coincide with locations of pipe penetrations into the vault, the Contractor shall core drill openings for pipe.

6.3.12 ~~SERVICE LINES~~ Change Heading to Tapping Sleeves

6.3.12.1 NEW SERVICE INSTALLATIONS

Tapping sleeves shall be rated for a working pressure of 200 psi minimum and furnished complete with joint accessories. Tapping sleeves shall be constructed in two sections for ease of installation and shall be assembled around the main without interrupting service.

Mechanical joint style sleeves shall be ductile iron and is required for size-on-size connection to cast-iron pipe. Mechanical joint sleeves shall be cast by Clow, Dresser, Mueller, Tyler, U.S. Pipe, or owner approved equal.

Fabricated steel style sleeves shall be fusion bonded coated, acceptable for potable water, and is acceptable for A.C. pipe taps only. Fabricated steel sleeves shall be manufactured by JCM, Romac, or approved equal.

delete this section

~~Where a saddle is used in lieu of direct tapping, make a cut in the taped area large enough to accommodate the gasket directly in contact with the ductile iron pipe. Make necessary repair for damaged encasement.~~

6.3.12.2 ~~RECONNECTING EXISTING~~ SERVICES Lines

change heading

All service lines shall be one-inch minimum, 200 PSI poly pipe, and shall be continuous from the corporation stop to meter setter.

Install service connections under paving by boring. Bore or tunnel under sidewalks and curbs. Damages shall be repaired by

Contractor. Provide 30" minimum cover on service lines. Install service at 90-degrees horizontally to the main to intercept the existing meters. A deviation of not more than 3-degrees will be allowed. Blow off service prior to connection to meter.

Install meter setter and boxes as shown on the Standard Detail and where directed by the Engineer.

Service connections shall not be transferred to the new main until it has been successfully flushed, disinfected and tested. When transferring services from the existing main to the new main, the Contractor shall take sanitary precautions to protect the potable water supply in both the existing and new mains.

No reconnection to sub-standard service lines shall be allowed.

Substandard plastic service pipe is usually 160 psi or below polyethylene or cast iron. The Engineer shall decide if existing service lines are substandard.

6.3.13 CONCRETE BLOCKING

All bends, tees, and valves shall be blocked in accordance with the Standard Details. All poured in place blocking shall have a minimum measurement of 12" between the pipe and the undisturbed bank. The Contractor shall install blocking which is adequate to withstand full test pressure, as well as, to continuously withstand operating pressures under all conditions of service. All concrete shall be mechanically mixed and shall be a minimum of 2,500 psi.

6.3.14 INSPECTIONS & TESTS

A. The City intends to have an inspector on site for the purpose of inspecting and testing. The Contractor shall provide proper facilities, equipment, and access and such inspection and testing.

B. If any work is covered up without approval or consent of the City, it must, if required by the City, be uncovered for inspection.

C. Before a performance test is to be observed by the City the Contractor shall make whatever preliminary tests are necessary to assure that the material and/or equipment are in accordance with the plans and specifications.

D. Written notice of deficiencies, adequately describing the same, shall be given to the Contractor upon completion of each inspection and the Contractor shall correct such deficiencies within seven days of the notice and before final

inspection will be made by the City, unless otherwise approved.

E. If the Contractor wants to work on the weekend or after hours, they will be make prior arrangements with the city and be responsible for all overtime costs.

F. The Contractor shall provide the City notice when the project will be shut down, the days and working hours and when the project is to start up again.

6.3.15 WATER QUALITY

The Contractor is required to implement water pollution controls and maintain these until the project is accepted by the City. The Contractor shall familiarize himself with the requirement of the Department of Ecology and other regulatory agencies having jurisdiction over such matters.

The following list of requirements is a summary of the construction activity requirements of the Department of Ecology and is provided as a guide to the Contractor. The Department of Ecology may have additional requirements with which the Contractor shall comply.

6.3.15.1 CHLORINE RESIDUAL FROM WATER MAIN TESTING OR DISINFECTION

Water with chlorine residual shall be disposed of by the Contractor. Methods of disposal include through sanitary sewers, storing and aerating or percolation into the ground. Water containing a chlorine residual shall not be disposed of into the storm drainage system or any waterway. Disposal may be made to the sanitary sewer system upon approval by the City, provided that the rate of disposal will not overload the sewer. Water shall be discharged to the storm drainage system only after dechlorination.

6.3.15.2 OIL AND CHEMICAL STORAGE AND HANDLING

Storage area shall be diked. No disposal of oil products or waste on the site, including oil filters. The Contractor shall provide a waste oil disposal tank, if needed.

6.3.16 WATER PIPE TESTING AND DISINFECTING

All pipelines shall be tested and disinfected prior to acceptance of work. A water hydrant meter shall be required and procured from the City for all water utilized for flushing pipelines. All pumps, gauges, plugs, saddles, corporation stops, miscellaneous hose and piping, and measuring equipment necessary for performing the test shall be furnished, installed and operated by the Contractor. Feed for the pump shall be from a barrel or other container within the actual amount of "makeup" water, so that it can be measured periodically during the test period.

The pipeline shall be backfilled sufficiently to prevent movement of the pipe under pressure. All thrust blocks shall be in place and time allowed for the concrete to cure

before testing. Where permanent blocking is not required, the Contractor shall furnish and install temporary blocking. As soon as pipe is secured against movement under pressure, it may be filled with water. Satisfactory performance of air valves shall be checked while the line is filling.

Contractor shall pre-flush all water mains after water has remained in the main for ~~24~~ 3 days or ~~hours~~ and before ~~pressure testing the main~~. connecting to the ~~new~~ existing water main

After the pipe is filled and all air expelled, it shall be pumped to a test pressure of ~~200~~ 250 psi, and this pressure shall be maintained for a period of not less than fifteen (15) minutes to insure the integrity of the thrust and anchor blocks. The contractor/developer is cautioned regarding pressure limitations on butterfly valves. All tests shall be made with the hydrant auxiliary gate valves open and pressure against the hydrant valve. Hydrostatic tests shall be performed on every complete section of water main between two valves, and each valve shall withstand the same test pressure as the pipe with no pressure active in the section of pipe beyond the closed valve.

In addition to the hydrostatic pressure test, a leakage test shall be conducted on the pipeline. The leakage test shall be conducted at 150 psi for a period of not less than one (1) hour. The quantity of water lost from the main shall not exceed the number of gallons per hour determined by the formula:

$$L = \frac{ND(P)^{0.5}}{7{,}400}$$

in which:

L = Allowable leakage, gallons/hour
N = Number of joints in the length of pipeline tested
D = Nominal diameter of the pipe in inches
P = Average test pressure during the leakage test, psi

Defective materials or workmanship, discovered as a result of the tests, shall be replaced by the Contractor at the Contractor's expense. Whenever it is necessary to replace defective material or correct the workmanship, the tests shall be re-run at the Contractor's expense until a satisfactory test is obtained.

As sections of pipe are constructed and before pipelines are placed in service, they shall be sterilized in conformance with the requirements of the State of Washington Department of Health Services.

The Contractor shall be responsible for flushing all water mains prior to water samples being acquired. The water mains shall be flushed at a rate to provide a minimum 2.5 feet per second velocity in the main.

In all disinfection processes, the Contractor shall take particular care in flushing and wasting the chlorinated water from the mains to assure that the flushed and chlorinated water does no physical or environmental damage to property, streams, storm sewers or any waterways. The Contractor shall chemically or otherwise treat the chlorinated water to prevent damage to the affected environment, particularly aquatic and fish life of receiving streams.

Chlorine shall be applied in the following manner, to secure a concentration in the pipe of at least 50 ppm.

1) Injection of chlorine-water mixture from chlorinating apparatus through corporation cock at beginning of section after pipe has been filled, and with water exhausting at end of section at a rate controlled to produce the desired chlorine concentration;

After the desired chlorine concentration has been obtained throughout the section of line, the water in the line shall be left standing for a period of twenty-four (24) hours. Following this, the line shall be thoroughly flushed and a water sample collected. The line shall not be placed in service until a satisfactory bacteriological report has been received.

City forces only will be allowed to operate existing and new tie-in valves. The Contractor's forces are expressly forbidden to operate any valve on any section of line which has been accepted by the City.

6.3.17 ADJUST EXISTING STRUCTURE TO GRADE

6.3.17.1 VAULT COVER ADJUSTMENT

Existing vault covers affected by a pavement overlay, or adjustment in surface grade, shall be adjusted to grade within three working days

6.3.17.2 VALVE BOX ADJUSTMENT - PAVEMENT OVERLAYS AND SIDEWALKS

Raising the existing valve box cover less than 2" shall be accomplished by adjusting the existing top section of the valve box.

Raising the existing valve box cover 2" or more, shall be accomplished by either adjusting the existing top section or by inserting a valve box paving riser into the existing valve box top. The paving riser shall be epoxied to the valve box.

If the valve box base section needs to be extended, the contractor shall install a 4" diameter cast iron soil pipe, with bell-end of the soil pipe inserted over the top of the existing valve box base section. The spigot-end of the soil pipe shall be located a minimum of 6" and maximum of 9" below finished grade. The valve box top section shall be slipped over the soil pipe and adjusted to final grade. A polyethylene sheet, 8-mils thick, shall be placed between the valve box and soil pipe to prevent metal to metal contact where the sections overlap.

Final box adjustment shall leave the top of the valve box no higher than final grade, and no lower than 0.5" below final grade.

In asphalt concrete pavement overlay areas, excavation of the valve box to be raised shall be accomplished by sawcutting or neat-line jackhammering the pavement a minimum of 12" around the perimeter of the valve box.

Final adjustment of valve boxes shall be made within 20 calendar days following the final overlay.

6.3.17.3 VALVE BOX ADJUSTMENT - UNIMPROVED AREAS

Adjustment of valve box covers located outside paved areas or sidewalks can be accomplished using a 12" valve box adjusting sleeve inserted into the existing valve box top section.

6.3.18 ABANDONING FACILITIES

W3.18.1 ABANDONING PIPE IN PLACE

The Contractor shall plug the open ends of all pipes, fittings, etc. to be abandoned with end cap coupling on asbestos cement or steel pipe, with mechanical joint cap or plug on cast or ductile iron pipe.

W3.18.2 ABANDONING STRUCTURES

Abandonment of structures shall be completed only after piped systems have been properly abandoned. Structures within the public right-of-way, a public easement or which are part of the publicly-owned and maintained system must be:

- Removed completely; or
- Abandoned, provided no conflicts with new utilities or improvements arise.

6.3.19 HIGHWAY AND RAILROAD CROSSINGS

Interstate, state, or county highway and railroad crossings require the placing of steel, cast iron or concrete pipe casing by jacking or tunneling and laying the carrier pipe within the casing.

6.3.20 BORING AND JACKING STEEL CASING

The Contractor shall verify the vertical and horizontal location of existing utilities. If required to avoid conflicts and maintain minimum clearances, adjustment shall be made to the grade of the casing.

The pipe shall be bored and jacked where indicated. The Contractor shall remove or penetrate all obstructions encountered. If groundwater is found to be a problem during boring operations, the Contractor shall do all that is necessary to control the flow sufficiently to protect the excavation, pipe and equipment so that the work is not

impaired. Any pipe damaged during the boring and jacking operation shall be repaired by the Contractor in a manner approved by the Engineer.

Special care shall be taken during the installation of the bored and jacked pipe to ensure that no settlement or caving be caused to the above surface. Any such caving caused by the placement of the pipe shall be the Contractor's responsibility and he shall repair any area so affected as directed by the Engineer.

During the jacking operations, particular care shall be exercised to prevent caving ahead of the pipe which will cause voids outside of the pipe. If voids exist, the Contractor shall drill through the wall of the pipe and fill the voids with a pumped cement grout. All voids shall be filled to the satisfaction of the Engineer.

The carrier pipe shall be installed in the casing. The Contractor shall support carrier pipe with casing spacers. The casing pipe shall not be backfilled with sand and grout. The casing ends shall be sealed with asphaltic material 1' minimum on each end, or with manufactured rubber end seal device.

Boring pits shall be backfilled with select native material and compacted to 95% maximum dry density as determined by ASTM D-1557. The contractor shall provide sufficient select backfill material to make up for the rejected material.

All disturbed ground shall be restored to its original condition or better.

6.3.21 WORKING WITH ASBESOS CEMENT PIPE

When working with asbestos cement pipe, the Contractor is required to maintain workers' exposure to asbestos material at or below the exposure limit as prescribed in WAC 296-62-07705 and adhere to all State and Federal Guidelines and Certification.

6.3.22 ASBESTOS CEMENT WATERMAIN CROSSINGS

Where directed by the City, the trench shall be backfilled with controlled density fill (CDF, aka flowable fill) from bottom of trench to bottom of the AC main. If the AC main appears to be damaged or at risk of failure, the City will require section replacement according to the Standard Detail for "Typical AC Watermain Crossing Replacement Detail".

6.3.23 CLEARANCES / OTHER UTILITIES

Required clearance from other utilities are outlined in Section 6.1.08. If the minimum vertical distance between utility pipes is less than 6" and such installation is approved by the City, a pad shall be placed between the pipes. The pad shall be O.D. x O.D. x 2.5" thick minimum or as required to protect the pipes. Above O.D. is equal to the

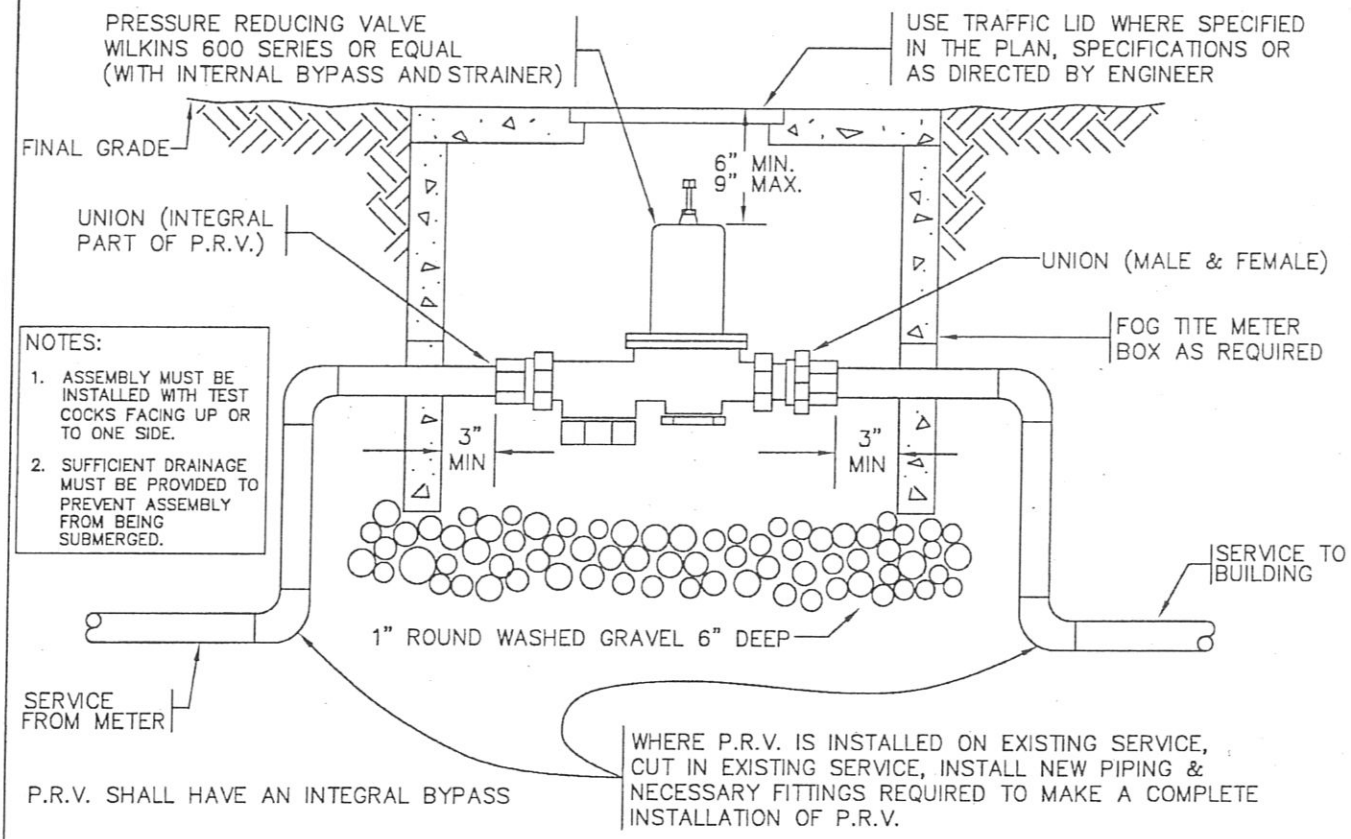
outside diameter of the larger pipe. The pad shall be a polyethylene foam plank (Dow Plastics Ethafoam[tm] 220), or approved equal. Additional measures may be necessary to ensure system integrity and may be required as evaluated by the City on a case by case basis.

6.3.24 RECORD DRAWINGS

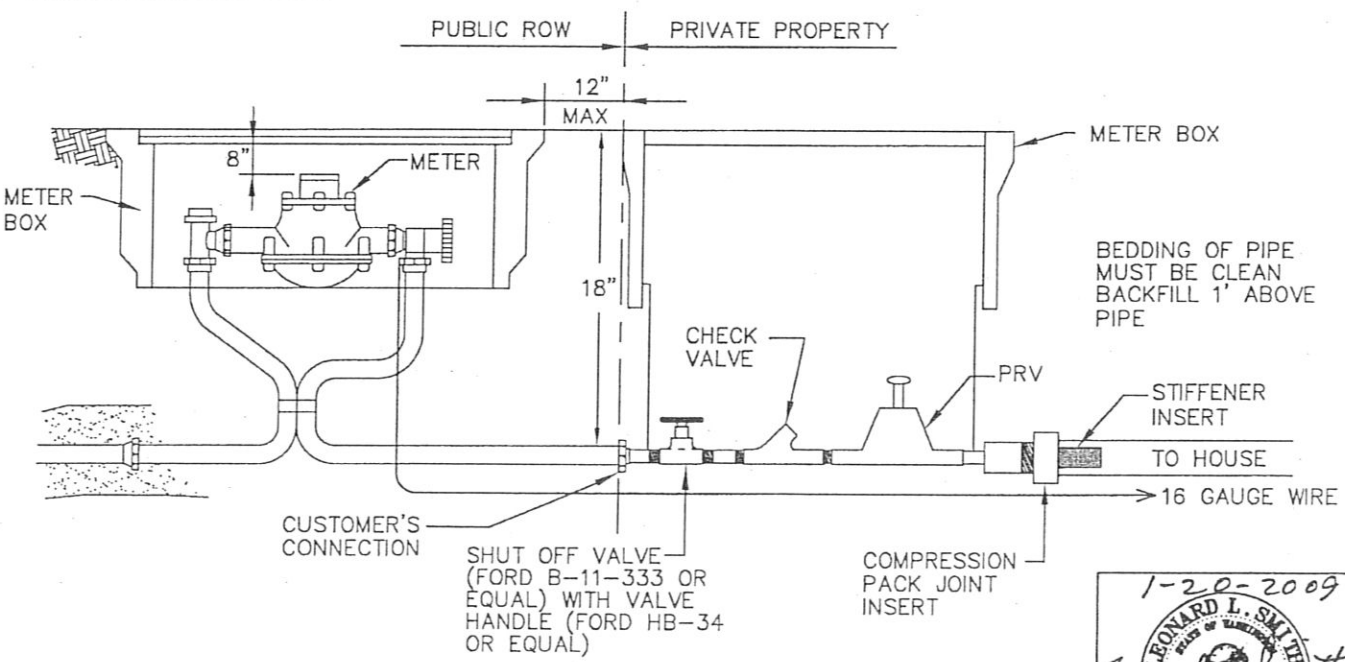
Record drawings shall be submitted to the City Engineer reflecting "as-built" conditions for all improvements within the City right-of-way. Record drawings shall be submitted to the City within thirty (30) calendar days after completion of the work. Record drawings shall be submitted on permanent, stable, reproducible mylar with a signature and data which verifies the "as-built" condition of the project.

Index missing

INDIVIDUAL PRESSURE REDUCING VALVE ASSEMLY (RESIDENTIAL)



CUSTOMER WATER SERVICE



METER BOX – SET TO FINAL GRADE
SHUT OFF VALVE – B-11-333 OR EQUAL
VALVE HANDLE – HB-34
SINGLE CHECK VALVE

PRV TO CONTROL LINE PRESSURE UP TO 180 PSI
16 GAUGE LOCATING WIRE
200 PSI POLY PIPE SIDR 3408
ALL FITTINGS MUST BE BRASS

1-20-2009

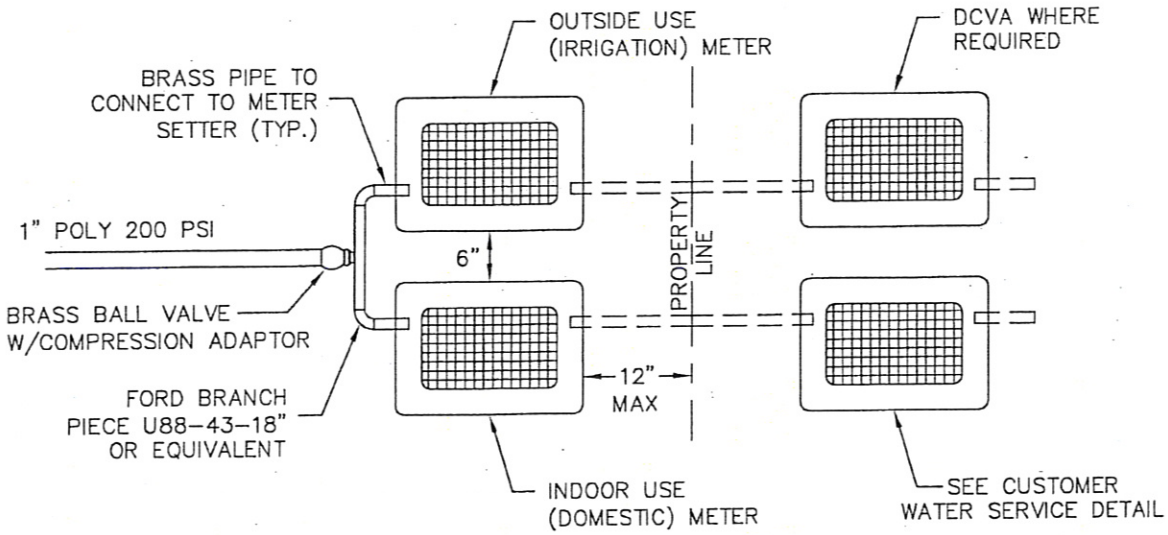
LEONARD L. SMITH
STATE OF WASHINGTON
20320
REGISTERED
PROFESSIONAL ENGINEER

CITY OF BLACK DIAMOND

CUSTOMER WATER SERVICE WITH INDIVIDUAL PRESSURE REDUCING VALVE ASSEMBLY (RESIDENTIAL)

STANDARD DWG W-01	NOT TO SCALE	01/01/08

PacWest Engineering
Fife, Washington



NOTES:

1. ON EXISTING WATER SERVICES, THE CITY WILL INSTALL DUAL SERVICE AT APPLICANTS EXPENSE. BOTH SERVICES WILL REQUIRE A 12" SETTER EQUAL TO FORD 90 SERIES VBH 92-12W-11-33-A.
2. A ~~PVR~~ PRV SHALL BE INSTALLED ON INDOOR USE SERVICE (AND OUTDOOR USE IF REQUIRED BY UPC) WHERE PRESSURE EXCEEDS 80 PSI.
3. D.O.H. APPROVED DOUBLE CHECK VALVE ASSEMBLY (DCVA) IS REQUIRED FOR IRRIGATION USE.

1-30-2009

LEONARD L. SMITH
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20530
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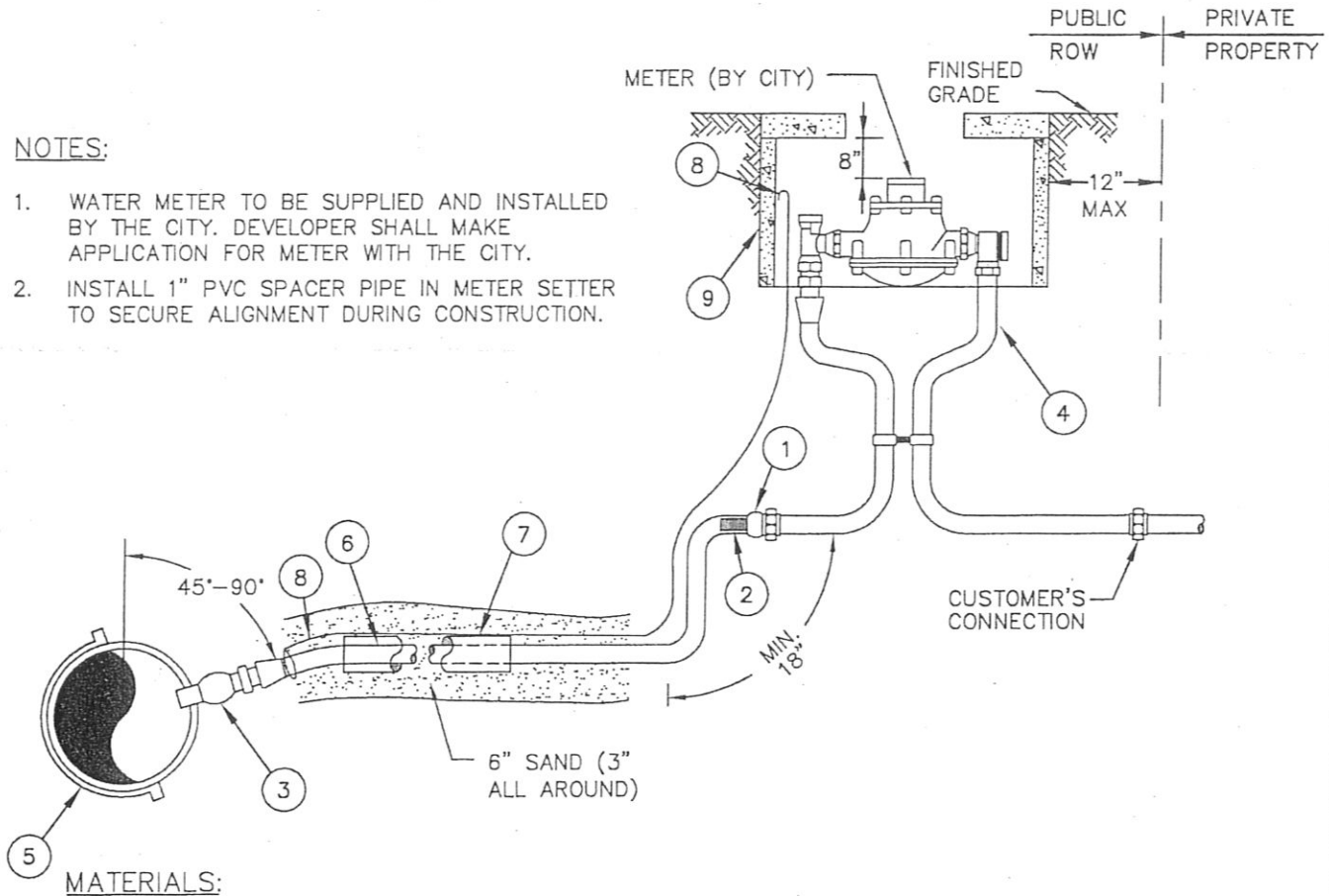
CITY OF
BLACK DIAMOND

DUAL METER INSTALLATION or
Commercial irrigation meter

STANDARD DWG W-02	NOT TO SCALE	01/01/08

PacWest Engineering
Fife, Washington



NOTES:

1. WATER METER TO BE SUPPLIED AND INSTALLED BY THE CITY. DEVELOPER SHALL MAKE APPLICATION FOR METER WITH THE CITY.
2. INSTALL 1" PVC SPACER PIPE IN METER SETTER TO SECURE ALIGNMENT DURING CONSTRUCTION.

MATERIALS:

(1.) BRASS BALL VALVE CORP STOP WITH COMPRESSION ADAPTER.

(2.) 1" POLY INSERT STIFFENERS.

(3.) 1" CC BALL VALVE CORP STOP WITH COMPRESSION ADAPTER FOR POLY PIPE EQUAL TO MUELLER OR FORD. INSTALL WITH KEY FACING UP.

(4.) 12" COPPER SETTER EQUAL TO FORD 90 SERIES VBH 92–12W–11–33–A EQUIPPED AS FOLLOWS:

- PADLOCK WINGS ON ANGLE BALL VALVE
- ANGLE CHECK ON METER OUTLET
- DUAL PURPOSE CONNECTIONS ON SETTER INLET & OUTLET
- COMPRESSION ADAPTER ON SETTER INLET
- 15" EXTENDED OUTLET TUBE
- INSTALL STREET ELL ON INLET AS NEEDED

COPPER SETTER SHALL BE SET LEVEL AND CENTERED IN THE METER BOX.

(5.) ROMAC SADDLE SINGLE STRAP FOR PIPE DIAMETERS LESS THAN 10" AND DOUBLE STRAP FOR PIPE DIAMETERS 10" AND LARGER. DOUBLE STAINLESS STEEL ON AC & PVC PIPE

(6.) 1" "POLY" PIPE–200 PSI (LENGTH AS REQUIRED). (1" MINIMUM DIAMETER)

(7.) INSTALL SERVICE LINE IN 2" PVC GUARD PIPE (SCH–80) WHEN CROSSING ROADWAY (BENEATH PAVEMENT SECTION).

(8.) 14 GAUGE WIRE FROM MAINLINE TAP TO METER BOX AND EXPOSE 6" MINIMUM IN BOX. (RUN INSIDE 2" PVC GUARD CONDUIT WHERE APPLICABLE.)

(9.) MID–STATE PLASTICS METER BOX MODEL MSBCF1324–18XL WITH DUCTILE IRON LID MANUFACTURED BY CARSON INDUSTRIES.

1-20-2004

LEONARD L. SMITH
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20930
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PROFESSIONAL ENGINEER

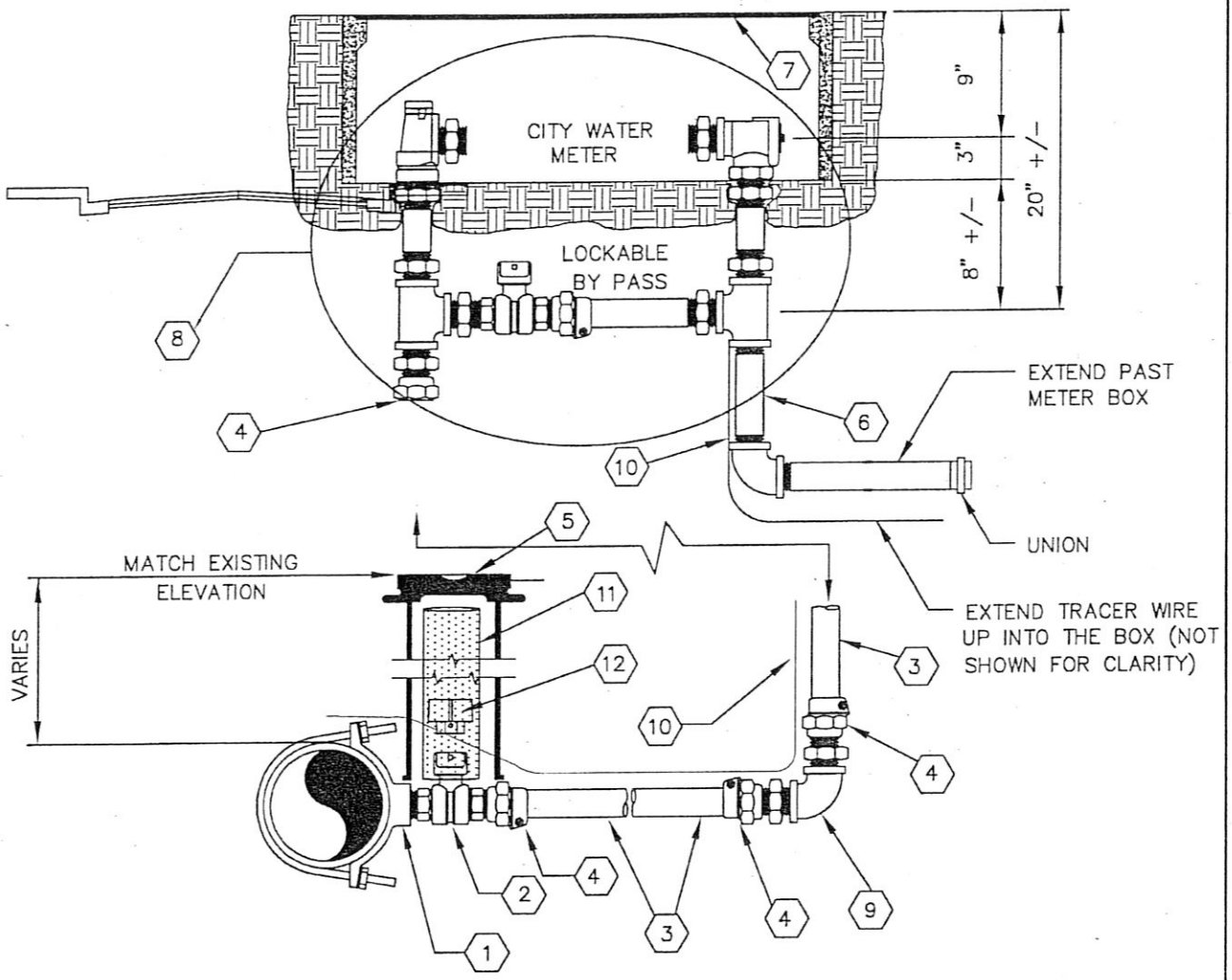
Leonard L. Smith

CITY OF BLACK DIAMOND

5/8", 3/4", AND 1" WATER SERVICE

STANDARD DWG W-03	NOT TO SCALE	01/01/08

PWE
PacWest Engineering
Fife, Washington



DESCRIPTION	MAKER OR RATING	1–1/2"	2"
1. Double Strap Saddle	Romac or Equal	202 IPT	202 IPT
2. Ball Valve w/ 2" Operating Nut	Ford or equal	B11–666 w/Qt67	B11–777 w/Qt67
3. Pipe – High Molecular Polyethylene Pipe (I.P.S.)	SDR7 (200PSI)		
4. Coupling Male	Ford or Equal	C84–66	C84–77
5. Valve Box	Rich or Equal		
6. Nipple Brass		1–1/2" x 6"	2" x 6"
7. Meter Box	Mid–State Plastics	MSBCF1730–18XL	MSBCF1730–18XL
8. Meter Setter w/Lockable Bypass	Ford or Equal	VBH 86–12B–11–66	VBH 87–12B–11–77
9. Brass 90° Elbow		1–1/2"	2"
10. Tracer Wire	14 Gauge Copper Wire	Solid	Solid
11. PVC Sleeve Beneath Pavement	PVC–SCH 80	4" Dia.	4" Dia.
12. TOUCH–READ	Precision Touch Reed		

NOTES:

1. TEMPORARILY INSTALL "SPACER" IN METER SETTER UNTIL METER IS INSTALLED.
2. INSTALL 2" PLUG IN UNION UNTIL SERVICE IS INSTALLED.

1-20-2009

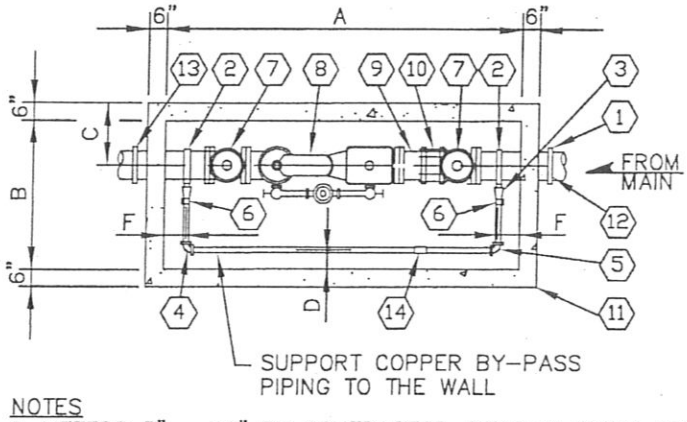
LEONARD L. SMITH
STATE OF WASHINGTON
20830
REGISTERED
PROFESSIONAL ENGINEER

CITY OF BLACK DIAMOND

1-1/2" & 2" WATER SERVICE

STANDARD DWG W-04	NOT TO SCALE	01/01/08

PWE
PacWest Engineering
Fife, Washington

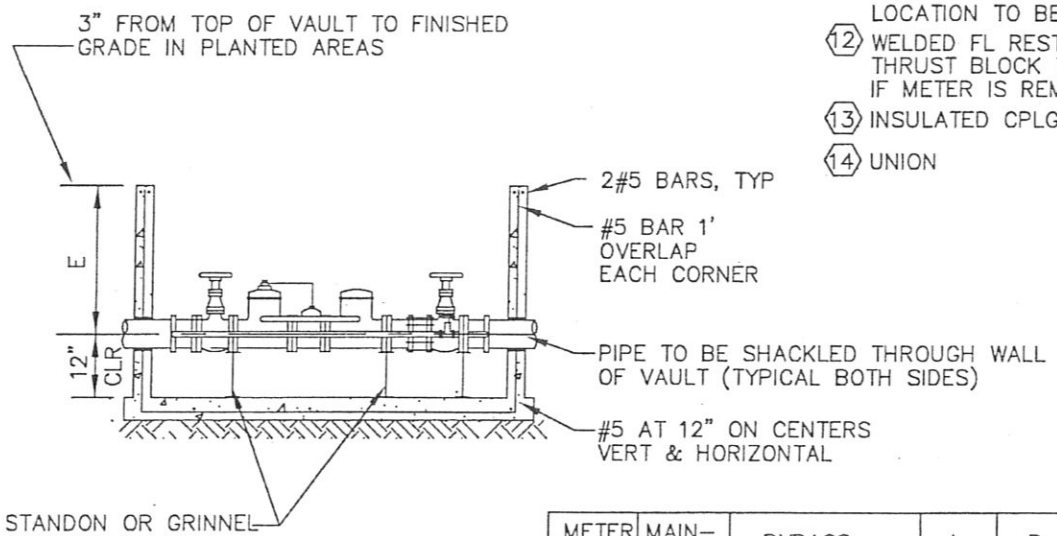


NOTES

1. METERS 3" – 10" BY CONTRACTOR, READ IN CUBIC FEET.
2. VAULT SHALL BE PRECAST, UTILITY VAULT OR OWNER APPROVED EQUAL
3. ALL PIPE & FITTINGS 4" AND LARGER SHALL BE CEMENT LINED.
4. PIPING FROM MAIN TO VAULT SHALL BE 4" ON 3" METER INSTALLATION, TEE WITH VALVE ON EXISTING MAIN REQUIRED.

MATERIAL LIST:

1. 2–FLEX CPLG TO FIT ROCKWELL 441 (4" X 3" REDUCER, M.J. FOR 3" METER)
2. 2–DOUBLE STRAP SERVICE CLAMPS, ROMAC 101 WITH IPS TAP, OR EQUAL
3. 3–STRAIGHT CPLG. BRASS TO OUTSIDE I.P. THREAD MUELLER H–15425,H–15428 110 COMP., OR EQUAL
4. BEND CPLG BRASS TO BRASS MUELLER H–15525.
5. BEND CPLG, BRASS TO OUTSIDE I.P. THREAD MUELLER H–15530, OR EQUAL.
6. 1 BALL VALVE WITH PADLOCK WING OR LOCK CAP, FORD B21–444W OR B–21–666 WITH LOCK CAP OR B21–777 WITH LOCK CAP.
7. 2–RESILIENT SEAT GATE VALVE, FL X FL (RISING STEM)
8. 1–3" TO 10" METER AS SPECIFIED BY CITY SHALL BE FURNISHED BY CONTRACTOR/DEVELOPER.
9. 1 C.I. ADPT. FL X PE (LENGTH TO FIT)
10. 1–CPLG. ADAPT., FL ROCKWELL 912, OR OWNER EQUAL.
11. PRECAST CONCRETE VAULT W/TRAFFIC LID FOR H20 LOADING (HATCH SIZE & LOCATION TO BE APPROVED BY CITY)
12. WELDED FL RESTRAINT OR SHAKLE TO THRUST BLOCK TO PREVENT MOVEMENT IF METER IS REMOVED
13. INSULATED CPLG. TO 3" CU SERVICE.
14. UNION



METER SIZE	MAIN–LINE	BYPASS	A	B	C	D	E	F
3"	4" DI.	1 1/2" BRASS	7'–6"	3'–0"	9"	4"	2'–8"	9"
4"	4" DI.	1 1/2" BRASS	7'–6"	3'–0"	12"	4"	2'–8"	9"
6"	6" DI.	2" BRASS	9'–6"	3'–6"	18"	4"	2'–8"	9"
8"	8" DI.	4" DI.	11'–0"	4'–0"	24"	6"	3'–6"	14"
10"	10" DI.	4" DI.	13'–0"	5'–0"	30"	6"	4'–0"	16"

NOTES:

INSTALL 4" DRAIN PIPE TO DAYLIGHT OR STORM DRAINAGE SYSTEM. 1% MIN. SLOPE.

BACKFLOW PREVENTOR REQUIRED FOR ALL FIRE LINES AND IRRIGATION LINES, IN SEPERATE VAULTS.

BRASS DOES NOT NEED TO BE PAINTED, ALL OTHER PIPE TO BE PAINTED WITH MARINE ENAMEL, MARATHON 1065 TAHOE BLUE.

1-20-2009

LEONARD L. SMITH
STATE OF WASHINGTON
20830
REGISTERED
PROFESSIONAL ENGINEER

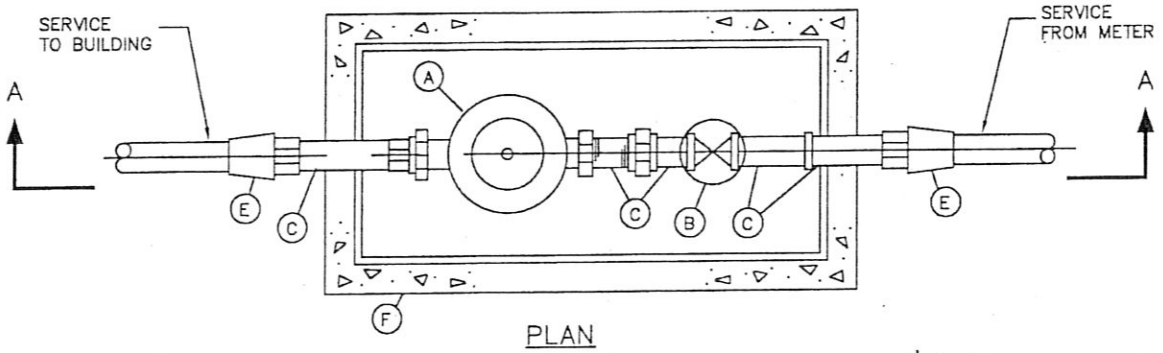
Leonard L. Smith

CITY OF BLACK DIAMOND

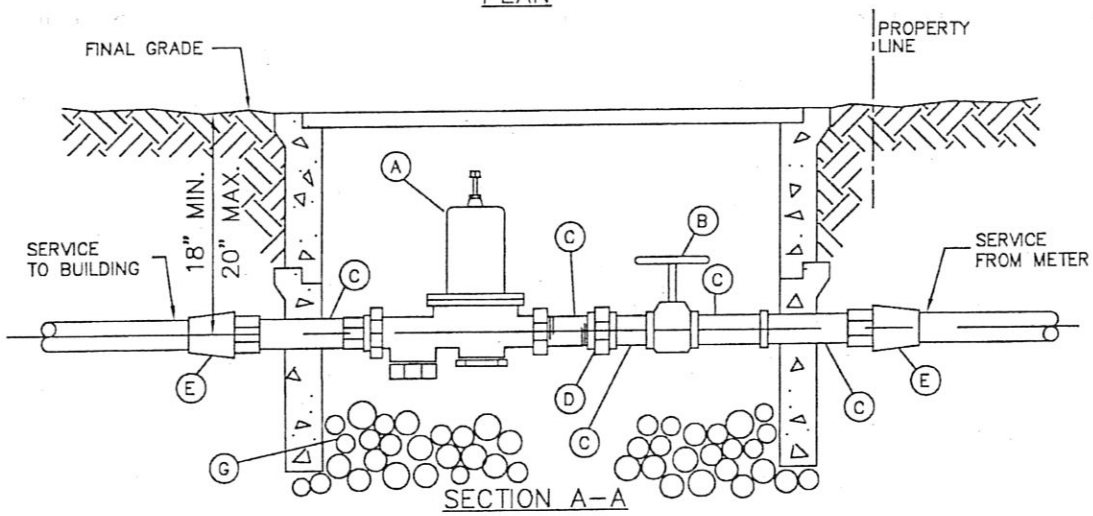
3" TO 10" WATER SERVICE

STANDARD DWG W-05	NOT TO SCALE	01/01/08

PWE
PacWest Engineering
Fife, Washington



PLAN



SECTION A–A

BILL OF MATERIALS

- (A) PRESSURE REGULATOR – WILKINS 600 SERIES OR EQUAL (WITH INTERNAL BYPASS AND STRAINER)
- (B) BRONZE GATE VALVE, 125–POUND, SOLID WEDGE OR DOUBLE DISC, WITH HANDWHEEL, OHIO BRASS, GRINNELL, OR EQUAL
- (C) NIPPLE x 2 1/2" LONG, MALE.
- (D) UNION, FEMALE.
- (E) ADAPTER.
- (F) METER BOX
- (G) 1" ROUND WASHED GRAVEL, 8" MIN. DEPTH.

NOTES:

1. PRESSURE REGULATOR SIZE AS SPECIFIED OR SHOWN ON PLAN.
2. SIZES FOR ITEMS (B) THROUGH (E) SHALL CORRESPOND TO THE SPECIFIED SIZE OF THE PRESSURE REGULATOR.
3. ALL FITTINGS AND NIPPLES ARE BRASS WITH IRON PIPE THREADS.

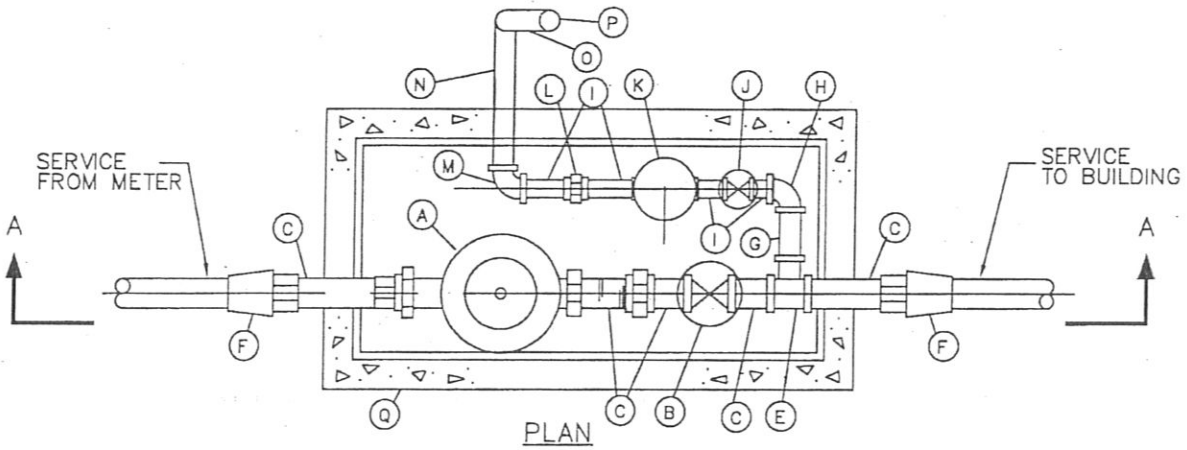
1-20-2009
LEONARD L. SMITH
STATE OF WASHINGTON
20430
REGISTERED
PROFESSIONAL ENGINEER

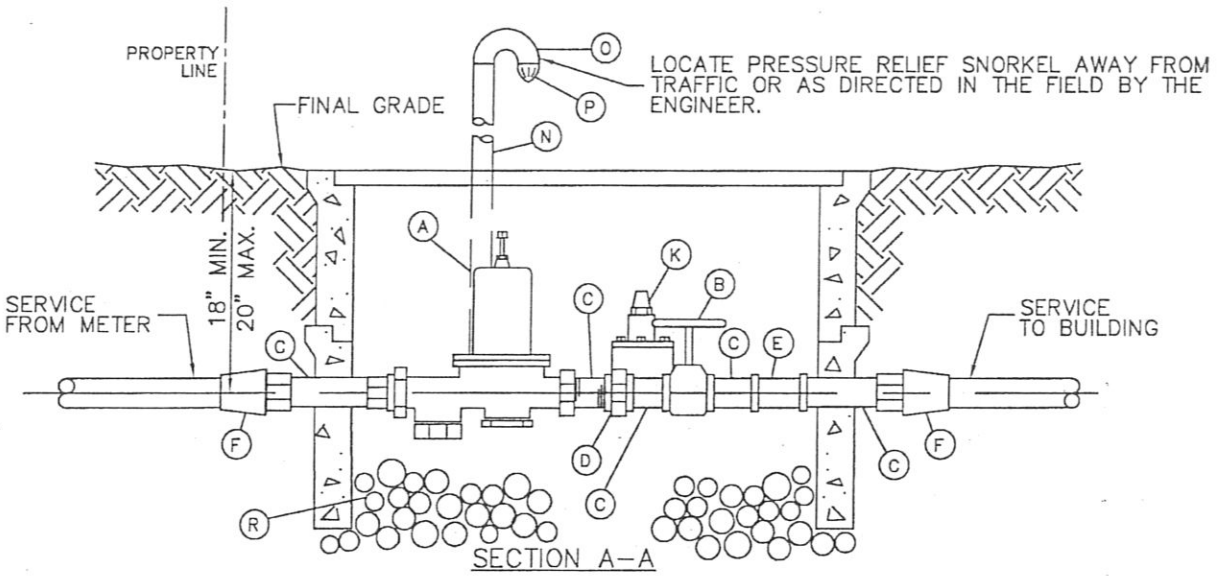
CITY OF BLACK DIAMOND

INDIVIDUAL PRESSURE REDUCING VALVE ASSEMBLY (MULTI-FAMILY OR COMMERCIAL)

STANDARD DWG W-06	NOT TO SCALE	01/01/08

PWE
PacWest Engineering
Fife, Washington





BILL OF MATERIALS

- (A) PRESSURE REGULATOR – WILKINS 600 SERIES OR EQUAL (WITH INTEGRAL BYPASS AND STRAINER)
- (B) BRONZE GATE VALVE, 125–POUND, SOLID WEDGE OR DOUBLE DISC, W/HANDWHEEL, OHIO BRASS, GRINNELL OR EQUAL.
- (C) NIPPLE x 2 1/2" LONG MALE.
- (D) UNION, FEMALE.
- (E) REDUCING TEE x 3/4" DIAMETER BRANCH, FEMALE.
- (F) ADAPTER.
- (G) 3/4" NIPPLE x LENGTH TO FIT, MALE.
- (H) 3/4" x 90° ELBOW, FEMALE.
- (I) 3/4" x 2 1/2" NIPPLE, MALE.
- (J) 3/4" BRONZE GATE VALVE, SOLID WEDGE TYPE – MUELLER H–10914.
- (K) 3/4" PRESSURE RELIEF VALVE – CLAVAL 55 F
- (L) 3/4" UNION, FEMALE.
- (M) 2"x 3/4" 90° ELBOW, FEMALE.
- (N) 2" G.I. PIPE x LENGTH TO FIT AS DIRECTED, 10' MAX. INTEGRATED LENGTH.
- (O) 2" OPEN PATTERN RETURN BEND, G.I.
- (P) 2" BEEHIVE STRAINER.
- (Q) 17"x 30" METER BOX W/ TRAFFIC COVER AND 12" RISER. (SEE NOTE 4.)
- (R) 1" ROUND WASHED GRAVEL, 8" MIN. DEPTH.

NOTES:

1. PRESSURE REGULATOR SIZE AS SPECIFIED OR SHOWN ON PLAN.
2. SIZES FOR ITEMS (B) THROUGH (F) SHALL CORRESPOND TO THE SPECIFIED SIZE OF THE PRESSURE REGULATOR.
3. FITTINGS AND NIPPLES ARE BRASS WITH IRON PIPE THREADS, UNLESS OTHERWISE SHOWN.
4. FOR 2" INSTALLATION, LARGER METER BOX IS REQUIRED, MINIMUM INSIDE LENGTH OF BOX SHALL BE 32".

1-20-2009

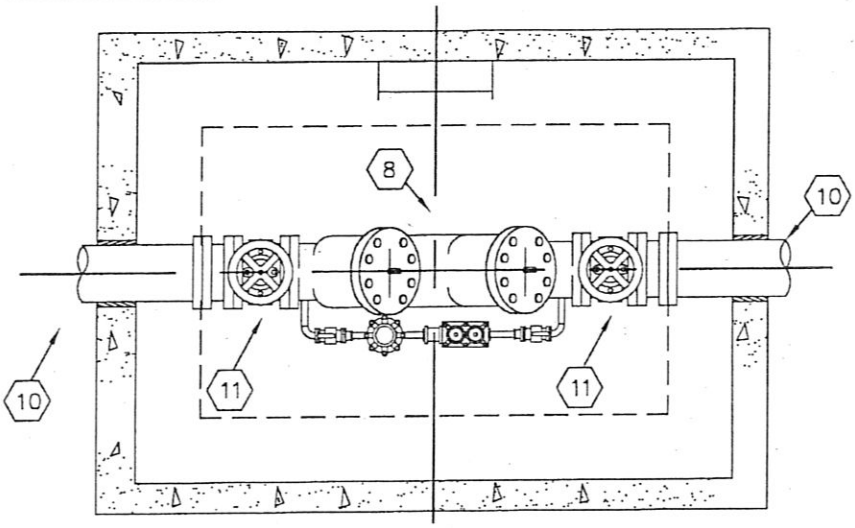
LEONARD L. SMITH
STATE OF WASHINGTON
20930
REGISTERED
PROFESSIONAL ENGINEER

CITY OF BLACK DIAMOND

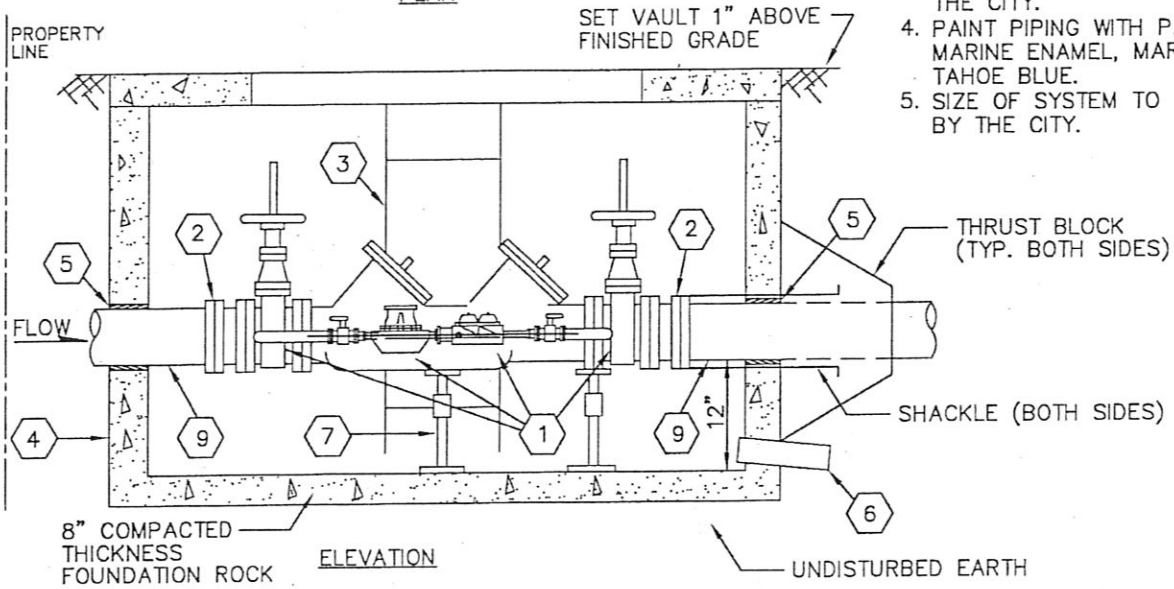
INDIVIDUAL PRESSURE REDUCING VALVE ASSEMBLY W/ PRESSURE RELIEF (MULTI-FAMILY OR COMMERCIAL)

STANDARD DWG W-07	NOT TO SCALE	01/01/08

PWE
PacWest Engineering
Fife, Washington



PLAN



NOTES:

1. ASSEMBLY SHALL BE MAINTAINED BY PROPERTY OWNER AND ANNUAL CERTIFICATION REQUIRED.
2. FIRELINE SHALL NOT BE PUT INTO SERVICE UNTIL THE BACKFLOW PREVENTION DEVICE IS APPROVED BY THE DISTRICT.
3. A REDUCED PRESSURE BACKFLOW PREVENTION DEVICE MAY BE REQUIRED BY THE DIRECTION OF THE CITY.
4. PAINT PIPING WITH PARKER PAINT MARINE ENAMEL, MARATHON 1065, TAHOE BLUE.
5. SIZE OF SYSTEM TO BE APPROVED BY THE CITY.

(1) DETECTOR DOUBLE CHECK VALVE ASSEMBLY. MODEL TO BE PRE-APPROVED BY CITY.

(2) UNI-FLANGE WITH SET SCREWS

(3) TELESCOPIC ALUMINUM LADDER TO BE SECURED TO VAULT WITH STAINLESS STEEL FASTENERS AT 3-FT MAX. INTERVALS.

(4) CONCRETE VAULT (5'x 9'x 7'-2" INSIDE DIMENSIONS) , WITH WATERTIGHT BILCO COVER (H20 LOADING)

(5) WATER-TIGHT GROUT. RESTRAIN INLET/OUTLET PIPE WITH WELDED FLANGE OR SHACKLE TO THRUST BLOCK TO PREVENT. SHACKEL THROUGH VAULT IF CHECK VALVE ASSEMBLY IS REMOVED.

(6) 4" DRAIN TO DAYLIGHT OR STORM WHERE APPLICABLE. MINIMUM SLOPE 1%.

(7) ADJUSTABLE PIPE STANCHION, GRINELL PIPE SUPPORTS. (SECURE TO FLOOR)

(8) VALVE ASSEMBLY TO BE CENTERED IN VAULT

(9) CL. 53 D.I., MJ WITH MEGALUGS

(10) STAINLESS STEEL SHACKLES AND THRUST BLOCK (3000PSI) AT BOTH ENDS OF VAULT.

(11) R.S. GATE VALVE WITH HAND WHEEL OPERATION.

1-20-2009

LEONARD L. SMITH
STATE OF WASHINGTON
20930
REGISTERED PROFESSIONAL ENGINEER

CITY OF BLACK DIAMOND

DETECTOR DOUBLE CHECK VALVE ASSEMBLY

STANDARD DWG W-08	NOT TO SCALE	01/01/08

PWE
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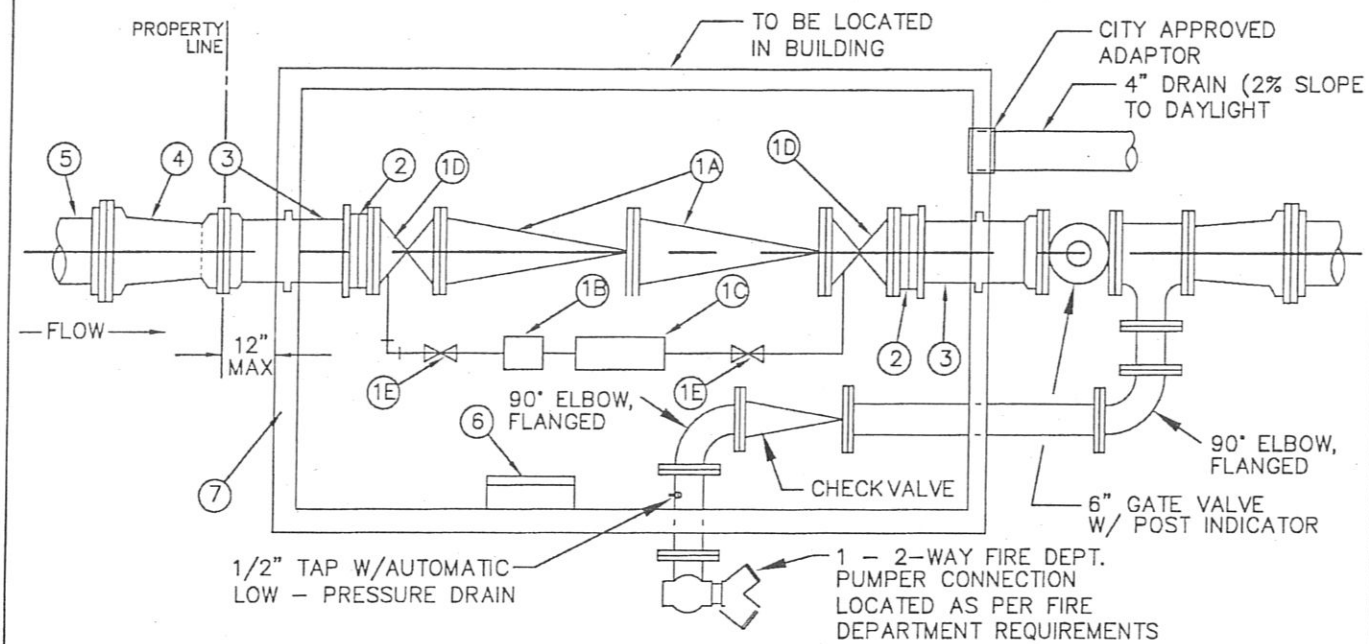
Fife, Washington



LEGEND

(1.) DOUBLE–CHECK DETECTOR VALVE ASSEMBLY CAPABLE OF METERING WATER USAGE UNDER LOW FLOW CONDITIONS. 10.0 P.S.I. HEAD LOSS AT 1600 GPM FOR 8" SIZE. ASSEMBLY TO BE STATE DOH APPROVED. SIZE AS SPECIFIED ON PLANS (SENSUS TOUCH READ)

- 1A. 2 – CHECK VALVES, (FL)
- 1B. 1 – BY–PASS METER 5/8" X 3/4" SENSUS C.F. READING METER COMPLETE WITH SPUD NU
- 1C. 1 – DOUBLE CHECK VALVE ASSEMBLY, (DOH APPROVED.) 3/4" FOR 8" D.D.C.V.
- 1D. 2 – GATE VALVES, (FL) W/HAND WHEEL; RISING STEM, RESILIENT SEATED AS PER STATE REQUIREMENTS.
- 1E. 2 – GATE VALVES, (FL) W/HAND WHEEL; RISING STEM, RESILIENT SEATED AS PER STATE REQUIREMENTS.

(2.) 2 – FLANGED COUPLING ADAPTER, SIZE AS SPECIFIED ON PLANS. (LOCATE MINIMUM 6" FROM INNER WALL)

(3.) 2 – PIPE SPOOLS, PLAIN END. SAME SIZE AS SPECIFIED ON PLANS.

(4.) 1– REDUCER (MJ X MJ), IF REQUIRED. SIZE AS SPECIFIED ON PLANS.

(5.) WATER MAIN CL52, SIZE AS SPECIFIED ON PLANS.

(6.) ALUMINUM (TELESCOPING) LADDER, LOCATE AS DIRECTED BY CITY. USE STAINLESS STEEL FASTENERS AT 3' MAX. SPACING.

(7.) UTILITY VAULT CO. VAULT OR APPROVED EQUAL. HINGED AND SPRING LOCKED STEEL DIAMOND P/L COVER 2–332P, (DOUBLE HATCH COVER) 4" C.I. FLOOR DRAIN INTO 6" PVC DRAIN LINE. DAYLIGHT OR STORM SYSTEM CONNECTION. (NO SUMP PUMPS) CHECK VAULT SIZE REQUIRED FOR ENCLOSING COMPLETE ASSEMBLIES.

(8.) PROVIDE GRINNEL PIPE SUPPORTS, TO INCLUDE STEEL YOKE, BOLT TO VAULT FLOOR USING RECOMMENDED CONNECTION AND SIZES.

MIN. VAULT SIZES:

4"	5106 LA	––	5'–0" X 10'–6" X 6'–3" HIGH
6"	5106 LA	––	5'–0" X 10'–6" X 6'–3" HIGH
8"	612 LA	––	6'–0" X 12'–0" X 6'–6 1/2" HIGH
10'	612 LA	––	6'–0" X 12'–0" X 6'–6 1/2" HIGH

NOTE:

1. PAINT ALL PIPING WITH PARKER PAINT MARINE ENAMEL, MARATHON 1065 TAHOE BLUE.
2. PROVIDE GRINNEL PIPE SUPPORTS WHERE REQUIRED (3" MIN.)
3. GATE VALVE TO BE LOCATED AT MAIN AND AT LOCATION THAT SEPARATES PUBLIC WATER LINE FROM PRIVATE WATER LINE.

1-20-2009

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CITY OF BLACK DIAMOND

DOUBLE CHECK DETECTOR WITH FIRE CONNECTION

STANDARD DWG W-09	NOT TO SCALE	01/01/08

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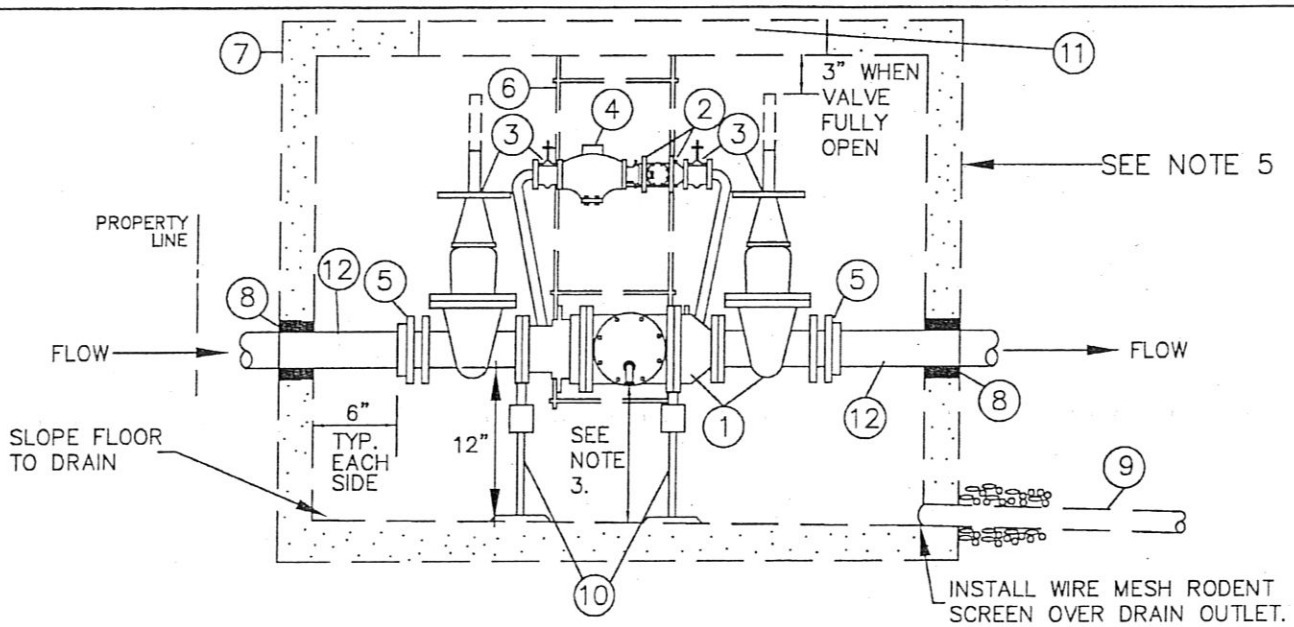

PROFILE

1. STATE APPROVED REDUCED PRESSURE PRINCIPLE BACKFLOW ASSEMBLY, COMPLETE WITH (2) RESILIENT SEATED O.S.&Y. GATE VALVES AND (4) RESILIENT SEATED TEST COCKS, AND BRASS OR COPPER DETECTOR BY-PASS, CENTERED IN VAULT.
2. STATE APPROVED 3/4" REDUCED PRESSURE PRINCIPLE ASSEMBLY ON BY-PASS, COMPLETE WITH (2) RESILIENT SEATED BALL VALVES AND (4) RESILIENT SEATED TEST COCKS.
3. EACH VALVE SHALL BE MARKED WITH MODEL NUMBER WITH DESIGNATION OF RESILIENT SEAT: SUCH AS "RS OR "R", WHICH MUST BE CAST, MOLDED, OR AFFIXED ONTO THE BODY OR BONNET OF THE VALVE. ALL FERROUS BODIED VALVES SHALL BE COATED WITH A MIN. OF 4MLS. EPOXY OR EQUIVALENT POLYMERIZED COATING.
4. 3/4" METER (CUBIC FEET READING) AS REQUIRED.
5. UNI-FLANGE WITH SETSCREWS.
6. ONE GALVANIZED STEEL LADDER TO BE SECURED TO VAULT.
7. CONCRETE VAULT WITH A MINIMUM OF 2, 3'x3' DIAMOND PLATE DOORS RATED FOR H-20 LOADING, MARKED "WATER". VAULT SHALL BE EQUAL TO UTILITY VAULT CO. MODEL LISTED IN TABLE BELOW.
8. WATER TIGHT GROUT. RESTRAIN INLET/OUTLET PIPE WITH WELDED FLANGE OR ANCHOR BLOCK.
9. DRAIN, SLOPE TO DAYLIGHT OR STORM. TO BE LAID IN LINE ON GRADE, DRAIN TO BE TWICE THE DIAMETER OF THE RP DEVICE MINIMUM.
10. TWO ADJUSTABLE PIPE STANCHIONS, BOLTED TO FLOOR.
11. ACCESS TO BE CENTERED OVER METER.
12. CL. 52 D.I., M.J. WITH RETAINER GLANDS.

SIZE	MIN. VAULT SIZE (INSIDE) W	L	H	UTIL. VAULT CO. MODEL	UTIL. VAULT CO. COVER
3"	4'-9"	4'-8"	3'-11"	675-WA	675-2-332P
4"	5'-0"	5'-3"	4'-7"	675-WA	675-2-332P
6"	5'-1"	6'-6"	5'-5"	676-WA	676-2-332P
8"	5'-9"	7'-7"	7'-1"	687-LA	687-TL-2-332
10"	5'-10"	8'-8"	8'-0"	612-2X	612-3-332P

NOTES:

1. DAYLIGHT DRAIN MUST BE ABLE TO BE LINE SIGHTED, INSTALLED ABOVE MAXIMUM FLOOD LEVEL, AND BE ABLE TO HANDLE THE VOLUME OF WATER THAT CAN BE DISCHARGED FROM THE RELIEF VALVE PORT.
2. WHEN THE REDUCED PRESSURE ASSEMBLY IS LOCATED INSIDE A BUILDING A SIZED DRAIN LINE SHALL BE PROVIDED FOR RELIEF PORT. THERE MUST BE AN APPROVED AIR GAP BETWEEN THE RELIEF PORT AND DRAIN.
3. ALLOW 12"+ NOMINAL DIAMETER OF ASSEMBLY CLEARANCE BELOW RELIEF PORT FOR REPAIR.
4. ASSEMBLY TO BE MAINTAINED BY OWNER AND ANNUAL CERTIFICATION REQUIRED.
5. REDUCED PRESSURE PRINCIPLE BACKFLOW ASSEMBLY WILL BE ALLOWED TO BE INSTALLED IN VAULTS ONLY IN CASES WHERE NO OTHER MEANS OF INSTALLATION IS AVAILABLE AND AS APPROVED BY THE CITY OF BLACK DIAMOND.
6. FIRELINE SHALL NOT BE PUT INTO SERVICE UNTIL THE BACKFLOW PREVENTION ASSEMBLY IS APPROVED BY THE CITY OF BLACK DIAMOND.
7. MINIMUM CLEARANCE BETWEEN ASSEMBLY AND WALL ON LADDER SIDE OF VAULT IS 24". MINIMUM CLEARANCE FROM OPPOSITE WALL 12". ALL CLEARANCES SHOWN ARE MINIMUM.
8. VAULTS SHALL NOT BE INSTALLED IN AREAS WITH VEHICULAR TRAFFIC.
9. TEE AND GATE VALVE REQUIRED ON MAIN.
10. FDC & PIV TO BE LOCATED DOWNSTREAM OF RPBA.

1-20-2009

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CITY OF BLACK DIAMOND

REDUCED PRESSURE PRINCIPLE BACKFLOW ASSEMBLY W/DETECTOR

STANDARD DWG W-10	NOT TO SCALE	01/01/08

PWE

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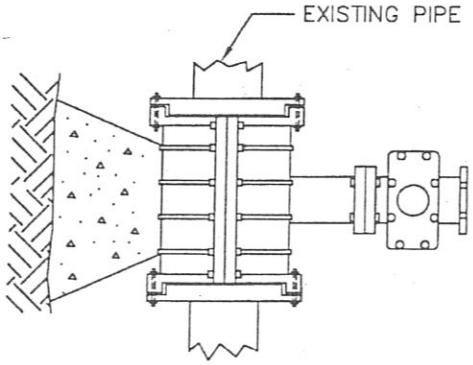

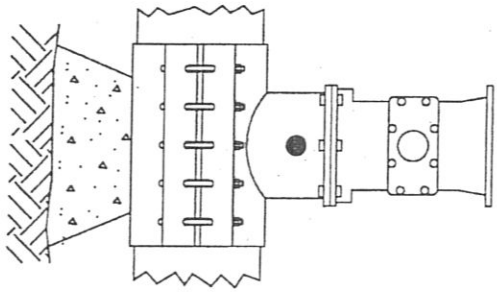

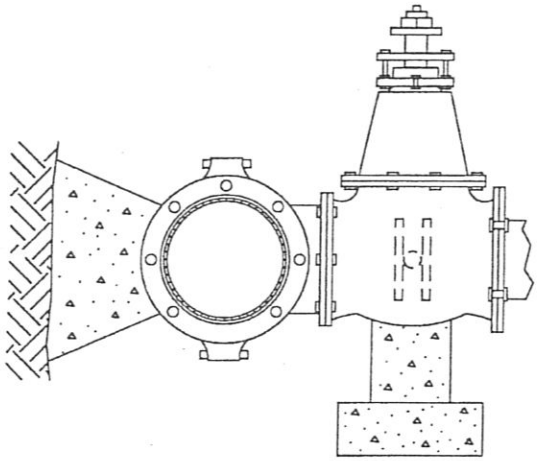

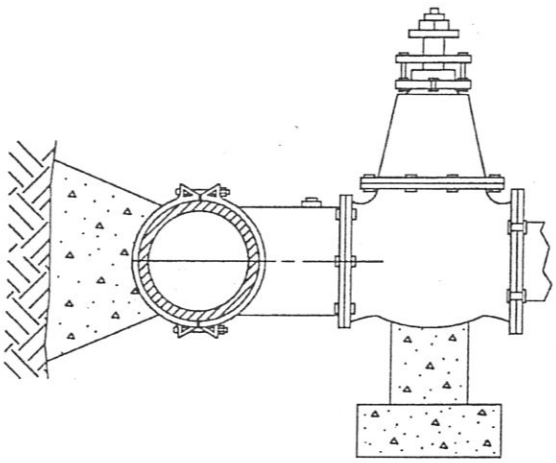

CAST IRON TAPPING TEE MECHANICAL JOINT SLEEVE

INSTALLED ON ASBESTOS CEMENT PIPE, CAST IRON PIPE AND DUCTILE IRON PIPE.

STAINLESS STEEL OR STEEL TAPPING TEE

STAINLESS STEEL TAPPING TEE

INSTALLED ON ASBESTOS CEMENT PIPE, CAST IRON PIPE AND DUCTILE IRON PIPE.

STEEL TAPPING TEE

INSTALLED ON DUCTILE IRON PIPE ONLY.

NOTES:

1. STAINLESS STEEL TAPPING TEES SHALL HAVE FULL CIRCLE SEAL. BOLTS AND NUTS SHALL BE STAINLESS STEEL.
2. STEEL TAPPING TEES SHALL BE EPOXY COATED. BOLTS AND NUTS SHALL BE COR-TEN, OR STAINLESS STEEL.
3. ALL TEES AND VALVES TO BE WATER TESTED BEFORE TAP.
4. TAP SHALL BE AT LEAST 2" SMALLER DIAMETER THAN THE EXISTING MAIN. (NO SAME SIZE TAPS SHALL BE ALLOWED.)
5. OPERATION OF GATE VALVE SHALL BE BY CITY PERSONNEL ONLY. CONTRACTOR SHALL NOT OPERATE VALVE.
6. VALVE BOX TO HAVE A LOCKING LID UNTIL ACCEPTED BY CITY.

1-20-2009

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CITY OF BLACK DIAMOND

TAPPING TEES

STANDARD DWG W-11	NOT TO SCALE	01/01/08

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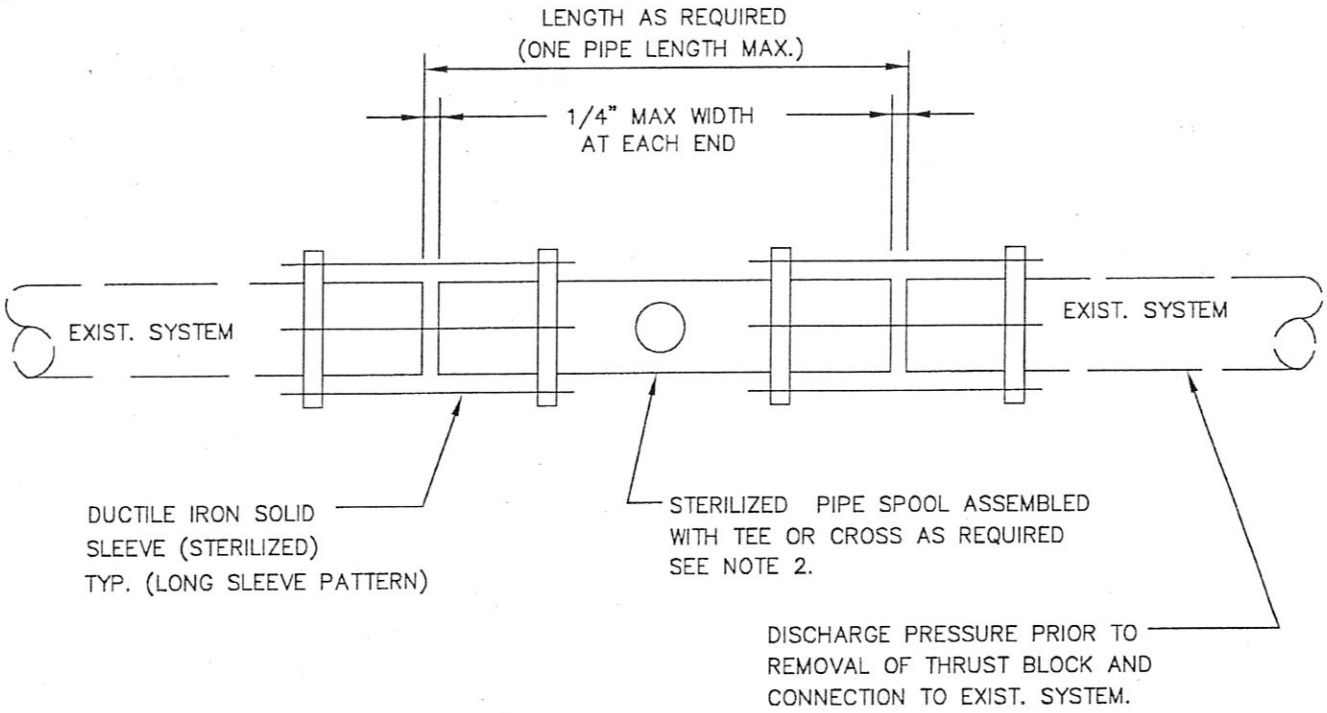

NOTE:

1. NO DEFLECTION SHALL BE ALLOWED AT EITHER COUPLING.
2. CUT-IN CONNECTIONS ON STEEL PIPE TO USE D.I. X O.D. STEEL TRANSITION COUPLINGS, ROMAC OR EQUAL.
3. IN-LINE VALVE(S) IN EXISTING SYSTEM MAY BE REQUIRED AT THE SOLE DISCRETION OF THE CITY AT ALL NEW INTERTIE LOCATIONS. (NOTE: VALVE(S) ARE NOT SHOWN ABOVE FOR CLARITY.)

1-20-2009

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CUT IN CONNECTION

STANDARD DWG W-12	NOT TO SCALE	01/01/08

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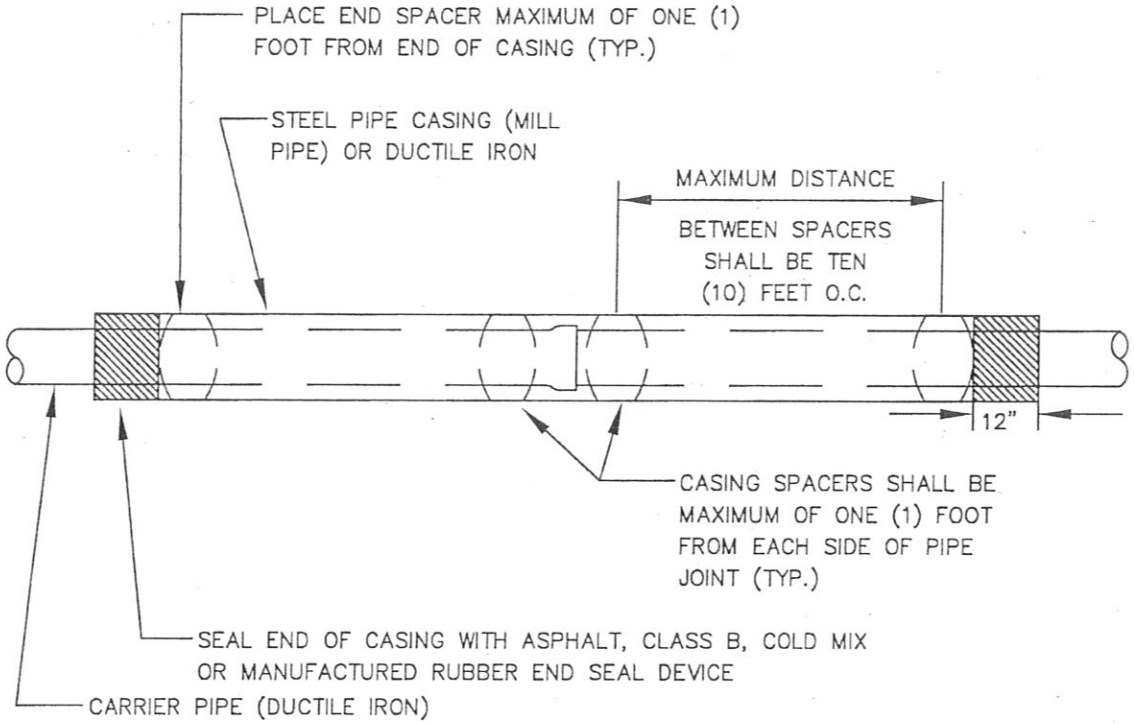

CASING SPACERS (SEE APPROVED MATERIALS LIST)

CARRIER PIPE DIAMETER	4"	6"	8"	10"	12"
CASING DIAMETER (PUSH-ON JOINT CARRIER PIPE)	10"	12"	14"	16"	20"
CASING DIAMETER (MJ/MEGALUG JOINT CARRIER PIPE)	14"	16"	18"	20"	22" *
STEEL CASING THICKNESS	0.25"	0.25"	0.25"	0.25"	0.25"
SPACER BAND WIDTH	8"	8"	8"	8"	8"

* 24" FOR DUCTILE IRON CASING.

ANTICORROSIVE COATING THICKNESS:
CARRIER – 8 MILLS DFT
CASING – 8 MILLS DFT

NOTES:

1. CASING SPACERS SHALL BE "CENTER POSITIONING" TYPE.
2. MINIMUM RUNNER WIDTH SHALL BE 2 INCHES.
3. RUNNER HEIGHT SHALL BE SIZED TO PROVIDE:
   A. MINIMUM 0.75" BETWEEN CARRIER PIPE BELL AND CASING PIPE WALL AT ALL TIMES.
   B. MINIMUM 1" CLEARANCE BETWEEN RUNNERS AND TOP OF CASING WALL TO PREVENT JAMMING DURING INSTALLATION.
4. STEEL CASING DIAMETERS ARE "OUTSIDE DIAMETER" FOR 16" & LARGER.
5. SPACER BAND WIDTH SHALL BE 12" FOR CARRIER PIPES THAT ARE 36" DIAMETER OR GREATER.
6. FILL CASING PIPE WITH SAND

1-20-2009
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CASING INSTALLATION

STANDARD DWG W-13	NOT TO SCALE	01/01/08

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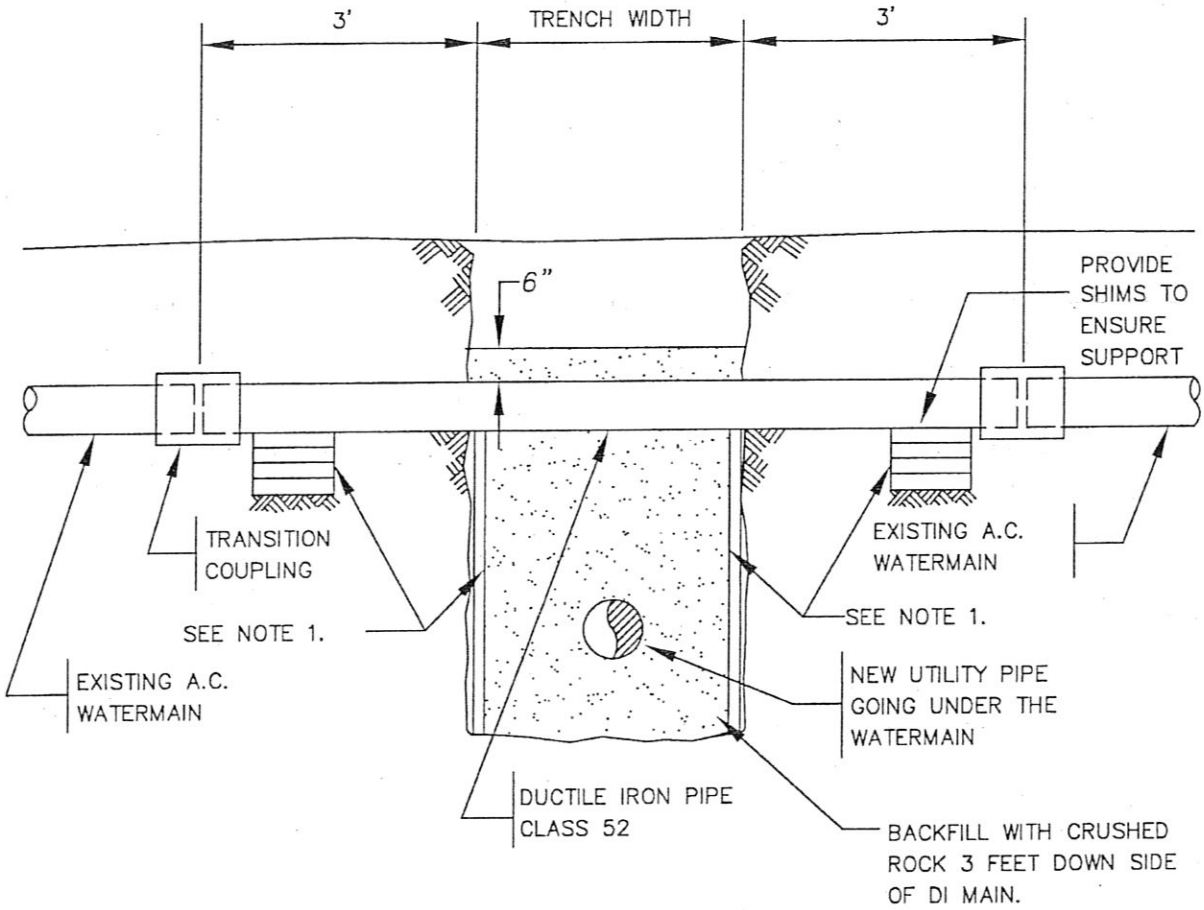

NOTES:

1. D.I. PIPE SHALL REST ON FIRM BEARING EARTH: SHORE TRENCH WALL UNDER WATERMAIN AS SHOWN, OR SUPPORT PIPE WITH PATIO BLOCKS (8"x16"X 2"). STACK BLOCKS AS REQUIRED TO REST ON FIRM BEARING SOIL.
2. THE CONTRACTOR IS REQUIRED TO MAINTAIN WORKERS' EXPOSURE TO ASBESTOS MATERIAL AT OR BELOW THE LIMIT PRESCRIBED IN WAC 296-62-07705.
3. ASBESTOS CEMENT PIPE SHALL BE CUT WITH A HAND-OPERATED CARBIDE BLADE CUTTER WITH CONTROLLED FLOWING WATER.
4. THIS DETAIL SHALL BE APPLICABLE IF REQUIRED BY THE CITY. BACKFILLING OF THE AC WATERLINE TRENCH WITH APPROVED MATERIALS MAY BE SUFFICIENT, AT THE SOLE DISCRETION OF THE CITY.

1-20-2009
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TYPICAL A.C. WATERMAIN CROSSING REPLACEMENT DETAIL

STANDARD DWG W-14	NOT TO SCALE	01/01/08

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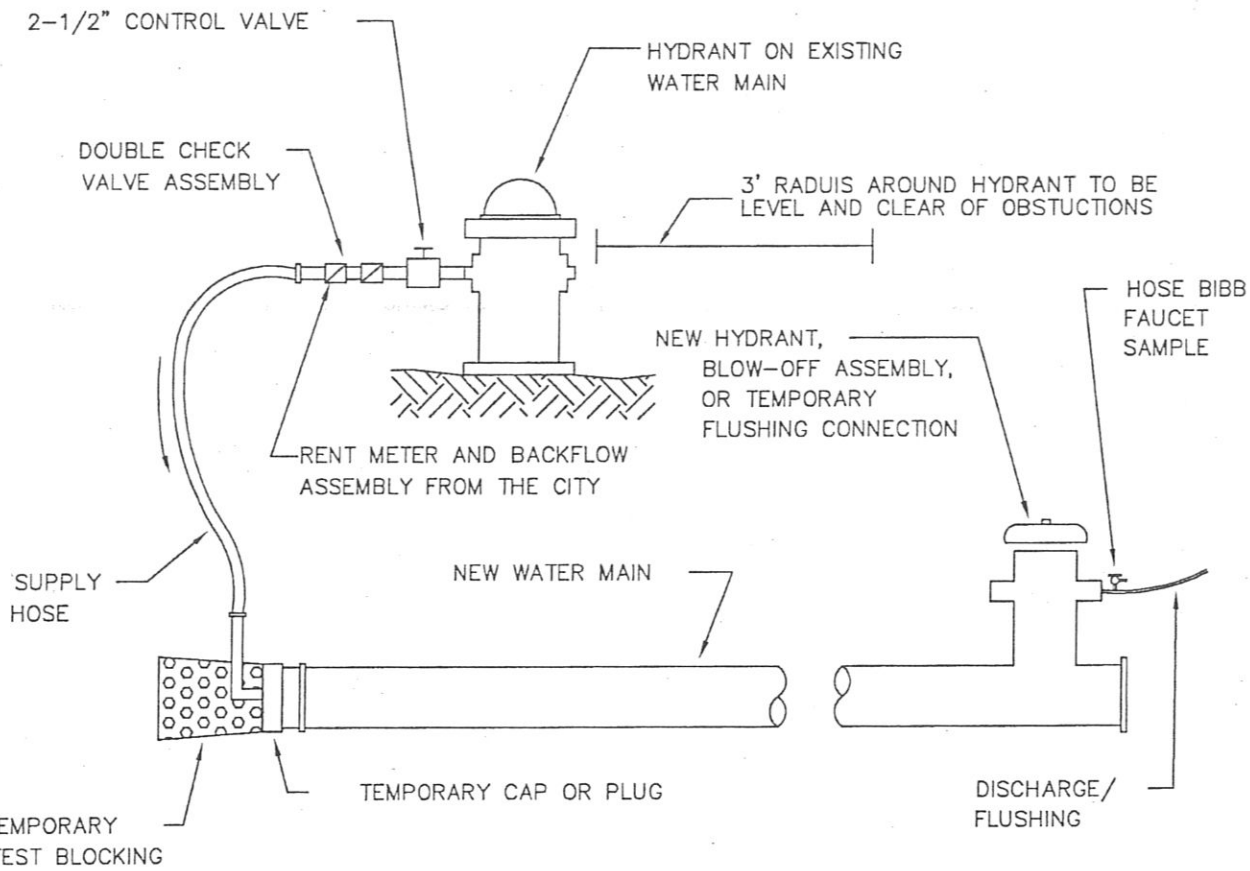

NOTES:

1. AN APPROVED BACKFLOW PREVENTION ASSEMBLY SHALL BE INSTALLED BETWEEN THE EXISTING AND NEW WATER LINES DURING DISINFECTION AND FLUSHING OF NEW WATERMAIN.
2. THE BACKFLOW PREVENTION ASSEMBLY AND SUPPLY HOSE MUST BE DISCONNECTED DURING HYDROSTATIC PRESSURE TESTING OF THE NEW MAIN.
3. THE NEW WATERMAIN SHALL BE CONNECTED TO THE EXISTING SYSTEM ONLY AFTER NEW MAIN IS FLUSHED, DISINFECTED AND SATISFACTORY BACTERIOLOGICAL SAMPLE RESULTS ARE OBTAINED.
4. THE INTERIORS OF ALL PIPES AND FITTINGS TO BE USED IN FINAL CONNECTION MUST BE SWABBED OR SPRAYED WITH A 1% AVAILABLE CHLORINE SOLUTION.

1-20-2009
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CITY OF BLACK DIAMOND

FILLING NEW WATER MAINS

STANDARD DWG W-15	NOT TO SCALE	01/01/08

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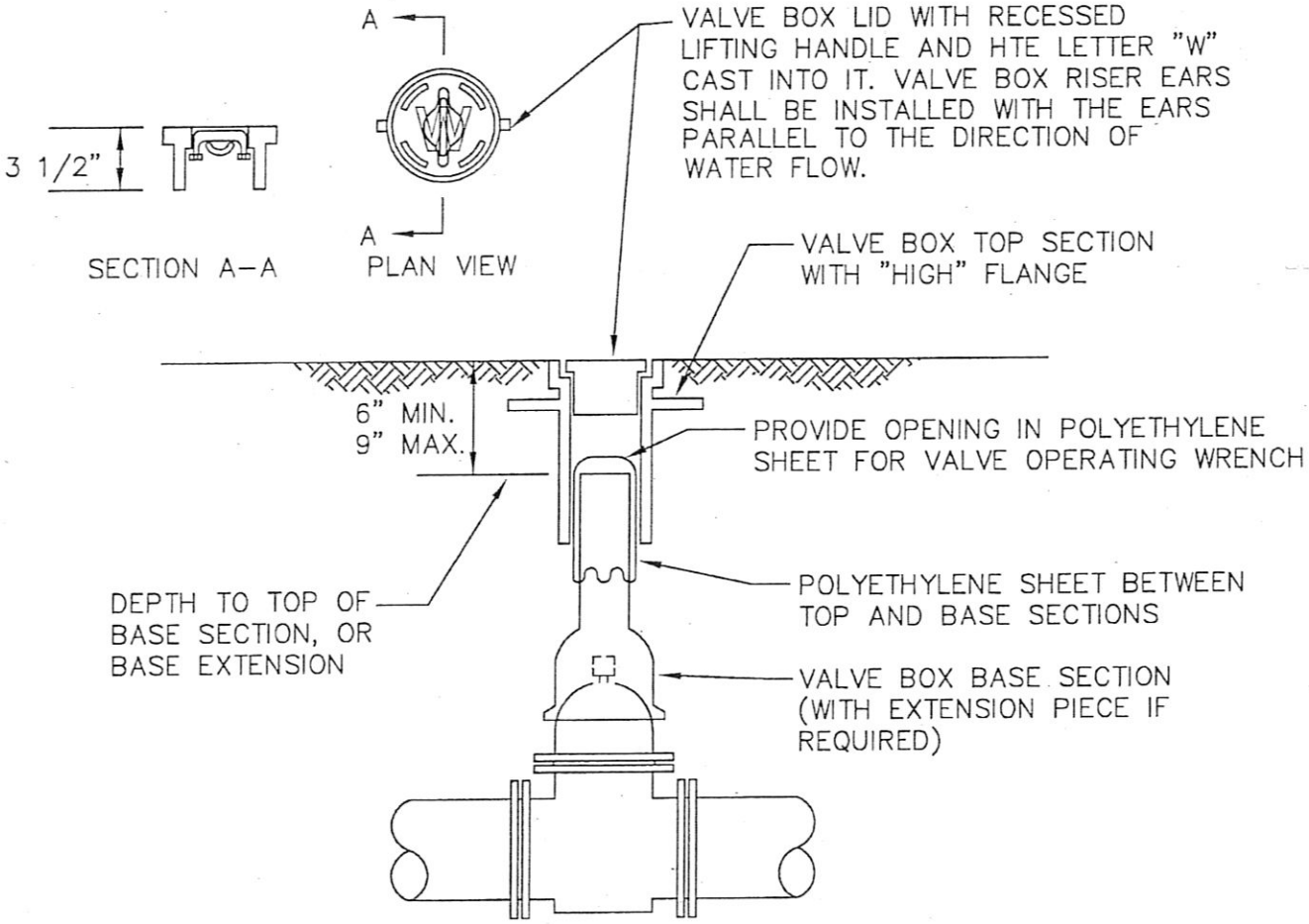

ALL PARTS SHALL BE CAST OR DUCTILE IRON AND COATED WITH ASPHALTIC VARNISH.

OLYMPIC FOUNDRY INC:
TOP AND BASE SECTION

RICH (VANRICH CASTING CORP.):
TOP SECTION AND
WITH RICH STANDARD BASE

INLAND FOUNDRY CO., INC.:
VALVE BOX PAVING RISER #2052–3, #2052–4, #2052–5 (PAVING RISER SHALL BE EPOXIED TO EXISTING VALVE BOX TOP SECTION)

12" ADJUSTING SLEEVE #044A

1-20-2009
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VALVE BOX INSTALLATION

STANDARD DWG W-16	NOT TO SCALE	01/01/08

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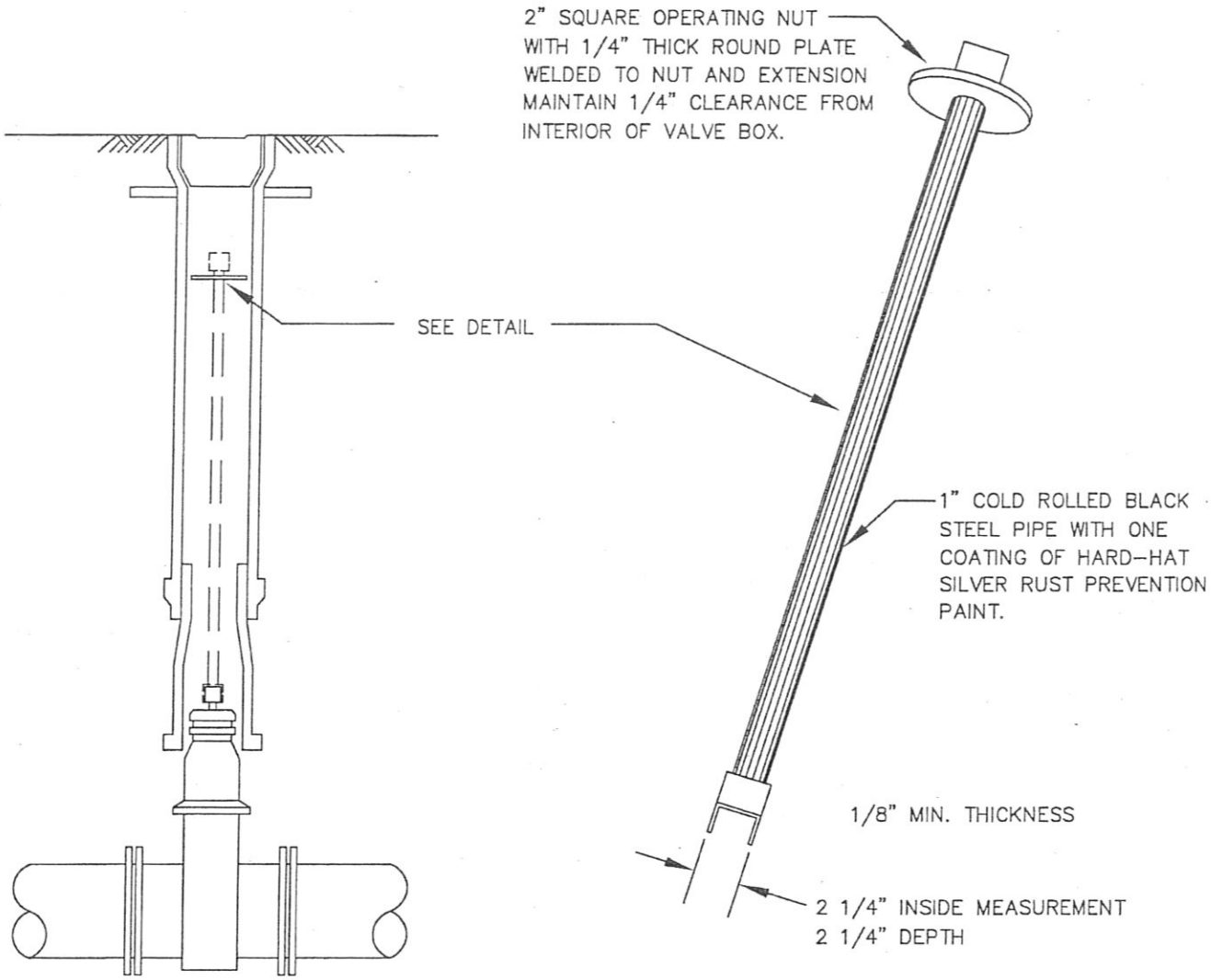

VALVE OPERATING NUT EXTENSION

EXTENSIONS ARE REQUIRED WHEN THE VALVE NUT IS MORE THAN THREE (3) FEET BELOW FINISHED GRADE. EXTENSIONS ARE TO BE A MINIMUM OF ONE (1) FOOT LONG. ONLY ONE EXTENSION TO BE USED PER VALVE.

NOTES:

1. ALL EXTENSIONS ARE TO BE MADE OF STEEL, SIZED AS NOTED, AND PAINTED WITH TWO COATS OF METAL PAINT.

1-20-2009
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VALVE OPERATING EXTENSION

STANDARD DWG W-17	NOT TO SCALE	01/01/08

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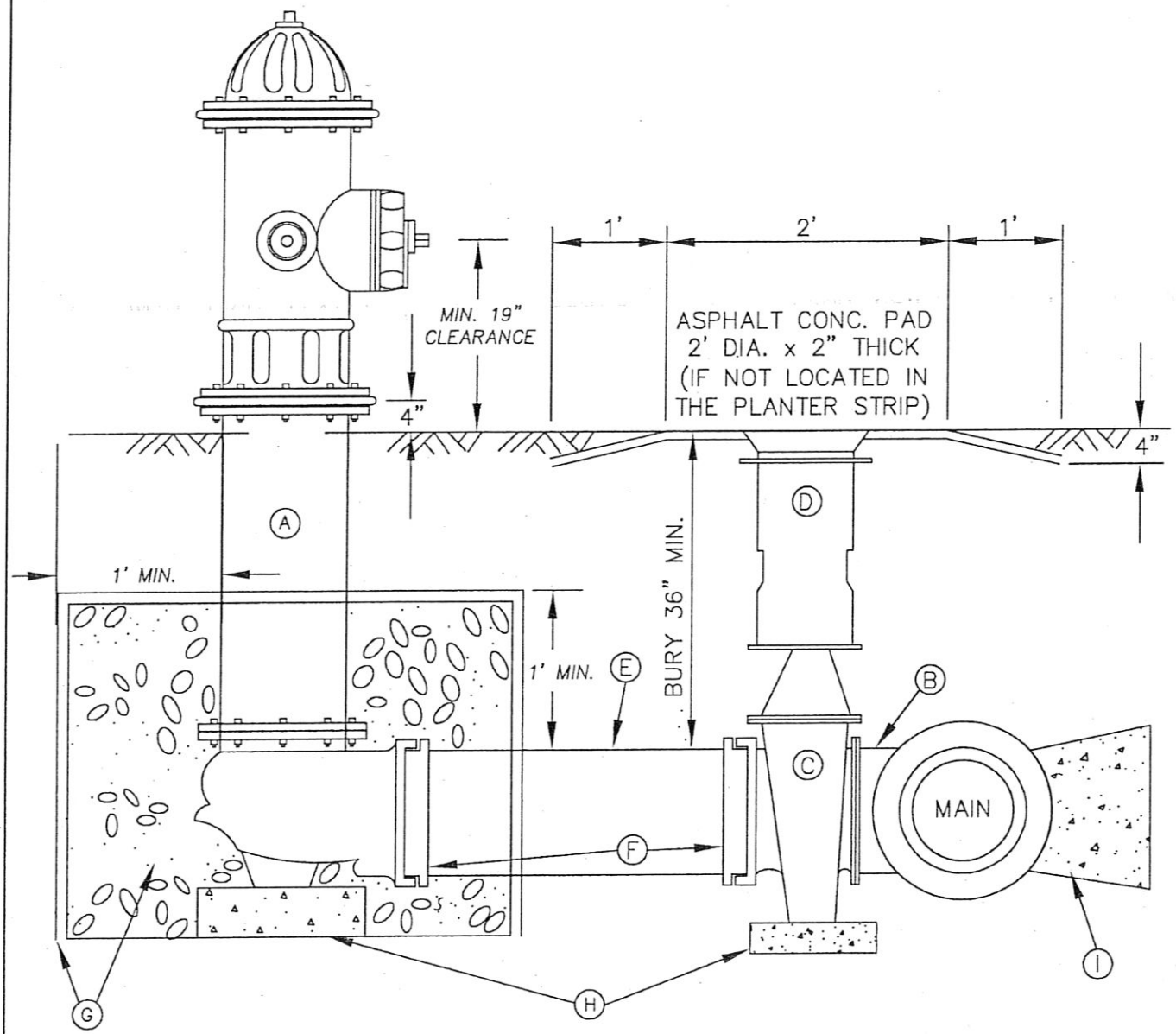

A. 1–5 1/4" M.V.O. HYDRANT WITH 2–2 1/2" (N.S.T.) AND 1–4" PUMPER PORT (N.S.T.), WITH PERMANENT 4" STORZ HYDRANT ADAPTOR AND STORZ BLIND CAP. FIRE HYDRANT TO BE PAINTED WITH PRESERVATIVE BRAND CATERPILLAR OR INTERNATIONAL YELLOW PAINT. PUMPER PORT TO FACE STREET, OR AS DIRECTED BY THE FIRE DEPARTMENT.
B. 6" FLANGE OUTLET ON CAST OR DUCTILE IRON TEE.
C. 1–AUXILIARY GATE VALVE: 6" AWWA C509, RESILIENT SEAT, M.J.xFL. WITH LUGS.
D. 1–TWO–PIECE CAST IRON VALVE BOX EQUAL TO RICH TYPE #045 WITH RECESSED HANDLE LID.
E. 1–6" DUCTILE IRON CLASS 52 CEMENT–LINED PIPE, LENGTH TO FIT. WHERE MORE THAN ONE LENGTH OF PIPE IS REQUIRED, CONNECT PIPES WITH MECHANICAL JOINT SLEEVE, RESTRAIN PIPE AND SLEEVE WITH MEGALUG RESTRAINERS, OR RESTRAIN PIPES WITH UNI–FLANGE SERIES 1300 & 1390 JOINT RESTRAINERS.
F. RESTRAIN MECHANICAL JOINTS WITH MEGALUG RESTRAINERS.
G. 1/2 YARD WASHED DRAIN ROCK (3" TO 3/8"), MIN. 1' ABOVE BOOT FLANGE PLACE FILTER FABRIC ENCASEMENT AROUND GRAVEL.
H. 16"X8"X4" MIN. SIZE CONCRETE BLOCK UNDER HYDRANT AND VALVE.
I. CONC. BLOCKING.
J. INSTALL BLUE LANE REFLECTOR IN PAVEMENT.

9-20-2009
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FIRE HYDRANT ASSEMBLY

STANDARD DWG W-18	NOT TO SCALE	01/01/08

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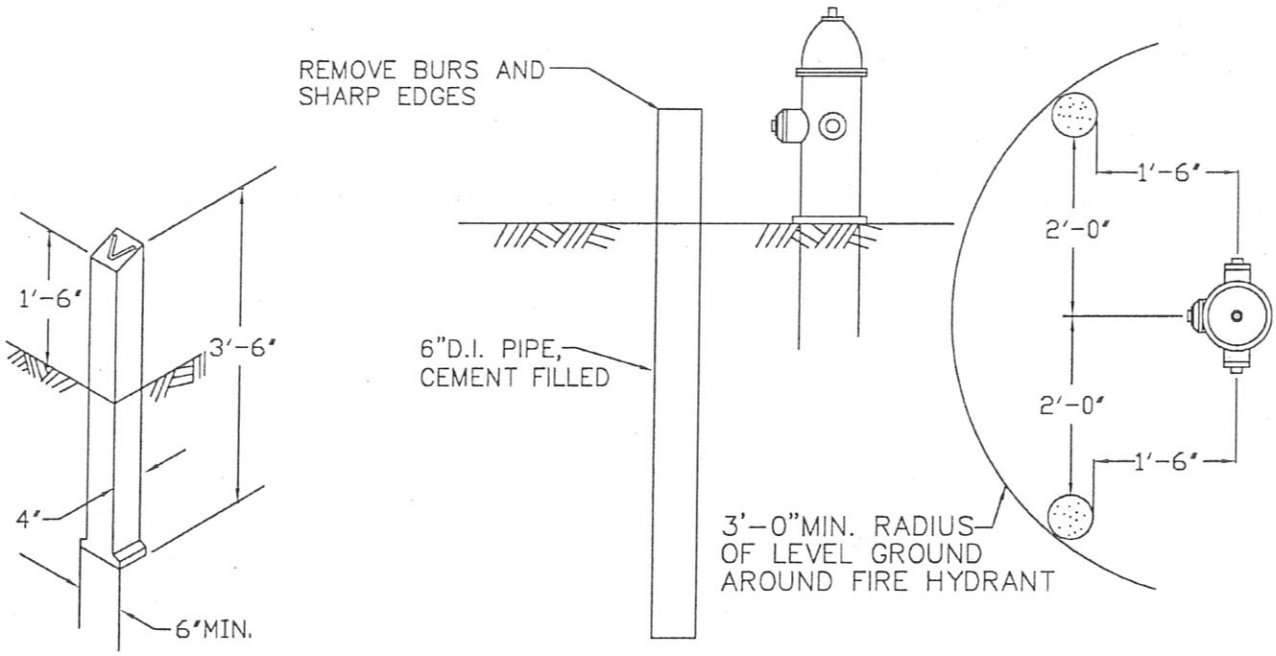

VALVE MARKER POST

FIRE HYDRANT GUARD POST

NOTES:

1. GUARD POST SHALL BE 6" CL.52 D.I. PIPE, 6' LONG, FILLED WITH CEMENT. PAINT WITH TWO COATS OF RUSTOLEUM HIGH GLOSS WHITE PAINT.
2. VALVE MARKER POST SHALL BE EQUAL TO FOG TITE METER SEAL COMPANY. PAINT WITH TWO COATS OF PRESERVATIVE BRAND CATERPILLAR OR INTERNATIONAL YELLOW PAINT. PAINT DISTANCE FROM THE VALVE MARKER TO THE VALVE ON THE POST WITH BLACK ENAMEL PAINT.
3. VALVE MARKER POST TO BE USED FOR ALL MAINLINE VALVES OUTSIDE PAVED AREAS.
4. HYDRANT VALVES SHALL BE LOCATED IN PLANTER STRIP AREA IF POSSIBLE.

1-20-2009

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FIRE HYDRANT GUARD POST &
VALVE MARKER POST

STANDARD DWG W-19	NOT TO SCALE	01/01/08

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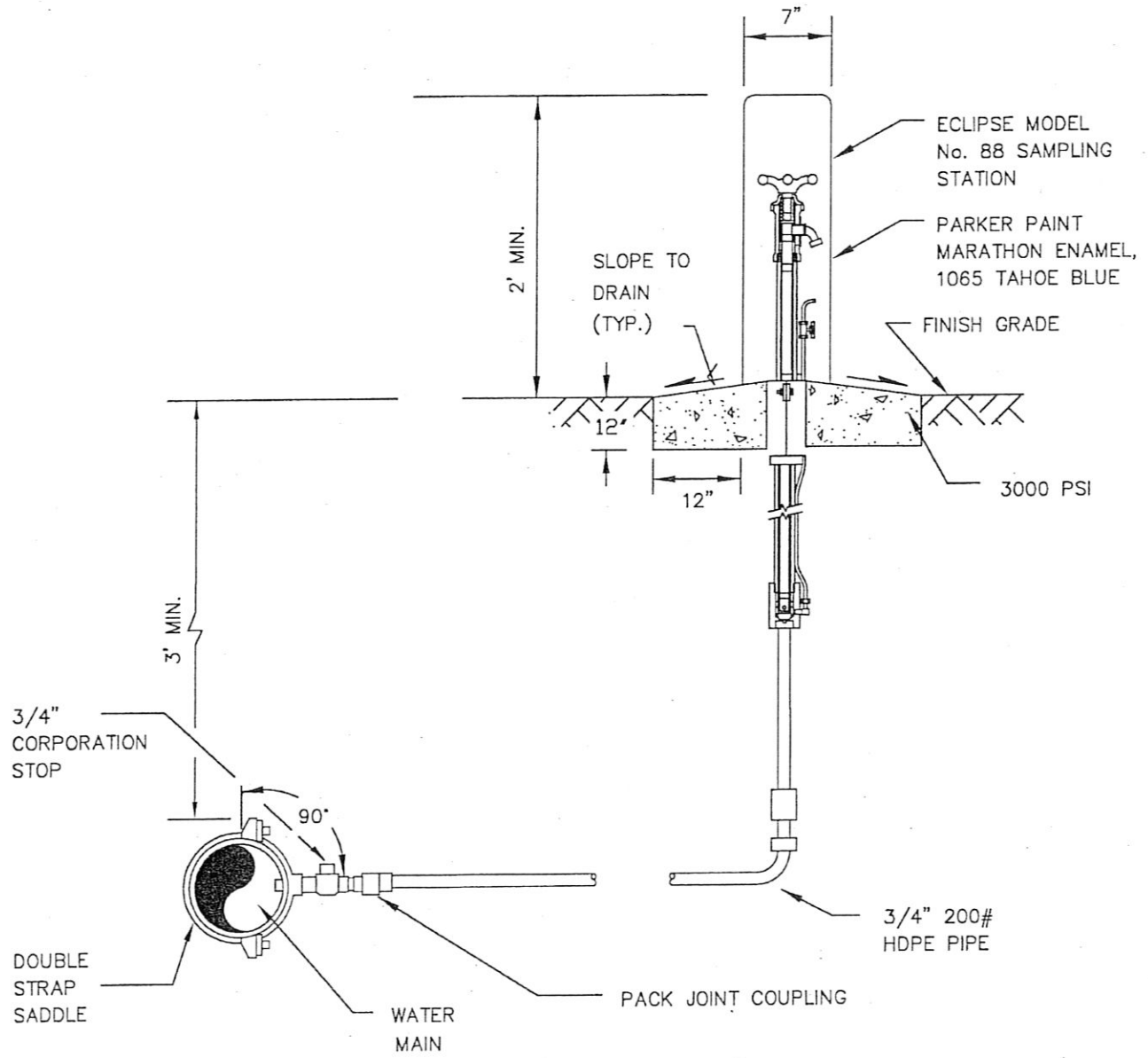

NOTE:

INSTALL 14 GAUGE TRACER WIRE FROM CORP STOP TO SAMPLING STATION.

9-20-2009

LEONARD L. SMITH
STATE OF WASHINGTON
20630
REGISTERED
PROFESSIONAL ENGINEER

CITY OF BLACK DIAMOND

WATER SAMPLING STATION

STANDARD DWG W-20	NOT TO SCALE	01/01/08

PacWest Engineering
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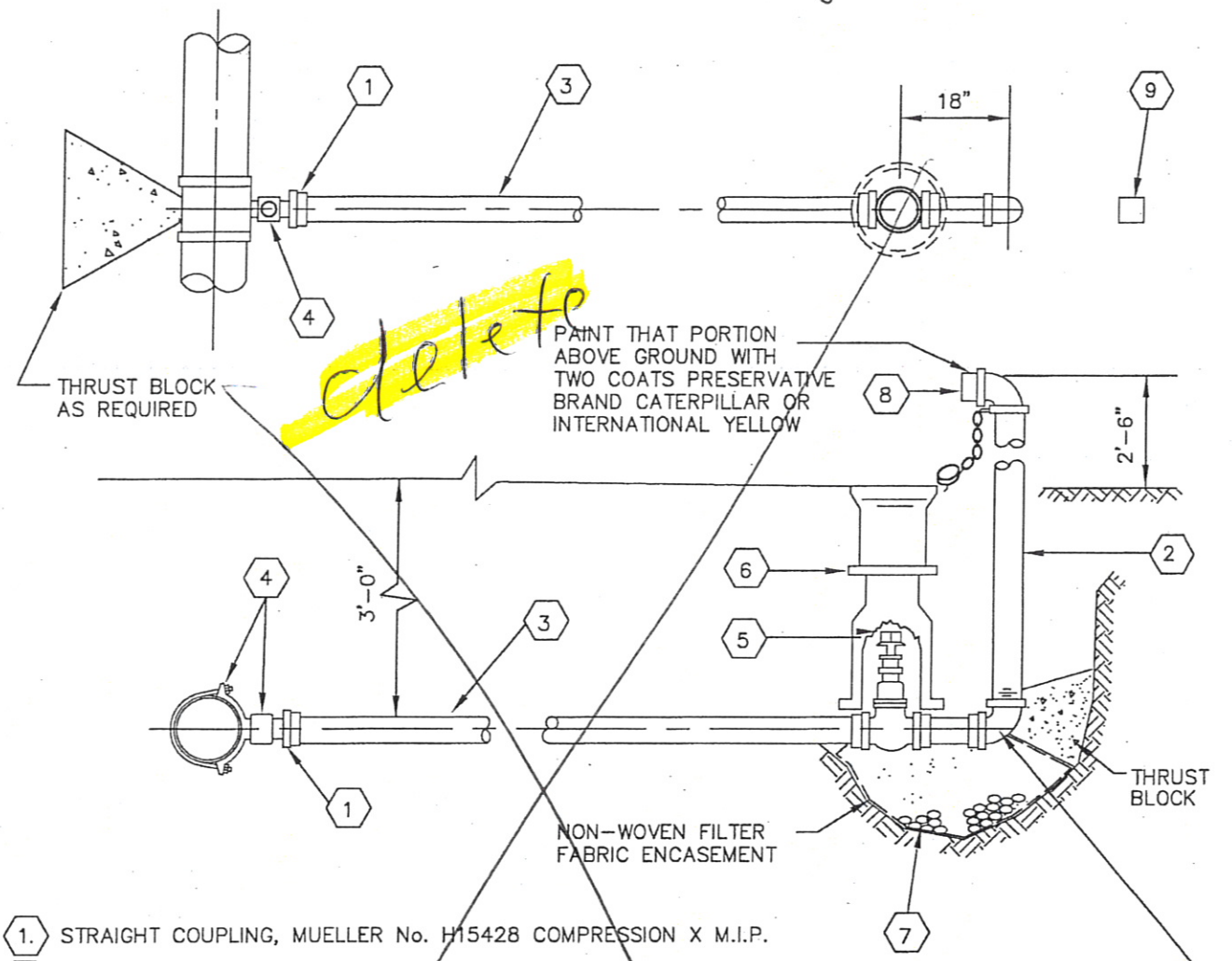
SEE Attached Page



1. STRAIGHT COUPLING, MUELLER No. H15428 COMPRESSION X M.I.P.
2. 2" GALVANIZED PIPE
3. 2" POLY PIPE
4. DOUBLE STRAP SADDLE (WITH CORP) TO FIT
5. 2" AWWA RESILIENT SEAT GATE VALVE W/OPERATING NUT.
6. CAST IRON VALVE BOX
7. 1/4 CUBIC YARD CRUSHED ROCK.
8. 2" x 2-1/2" HOSE THREADS BRASS INSERT WITH CAP AND CHAIN
9. VALVE MARKER POST

NOTES:

1. TURN NOZZEL TOWARDS ROADSIDE DITCH
2. INSTALL DIELECTRIC COUPLINGS AT DISSIMILAR METALS.
3. ENGINEER SHALL BE RESPONSIBLE TO DETERMINE IF A 2" BLOW-OFF ASSEMBLY IS ADEQUATE FOR LARGER THAN 8" DIAMETER WATERLINES. FIRE HYDRANT INSTALLATION SHALL BE REQUIRED FOR 12" DIAMETER & LARGER WATERLINES.

1-20-2009

LEONARD L. SMITH — STATE OF WASHINGTON — 20830 — REGISTERED PROFESSIONAL ENGINEER

Leonard L. Smith

CITY OF BLACK DIAMOND

BLOW-OFF ASSEMBLY

STANDARD DWG W-21	NOT TO SCALE	01/01/08

PWE

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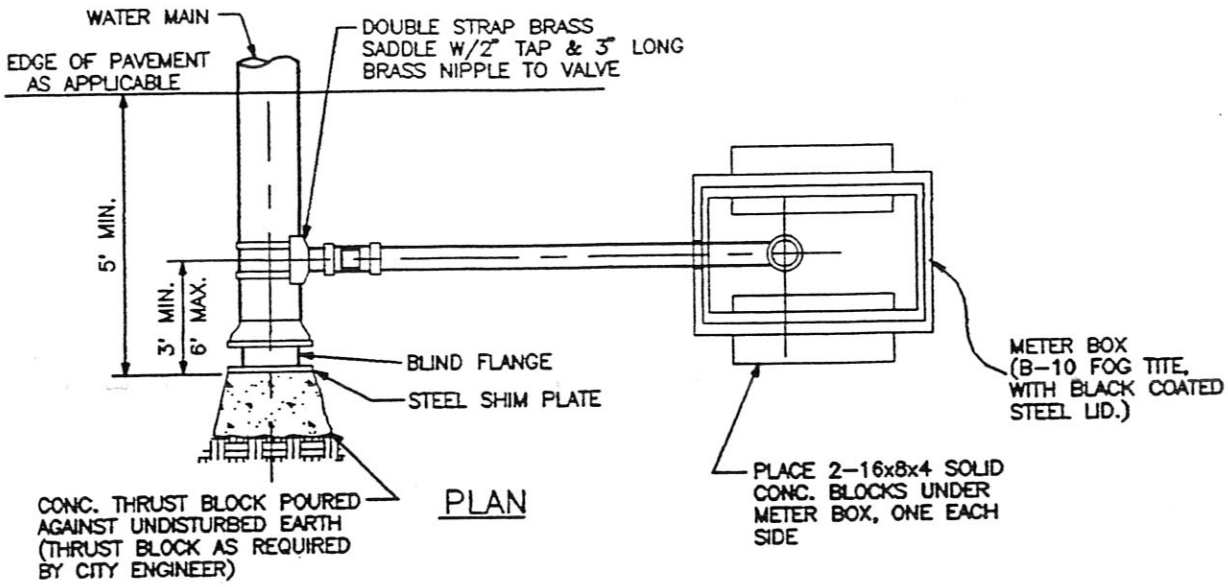
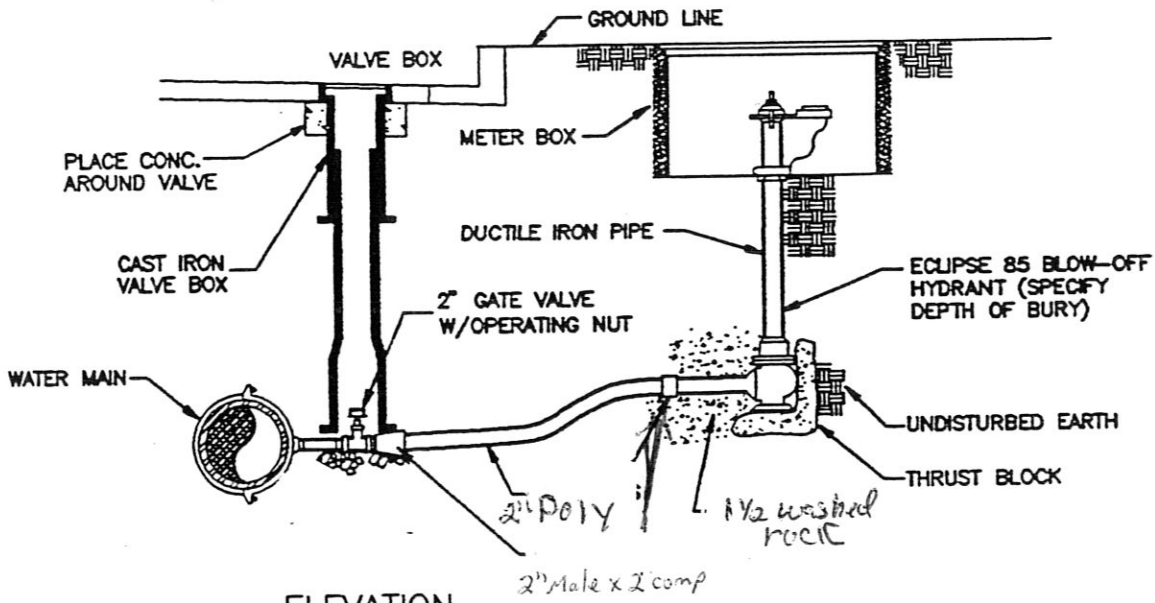
Fife, Washington



PLAN

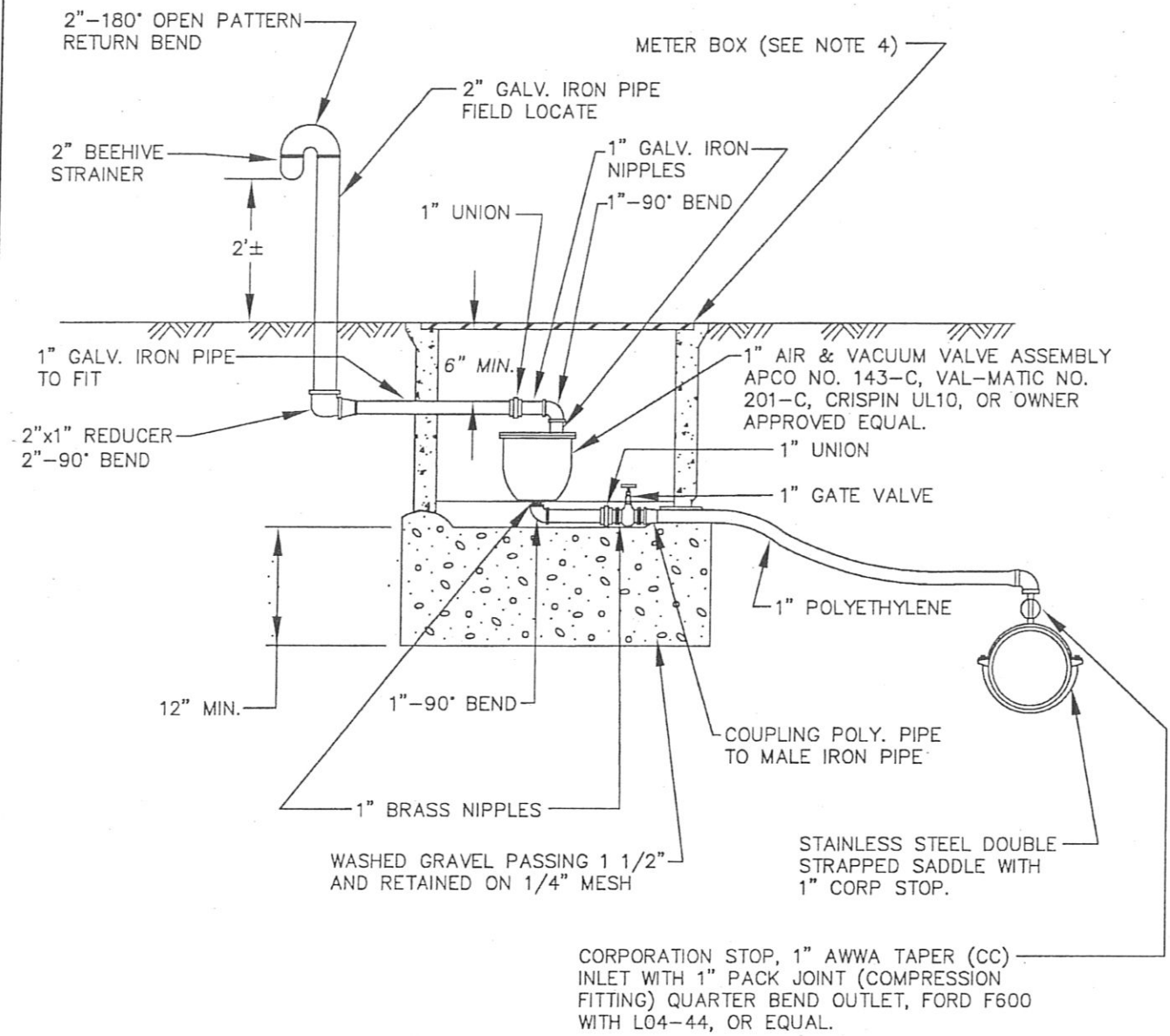


ELEVATION

BLOW-OFF HYDRANTS SHALL BE NON-FREEZING, SELF-DRAINING TYPE.

1. SET UNDERGROUND IN CITY APPROVED METER BOX, THESE HYDRANTS WILL BE FURNISHED WITH A 2" FIP INLET, A NON-TURNING OPERATING ROD, AND SHALL OPEN TO THE DESIGN, AND BE SERVICEABLE FROM ABOVE GRADE WITH NO DIGGING.
2. THE OUTLET SHALL ALSO BE BRONZE AND BE 2-1/2" NST.
3. HYDRANTS SHALL BE LOCKABLE TO PREVENT UNAUTHORIZED USE.
4. Fire Hydrant installation shall be required for 12" diameter & larger water lines.
(SPECIFY OVERALL LENGTH 6" SHORTER THAN NORMAL DEPTH OF BURY. MINIMUM OPENING IN METER BOX SHALL BE 10".)

CITY OF BLACK DIAMOND			
PERMANENT IN-LINE BLOW OFF ASSEMBLY			
APPROVED: CITY ADMINISTRATOR 04/25/05 DATE			DWG. NO. PILBOA
DATE: 2/95	DRWN: R.L.O.	CHKD: T.J.O.	SCALE: NONE



NOTES:

1. ALL FITTINGS TO BE BRASS OR COPPER FROM WATER MAIN TO 1" AIR & VACUUM ASSEMBLY.
2. 2" GALVANIZED PIPE ABOVE GRADE TO BE PAINTED WITH 2 COATS PRESERVATIVE BRAND CATERPILLAR OR INTERNATIONAL YELLOW PAINT.
3. AIR & VACUUM RELEASE VALVE ASSEMBLY MUST BE INSTALLED AT HIGHEST POINT OF LINE. IF HIGH POINT FALLS IN A LOCATION WHERE ASSEMBLY CANNOT BE INSTALLED, PROVIDE ADDITIONAL DEPTH OF LINE TO CREATE HIGH POINT AT A LOCATION WHERE ASSEMBLY CAN BE INSTALLED.
4. LOCATE AIR & VACUUM METER BOX OUTSIDE OF TRAFFIC AREAS, BEHIND CURB OR SIDEWALK.

1-20-2009

LEONARD L. SMITH — STATE OF WASHINGTON — 20830 — REGISTERED PROFESSIONAL ENGINEER

Leonard L. Smith

CITY OF BLACK DIAMOND

1" AIR & VACUUM RELEASE VALVE ASSEMBLY

STANDARD DWG W-22	NOT TO SCALE	01/01/08

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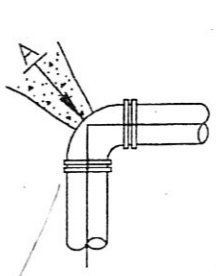
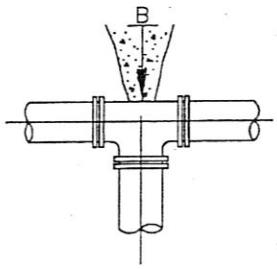
Fife, Washington

Replace with attached page

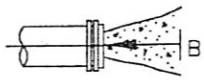
THRUST BLOCK – TABLE							
		MINIUM BEARING AREA AGAINST UNDISTURBED SOIL SQUARE FEET					
PIPE SIZE	PRESSURE PSI	A	B	C	D	E	X (100 PSI)
4"	200 300	2/(1) 3/(2)	1/(NONE) 2/(2)	1/(NONE) 2/(1)	NONE 1/(1)	NONE NONE	NONE
6"	200 300	4/(3) 6/(4)	3/(2) 4/(3)	3/(1) 3/(2)	1/(1) 2/(1)	1/(NONE) 1/(NONE)	NONE
8"	200 300	7/(5) 11/(8)	5/(3) 8/(5)	4/(3) 6/(4)	2/(2) 3/(2)	1/(1) 2/(1)	3/(2)
10"	200 275	11/(8) 16/(11)	8/(6) 11/(7)	6/(4) 9/(6)	3/(2) 5/(3)	2/(1) 3/(2)	4/(3)
12"	200 250	16/(11) 24/(16)	11/(8) 17/(11)	9/(6) 13/(9)	5/(3) 7/(5)	3/(2) 4/(3)	5/(4)
14"	200 250	22/(13) 33/(22)	16/(11) 23/(16)	12/(8) 18/(12)	6/(4) 9/(6)	3/(2) 5/(3)	7/(6)
16"	200 225	29/(19) 32/(21)	21/(14) 23/(16)	16/(11) 17/(12)	8/(6) 9/(6)	5/(3) 5/(3)	10/(7)
18"	200	36/(24)	26/(17)	20/(13)	10/(7)	5/(4)	13/(9)
20"	200	45/(29)	32/(21)	24/(16)	13/(8)	7/(4)	16/(11)
24"	200	64/(43)	46/(30)	35/(23)	18/(12)	9/(6)	23/(16)



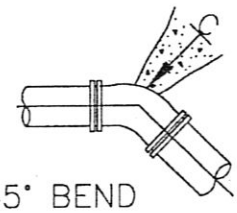
90° BEND



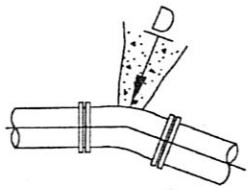
TEE



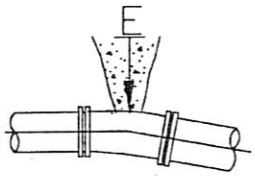
CAP



45° BEND



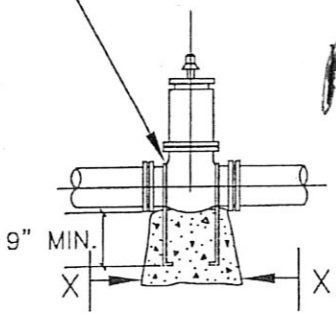
22 1/2° BEND



11 1/4° BEND

2 – 3/4" DIA. RODS FOR 10" SIZE & SMALLER
2 – 1" DIA. RODS LARGER THAN 10" SIZE

Replace



GATE VALVE

NOTE: ADDITIONAL BLOCKING MUST BE PROVIDED IF GATE VALVE IS AT END OF LINE DURING TESTING.

NOTES:
1. SQUARE FEET OF CONCRETE THRUSTS – BLOCK AREA BASED ON SAFE BEARING LOAD OF 2000/(3000) LBS. PER SQ. FT.
2. AREAS MUST BE ADJUSTED FOR OTHER SIZE PIPE, PRESSURES & SOIL CONDITIONS.
3. CONCRETE BLOCKING SHALL BE CAST IN PLACE & HAVE MIN. OF 1/4 SQUARE FOOT BEARING AGAINST THE FITTING.
4. BLOCK SHALL BEAR AGAINST FITTINGS ONLY & SHALL BE CLEAR OF JOINTS TO PERMIT TAKING UP OR DISMANTLING JOINT. FITTING SHALL BE ISOLATED FROM CONCRETE THRUST BLOCK WITH 20 LB. TAR PAPER, PLASTIC OR SIMILAR MATERIAL.
5. CONTRACTOR SHALL INSTALL BLOCKING ADEQUATE TO WITHSTAND FULL TEST PRESSURE AS WELL AS TO CONTINUOUSLY WITHSTAND OPERATING PRESSURE UNDER ALL CONDITIONS OF SERVICE.

SAFE BEARING LOADS IN LB./SQ. FT.
THE SAFE BEARING LOADS GIVEN IN THE FOLLOWING TABLE ARE FOR HORIZONTAL THRUSTS WHEN THE DEPTH OF COVER OVER THE PIPE EXCEEDS 2 FEET.

SOIL	SAFE BEARING LOAD LB. PER SQ. FT.
* MUCK, PEAT, ETC.	0
SOFT CLAY	1,000
SAND	2,000
SAND & GRAVEL	3,000
SAND & GRAVEL CEMENTED WITH CLAY	4,000
HARD SHALE	10,000

* IN MUCK OR PEAT, ALL THRUSTS SHALL BE RESTRAINED BY PILES OR TIE RODS TO SOLID FOUNDATIONS OR BY REMOVAL OF MUCK OR PEAT AND REPLACEMENT WITH BALLAST OF SUFFICIENT STABILITY TO RESIST THRUST.

1-20-2009
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STATE OF WASHINGTON
20830
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PROFESSIONAL ENGINEER
Leonard Smith

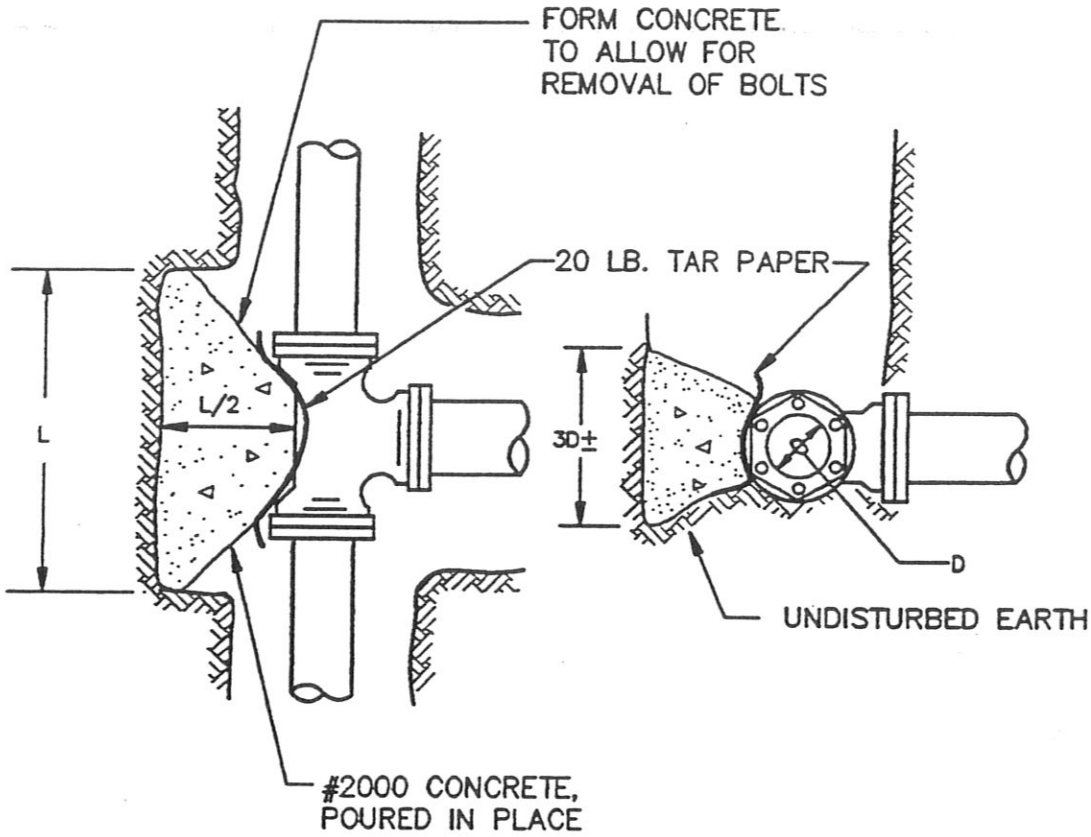
CITY OF BLACK DIAMOND

CONCRETE BLOCKING

STANDARD DWG W-23	NOT TO SCALE	01/01/08

PWE
PacWest Engineering
Fife, Washington

MINIMUM BEARING AREA TABLE					
FITTING D	TEE	90°	45°	22 1/2°	11 1/4°
6"	4 SQ.FT.	6 SQ.FT.	3 SQ.FT.	2 SQ.FT.	2 SQ.FT.
8"	7 SQ.FT.	10 SQ.FT.	6 SQ.FT.	3 SQ.FT.	2 SQ.FT.
10"	10 SQ.FT.	15 SQ.FT.	9 SQ.FT.	5 SQ.FT.	3 SQ.FT.
12"	14 SQ.FT.	22 SQ.FT.	12 SQ.FT.	6 SQ.FT.	4 SQ.FT.
16"	25 SQ.FT.	38 SQ.FT.	21 SQ.FT.	11 SQ.FT.	7 SQ.FT.
18"	32 SQ.FT.	48 SQ.FT.	27 SQ.FT.	14 SQ.FT.	8 SQ.FT.

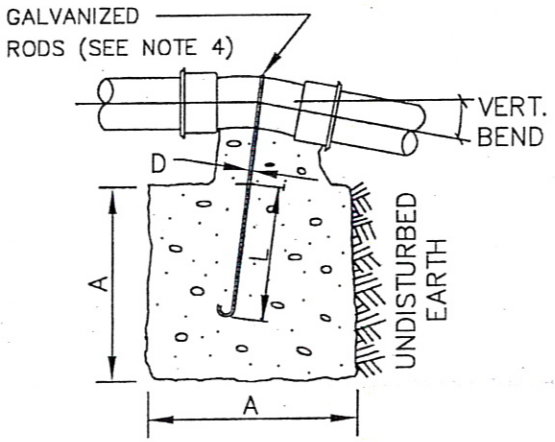


PLAN **ELEVATION**

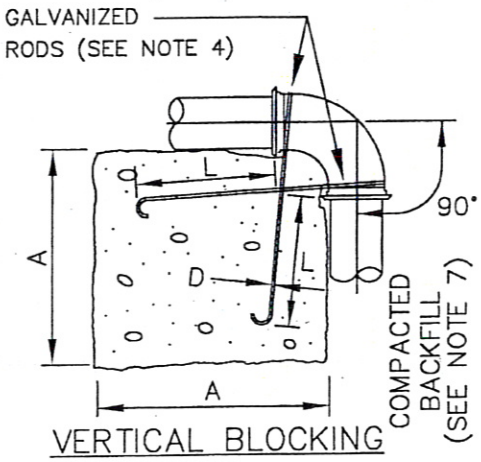
NOTE:
BEARING AREA TABLE BASED ON 250 PSI PRESSURE AND 2000 PSF SOIL BEARING. IF PRESSURE IS GREATER OR SOIL BEARING IS LESS, THE THRUST BLOCK SIZE SHALL BE INCREASED.

THIS TABLE REPRESENTS THE "MINIMUM" CONSTRUCTION STANDARDS. THE DEVELOPER'S ENGINEER SHALL BE RESPONSIBLE FOR DETERMINING THE APPROPRIATE SIZE OF ALL THRUST BLOCKS BASED ON EXISTING AND LOCAL CONDITIONS.

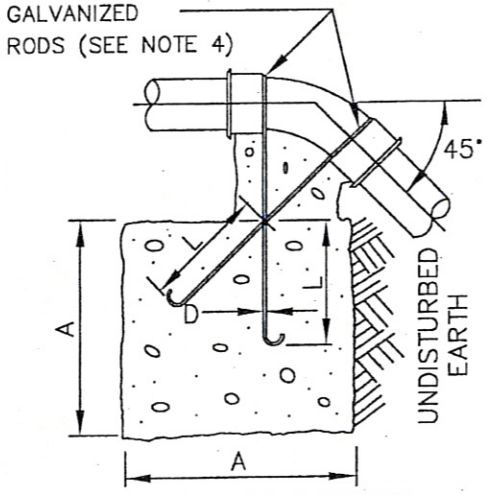
CITY OF BLACK DIAMOND			
THRUST BLOCKS (FOR WATER MAINS)			
APPROVED: CITY ADMINISTRATOR 04/25/95 DATE			DWG. NO. TB
DATE: 2/95	DRWN: R.L.O.	CHKD: T.J.O.	SCALE: NONE



VERTICAL BLOCKING
11 1/4° & 22 1/2° BENDS



VERTICAL BLOCKING
FOR 90° BENDS
(SEE NOTE 6)



VERTICAL BLOCKING
FOR 45° BENDS

VERTICAL BLOCKING SIZE W/RESTRAINED JOINTS SOIL TYPE = COHESIVE GRANULAR [GC+SC] SAND, GRAVEL, CLAY MIXTURE					
PIPE SIZE	V B	CU FT	A	D	L
4"	11 1/4°	*			
	22 1/2°	*			
	45°	*			
	90°	16	2.5'	3/4"	2.0'
6"	11 1/4°	*			
	22 1/2°	*			
	45°	13	2.3'	3/4"	2.0'
	90°	43	3.5'	3/4"	2.0'
8"	11 1/4°	*			
	22 1/2°	*			
	45°	33	3.2'	3/4"	2.0'
	90°	86	4.4'	3/4"	2.0'
10"	11 1/4°	*			
	22 1/2°	13	2.3'	3/4"	2.0'
	45°	64	4.0'	3/4"	2.0'
	90°	141	5.2'	1"	3.5'
12"	11 1/4°	*			
	22 1/2°	20	2.7'	3/4"	2.0'
	45°	111	4.8'	3/4"	2.0'
	90°	206	5.9'	1 1/8"	4.0'

* BLOCKING NOT REQUIRED IF 36 FEET OF PIPE IS RESTRAINED ON EACH SIDE OF BEND.

delete

NOTES:

1. NO CHANGE IN PIPE DIRECTION OR DIAMETER SHALL OCCUR WITHIN 36 FEET OF THE VERTICAL BEND. BENDS, TEES, REDUCERS, ETC. BEYOND THE 36 FOOT LIMIT SHALL BE RESTRAINED BY STANDARD CONCRETE BLOCKING PER STD. DTL. W-1 & W-3.
2. CONCRETE BLOCKING SIZES BASED ON:
   - 36 FEET OF PIPE RESTRAINED EACH SIDE OF BEND.
   - THRUST BLOCK AREAS BASED ON SAFE BEARING LOAD OF 1,000 PSF.
   - 2,500 PSI CONCRETE.
   - MINIMUM 3 FEET OF COVER.
   - PIPE THRUST BASED ON 200 PSI PRESSURE.
   - VERTICAL BLOCK SIZE BASED ON CONCRETE WEIGHT OF 150 POUNDS PER CUBIC FOOT.
   - TRENCH CONDITIONS BASED ON TYPE 2, FLAT BOTTOM TRENCH WITH LIGHTLY CONSOLIDATED BACKFILL, PER ANSI/AWWA C150/A21.50.
   - FACTOR OF SAFETY IS 1.5.
   - SOIL FRICTIONAL RESISTANCE BASED ON COHESIVE GRANULAR SOIL TYPE (GC+SC). SAND, GRAVEL, CLAY MIXTURE.
3. BLOCKING DESIGN MUST BE ADJUSTED FOR OTHER SIZE PIPE, PRESSURES & SOIL CONDITIONS.
4. DEFORMED REINFORCEMENT BARS SHALL BE IN ACCORDANCE WITH ASTM A 615. BARS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 767.
5. LINE SHALL NOT BE PRESSURIZED UNTIL ALL TRENCHING WITHIN 100 FT. OF VERTICAL BEND IS BACKFILLED AND COMPACTED TO MINIMUM COVER OF 3 FT. OVER PIPE.
6. 90° VERTICAL BENDS SHALL ONLY BE INSTALLED WHERE GIVEN PRIOR APPROVAL BY THE CITY.
7. BACKFILL TRENCH BEYOND 90° VERTICAL BLOCK WITH CRUSHED SURFACING TOP COURSE MATERIAL COMPACTED TO 95% MINIMUM DENSITY. CRUSHED BACKFILL SHALL EXTEND 20 FEET BEYOND BLOCK OR TO FIRM BEARING TRENCH WALL, WHICHEVER IS LESS.

8-20-2009

LEONARD L. SMITH
STATE OF WASHINGTON
20630
REGISTERED
PROFESSIONAL ENGINEER

Leonard L. Smith

CITY OF BLACK DIAMOND

VERTICAL BLOCKING WITH RESTRAINED JOINTS FOR NEW LINES

STANDARD DWG W-24	NOT TO SCALE	01/01/08

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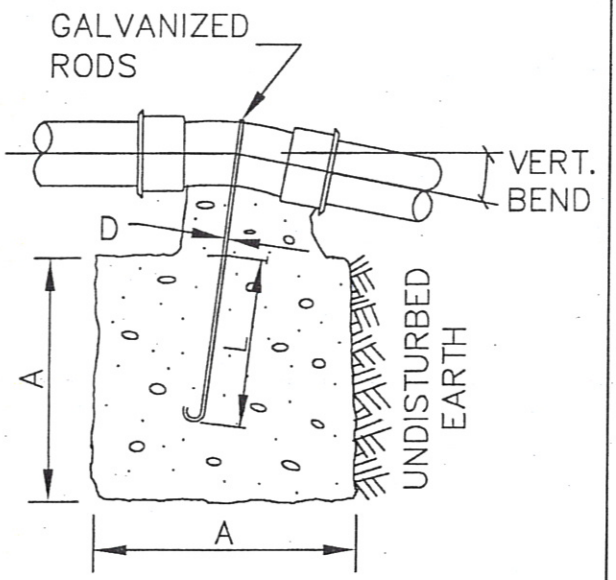
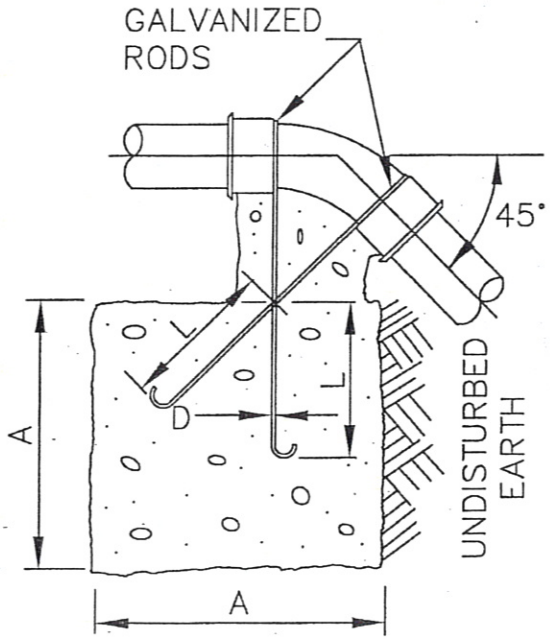
Fife, Washington

VERTICAL BLOCKING FOR 11 1/4°–22 1/2°–30° BENDS					
PIPE SIZE	V B	CU FT	A	D	L
4"	11 1/4°	8	2.0'	3/4"	1.5'
	22 1/2°	11	2.2'		2.0'
	30°	17	2.6'		
6"	11 1/4°	11	2.2'	3/4"	2.0'
	22 1/2°	25	2.9'		
	30°	41	3.5'		
8"	11 1/4°	16	2.5'	3/4"	2.0'
	22 1/2°	47	3.6'		
	30°	70	4.1'	3/4"	2.5'
12"	11 1/4°	32	3.2'	3/4"	2.0'
	22 1/2°	88	4.5'	7/8"	3.0'
	30°	132	5.1'		
16"	11 1/4°	70	4.1'	7/8"	3.0'
	22 1/2°	184	5.7'	1 1/8"	4.0'
	30°	275	6.5'	1 1/4"	
20"	11 1/4°	91	4.5'	7/8"	3.0'
	22 1/2°	225	6.1'	1 1/4"	4.0'
	30°	330	6.9'	1 3/8"	4.5'
24"	11 1/4°	128	5.0'	1"	3.5'
	22 1/2°	320	6.8'	1 3/8"	4.5'
	30°	480	7.9'	1 5/8"	5.5'
VERTICAL BLOCKING FOR 45° BENDS					
4"	45°	30	3.1'	3/4"	2.0'
6"		68	4.1'		
8"		123	5.0'		
12"		232	6.1'	3/4"	2.5'
16"		478	7.8'	1 1/8"	4.0'
20"		560	8.2'	1 1/4"	
24"		820	9.4'	1 3/8"	4.5'



VERTICAL BLOCKING FOR 11 1/4°, 22 1/2°, & 30° BENDS



VERTICAL BLOCKING FOR 45° BENDS

NOTES: CONCRETE BLOCKING BASED ON 200 PSI PRESSURE AND 2500 PSI CONCRETE.

1-20-2009
LEONARD L. SMITH
STATE OF WASHINGTON
20930
REGISTERED PROFESSIONAL ENGINEER

CITY OF BLACK DIAMOND

VERTICAL BLOCKING FOR CONNECTING TO EXISTING MAIN without restrained joints

STANDARD DWG W-25	NOT TO SCALE	01/01/08

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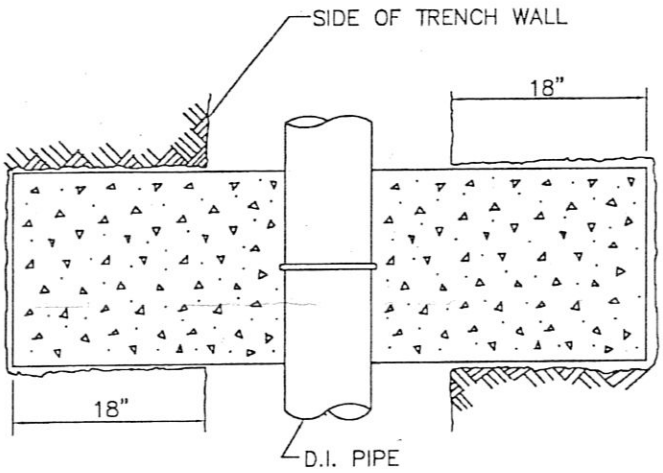
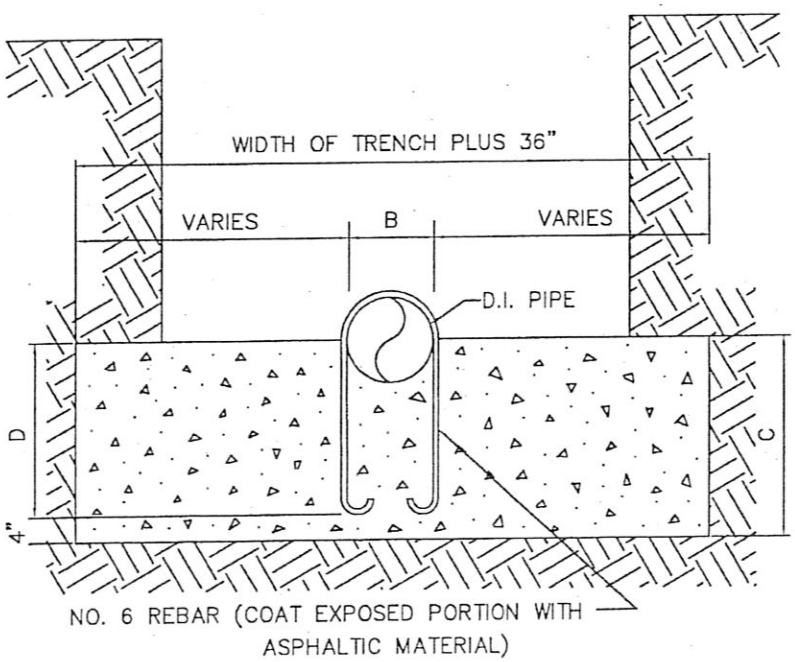
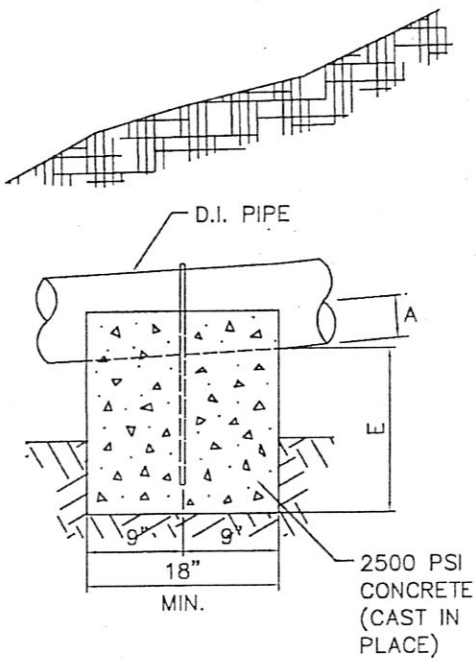


PIPE SIZE	DIMENSIONS (INCHES)				
	A	B	C	D	E
4"	2.4	4.8	17	13	14.6
6"	3.5	6.9	18	14	14.5
8"	4.5	9.1	19	15	14.5
10"	5.6	11.1	20	16	14.4
12"	6.6	13.2	21	17	14.4
14"	7.7	15.3	22	18	14.3
16"	8.7	17.4	23	19	14.3
18"	9.8	19.5	24	20	14.2





SLOPES > 20% – PROVIDE CONCRETE SLOPE ANCHORS (25'MINIMUM ON CENTER)

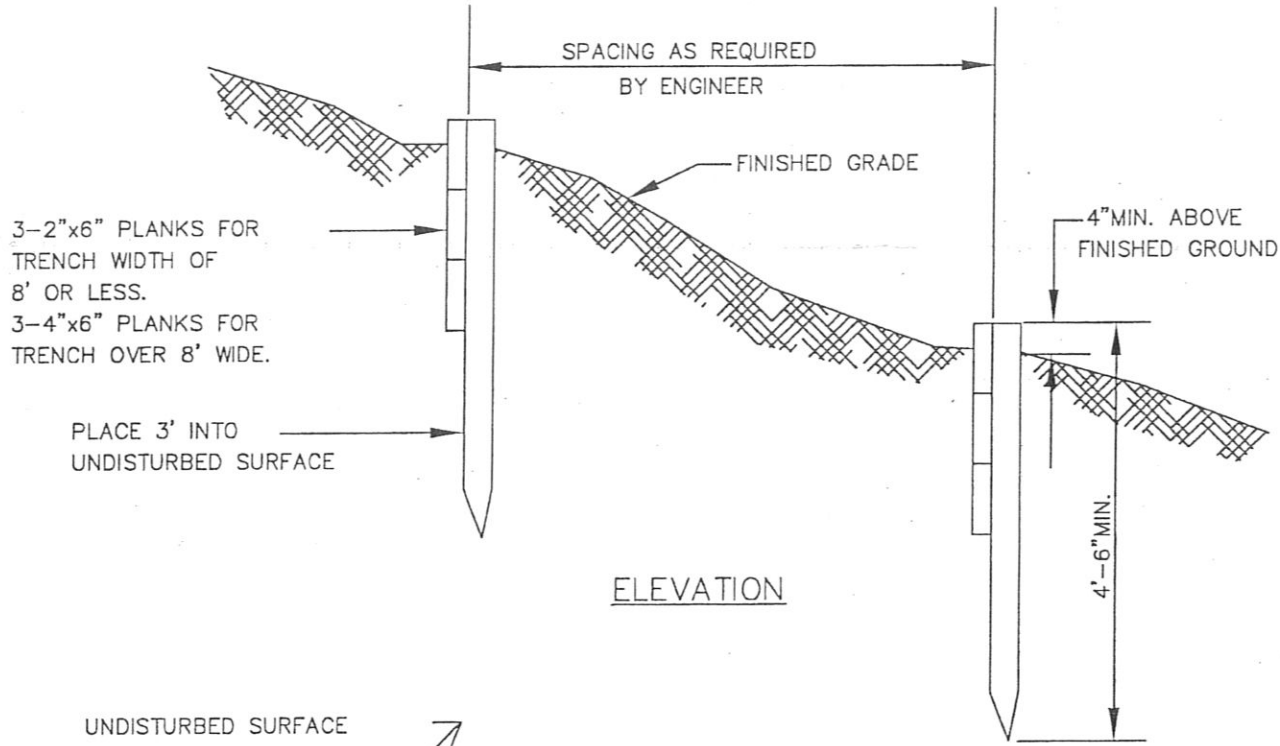
4-20-2009
LEONARD L. SMITH
STATE OF WASHINGTON
20830
REGISTERED
PROFESSIONAL ENGINEER

CITY OF BLACK DIAMOND

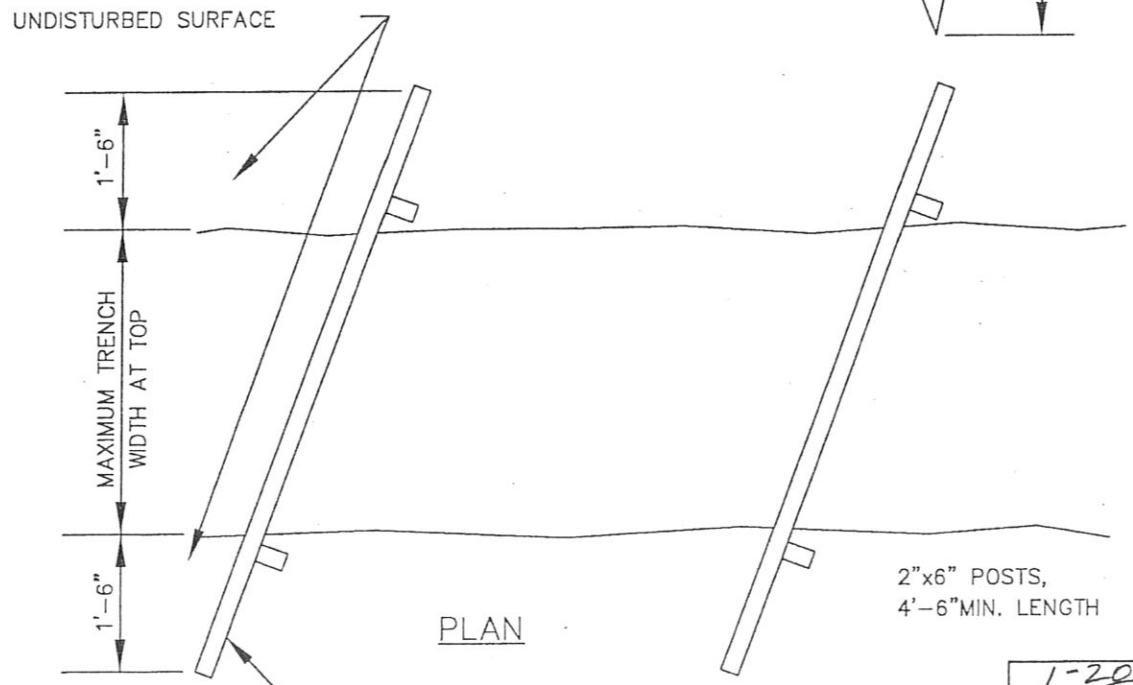
CONCRETE SLOPE ANCHOR DETAIL

STANDARD DWG W-26	NOT TO SCALE	01/01/08

PWE
PacWest Engineering
Fife, Washington



ELEVATION



PLAN

1-20-2009

LEONARD L. SMITH
STATE OF WASHINGTON
20930
REGISTERED
PROFESSIONAL ENGINEER

Leonard L. Smith

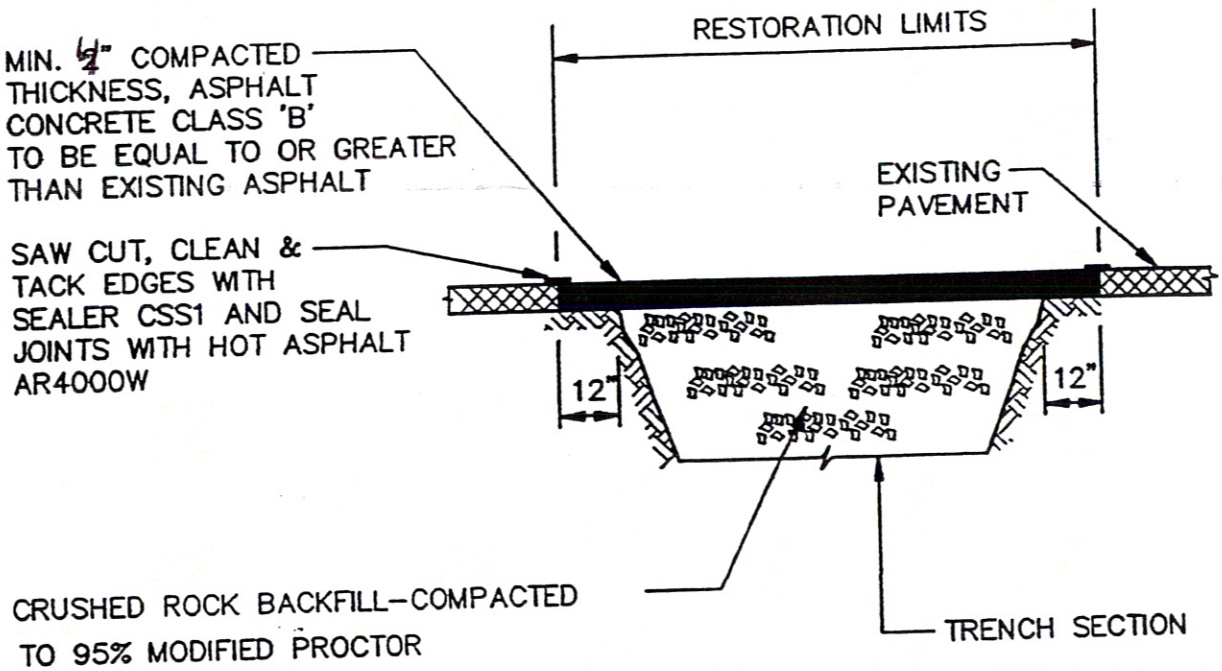
CITY OF
BLACK DIAMOND

TIMBER BAFFLE/HILL HOLDER

STANDARD DWG W-27	NOT TO SCALE	01/01/08

PacWest Engineering
Fife, Washington

ADD a detail from Pac West Street Standard for asphalt pavement repair



NOTES:

1. KING COUNTY PUBLIC WORKS R.O.W CONSTRUCTION PERMITS MAY REQUIRE ALTERNATE RESTORATION
2. 100% CRUSHED ROCK BACKFILL REQUIRED ON ALL ROADWAY CUTS

CITY OF BLACK DIAMOND			
ASPHALT PAVEMENT REPAIR			
APPROVED: CITY ADMINISTRATOR 04/25/95 DATE			DWG. NO. TRDIP
DATE: 2/95	DRWN: R.L.O.	CHKD: T.J.O.	SCALE: NONE

CITY OF BLACK DIAMOND

February 26, 2009 Special Meeting Agenda

25510 Lawson St., Black Diamond, Washington

7:00 P.M. – CALL TO ORDER, FLAG SALUTE, ROLL CALL

PUBLIC COMMENTS: Persons wishing to address the City Council regarding items of new business are encouraged to do so at this time. When recognized by the Mayor, please come to the podium and clearly state your name and address. Please limit your comments to 3 minutes. If you desire a formal agenda placement, please contact the City Clerk at 253-631-0351. Thank you for attending this evening.

PUBLIC HEARINGS:

1.) AB09-019 – Design Guidelines — Mr. Pilcher
2.) AB09-020 – Master Planned Development Ordinance — Mr. Pilcher
3.) AB09-021 – Vesting Ordinance — Mr. Pilcher
(Council action may follow public hearing)

APPOINTMENTS, PRESENTATIONS, ANNOUNCEMENTS:

UNFINISHED BUSINESS:

NEW BUSINESS:

4.) AB08-116b – Ordinance Adopting Sensitive Areas — Mr. Nix
5.) AB09-022 – Resolution Adopting 2009 General Fee Schedule — Mr. Pilcher

DEPARTMENT REPORTS:

MAYOR'S REPORT:

COUNCIL REPORTS:

ATTORNEY REPORT:

PUBLIC COMMENTS:

CONSENT AGENDA:

EXECUTIVE SESSION:

ADJOURNMENT:

CITY COUNCIL AGENDA BILL

City of Black Diamond
Post Office Box 599
Black Diamond, WA 98010

ITEM INFORMATION

SUBJECT:

Public Hearing on proposed new Design Guidelines for new development within the City of Black Diamond

Agenda Date: February 26, 2009 **AB09-019**

Department/Committee/Individual	Created	Reviewed
Mayor Howard Botts		
City Administrator –Gwen Voelpel		
City Attorney – Loren D. Combs		
City Clerk – Brenda L. Streepy		
Finance – May Miller		
Public Works – Seth Boettcher		
Economic Devel. – Andy Williamson		
Comm. Devel. – Steve Pilcher	**X**	
Court – Kaaren Woods		
Natural Resources/Parks – Aaron Nix		

Cost Impact: N/A
Fund Source: N/A
Timeline: N/A

Attachments: Draft Design Guidelines, Historic Village Core Residential map

SUMMARY STATEMENT: The City Planning Commission has recommended that the Council consider approval of a set of design guidelines to guide future development with the City of Black Diamond. The guidelines represent the final stage of the planning "trifecta" of Comprehensive Plan, Zoning Code and Design Guidelines, all of which need to be adopted prior to the Council lifting the subdivision and master planned development moratorium. Since the Guidelines are based upon both the Comp Plan and Zoning Code, they cannot be formally adopted until the other two actions are taken. Therefore, Council is being requested to only conduct a public hearing on the Guidelines at this time.

The City first adopted Design Guidelines in November 2000. However, those did not apply to all areas of the city, did not provide guidance for the overall design of master planned developments, and were considered to be somewhat cumbersome to use. Therefore, the Council directed that an update be done and the firm of LMN Architects was hired to create new sets of guidelines addressing: 1) multifamily development, 2) the historic town center, 3) commercial development; and 4) business park/industrial development. Staff updated a May 2004 LMN-created set of guidelines for Master Planned Developments. Finally, the basics of the existing Historic Village Core Residential guidelines are also included, with a revised (and reduced) area of applicability.

The draft guidelines have been available to the public for the last few weeks on the city's website.

COMMITTEE REVIEW AND RECOMMENDATION: **Planning Commission: approval**

RECOMMENDED ACTION: **Conduct the public hearing.**

RECORD OF COUNCIL ACTION

Meeting Date	*Action*	*Vote*
February 26, 2009		

BLACK DIAMOND DESIGN GUIDELINES

for

Residential Uses in the Historic Village Core

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The Historic Village Core Residential

Introduction and Purpose

These guidelines are intended to guide infill development within the Historic Village Core as defined on the attached map and to all other properties identified by the 1998 Historic Resource Inventory prepared by the King County Office of Cultural Resources, in order to reflect the late 19th century vernacular characteristic of these areas. These guidelines shall apply to all new construction and exterior remodels and/or additions to existing homes built prior to 1922, when the cost of the proposed improvements exceeds 50% of the assessed value of the house only (not including land value). Properties occupied by post-1922 construction located within these areas are not required to comply with these guidelines.

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The guidelines are intended to encourage the preservation and restoration of historic homes within the city, recognizing that they are valuable community assets (both economically and aesthetically), to the city and its citizens.

The most common types of homes historically constructed in these areas are commonly described as "company cottages" or "vernacular" style. Homes were small in size, with standardized configuration. Although some homes are two story, most were built as one story with an attic and a large front porch. The material used was wood, usually over a stone foundation.

The areas impacted by these regulations are as shown on Figure 1, below.

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SITE DESIGN

A. Orientation to the Street

Intent

Historic homes are typically oriented to the street, sited to make their entries and use clear to neighbors and visitors. These features provide for a pleasant streetscape that enhances pedestrian access and walking, promoting interaction among neighbors.

Guidelines

1. Provide a front façade facing the primary street, siting a structure to make its entry and residential use clear to approaching visitors.
2. Require vehicular access from alleys where alleys exist.
3. Street-facing garages should be architecturally compatible with and never dominate a residence.
4. Locate driveways no closer than 3 feet to side property lines to provide room for landscaping.
5. For new buildings that project beyond the footprint of homes on adjacent lots:
   a. limit the length and height of the projection into the rear yard area to reduce the impact of neighboring rear yards;
   b. minimize windows, decks, and balconies overlooking neighboring yards or screen in order to protect privacy.

B. Fences and hedges

Intent

Prevent the installation of intrusive, nontraditional fences and tall hedges that cut the views of structures from the street.

Guidelines

1. Limit the height of front yard fences to no greater than 36 inches.
2. Use traditional style materials such as wrought iron or wood pickets in lieu of chain link fencing in front yards.

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BUILDING DESIGN

A. Building Facades

Intent
To provide building facades that feature traditional building elements and details, such as gabled roofs, porches, dormers and cornice lines, that add visual interest and reduce apparent bulk and scale..

Guidelines

1. Include the following features in new residential building facades:
   a. gable or hipped roof;
   b. porches or entry enhancement, such as an overhang or a sidelight;
   c. vertically proportioned windows;
   d. eaves.

2. Design principal building entries to be visible from the street and directly accessible from the public sidewalk.
3. Accent principal entries by building elements (stairs, roofs, special fenestration, etc.) and elevation at least 18 inches above the grade level of the sidewalk or street.
4. Provide a recess, porch, portal or other protected exterior area that encourages human activity.
5. Retain existing historic doors or replace with doors that match historic doors in materials, size and style, series of panels and same dimension frames.

B. Windows

Intent
Provide traditional-oriented windows that highlight and accent a structure. Windows are vital elements of historic homes and are typically highlighted or accented. Historic window frames are wood, surrounded by a thick sash which accents the window, while protecting it from wind and rain.

Guidelines

1. Reflect the fenestration patterns of the neighborhood in new construction.
2. Use vertically proportioned windows in new construction. Prohibit the use of horizontally proportioned windows. Grouping of vertically proportioned windows is acceptable.

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3. For remodeling of existing structures, replace windows facing the street with new windows of similar style and proportions.

C. Rooflines

Intent

To add visual interest to a building and the street and complement neighboring structures by providing prominent roofs.

Guidelines

1. Roof designs shall incorporate at least one of the following:
   a. gable or hipped roof;
   b. broken or articulated roofline;
   c. prominent cornice or fascia that emphasizes the top of the building;
   d. other elements that emphasize a building's concept.

2. Create prominent pitched roofs with minimum slope of 6:12 vertical to horizontal ratio and maximum 12:12 ratio.
3. Allow different roof pitches for accessory structures not visible from the street.
4. For historic buildings, replicate the original shape or form of the roof in remodels or additions, unless the character of the original roof is not consistent with the type or style of roof of neighboring buildings.

D. Exterior materials and colors

Intent

Ensure that exterior materials relate to typical historic patterns and add visual interest, and are of durable, high quality and easy to maintain.

Guidelines

1. Use horizontal wood siding (4 to 6 inch shiplap, clapboard, or wood shingles) or a composite equivalent. Use compatible materials (wood siding or brick) for detached garages.
2. Use muted colors for the background color of buildings, with brighter/lighter colors being appropriate for trim.

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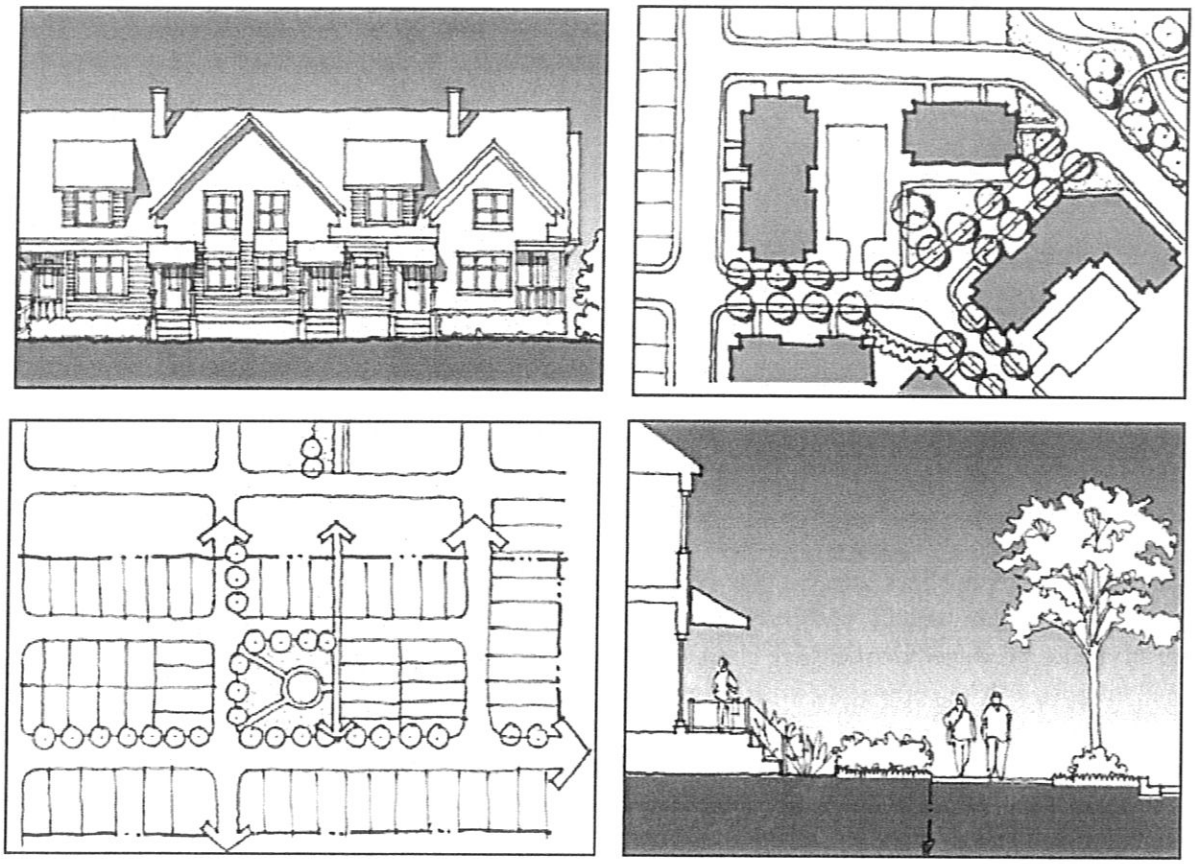
BLACK DIAMOND DESIGN GUIDELINES

for

Multi-family Development



Updated February 6, 2009

Introduction and Purpose

This section of the Design Standards and Guidelines focuses on site planning and design guidance for new multi-family development. The city's historic development patterns reflect several eras of growth and annexation. The residential neighborhoods of the historic town-site and Morganville are composed of small lots in traditional grid patterns and narrow streets. Other areas have developed in a non-grid pattern with larger lots. Now, with the rate of new development likely to increase significantly over the next 20 years, the city seeks to accommodate residential development with a mix of types, sizes and densities, clustered to retain the open space and rural land uses that form the area's natural beauty, and to connect housing, shopping, employment and recreation in a more efficient manner. With a maximum density of 12 units per acre, how new housing types such as townhouses, cottage housing and courtyard housing are designed will be crucial in ensuring a proper "fit" with the surrounding community. The design guidelines are organized in the three categories below.

Site Design

Site planning arranges building masses, open space, parking and circulation to create a site design that is orderly, visually pleasing, and that contributes positively to both the surrounding area and the development itself. Historic development patterns in Black Diamond relate to the street, encouraging people to participate more fully in their community. These site design guidelines will promote neighborhood compatibility, retention of natural features, integration with the surrounding community, opportunity for social interaction, and a safe, comfortable, and interesting environment for residents.

Building Design

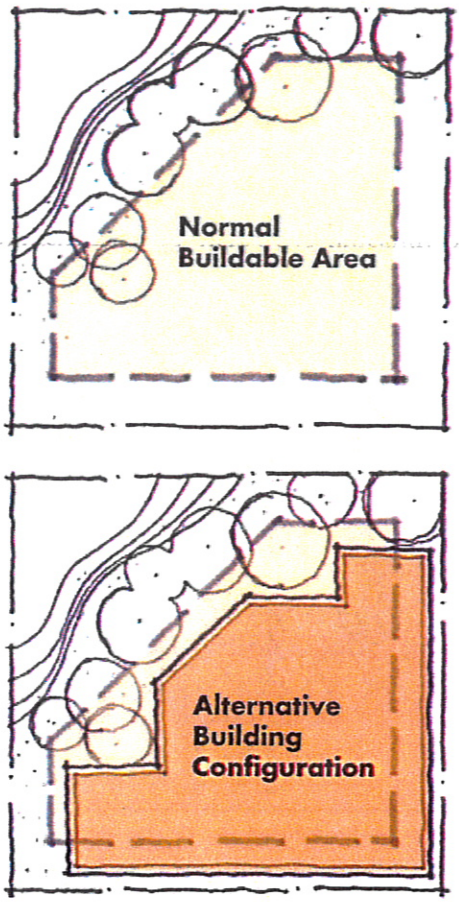
The building design guidelines address the overall external appearance of multi-family development, including building forms, details, and proportions. Use of single-family residential design elements are required to reduce perceived density, give character to the development and its individual dwelling units, add visual interest, and be compatible with the neighborhood context.

It is not intended that these guidelines prescribe one architectural style or a specific design character. There are various architectural styles found in Black Diamond's housing stock that help create unique settings. The primary focus should be to construct a high quality residential environment within the context of the existing community. Quality development is further encouraged through a sustainable design approach.

Landscaping

The rolling topography and variety of open pastures and meadows, wetlands and forested areas in the city help define its character. New developments can establish visual connections with these natural features through the choice and placement of landscape features. Moreover, an attractive, well-maintained, natural landscaped environment contributes to residents' quality of life and also enhances the appearance of the surrounding neighborhood.

SITE DESIGN



Alternative site design can preserve mature trees and natural features

A. Context

Intent

Multi-family development successfully contributes to the overall community when relationships with the existing and planned land uses, development patterns, and context are considered.

Standards

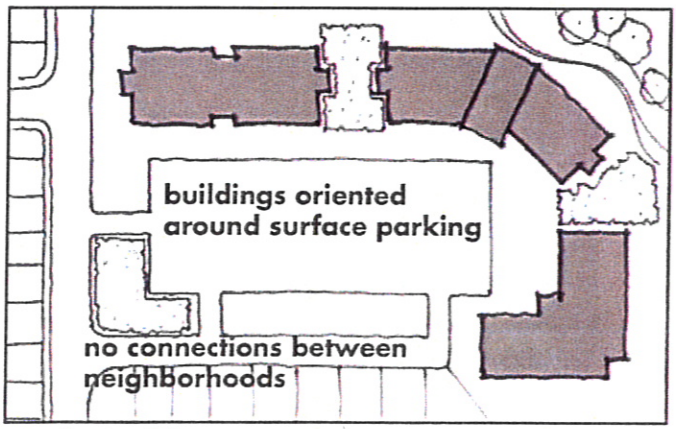
1. Developments shall comply with the City's tree preservation ordinance.

Guidelines

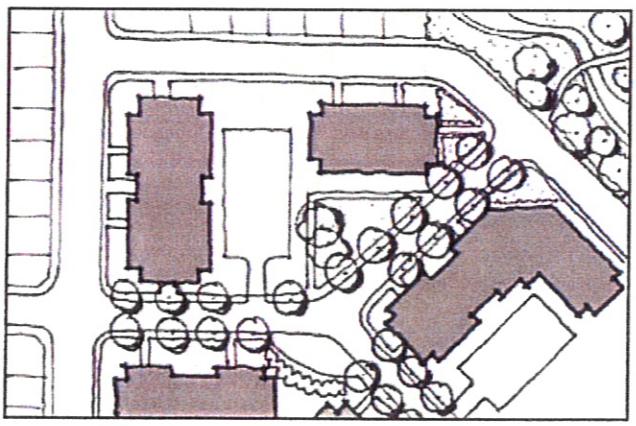
1. Incorporate existing unique site amenities such as views, mature trees, and similar natural features into developments whenever possible.

2. Use complementary building arrangements, buffers, and avoidance of incompatible building scale to ensure that new multi-family residential development is compatible with residential development in the immediate area. For example, cottage housing is encouraged in older, smaller lot residential neighborhoods to complement similar siting in the area.

3. Complement existing landscape materials, location, and massing on adjacent developments with new landscape plantings.



Undesirable Layout



Desirable Layout

Orient and cluster buildings, and design parking, landscaping and open space in ways that connect to surrounding neighborhoods, and complement view sheds and surrounding natural features.

B. Building Siting

Intent

Appropriate building siting can reduce the perceived density of multi-family developments, maximize open space areas, provide "eyes on the street" surveillance, and enhance neighborliness by creating community gathering spaces.

Standards

1. Developments shall be oriented parallel to the public street, with setbacks from the street used to create landscaped open space.

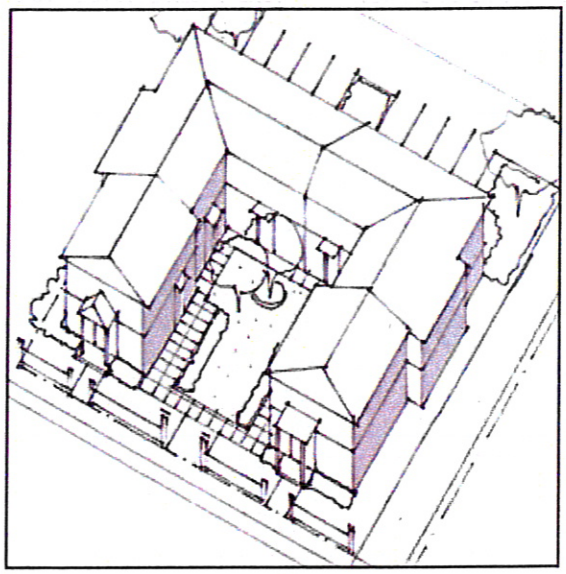
2. Primary building entries shall be clearly identifiable and visible from the street, with well-defined walkways from pedestrian routes.

Guidelines

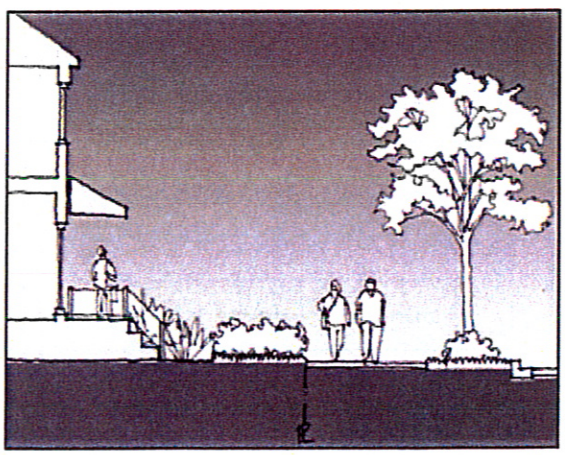
1. To create an appropriate transition from residences and the street, use the space between the building and sidewalk to provide security and privacy for residents and to encourage social interaction among residents and neighbors.

2. Cluster multi-family buildings around courtyards, gathering areas and open spaces.

3. Repeat these design elements throughout portions of the development that are not oriented to the street.

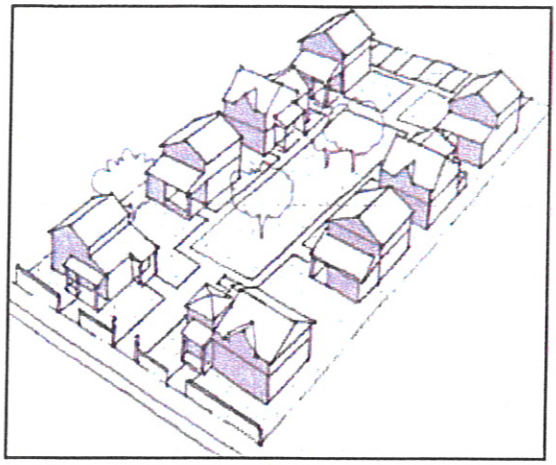


Buildings around courtyard and sited parallel to the public street with direct entrances and windows allowing "eyes on the street"

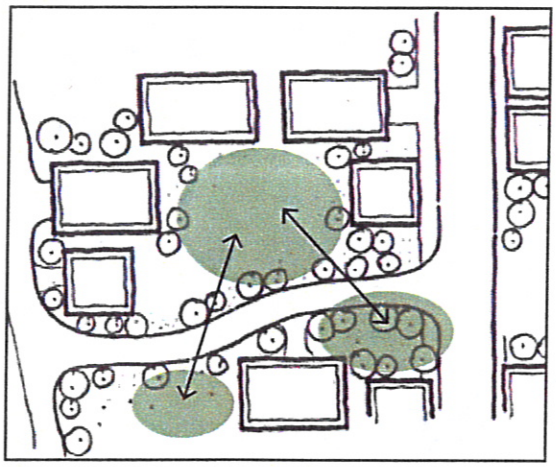


Appropriate transition from residence to street

SITE DESIGN



Centralized open space provides convenient access for many units



Large and small open spaces are connected and oriented to dwellings

Tot lot centrally located for safety and accessibility

C. Open Space

Intent

Common open space provides opportunities for casual social interaction and safe play areas for children, and it reduces the perceived density of the development. Private open space serves as an outdoor room for residents.

Standards

Housing Type	Private	Common
Cottage	Minimum 200 sf usable open space per unit separated from common open space by hedge or fence not to exceed 36" in height	Minimum 400 sf per cottage Minimum 20 ft. width At least 50% of cottage units abut common space
Courtyard	Minimum 200 sf usable open space per unit.	Minimum 300 sf per unit for courtyard spacce. Minimum 25 ft width At least 50% of units abut courtyard space
Townhouse	Minimum 300 sf usable open space per unit at ground level	

Guidelines

1. Conveniently locate open space to the majority of units for recreation and social activities.

2. Open spaces should be sheltered from the noise and traffic of adjacent streets or other incompatible uses. Take advantage of sun orientation to provide a comfortable environment.

3. Provide well-defined open space edges through the use of walkways, buildings or landscaping.

4. For larger developments, provide a series of connected open space areas of varying shape, appearance and intended use.

5. Require private open space (such as yard, patio or balcony) that is visible and can be entered from inside the dwelling for all units.

6. Define boundaries between private and common open spaces by elements such as low walls or plant materials.

C. Open Space *CONTINUED*

7. Site and design buildings so that windows of neighboring units do not overlook private open spaces.

8. Common outdoor spaces shall provide at least three of the following amenities to accommodate a variety of ages and activities to meet the needs of the residents:
   - Site furnishings (benches, tables)
   - Play areas (locate away from public streets)
   - Gardens
   - Patios or courtyards
   - Special paving, such as stone, brick or other unit pavers
   - Covered structure (i.e. gazebo)
   - Water feature

Locate shared amenities such as outdoor play areas and bicycle parking

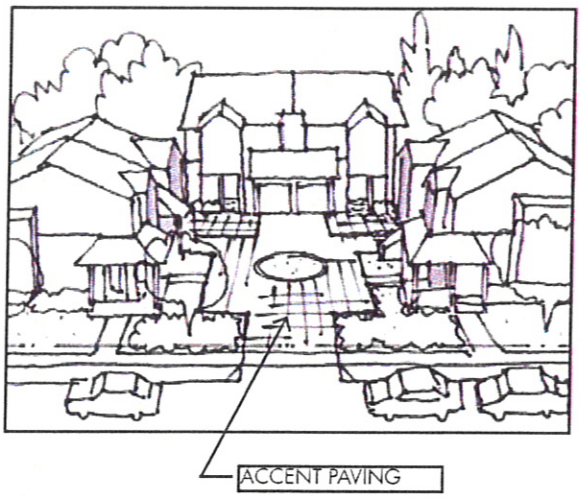
Private open space at rear of unit

D. Parking/Vehicular Circulation

Intent

Safe and efficient circulation and parking arrangements take into consideration the needs of pedestrians, children at play, parking lot appearance, and safety.

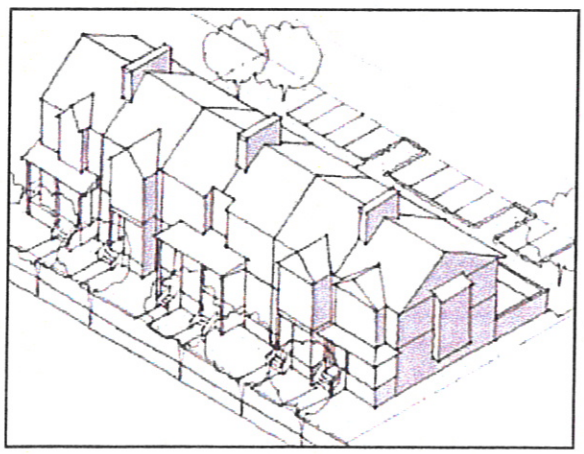
Standards



Single curb cuts are preferred. Recessed garages amd enlarged entries has a positive impact on the streetscape.

1. Parking areas shall be located in the development's interior and not along street frontages. Driveway openings along street frontages shall be limited to one per 150 lineal feet of street facing property.

2. The number of trees required in the interior landscape area in parking lots shall be dependent upon the location of the parking lot in relation to the building and the public right-of-way (street):
   - Where the parking lot is located between the building and the street, one street for every four spaces shall be provided (1:4)
   - Where the parking lot is located to the side of the building and partially abuts the street (max. 50%), one tree for every six spaces shall be provided (1:6)
   - Where the parking lot is behind the building and is not visible from the street, one tree for every eight spaces shall be provided (1:8)



Rear yard parking is preferred.

3. Parking lot lighting shall be placed to create adequate visibility at night and evenly distributed to increase security.

Guidelines

1. Control vehicle speeds by appropriate signage, changes in roadway texture, and other traffic calming devices, where necessary.

2. Avoid blank walls with rows of garage doors that face the public street front. Use single-car garage doors, rather than double-car garage doors. Provide landscaping around garages, and tuck-under parking.

3. Include an adjacent pedestrian entry path that connects to the public sidewalk along all entry drives. Provide elements that define the main entry, including lighting, textured paving, and accent plant materials such as specimen trees and flower plants.

E. Pedestrian Connections

Intent

To create a network of safe, consistent, and convenient linkages for pedestrians, including locating building entrances adjacent to public sidewalks.

Standards

1. A comprehensive system of pedestrian walkways shall link all site entrances, building entries, parking areas and common outdoor spaces with the public sidewalk.

2. Clearly defined pedestrian connections shall be provided:
   - Between public sidewalks and building entrances when buildings are not located directly adjacent to the sidewalk.
   - Between parking lots and building entrances.

3. Pedestrian walkways shall be a minimum 5 feet of clear, unobstructed passage and the type and nature of all materials shall be consistent within a development.

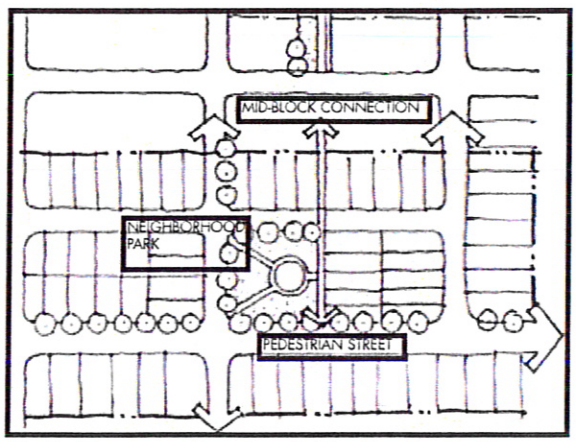
4. Walkways shall be accessible to disabled persons and in conformance with the Americans with Disabilities Act (ADA).

Guidelines

1. Provide pedestrian access to adjacent existing or planned open space areas and trails.

3. Avoid combining vehicle and pedestrian access to dwelling units as this does not allow adequate room for landscaping and other features that can personalize the front entry.

4. Locate walkways to minimize the impact of pedestrians on the privacy of nearby residences or private open space. Provide a landscaped planting area between walkways and building facades.

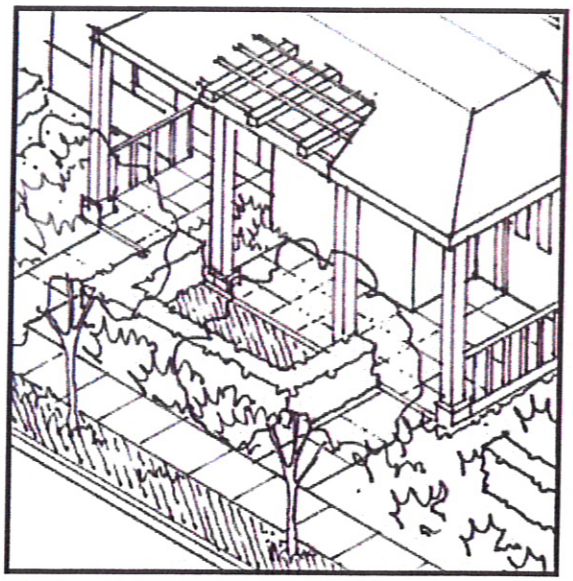


Desirable connections to neighborhood amenities

H. Front Yards/Entrances

Intent

To provide separation between buildings and the public realm where the front yard serves as outdoor space and provides a welcoming and safe entry from the sidwwalk to the building.



Porches, patios, walkways and covered trellises help identify individual entrances

Walkways combined with enhanced entry feature lead to each unit. Doors and windows encourage "eyes on the street"

Standards

1. Primary building entries shall be clearly visible from the nearest public circulation walkway.

2. A minimum of 50% of the front yard shall be landscaped and planted.

3. Each individual unit shall have its own private walkway to the front door at ground level.

4. Walls, shrubs and other visual obstructions between the public realm and the building shall be limited to a maximum 3 feet high to allow easy surveillence.

Guidelines

1. A porch, covered stoop, or similar entry feature at each unit's front entry is strongly encouraged.

2. A wide range of plant materials, including perennials, flowering shrubs and native shrubs and groundcovers should be planted in the front yard. Plant material providing seasonal interest is encouraged.

10 BUILDING DESIGN

A. Building Mass

Intent

Reduce the apparent bulk of multi-family buildings and maintain a pedestrian scale compatible with Black Diamond's small town character.

Standards

Cottage Housing		
Development Standards	By Right	Flexibility Available?
Minimum Lot Size	5000 sf	no
Maximum Lot Size	none	no
Floor Area Ratio	none	
Maximum Lot Coverage (all impervious surfaces)	60%	no
Front Yard Setback	Average of 10 ft, throughout the project; not less than 5 ft.	yes
Side Yard Setback	5 ft.	no
Rear Yard Setback	10 ft.	no
Maximum First Floor Area	50% of units, can not exceed 650 sf; 50% can not exceed 800 sf	yes

Townhouse		
Development Standards	By Right	Flexibility Available?
Minimum Lot Size	7200 sf	no
Maximum Lot Size	based on maximum number of units allowed (12?)	no
Floor Area Ratio	none	
Maximum Lot Coverage (all impervious surfaces)	60%	no
Front Yard Setback	min. 10 ft/max. 25 ft	yes
Side Yard Setback	7 ft. with 2ft. projections allowed for bay windows, chimneys, etc.	no
Rear Yard Setback	5 ft. with an alley/ 10 ft without	no
Maximum number of attached units per structure	6	yes

BUILDING DESIGN

A. Building Mass

Intent

Reduce the apparent bulk of multi-family buildings and maintain a pedestrian scale compatible with Black Diamond's small town character.

Courtyard		
Development Standards	By Right	Flexibility Available?
Minimum Lot Size	based on minimum number of units allowed (4?)	no
Maximum Lot Size	based on maximum number of units allowed (12?)	no
Floor Area Ratio		
Maximum Lot Coverage (all impervious surfaces)	60%	no
Front Yard Setback	min. 10 ft/max. 25 ft	yes
Side Yard Setback	5 ft.	no
Rear Yard Setback	5 ft. with an alley/ 10 ft without	no
Maximum number of attached units per structure	6	yes

B. Building Scale and Character

Intent

To help retain the city's small town character through building design.

Standards

1. Horizontal facades longer than 30 feet shall be broken down into smaller units, reminiscent of the residential scale of the neighborhood. At least three of the following methods shall be included:
   - roof forms such as gables and dormers
   - changes in materials
   - bays or projecting balconies
   - recesses/offsets
   - windows

Guidelines

1. Incorporate smaller-scale forms such as bays, recessed or projecting balconies, and dormers into the design to visually reduce the height and scale of the building and to emphasize the definition of individual units.

2. Where a neighborhood has a recognizable architectural context, such as Morganville, use those building features as visual cues for incorporation into the development's design.

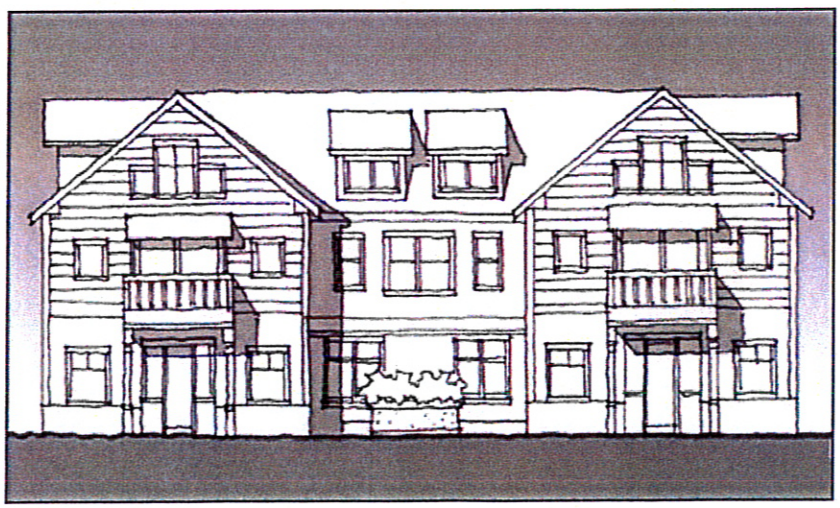
Roof pitches, dormers and change in upper level materials break down the scale of a multi-family development and relate to single family character nearby

Roofs

1. Gables facing the street are encouraged.

2. Vary roof lines within the overall horizontal plane through combinations of roof heights that create variation and visual interest.

3. Incorporate the roof pitch and materials of adjacent buildings into carport or garage roofs.



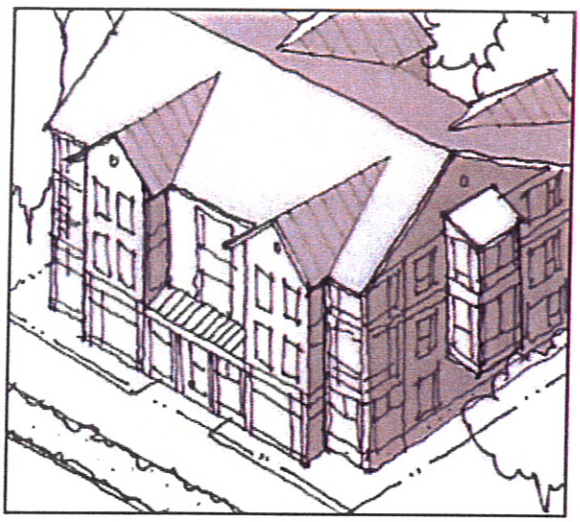
C. Facade Articulation

Intent

To avoid boxy and monotonous facades that lack human scale dimensions and have large expanses of flat wall planes.

Standards

1. Buildings shall include articulation along the facades facing and visible from public right-of-way. Modulation elements shall have a minimum 2-foot projection or recession from the facade, and be a minimum of 6 feet in length.



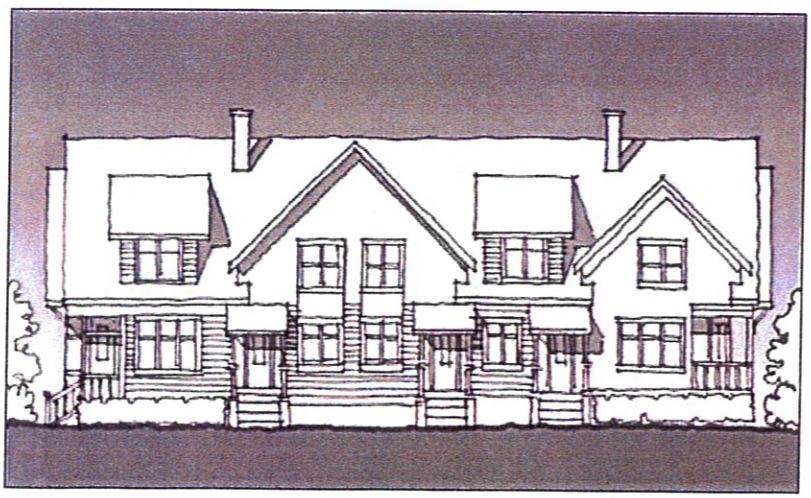
Building modulation

Guidelines

1. Use architectural treatments, such as recessed windows, moldings, decorative trim, and wood frames to add three-dimensional quality and shadow lines to the facade.

2. Windows of varied shape, size, and placement are encouraged.

3. Incorporate architectural detailing consistent with the development's overall design into garage doors, such as patterned garage doors, painted trim, or varied colors.



Bays, dormers, balconies and other projected or recessed design elements reduce the building's mass and add visual interest

E. Building Entries

Intent

To create a socially and visually stimulating multifamily district with street level facades that support pedestrian activity.

Guidelines

1. Design courtyard entry gates as an important architectural feature of the building or development.

2. Emphasize and differentiate each individual unit's entry through architectural elements such as porches, stoops, or roof canopies, and detailing such as paint color, trim, materials or awnings. Provide opportunities for residents to personalize individual entries by providing ground level space or a wide ledge for plants and other features.

Low walls and landscaped areas help define the transition from public to private space. Ledges create opportunities to personalize the dwelling unit

Well designed entry gate

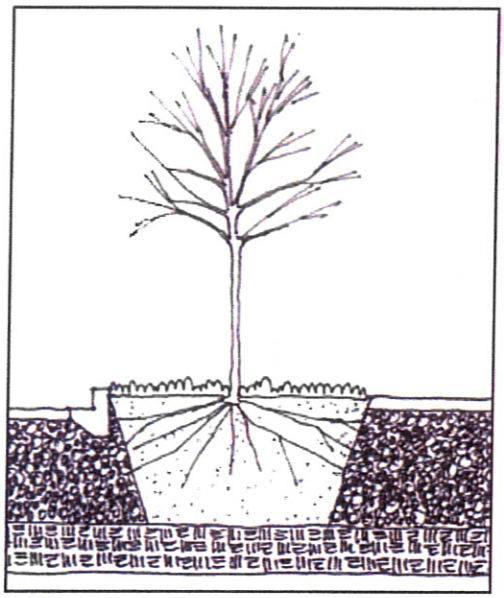
LANDSCAPING

A. Landscape Design

Intent

To create unique identity, establish visual connections to surrounding natural areas, soften the architecture, provide shade and screen unattractive areas.

Guidelines



Generous planting areas and uncompacted soil help sustain healthy landscaping

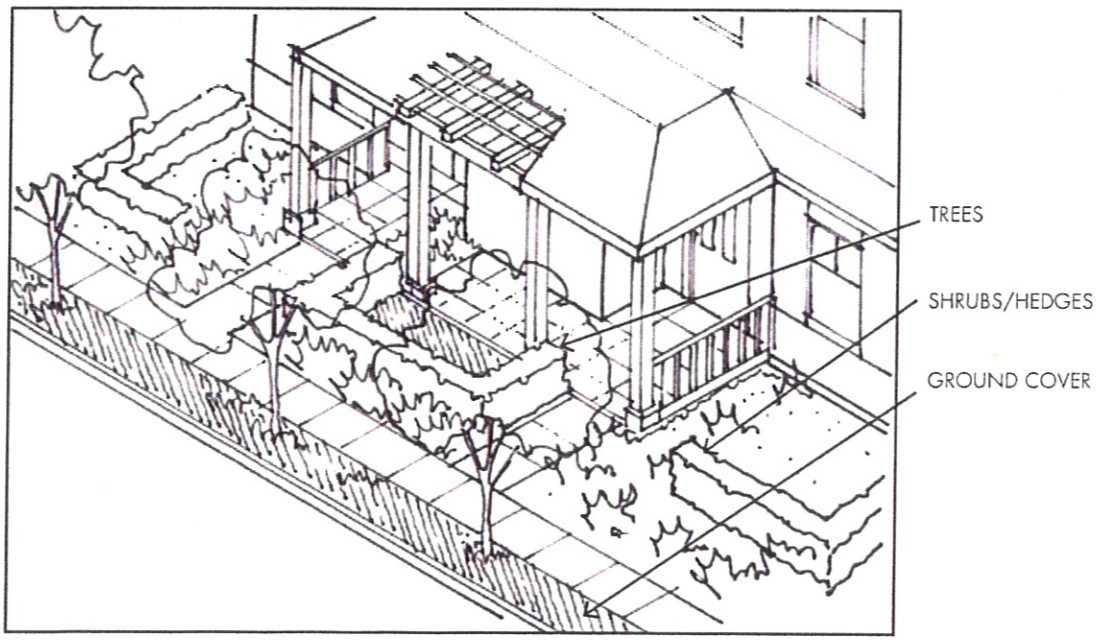
1. Use a three-tiered landscape planting approach consisting of ground cover; shrubs and vines; and trees.

2. Use different landscape design and plant materials in the various courtyards and common open space areas of the development to create an individual identity for each space.

3. Use landscape plantings to help define property lines and distinguish private space from public space through a change in plant material, form or height.

4. Select trees and shrubs based on their mature size and root characteristics. Plants with root systems that uplift hardscape materials or are considered invasive shall be avoided.

5. Sixty percent of plantings materials shall be a native species.



Landscaping to distinguish private space from public space

BLACK DIAMOND DESIGN GUIDELINES

for

The Historic Town Center

Draft - Updated February 6, 2009

The Historic Town Center

Introduction and Purpose

The 1996 Comprehensive Plan establishes a blueprint for growth that will both preserve and enhance the city's physical characteristics and community values. These design guidelines for the Town Center District provide specific recommendations to ensure that this district can maintain its unique, semi-rural, small town atmosphere while accommodating compact forms of new development.

Site Design

New development in the Historic Town Center district should place a strong visual emphasis on the street, and support active public space. Fulfillment of these broad design objectives requires an integrated approach to site planning. Buildings, parking, service access, plazas and courtyards must each recognize the important relationship between public and private space.

Building Design

The overriding objective of the building design objectives is to establish a high standard of design for new development within the community. The hallmark of design excellence will be to create places of enduring quality that uniquely fit into the district's small town setting. In particular, new development adjacent to historic structures should respect the existing fabric and provide a transition between the old and the new.

SITE DESIGN

Seating

A. Orientation to the Street

Intent

The life of the Historic Town Center district is closely tied to the character of its public space. Collectively, buildings configure and shape the streetscape and other open spaces. New buildings should be located towards the street, at or near the sidewalk to promote community commercial activity, and heighten the presence and maintain the identity of the historic town center.

Guidelines

Covered porch

1. Locate and orient buildings to define public streets and civic spaces. In general, build up to the sidewalk and limit gaps to the minimum necessary to accommodate parking and access. Buildings with no setback need to include two or more of the following. Buildings that setback up to 10 feet from the back of sidewalk need to include four or more of the following:

   a. Covered porch or boardwalk
   b. Pedestrian scale bollard or other accent lighting
   c. Special paving, such as colored/stained concrete, brick, or other unit paver
   d. Seating, such as benches, tables, or low seating walls
   e. Water feature
   f. Sculptural art
   g. Another feature that meets the intent with approval of the Community Development Director

   Note: furnishings must be approved by the City

Bollards

B. Parking Lot Location

Intent

To locate parking in a manner that is as visually unobtrusive as possible, and provides safe, convenient access without detracting from the pedestrian environment.

Parking to the side of the building

Guidelines

1. Parking lots shall be located behind or to the side of buildings.

2. Parking lots shall not abut street intersections (corner lots).

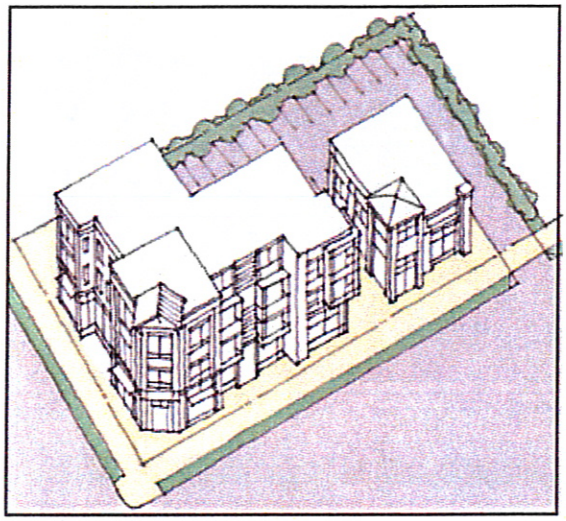
3. Enhance pedestrian safety by reducing and consolidating driveways, while providing for adequate access:

   a. Distance between curb cuts in the same parcel or development shall not be less than 100 feet.

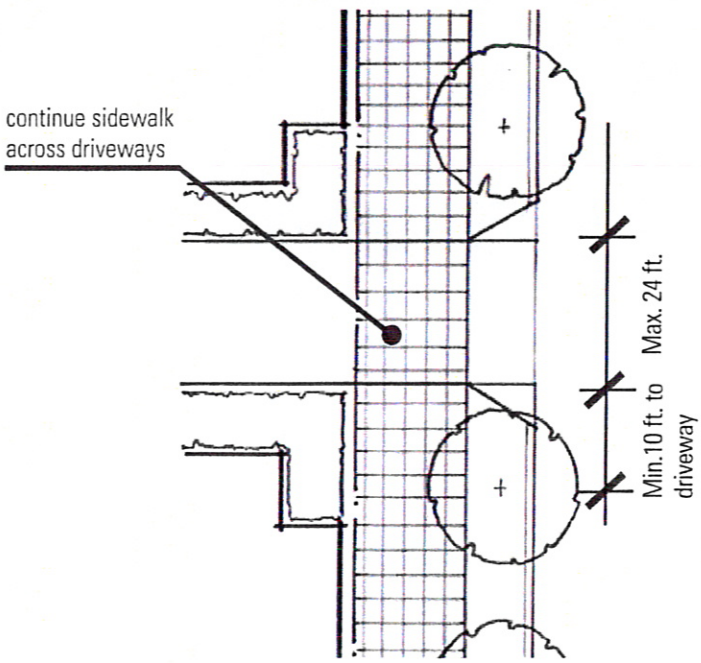
   b. Driveways that cross sidewalks shall continue sidewalk pattern and material across the driveway.

   c. Driveways shall not exceed 24' in width.

4. No parking stalls or drive lanes shall be placed between the building and the street.



Parking to the rear of the building



Use landscaping and walls to screen parking

C. Parking Lot Screening

Intent

To reduce the impacts of surface parking.

Guidelines

1. Parking lots located beside buildings shall be screened from the right-of-way with one or more of the following treatments:

   a. Landscaping to sufficiently screen the first 3 feet in height.

   b. Low walls made of decorative concrete, masonry, or other similar material and not exceeding a height of 3 feet.

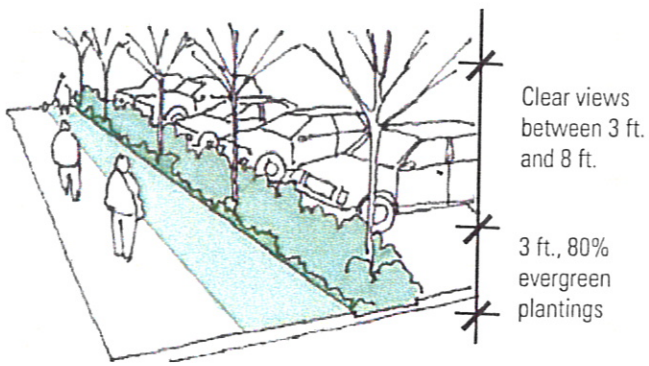
   c. Raised planter walls planted with a minimum of 80% evergreen shrubs not to exceed 3 feet in height.

2. Reduce visual impact of surface parking lots.

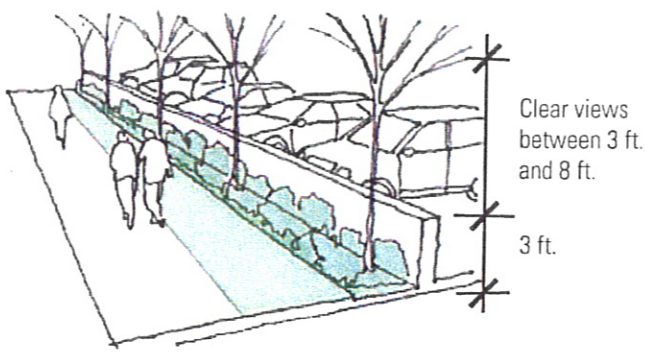
   Where the parking lot is located to the side of the building and partially abuts the public right-of-way, one tree for every six spaces shall be provided;
   Where the parking is behind the building and not visible from the public right-of-way, one tree for every eight spaces shall be provided.

   note: no planting strip shall be less that 3 feet wide, 6 feet if trees are included

Screen surface parking from public view



Example landscaping meeting screening requirement



Examples of low wall and landscaping

D. Pedestrian Connections

Intent

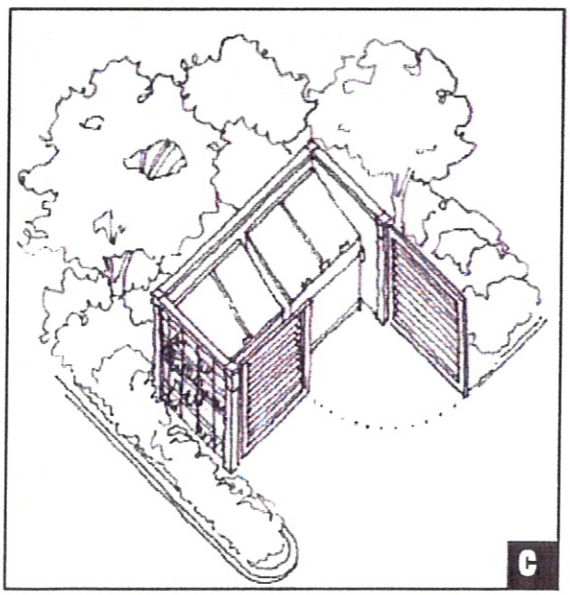
The Historic Town Center district should connect through a network of public spaces and paths. New development should improve the pedestrian environment by making it easier, safer, and more comfortable to walk between businesses, to the sidewalk, to transit stops, and through parking lots.

Guidelines

1. Pedestrian connections shall be clearly defined with a combination of two or more of the following elements:
   - a 6 inch vertical curb in combination with a raised walkway.
   - a trellis, special railing, bollards, and/or other architectural features to accent the walkway at key points.
   - a continuous landscape area minimum 3 feet wide (6 feet min. if trees are included) on at least one side of the walkway.
2. Pedestrian connections shall be reinforced with pedestrian-scale lighting to aid in way-finding.
3. Pedestrian walkways shall include clear sight-lines to building entrances and shall not be less than 4 feet wide.

Provide separated pedestrian connections to and through parking

Walkways should connect to the surrounding city pedestrian network, including sidewalks and crosswalks



screening with natural material (a), brick and plantings (b), and a combination of heavy wood and vine covered trellis (c)

E. Screening of Trash and Service Areas

Intent

To reduce the impact of service, loading, and trash/recycling areas.

Guidelines

1. Service, loading and trash/recycling collection areas shall be screened from public view with solid evergreen plant material or architectural treatment similar to the design of the adjacent building.
2. Chain link is prohibited.

note: alternatives may be considered if designs meet the intent and are approved by the Community Development Director

8 BUILDING DESIGN

A. Building Entrance

Intent

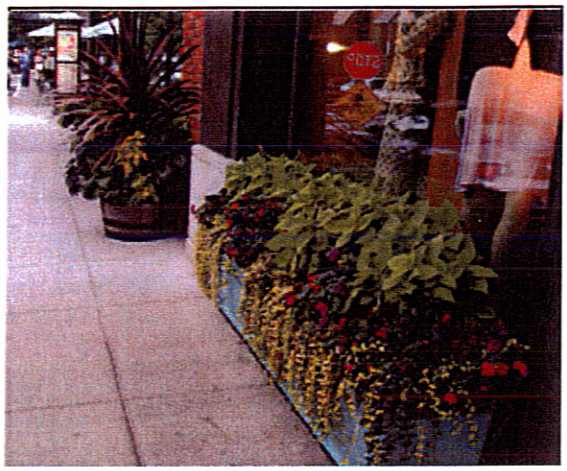
To ensure that entrances are easily identifiable and accessible from streets and sidewalks.

Consider placing the main building entrance at a street corner, where feasible

Guidelines

1. Primary entrances shall be located so that they are visible from the public right-of-way.
2. Main entrances shall have weather protection in the form of an awning, canopy or covered porch.
3. Main entrances shall include three or more of the following:

    - Pedestrian lighting
    - Decorative paving
    - Special materials like ornamental tile
    - Side lights
    - Clerestory
    - Landscaped pots and/or window boxes
    - Corner Entrance
    - Or other elements approved by the Community Development Director



Use design elements such as light fixtures, potted plants, canopies and special paving to accentuate a buildings entrance at the street

BUILDING DESIGN

Vary the three dimensional character of the building from bottom to top

B. Massing and Bulk

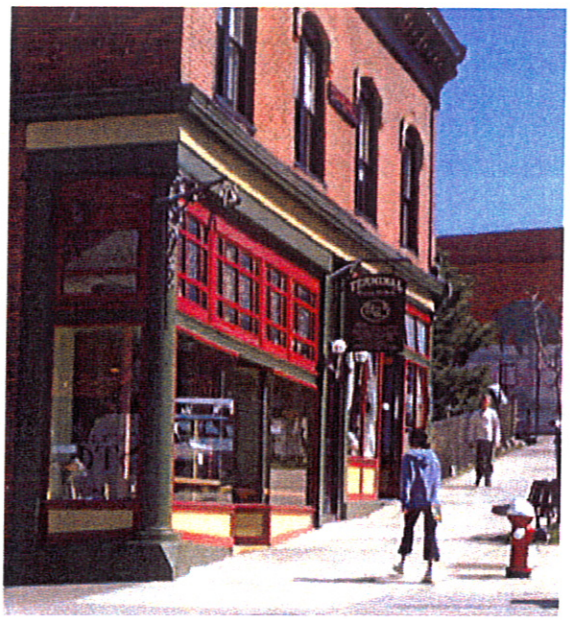
Intent

Reduce the apparent bulk of multi-story buildings and maintain a pedestrian scale compatible with Black Diamond's character.

Guidelines

Buildings above 30 feet in height shall:

1. Distinguish a "base" at ground level using articulation and materials such as stone, masonry, or decorative concrete.
2. The "top" of the building will emphasize a distinct profile or outline with elements such as a projecting parapet, cornice, upper level setback or pitched roof line.
3. The "middle" of the building may be distinguished by a change in materials or color, windows, balconies, or stepbacks.

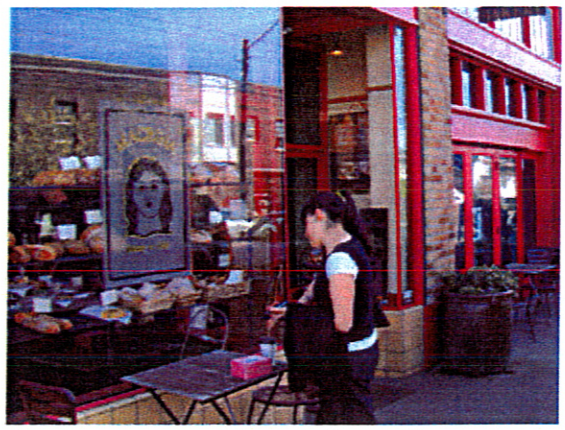


Rely on building massing and materials to place a strong visual emphasis on the street; change in materials are used to reduce the perceived scale of the building

C. Transparency

Intent

Improve the pedestrian experience and safety by providing vision glass at the ground level.

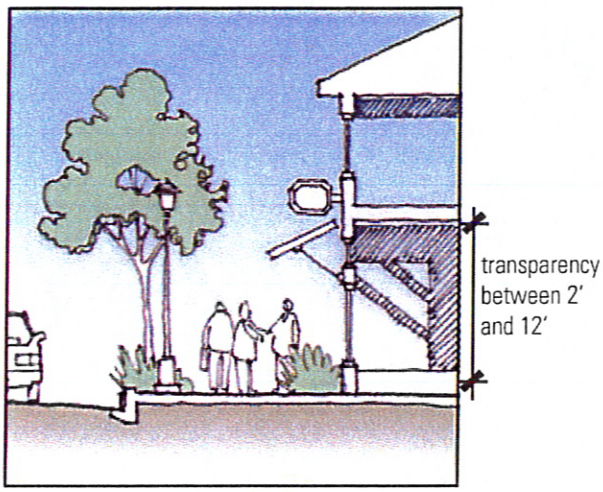


Generous street-level shop windows and entrances animate the street

Guidelines

For new commercial buildings in the Town Center:

1. A minimum of 60% of any ground floor facade between 2 feet and 12 feet above grade and facing a street or public space shall be comprised of clear, "vision" glass.



D. Ground Level Details

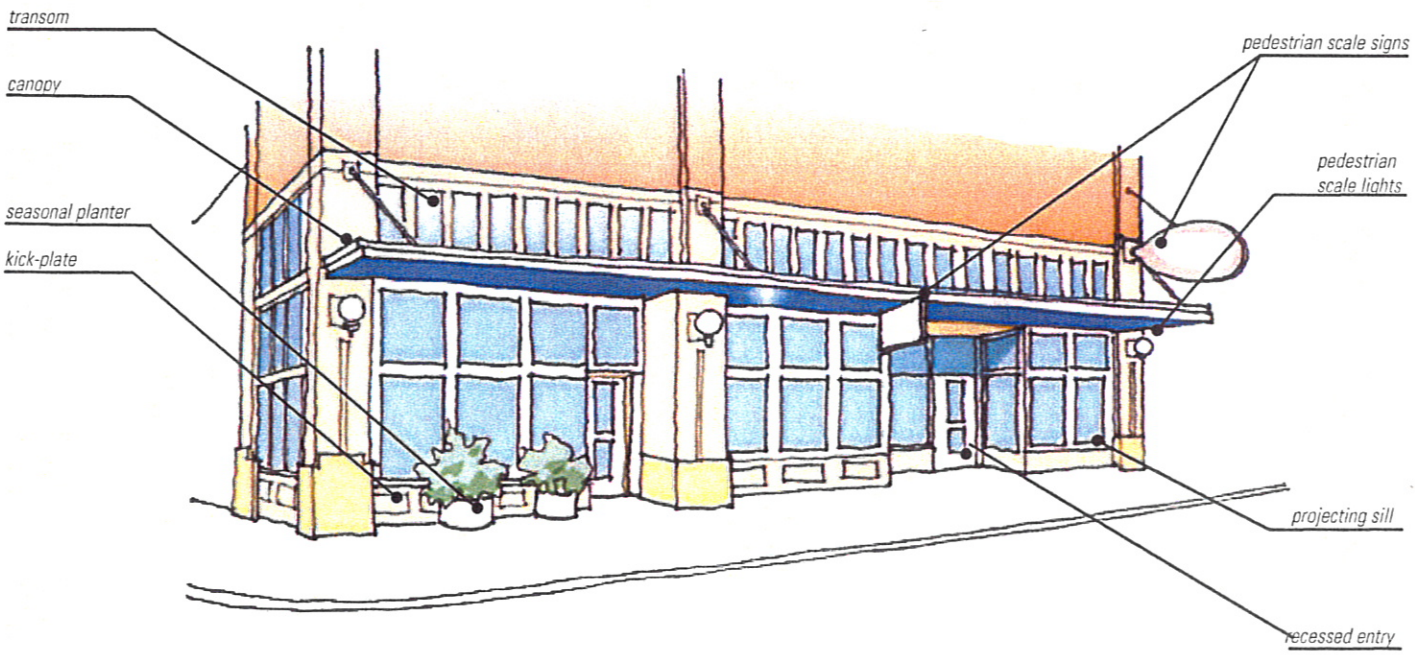
Intent

To create a socially and visually stimulating commercial district with street level facades that support pedestrian activity.

Guidelines

1. Reinforce the character of the streetscape with the greatest amount of visual interest placed along the ground level of buildings. Facades of commercial and mixed-use buildings shall be designed to be pedestrian-friendly through the inclusion of at least three of the following elements:

   a. kickplates for storefront windows
   b. projecting window sills
   c. pedestrian scale signs
   d. canopies
   e. plinth
   f. ornamental tilework
   g. lighting or hanging baskets supported by ornamental brackets
   h. an element not listed here that meets the intent
   i. transom



E. Blank Wall Treatments

Intent

To reduce the visual impact of blank walls by providing visual interest.

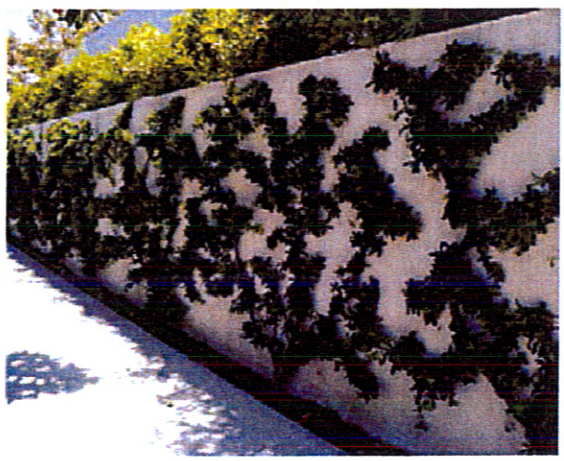
Guidelines

1. Blank walls longer than 30 feet that face streets or are visible from residential areas shall incorporate two or more of the following:

   a. Vegetation, such as trees, shrubs, ground cover and/or vines adjacent to the wall surface;
   b. Artwork, such as bas-relief sculpture, murals, or trellis;
   c. Seating area with special paving and seasonal plantings;
   d. Architectural detailing, reveals, contrasting materials or other special visual interest.

Ground cover and vines help soften a flat facade

Architectural elements including building base, columns, lighting, trellis and faux windows



Artwork can provide visual interest and reveal a place's culture and history

BUILDING DESIGN

F. Historical Context

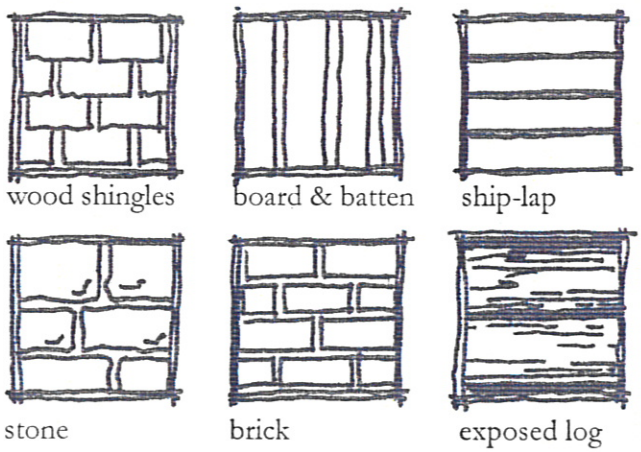
Intent

To promote building design that is sensitive to the overall character of Black Diamond.

Guidelines

1. Incorporate architectural elements into new development that reinforce the established character of Black Diamond including:
   - natural materials
   - window proportions
   - facade and canopy lines
   - covered boardwalks
   - front porch or stoop
   - extended parapets
   - decorative railings

2. Discourage mimicry or superficial historic reproduction.



A. Sign Design

Intent

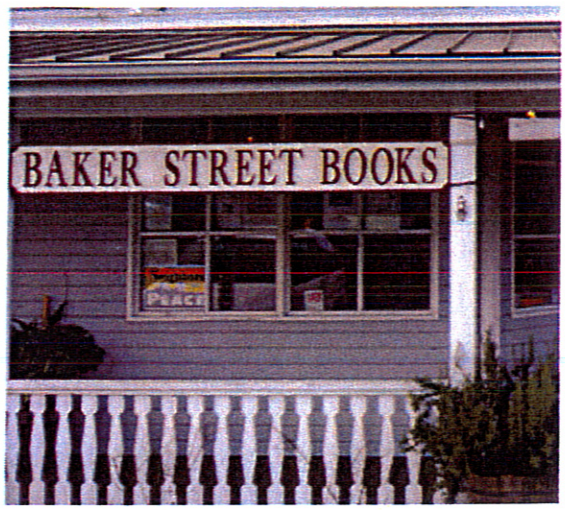
To encourage small-scale, pedestrian-oriented signage that is compatible with the rural, historic character of Black Diamond.

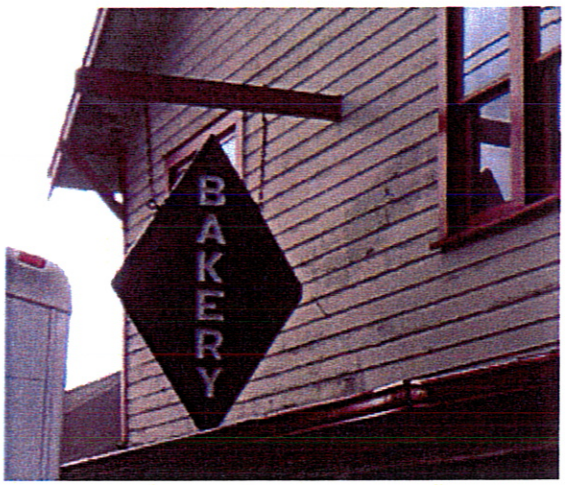
Guidelines

1. Required sign placement:
   a. On or under a marquee's, awning's, or canopy's vertical face (valance);
   b. On the building facade, integrated with the architectural elements of the building;
   c. On lower story windows.

2. Internally lit or backlit signs and billboard wall signs are prohibited.

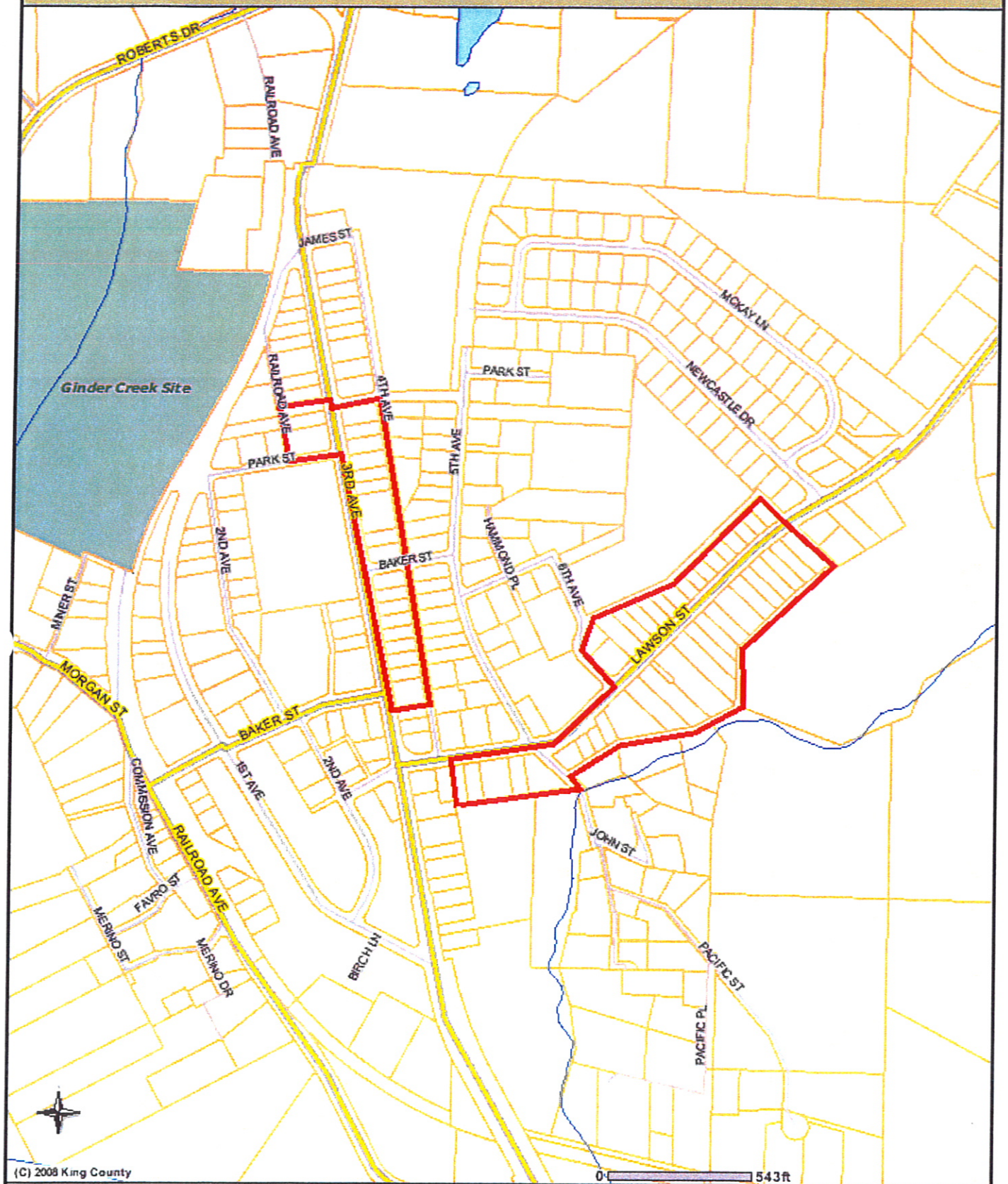
3. Allow an increase of up to 20% for signs that are highly graphic in form, expressive and individualized.





Town Center Precedent: small-scale signs add individual expression of the storefront and detail and richness to the street level facade

HISTORIC VILLAGE CORE RESIDENTIAL



COMMENTS: Applies to all properties within outlined areas, plus other properties from 1998 Historic Resource Inventory

Date: 2/18/2009 Source: King County iMAP - Property Information (http://www.metrokc.gov/GIS/iMAP)

King County

BLACK DIAMOND DESIGN GUIDELINES

for

Commercial Zones

Updated February 6, 2009

Commercial Zones

Introduction and Purpose

This section of the Design Standards and Guidelines focuses on site planning and design guidance for the Commercial Zones of the city. These standards and guidelines serve to promote successful and vibrant commercial activity in the city while maintaining the rural and historic character that defines Black Diamond.

Site Design

Site design in Commercial Zones serves to orient buildings and transportation corridors in a way that allows for pedestrian and vehicular access while screening undesirable features such as trash areas and parking lots. A focus on landscaping and connectivity to adjacent uses will be stressed to meet the overall site design objectives.

Building Design

Building design in Commercial Zones will be compatible with the historic and rural context of the City of Black Diamond. These standards and guidelines ensure the objectives are met by addressing building design features individually to maintain pedestrian friendly and visually appealing commercial areas that cater to residents and visitors alike.

SITE DESIGN

Storefronts and entrances should enhance the activity on the street

Pulling back the entrance from the corner and providing additional sidewalk and landscaping

A. Orientation to the Street

Intent

The life of the commercial district is closely tied to the character of its public space. Collectively, buildings configure and shape the streetscape and other open spaces. New buildings should be located towards the street, near the sidewalk to promote community commercial activity, and to heighten the presence and improve the identity of commercial areas.

Guidelines

1. Locate and orient buildings to define public streets and civic spaces. Locate buildings close to the sidewalk and limit gaps to the minimum necessary to accommodate parking and access. Allow larger developments to pull back from the street edge for plazas and entry fore-courts. Plazas, courtyards and other pedestrian space shall include at least three of the following:
   a. Special landscape
   b. Pedestrian scale bollards
   c. Accent lighting
   d. Special paving, such as colored/stained concrete, brick or other unit paver
   e. Seating, such as benches, tables, or low seating walls
   f. Water feature
2. Provide clear, recessed main building or shop entrances that do not interrupt street and/or retail continuity.
3. Set buildings back at the corners of intersections from the corner property lines at the ground floor to allow for both a more generous sidewalk and additional street landscaping to support a high level of activity and visibility.

B. Parking Lots

Intent

To locate parking in a manner that is as visually unobtrusive as possible and provides safe, convenient access without detracting from the pedestrian environment.

Guidelines

1. Parking lots shall be located behind or to the side of buildings.
2. Parking lots shall not abut street intersections (corner lots).
3. Parking lots located beside buildings shall be screened from the right-of-way with one or more of the following treatments:
   a. Landscaping to sufficiently screen the first 3 feet in height.
   b. Low walls made of decorative concrete, masonry, or other similar material and not exceeding a height of 3 feet.
   c. Raised planter walls planted with a minimum of 80% evergreen shrubs not to exceed 3 feet in height.

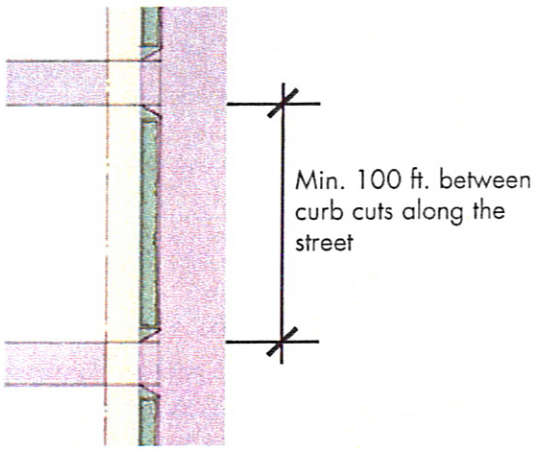
Parking lot screened with low walls and landscaping

4. Reduce visual impact of surface parking lots.

   Where the parking lot is located to the side of the building and partially abuts the public right-of-way, one tree for every six spaces shall be provided;

   Where the parking is behind the building and not visible from the public right-of-way, one tree for every eight spaces shall be provided.

   note: no planting strip shall be less that 3 feet wide, 6 feet if trees are included



5. Enhance pedestrian safety by reducing and consolidating driveways, while providing for adequate access:
   a. Distance between curb cuts should not be less than 100 feet.
   b. The sidewalk pattern and material shall continue across the driveway.

Pedestrian connections shall be maintained in larger parking lots

6. Adjacent developments shall make every effort to share driveways.

Connections provide safety and comfort through large sites

Clear sight-lines to entrances and public areas

C. Pedestrian Connections

Intent

The commercial district should connect through a network of public spaces and paths. New development should improve the pedestrian environment by making it easier, safer, and more comfortable to walk between businesses, to the sidewalk, to transit stops, and through parking lots.

Guidelines

1. Pedestrian connections shall be clearly defined with a combination of two or more of the following elements:
   a. 6 inch vertical curb in combination with a raised walkway.
   b. trellis, special railing, bollards, and/or other architectural features to accent the walkway at key points.
   c. continuous landscape area minimum 3 feet wide (6 feet min. if trees are included) on at least one side of the walkway.
2. Provide adequate building lighting at entries and along all walkways and paths through parking lots.
3. Pedestrian walkways shall include clear sight-lines to building entrances and shall not be less than 4 feet wide.

C. Pedestrian Connections *continued*

Guidelines

3. On-Site Pedestrian Circulation

   Pedestrian paths or walkways shall be provided connecting all businesses and the entries of multiple buildings on the same development site.

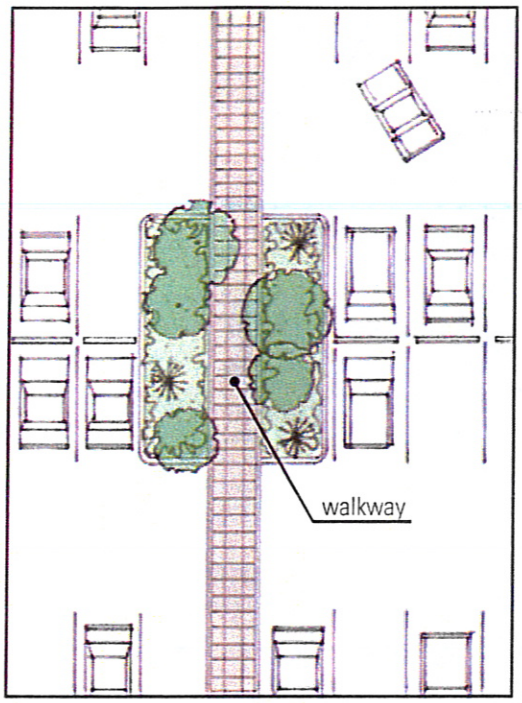
   Pathways and crosswalks shall be provided through parking lots along every fourth parking aisle or at intervals of not less than 150 feet. Contrasting surface materials shall be used for pathways to delineate pedestrian areas from travel lanes.

4. Site Integration with Transit Facilities

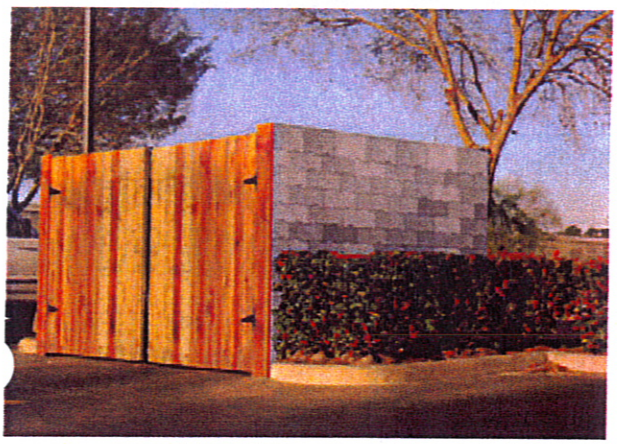
   Transit stops shall be integrated into the planning of adjacent site improvements.

   a. Extra space for waiting areas shall be provided with benches, newspaper and bicycle racks, trash receptacles, a clock, bus schedule. Pavement for expanded waiting areas may be located within required setbacks and may count as landscape areas.

   b. Integration of transit shelter into the building by providing overhead weather protection (building canopy) with appropriate height and depth, and lean bars affixed to the base of the building.



On-Site Pedestrian Circulation



Examples of trash screening areas

D. Screening of Trash and Service Areas

Intent

To reduce the impact of service, loading, and trash/recycling areas.

Guidelines

1. Service, loading and trash/recycling collection areas shall be screened from public view with solid evergreen plant material or architectural treatment similar to the design of the adjacent building.
2. Chain link is prohibited.

Note: alternatives may be considered if designs meet the intent and are approved by the Community Development Director

8 BUILDING DESIGN

A. Massing

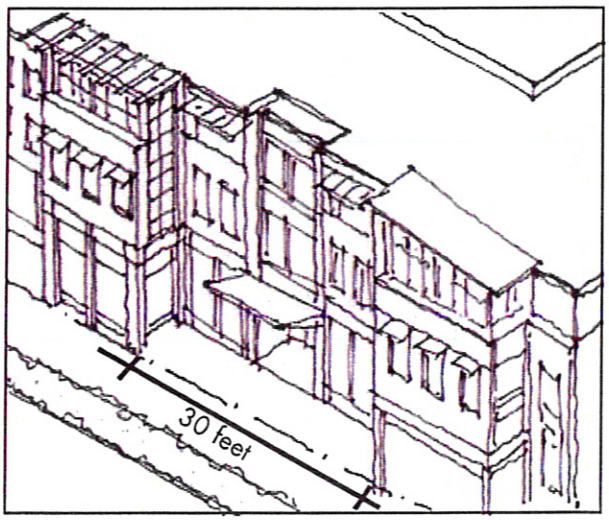
Intent

Give proper consideration to the scale and massing of individual buildings to be compatible with Black Diamond's desired architectural scale and character.

Guidelines

1. Design building volumes appropriate to the scale of their surroundings. In general, break down the scale and massing of larger buildings.
   a. All new buildings with a wall of 60 lineal feet or more, facing a public right-of-way, shall create a 5 ft. minimum jog in those facades visible from the public right-of-way every 30 feet.
2. Articulate the facade with smaller windows, bays and other projected or recessed design elements as a transition in size to adjacent historic or residential structures that are smaller in scale.
3. Express rooflines as an extension of the building's composition:
   a. Use a strong, detailed cornice or parapet in conjunction with a flat roof. Modulate the roofline at least every 60 feet.
   b. Gable, hipped or shed roofs with a slope of at least three feet vertical to twelve feet horizontal are acceptable.
   c. Other roof forms, such as arched, vaulted, dormer, or saw-toothed may be acceptable provided they don't exceed 60 feet without a change in plane or design.
   d. Mechanical equipment shall be screened from the public right-of-way by an extended parapet wall or other roof form.

Buildings should reference Black Diamond's small, rural character



Example of building facade modulation standard

Gabled roofline with differentiated materials to articulate the building composition

BUILDING DESIGN

B. Articulation

Intent

To reduce the apparent bulk of multi-story buildings and maintain a pedestrian scale in Commercial zones.

In this case, the "top" breaks up the perceived bulk of the building

Guidelines

A "base, middle and top" shall be delineated for buildings 25' or higher.

1. Create a "base" at ground level using articulation and materials.
2. The "top" of the building will emphasize a distinct profile or outline with elements such as a projecting parapet, cornice, or pitched roofline. In addition, building facades abutting the street shall have an upper level setback at a height 25-50 feet above grade, with a minimum depth of 10 feet.
3. The "middle" of the building may be distinguished by a change in materials or color, windows, balconies, stepbacks and signage.

10 BUILDING DESIGN

C. Ground Level Details

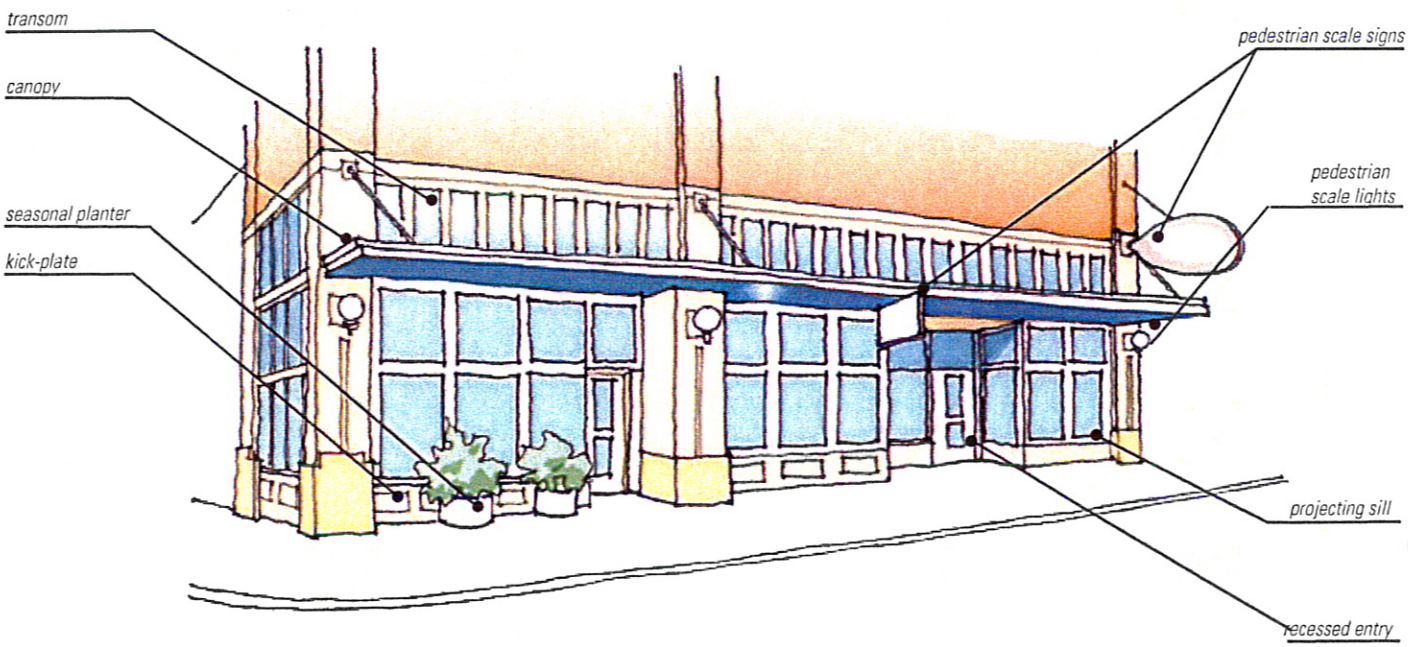
Intent

To create a socially and visually stimulating commercial district with street level facades that support pedestrian activity.

Guidelines

1. Promote active, pedestrian-oriented uses with a high degree of transparent window area. Reflective, opaque and highly tinted glass is prohibited.
2. Reinforce the character of the streetscape with the greatest amount of visual interest placed along the ground level of buildings. Facades of commercial and mixed-use buildings shall be designed to be pedestrian-friendly through the inclusion of at least three of the following elements:
   a. kickplates for storefront windows
   b. projecting window sills
   c. pedestrian scale signs
   d. recessed entry
   e. canopies
   f. transom windows
   g. pedestrian scale lighting
   h. planters and/or seasonal hanging baskets supported by ornamental brackets
   i. an element not listed here that meets the intent

Good pedestrian oriented ground level detailing improves the street life of a commercial street



D. Blank Wall Treatments

Intent

To reduce the visual impact of blank walls by providing visual interest.

Guidelines

1. Blank walls longer than 30 feet facing streets or visible from residential areas shall incorporate two or more of the following:

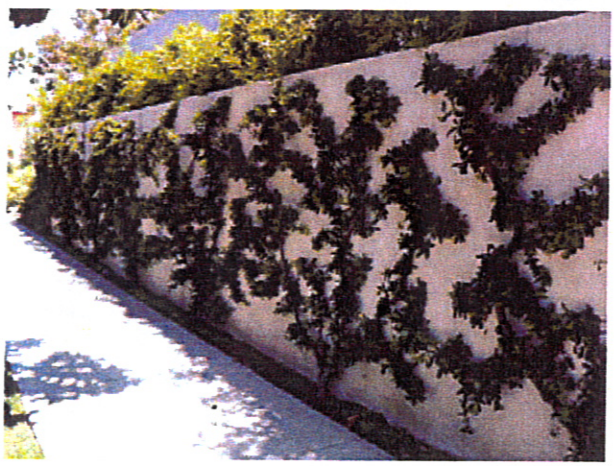
   a. Vegetation, such as trees, shrubs, ground cover and/or vines adjacent to the wall surface;

   b. Artwork, such as bas-relief sculpture, murals, or trellis;

   c. Seating area with special paving and seasonal plantings;

   d. Architectural detailing, reveals, contrasting materials or other special visual interest.

Historic mural work can fit with the character of a commercial area and break up blank walls



12 BUILDING DESIGN

E. Corner Lots

Intent

To promote civic identity through prominent building features at visible locations.

Guidelines

1. Buildings located at corners of blocks, should be given significant architectural expression in the facade, roof form, massing and orientation, such as:
    a. tower forms
    b. peaked roofs
    c. larger entrances

A significant corner building with unique architectural form can mark entry into the commercial area

BLACK DIAMOND DESIGN GUIDELINES

for

Business Park/Industrial Areas

Updated February 6, 2009

Business Park/Industrial Areas

Introduction and Purpose

This section of the Design Standards and Guidelines focuses on site planning and design guidance for the Business Park/Industrial Park and Industrial Zones. Details on site design and building design are included in these guidelines to promote sensitive site planning and low impact development to preserve significant natural features and overall community character.

Site Design

Emphasis on the siting of buildings should be placed on clustering buildings and parking to preserve open space and significant natural features as community amenities, and to take advantage of opportunities to reflect and express the community's semi-rural character through the arrangement of buildings and landscape.

Building Design

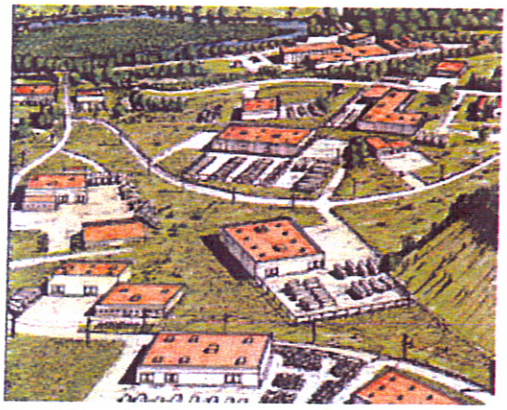
Typically, office campuses present a unified character to lend brand identity, professionalism and credibility. These guidelines stress a semi-rural, contextual approach to this development pattern with the following design directives:

- acknowledge and respect local natural features;
- design for compatibility with adjacent uses;
- design for overall cohesiveness;
- consider each building as a high-quality, long term addition to the city

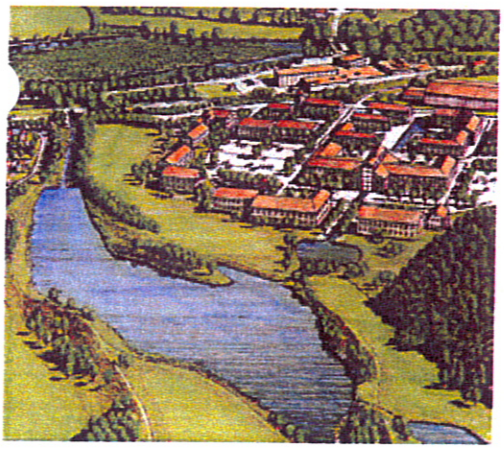
SITE DESIGN

Over-arching Site Design Intent

Emphasis on the siting of buildings within a business park should be placed on clustering buildings and parking to preserve open space and significant natural features as community amenities, and to take advantage of opportunities to reflect and express the community's semi-rural character through the arrangement of buildings and landscape. Site design should also recognize and relate to adjacent streets and adjacent developments.



Sprawling development patterns tend to ignore natural features and can negatively impact neighboring uses.



Integrated development can preserve and take advantage of unique natural features by clustering buildings, parking, access and circulation.

A. Integrated Site Planning

Intent

Each component of a business park and industrial campus should contribute to a coherent sense of the whole, including:

- encouraging cluster development to preserve open space and significant natural features as community assets;
- discouraging developments that result in "left-over" open space; and
- recognizing the important relationship between private, semi-public and public spaces in the arrangement of buildings, parking, service access, and pedestrian areas.

Guidelines

1. Preserve natural features (wooded areas, knolls, ponds and streams) and community landmarks (significant trees, farmhouses) by concentrating and clustering buildings on the land of least natural sensitivity/ significance.
2. Establish clear pedestrian connections on site that are well-marked and ADA-compliant. Pedestrian paths or walkways should connect to all businesses and building entries, and through parking lots to direct pedestrians to buildings, streets and public spaces.
3. Discourage buildings that are internally focused at the expense of the pedestrian environment.
4. Buffer adjacent sensitive land uses from undesirable impacts that may originate from the site; buffers may be landscape and/or architectural in character.

B. Building Orientation: Street Front

Intent

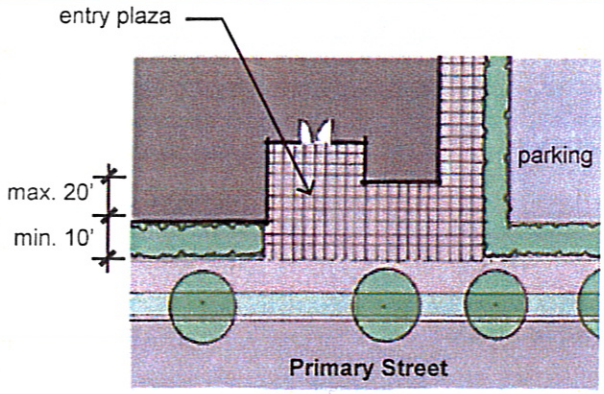
Buildings should be oriented with consideration to the visual impact from the perspective of the driver or pedestrian on the primary roadway. It is important to create the immediate first impression of a high quality business park, as part of the city's overall community character and identity.

Standards

1. Sidewalks shall be provided on primary streets with the following dimensions:

   a. Sidewalk area with a clear zone of 5 feet for pedestrian travel;
   b. A 4-foot-wide continuous planted area.

2. Buildings shall be developed with "principal" facades on the primary street. Front setbacks shall be a minimum 0' and a maximum 20' from the front property line. Establish a streetscape defined by attractive buildings located near the street edge within a landscape setting.



Building orientation and setbacks on primary street

Guidelines

1. Buildings should be sited in ways which make their entries or intended use clear to approaching visitors. Sole building entries from parking lots are discouraged.

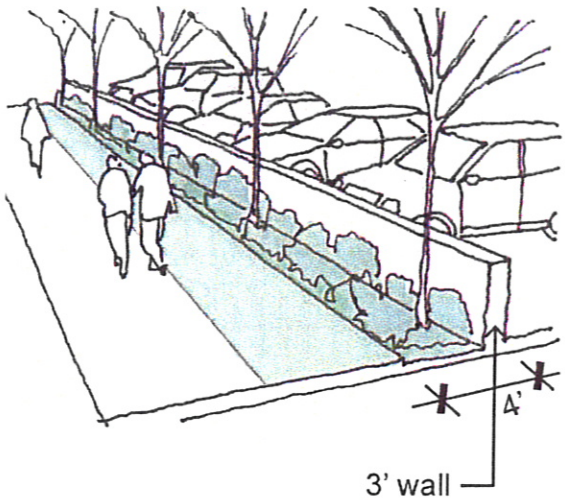
2. Set buildings back at the corners of intersections from the corner property lines to allow for more generous sidewalk, additional street landscaping, and business signage.

3. Front internal access drives with a combination of buildings and landscaping and served by pedestrian walkways.

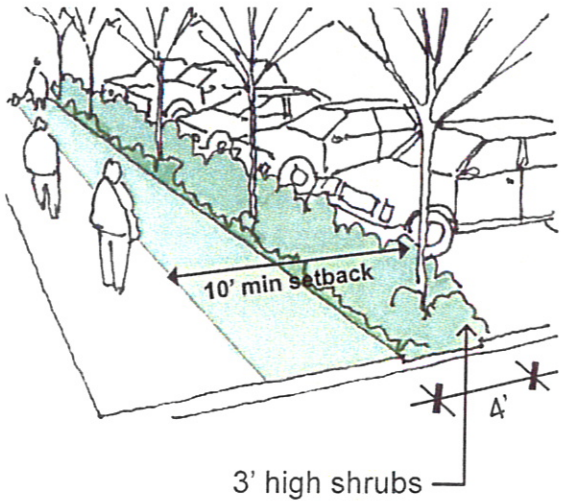
Walkways, planting srips and a variety of trees make internal drives more visually appealing and safer for pedestrians

SITE DESIGN

Low masonry wall with landscaping



Surface parking from public view with wall and vegetation



Surface parking from public view with vegetation

C. Parking Lot Screening

Intent

To reduce the impacts of surface parking while also maintaining visibility for surveillance.

Standards

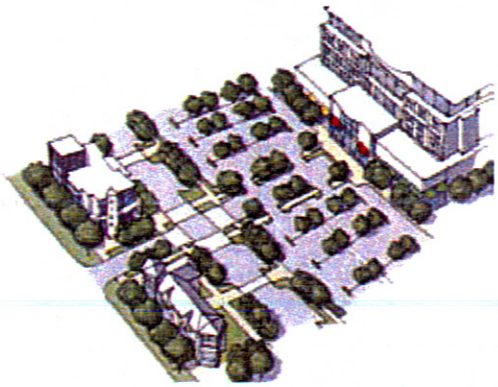
1. Portions of parking lots that are in front of or beside buildings along the primary street(s) from the right-of-way shall be screened with one or more of the following treatments:

   a. Landscaping to sufficiently screen the first 3 feet in height adjacent to the parking area, within a 4' planting area.
   b. Low walls made of concrete, masonry, or other similar material and not exceeding a height of 3 feet. Ground cover and trees must still be provided in the required 4' planting area.
   c. Raised planter walls planted with a minimum 80% evergreen shrubs not to exceed 3 feet in height.

D. Parking Lot Location and Landscape

Intent

To reduce the visual impact of parking lots through landscaped areas that complement the overall design and character of development, providing both aesthetic and environmental benefit.

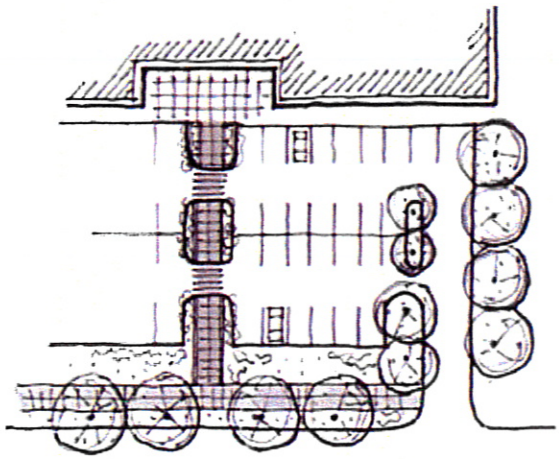


Standards

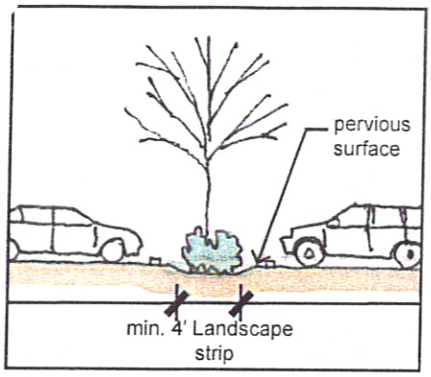
1. Locate parking lots to the side or behind buildings when possible. Parking located on the side or in front of the building shall meet the following:

   a. Parking is set back a minimum of 10' from the property line;
   b. Surface parking areas include 5' of perimeter landscaping and meet Guideline B when facing a Primary Street(s);
   c. Parking area does not exceed 50% of the total frontage along the Primary Street(s); and
   d. Promote shared parking access and shared parking among adjacent businesses.

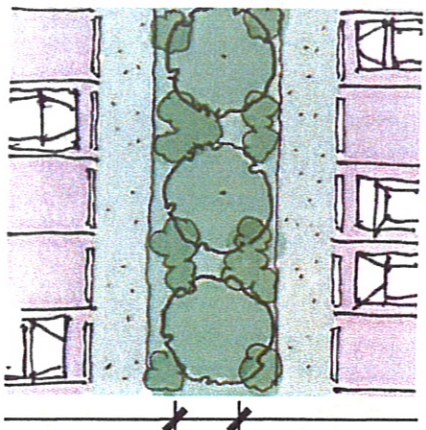
2. Parking lots shall not abut street intersections (corner lots).



Screen parking from all neighboring properties and public rights-of-way with perimeter landscaping



Interior parking lot landscaping strips



Interior parking lot landscaping strips, plan view

ndscaped 'fingers' break up the expanse of asphalt

D. Parking Lot Location and Landscape

Standards

3. Dedicate 10% of all parking areas to interior landscaping, including the following:

   a. Interior landscaping shall be provided every 16 parking stalls and at the ends of each row of parking;
   b. Landscaping strips shall be a minimum of 4 feet wide and consist of ground cover, drought tolerant shrubs at a rate of 1 shrub per space, and at least one tree per every 6 spaces.

4. The use of pervious pavers and other low impact methods of stormwater runoff infiltration in the design of parking areas shall count towards the 10% interior landscaping requirement.

E. Pedestrian Connections

Intent

Business parks and campuses are enhanced when it is easier, safer, and more comfortable to walk between buildings and parking areas.

New developments should connect to surrounding uses, including streets, businesses, transit facilities, and residential areas, where appropriate.

Standards

1. Parking lots greater than 25 stalls shall include a pedestrian walkway. Separate pathways through parking lots from vehicle parking and travel lanes by a combination of 2 or more of the following ways:
   - a 6 inch vertical curb in combination with a raised walkway.
   - a trellis, special railing, bollards, and/or other architectural features to accent the walkway at key points.
   - a continuous landscape area minimum 3 feet wide on at least one side of the walkway.

Pedestrian connections provide safe and comfortable access within a campus

Guidelines

1. Use pathways to connect open spaces within the business park or campus, and link to adjacent trails, where appropriate. Use wayfinding elements, including signage and paving inlays to direct visitors to specific businesses and buildings within a park or campus.
2. Reinforce pedestrian connections with pedestrian-scale lighting for safety. Pedestrian scale lighting should be a maximum of 16 feet in height.

Connections can be naturalistic in character

Various lighting methods including bollard lighting for pedestrian walkways

F. Site Lighting

Intent

Lighting is an important aspect of overall site development as it contributes to a feeling of safety and consistent "site vocabulary" to create a campus identity.

Standards

1. Short masted and local area lighting are the preferred lighting standards. Short masted lights shall not exceed a maximum of 16 feet in height. Parking lot lighting shall not exceed 30 feet in height.

2. Mount site lighting required for loading, staging and storage areas on the building facades if facing towards the site. The lighting shall not be oriented towards any public right-of-way or adjacent properties.

Guidelines

1. Consider using bollard lighting for pedestrian pathways and sidewalks.

G. Screening of Trash, Loading and Service Areas

Intent

To reduce the impact of service, loading, and trash/recycling areas. An important objective of the Business Park and Industrial design guidelines is to minimize clutter that can be associated with these uses.

Standards

1. Service, loading and trash/recycling collection areas shall be screened from public view with solid evergreen plant material or architectural treatment similar to the design of the adjacent building.

2. Loading and service areas shall not face any residential district, unless no other location is possible.

3. Outdoor storage areas shall be consolidated into a single area, and screened from the street and/or neighboring uses by buildings and/or landscaping.

Examples of landscaping screening methods

BUILDING DESIGN

Over-arching Building Design Intent

A clear visual and functional relationship between buildings, grounds, security and layout creates a cohesive campus. These guidelines emphasize a consistent "site vocabulary" to unify the site with similar signage and graphics, hierarchical paving, site furniture and landscaping. Within this concept, design emphasis is placed on building massing to complement the site furnishings, while distinctive design treatments in individual buildings can add three-dimensional quality and variety in character.

A. Massing and Bulk

Intent

The form and articulation of Business Park and Industrial buildings are expected to contribute to the desired campus environment. Large, monolithic buildings are discouraged.

Example of simple modulation with deep openings that create shadow lines, provide visual relief that is carried to the top of the building.

Semi-rural character expressed in the form and roof line of a commercial building to help reduce apparent bulk

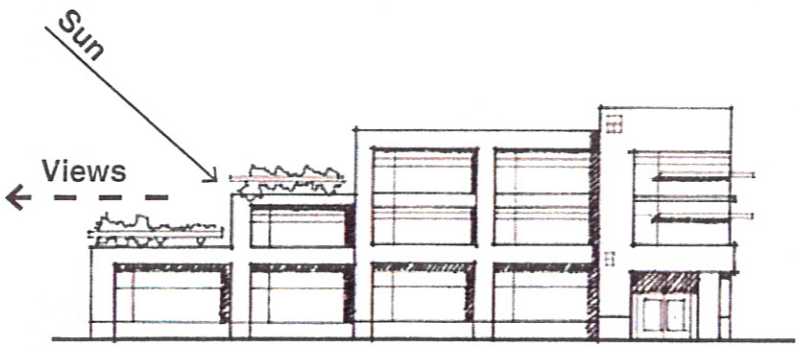
Guidelines

1. Break down the scale and massing of larger buildings by modulating the building, both horizonatally and vertically into smaller scale volumes. Carry this modulation up to the roofline.

2. Use floor to floor terracing on multi-story buildings to reduce bulk and increase amenity space as well as views.

3. Step buildings down towards surrounding residential uses and orient massing towards taller buildings nearby.

4. Design roofs to complement the composition and form of the building and the surrounding area. Gable or hipped roofs should be used if interpreted in a manner appropriate for an office or industrial use (such as metal materials). Use a strong, detailed cornice or parapet in conjunction with a flat roof. Employ high quality roofing material for roofs that are visible from the street.



Terracing provides visual relief and amenity

B. Form and Articulation

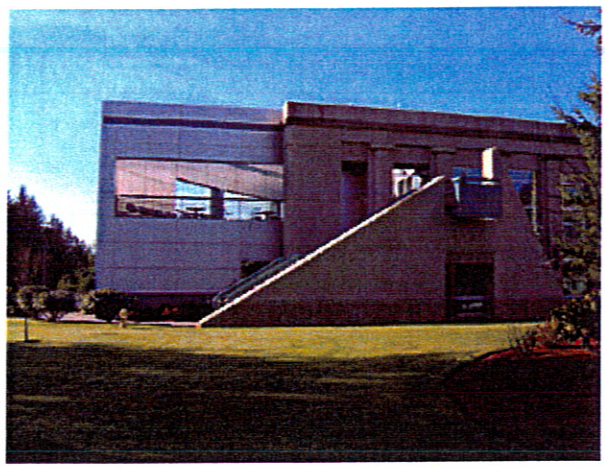
Intent

Reduce the apparent bulk of multi-story buildings and add richness and variety to Business Park/Industrial Campus architecture.

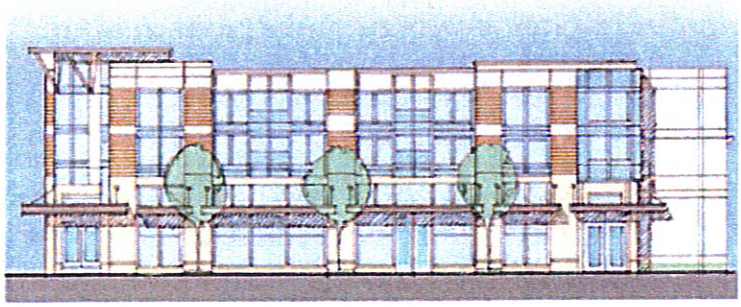
Guidelines

1. Maintain similar style, materials and scale with surrounding buildings. Use regulating lines such as soldier courses and rhythms like columns to break up long facades.

2. Provide a clear pattern of building openings. Windows, doors and other openings should unify a building's facade and add considerably to the facade's three-dimensional quality.



Unique architectural articulation reduces the perception of building bulk



The composition of openings (windows and doors), pilasters and horizontal bands and cornice lines helps achieve a human scale.

C. Building Entrances

Intent

Provide well-marked, articulated entrances oriented to public spaces.

Double height glazing, columns and landscaping give prominence and identity to a main building entrance

Standards

1. Main building entrances shall be oriented on either the primary street or main internal vehicle drive.

Guidelines

1. Accentuate the entrance(s) to a building's main lobby or interior office space; these main building entrances should be prominent in terms of size, articulation and use of materials.

2. Encourage the use of highly crafted materials or civic art pieces to further enhance the appearance and prominence of entrances.

Seperate entrance structures increase the prominence of building entrances

14 BUILDING DESIGN

A. Sign Design

Intent

To ensure that business park and industrial campus signs are not solely oriented to automobile traffic.

Standards

1. Pole signs are prohibited. Ground signs shall be no higher than 6 feet, and an integral part of the development's architectural design.

2. The base of any ground sign shall be planted with shrubs and seasonal flowers.

Various sign styles that cater to pedestrians and motor vehicles

CITY OF BLACK DIAMOND

MASTER PLANNED DEVELOPMENT
FRAMEWORK DESIGN STANDARDS & GUIDELINES

TABLE OF CONTENTS

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INTRODUCTION

The Master Planned Development (MPD) Framework Design Standards and Guidelines are intended to provide guiding principles for the overall design of MPD applications within the City. These guidelines are to be followed in consideration of an MPD at both the initial and subsequent phases of approval. It is anticipated they will be supplemented by additional guidelines and standards that are developed when more specific plans for phased development are proposed. Those guidelines may be initially drafted by the MPD developer for consideration by the City prior to eventual adoption as part of a development agreement. As such, these guidelines are not intended to address all potential aspects of future development, but to provide an overall framework upon which additional guidelines may be added to in the future.

The more specific guidelines that are included at this time reflect important issues to the community which need to be carried forth in future amendments.

The statements contained herein are intended to be standards and guidelines, rather than prescriptive rules, and thereby provide an amount of flexibility. Any decision regarding strict application of any guideline contained herein will be made by the City Council as part of its consideration of granting overall MPD approval.

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GENERAL PRINCIPLES AND SITE PLANNING

ENVIRONMENTALLY SUSTAINABLE DEVELOPMENT

INTENT

To provide resource-efficient site design which includes consideration for saving trees, constructing on-site stormwater retention/infiltration features, and building orientation to maximize passive solar heating and cooling.

GUIDELINES

1. *Implement a construction waste management plan to reduce construction waste. Consider life-cycle environmental impacts of building materials.*

2. *Incorporate energy saving techniques into all aspects of building's design and operation.*

3. *Maximize water conservation by maintaining or restoring pre-development hydrology with regard to temperature, rate, volume and duration of flow; use native species in landscaping; recycle water for on-site irrigation use.*

4. *Use measures that can mitigate the effects of potential indoor air quality contaminants through controlling the source, diluting the source, and capturing the source through filtration.*

5. *Reduce overall community impacts by providing connectivity from the project to the community; by incorporating best management practices for stormwater management; by creating useable public spaces such as plazas and parks; and by protecting important community-identified viewsheds and scenic areas.*

6. *Grading plans shall incorporate best management practices with phased grading to minimize surface disturbance and to maintain significant natural contours.*

USING OPEN SPACE AS AN ORGANIZING ELEMENT

Black Diamond has a specific history and setting that involves varied topography, an agricultural past, forested areas, mining, and a small town scale. Care should be taken to reflect these patterns in master planned developments. In addition, the MPD chapter of Black Diamond's Municipal Code requires that fifty percent (50%) of the total land area of an MPD be maintained as open space. Proper design and integration of this open space into a development is very important.

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INTENT

To protect sensitive environmental features and use open space to emphasize community activity and maintain a traditional and compact small town setting.

GUIDELINES

1. *All master planned developments shall include a wide range of open spaces, including the following:*

- *Sensitive environmental features and their buffers*
- *Green belts*
- *Village greens*
- *Parks and school playgrounds*
- *Public squares*
- *Multipurpose trails*

These features should be deliberately planned to organize the pattern of development and serve as center pieces to development clusters, not merely as "leftover" spaces.

2. Open spaces shall be linked into an overall nonmotorized network through sidewalks, trails and parkways. The overall network shall be delineated at initial MPD approval and implemented through subsequent plats and permits approvals.

3. Stands of Trees as an Element of Open Space

Due to the propensity of severe wind events in the Black Diamond area, an MPD should incorporate the preservation of larger rather than smaller stands of native trees.

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INTEGRATING DEVELOPMENT WITH OPEN SPACE

INTENT

To allow for an efficient use of land, lower the cost of infrastructure and construction, protect environmentally sensitive areas, and maintain a small town "village" character within an MPD. Development is to be integrated with networks of preserved natural features and developed open space for both passive and active recreational uses.

GUIDELINES

1. *Use of conventional, suburban-style subdivision design that provides little common open space shall be avoided.*

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2. Groupings of primarily residential development of approximately 400-600 units should be contained generally within a quarter mile radius to support walking, bicycling and future transit service. Development clusters shall be surrounded by a network of open space with a variety of recreational uses (including trails) to provide connections between clusters.

3. Methodology for Planning Development in Clusters

a. environmentally sensitive areas to be protected (including streams, wetlands, steep slopes, wildlife corridors, and their buffers) shall be identified, mapped and used as an organizing element for design.
b. areas for development of housing and commercial development shall be indicated
c. streets and public spaces (as well as sites for public facilities such as schools, fire stations and other civic structures) shall be identified
d. lots and groups of lots with various ownerships (i.e. fee simple by occupant, condominium, single ownership apartments, etc) shall be integrated with one another throughout all phases of a project.
e. views of Mt. Rainier and other desirable territorial views shall be identified and integrated into site planning to maximum viewing from public spaces (streets, trails, parks, plazas, etc.).

ENSURING CONNECTIVITY

INTENT

To promote ease of mobility and access within all portions of the development.

GUIDELINES

1. Pedestrian Connectivity

Similar to a traditional small town, services and common spaces shall be easily accessible to residents on foot. Off-street pedestrian trails are to be provided as a network throughout the development. Pedestrian connections shall be provided where cul-de-sacs or other dead-end streets are used.

2. Street Connectivity

The system of streets shall demonstrate a high degree of both vehicular and pedestrian connectivity, allowing residents and visitors multiple choices of movement. Isolated and dead-end pockets of development are not desired.

Cul-de-sacs shall be avoided unless there are no other alternatives.

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MIXING TYPES OF HOUSING

INTENT

To encourage a diversity of population and households within Black Diamond through a range of choices in housing types and price.

GUIDELINES

1. MPDs *shall include various types of housing, such as:*
   - *Single Family, detached, on various-sized lots.*
   - *Single Family, attached:*
     duplexes
     townhouses (semi-attached)
     row houses (attached, common walls)
     courtyard houses
   - *Cottage Housing*
   - *Apartments*
   - *Accessory Dwelling Units*

2. Each cluster of development shall include a variety of unit types and densities.

3. For single family developments, alley access to garages is desired. Direct driveway access to streets should only occur if there are no other alternatives.

4. Large apartment complexes and other repetitive housing types are discouraged. Apartments should replicate features found in single family residential areas (i.e., garages associated with individual units, individual outdoor entries, internal driveway systems that resemble standard streets, etc.).

CREATING NEIGHBORHOOD CIVIC / COMMERCIAL CENTERS

INTENT

To conveniently concentrate services and activities to serve multiple residential clusters.

GUIDELINES

1. *Civic / Commercial Centers shall be located to serve groupings of clusters as well as pass-by traffic in order to support an array of shops and services.*

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2. Such centers shall be anchored by a public green space and, ideally, a public building such as a school or meeting hall.

3. Upper story housing above retail or commercial spaces is strongly encouraged within Civic / Commercial Centers.

INTERFACE WITH ADJOINING DEVELOPMENT

INTENT

To ensure a transition in development intensity at the perimeter of MPD projects.

GUIDELINES

1. *Where individual lot residential development is located along the boundary of an MPD, lot sizes shall be no less than 75% the size of the abutting residential zone or 7200 sq. ft., whatever is less.*

2. *Multifamily and nonresidential land uses should include a minimum 25 ft. wide dense vegetative buffer when located along the boundary of an MPD.*

3. *When there is no intervening development proposed, a minimum 25 ft. wide dense vegetative buffer should be provided between main entrance or access routes into an MPD and any adjoining residential development.*

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CIRCULATION

STREETS

INTENT

To establish a safe, efficient and attractive street network that supports multiple choices of circulation, including walking, biking, transit, and motor vehicles.

GUIDELINES

1. Connectivity

The street layout shall create a network that promotes convenient and efficient traffic circulation and is well connected to other existing City streets

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2. Design

- *The layout of streets should relate to a community-wide focal point.*
- *A consistent overall landscape theme should be utilized, with variations provided to indicate passage through areas of different use, densities, topography, etc.*
- *Limit the use of backyard fences or solid walls along arterial streets.*

3. Reduced Pavement Widths

Pavement widths should be minimized to slow vehicular speeds and maintain an area friendly to pedestrians and nonmotorized users.

4. Low-Impact Design

Stormwater runoff should be reduced through "natural" techniques: flush curbs, biofiltration swales, use of drought-tolerant vegetation within medians and planting strips, etc.

5. Traffic Calming Methods should include:

- *Roundabouts*
- *Traffic Circles*
- *Chicanes*
- *Corner bulbs*

6. Lanes and Alleys

Access to rear residential garages and commercial loading and service areas shall be available through lanes and alleys

7. Non-motorized Circulation

- *All streets shall include either sidewalks or trails on at least one side of the street.*
- *Design streets to be "bicycle friendly".*

8. Street Landscaping

All streets shall include native and/or drought-tolerant vegetation (trees, shrubs and groundcover) planted within a strip abutting the curb or edge of pavement. Native and/or drought-tolerant vegetation shall also be used within all medians.

9. On-Street Parking

Curbside parallel parking shall be included along residential streets. Parallel or angle parking should be included within non-residential areas.

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SIDEWALKS

INTENT

To provide safe, continuous pedestrian linkages within the street right-of-way.

GUIDELINES

1. Width

   The *minimum clear pathway shall generally be between 5 feet and 8 feet, depending upon adjacent land uses and anticipated activity levels.*

2. Lighting

   All lighting shall be shielded from the sky and surrounding development and shall be of a consistent design throughout various clusters of the development.

3. Furnishings

   Street furnishings including seating, bike racks, and waste receptacles shall be located along main streets in Civic/Commercial areas.

   Furnishings serving specific businesses (outdoor seating) will require a building setback and shall maintain a minimum passable width of the sidewalk.

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   Mailbox stations shall be designed to be architecturally compatible with the development in which they are located.

WALKWAYS AND TRAILS

INTENT

To provide safe, continuous pedestrian linkages throughout and sensitive to the project site, open to both the public and project residents.

GUIDELINES

1. Location

   Walkways and trails shall be integrated with the overall open space network as well as provide access from individual properties. Trail routes shall lead to major community activity centers such as schools, parks and shopping areas.

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2. Width

Not less than 8 feet wide to allow for multiple modes of use.

3. Materials

Walkways connecting buildings and hardscaped common spaces shall have a paved surface.

Trails throughout the development and connecting to larger landscaped common spaces shall be of at least a semi-permeable material.

Where trails are intended to provide for bicyclist accessibility in lieu of streets, hard surfacing shall be used.

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II. STANDARDS FOR PROJECTS

SITE DESIGN

CLUSTER DEVELOPMENT

INTENT

To ensure that development is compatible with the small town character currently found within Black Diamond.

GUIDELINES

1. Larger groupings of development should be divided into smaller neighborhood clusters of approximately 50 dwelling units that are defined by open space.

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2. Clustering

Within projects, higher density residential development shall be designed to have a village-like configuration. This includes elements such as:

- *Houses of varying sizes, styles, and form;*
- *The maximum number of attached units shall not be more than twelve within a single structure.*

NEIGHBORHOOD COMMON SPACE

INTENT

To provide a variety of usable and interesting open space(s) that supports an active community.

GUIDELINES

1. Amount

In general, within higher density residential and commercial development, a minimum of 1% of the lot area plus 1% of the building area should be the amount of area set aside for common open space, exclusive of other required landscaping

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2. Location

Common open space shall be accessible and visible to users, as well as integrated into the overall project through connections and trails.

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3. Landscaping / Hardscaping

Commercial areas shall provide common space in the form of plazas, courtyards, and/or seating areas including some of the additional features noted below

Higher density residential areas shall have usable outdoor spaces that provide at least four of the following features to accommodate a variety of ages and activities:

Site furnishings (benches, tables)
Picnic areas
Patios or courtyards
Gardens
Open lawn with trees
Play fields
Special interest landscape
Public art
Water feature(s)
Sports courts such as tennis, basketball, or volleyball

4. Lighting

Pedestrian scale, bollard, or other accent lighting may be incorporated into the design of open space.

LANDSCAPING & PLANTING DESIGN

INTENT

To provide well-designed public parks and greens within the development.

GUIDELINES

1. Incorporate native, drought-tolerant vegetation; avoid extensive use of lawn and plantings that demand significant irrigation and fertilization.

2. A minimum of 75% of the landscaped area (not including recreational areas) should be planted with other than turf or lawn. Perennials and/annuals are encouraged to provide special interest and highlight pedestrian areas such as walkways and trails.

3. Where landscape areas are located adjacent to a street right-of-way, the type of landscaping should provide a vertical buffer.

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4. Rocks, pebbles, sand, and similar non-living materials shall not be used as groundcover substitutes, but may be used as accent features provided such features do not exceed a maximum 5% of the total landscape area.

STORMWATER DETENTION / RETENTION PONDS

INTENT

To integrate stormwater facilities as project amenities.

GUIDELINES

1. Location

   Use natural site topography plus low-impact development methods to determine appropriate locations, which is to be integrated into the overall project design

2. Landscaping

   Where possible, provide facilities that are site amenities, in order to reduce need for fencing. In general, public access to stormwater facilities should be included within design.

3. Fencing

   Chain link fencing shall not be allowed. Other forms of non-obscuring fencing may be permitted when ponds exceed a safe slope. However, it is generally expected that ponds will be gently integrated into the design of the site with slopes that are safe to traverse on foot (less than 7% grade).

ARCHITECTURAL FORM AND CONSTRUCTION

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INTENT

To ensure that new development complements and strengthens the character of Black Diamond and to allow for maximum flexibility in location, size, and configuration of houses while ensuring that residential structures are in scale with lot sizes.

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GUIDELINES

1. Variety of styles.

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Provide a variety of building solutions through the mixing of one and two-story building profiles. Limit the amount of replication of building styles within one block.

2. Setbacks of Houses to Create a Sociable Environment

The front facades of houses should be setback between 5 and 15 feet from the back of the sidewalk. Vary front and side yard setbacks from house to house to provide interest and variety.

3. Setbacks of Garage to Reduce Visual Impact

The preferred location for garages is at the rear of the lot, with vehicular access being provided from an alley. Garage doors should be within 10 ft of the alley. If alley access is not possible, then garages shall be setback at least 20 feet from back of the sidewalk. That distance can be reduced when garage doors do not face the street.

4. Architectural Features

- *Housing shall include features such as:*
  - *Dormers*
  - *Brackets supporting roof overhangs*
  - *Corner boards*
  - *Wide trim around windows*
  - *Railings around balconies and porches*
  - *Low picket fencing*
- *Fronts of houses shall face the street and incorporate usable porches, stoops, and steps.*
- *Upper floors of houses shall be smaller than the floors below.*
- *Orientation of ridgelines of homes shall be varied.*

5. Materials

Exterior finishes should incorporate traditional and natural building materials as historically used in Black Diamond.

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To allow for maximum flexibility in location, size, and configuration of houses while ensuring that residential structures are in scale with lot sizes.¶

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GUIDELINES

6. Floor Area Ratio (FAR) (Building Size to Lot Size)

FAR for detached residential development should not exceed 0.75;
Attached forms of residential may be up to 1.0 FAR;

Within Commercial/Civic Centers, residential development FAR may be as high as 2.5.

7. Height

Minimum 1 story above grade
Maximum 2 1/2 stories

8. Massing

Horizontal facades longer than 30' shall be articulated into smaller units, using methods such as: distinctive roof forms, changes in materials and/or patterns, color differentiation, and recesses or offsets.

9. Roof Pitch

May range from 6:12 to 12:12

10. Architectural Features

Front Porches - at least 6' in depth (or deep enough to allow for seating)

Street-facing Garage Location - *the main house floor area shall extend at least 5' closer to the front lot line than any garage with street-facing doors. Design measures should be used for de-emphasizing garages, such as: porches, trellises, location of entry, break up massing/doors for double garages, overhanging second floor.*

NON-RESIDENTIAL BUILDINGS SHALL BE SUBJECT TO APPLICABLE CITY OF BLACK DIAMOND DESIGN GUIDELINES

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CITY COUNCIL AGENDA BILL

City of Black Diamond
Post Office Box 599
Black Diamond, WA 98010

ITEM INFORMATION

SUBJECT:

Public Hearing on proposed amendments to Chapter 18.98, Black Diamond Municipal Code, concerning Master Planned Developments

Agenda Date: February 26, 2009 **AB09-020**

Department/Committee/Individual	Created	Reviewed
Mayor Howard Botts		
City Administrator –Gwen Voelpel		**X**
City Attorney – Loren D. Combs		**X**
City Clerk – Brenda L. Streepy		
Finance – May Miller		
Public Works – Seth Boettcher		
Economic Devel. – Andy Williamson		
Comm. Devel. – Steve Pilcher	**X**	
Court – Kaaren Woods		
Natural Resources/Parks – Aaron Nix		

Cost Impact: N/A

Fund Source: N/A

Timeline: N/A

Attachments: Draft amendments to Chapter 18.98, Master Planned Developments; letter of December 10, 2008 from Yarrow Bay Communities

SUMMARY STATEMENT: Amending the existing Master Planned Development Ordinance (Chapter 18.98) is another step that needs to occur prior to the MPD moratorium being lifted. The City Attorney's office and staff worked through several drafts of proposed changes before they were presented to the Planning Commission in December. At the Commission's public hearing in December, Yarrow Bay presented a letter and lengthy list of issues it wished to have considered (there was no other public comment). The Commission continued the hearing to allow time for staff to review the letter and then made their recommendation of approval in January.

The Yarrow Bay letter raised approx. 39 issues, of which staff agreed with approx. one-third, did not feel a change was necessary for another one-third, and finally, did not concur with the final one-third. The Commission agreed with the recommendations of staff.

Given the likelihood that Yarrow Bay still wishes to pursue their issues, staff is suggesting the Council conduct the public hearing, consider all testimony and schedule this matter for a work session to allow for a more thorough examination of the concerns.

COMMITTEE REVIEW AND RECOMMENDATION: **Planning Commission: approval**

RECOMMENDED ACTION: **Conduct the public hearing; schedule for follow-up.**

RECORD OF COUNCIL ACTION

Meeting Date	*Action*	*Vote*
February 26, 2009		

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Chapter 18.98
MASTER PLANNED DEVELOPMENT

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18.98.005 MPD zoning district created.

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The master plan development (MPD) zoning district is created. No development activity may occur, or any application accepted for processing, on property subject to an MPD zoning designation, or for which the submittal of an MPD is required by a development agreement, unless it is done in accordance with the terms and conditions of a valid MPD permit or consistent with this chapter. Development activity shall include, but not be limited to, grading, clearing, filling, tree harvesting, platting, short platting, building or any other activity for which a city permit or other approval is required. (Ord. 796 § 1, 2005)

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18.98.010 Master planned development (MPD) permit - Purpose.

The purposes of the master planned development (MPD) permit process and standards set out in this chapter are to:

A. Establish a public review process for MPD applications;

B. Establish a comprehensive review process for development projects occurring on parcels or combined parcels greater than eighty acres in size;

C. Preserve passive open space and wildlife corridors in a coordinated manner while also preserving usable open space lands for the enjoyment of the city's residents;

D. Allow alternative, innovative forms of development and encourage imaginative site and building design and development layout with the intent of retaining significant features of the natural environment;

E. Allow flexibility in development standards and permitted uses;

F. Identify significant environmental impacts, and ensure appropriate mitigation;

G. Provide greater certainty about the character and timing of residential and commercial development and population growth within the city;

H. Provide environmentally sustainable development;

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I. Provide needed services and facilities in an orderly, fiscally responsible manner;

J. Promote economic development and job creation in the city;

K. Create vibrant mixed-use neighborhoods, with a balance of housing, employment, civic and recreational opportunities;

L. Promote and achieve the city's vision of incorporating and/or adapting the planning and design principles regarding mix of uses, compact form, coordinated open space, opportunities for casual socializing, accessible civic spaces, and sense of community; as well as such additional design principles as may be appropriate for a particular MPD, all as identified in the book Rural By Design by Randall Arendt and in the City's design standards;

M. Implement the city's vision statement, comprehensive plan, and other applicable goals, policies and objectives set forth in the municipal code. (Ord. 779 § 2 Exh. 1 (part), 2005)

18.98.020 MPD permit - Public benefit objectives.

A specific objective of the MPD permit process and standards is to provide public benefits not typically available through conventional development. These public benefits shall include but are not limited to:

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A. Preservation and enhancement of the physical characteristics (topography, drainage, vegetation, environmentally sensitive areas, etc.) of the site;

B. Protection of surface and groundwater quality both on-site and downstream, through the use of innovative, low-impact and regional stormwater management technologies;

C. Conservation of water and other resources through innovative approaches to resource and energy management including measures such as wastewater reuse;

D. Preservation and enhancement of open space and views of Mt. Rainier;

E. Provision of employment uses to help meet the city's economic development objectives;

F. Improvement of the city's fiscal performance;

G. Timely provision of all necessary facilities, infrastructure and public services, equal to or exceeding the more stringent of either existing or adopted levels of service, as the MPD develops; and

H. Development of a coordinated system of pedestrian oriented facilities including, but not limited to, trails and bike paths that provide accessibility throughout the MPD and provide opportunity for connectivity with the city as a whole. (Ord. 779 § 2 Exh. 1 (part), 2005)

18.98.030 MPD permit - Criteria for MPD eligibility.

A. Where Required. An MPD permit shall be required for any development where:

1. Any of the property within the development is subject to an MPD overlay designation on the Comprehensive Plan Future Land Use Map or an MPD zoning designation;

2. The parcel or combined parcels to be included in a development total at least eighty gross acres; or

3. Any of the property within the development is subject to a development agreement that requires an MPD permit to be obtained.

4. Provided, however, the above provisions notwithstanding, any commercial area that is intended to be used to meet the economic objectives of an MPD and is geographically separated from the residential component of a proposed MPD may be approved through the site plan approval process of Chapter 18.16, subject to the following conditions:

a. the commercial area is included in an MPD application that has been determined to be complete and is identified in the application as being intended to meet the economic objectives of the MPD application;

b. The MPD design and development standards shall be applied, unless modified in accordance with the provisions of section 18.98.130(A);

c. the approved conditions shall include the requirements of section 18.98.080(A);

d. if the environmental review on the MPD permit application has not been completed, then, if determined appropriate, an environmental determination may be issued for the commercial area, provided the determination contains provisions that the commercial area shall still be considered for cumulative impact purposes, and appropriate additional mitigation requirements in the environmental review for the MPD application.

e. the provisions of the subsequent MPD approval shall apply to the site plan approval, including vesting, but only to the extent that they do not adversely impact

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complete building applications that have been submitted, or on site infrastructure improvements that have already been permitted.

B. Eligibility. Where not required under subsection A of this section the city may accept an MPD permit application, and process a development proposal as an MPD, only for contiguous properties that are in a single ownership, or if in multiple ownerships, specific agreements satisfactory to the city shall be signed by each property owner that place the properties under unified control, and bind all owners to the MPD conditions of approval.

2. All properties within its proposed MPD are within the city limits or within the PAA provided that, if a proposed MPD includes lands within the PAA, approval of the entire MPD will not be granted until such time annexation of unincorporated lands is completed. C. Contiguity. All properties to be included in an MPD must be contiguous, excepting those areas intended to be used for commercial purposes, other than neighborhood commercial. (Ord. 796 § 2, 2005; Ord. 779 § 2 Exh. 1 (part), 2005)

18.98.040 MPD permit - Application requirements.

A. Application Requirements. All applications for approval of an MPD permit shall, at a minimum, include all of the information and documents set forth in this section.

1. A set of master plan drawings, drawn at a scale as determined by the director, showing:

a. Proposed open space, parks, recreation areas, trail networks, wildlife corridors, and perimeter buffers, and the intended ownership and acreage for each area;

b. Existing environmentally sensitive areas and their buffers, together with the reports, surveys or delineations used to identify their locations and areas for which development within a wetland, bog, stream or its related buffer is proposed and for which mitigation or buffer averaging will be required;

c. Proposed locations and preliminary street sections of all streets having a function higher than neighborhood access, and all pedestrian connections including trails; if the local access street section is intended to vary from the adopted City standard;

d. Proposed sites for schools and other public facilities required to serve the development;

e. Conceptual public utility plans (sewer, water, stormwater);

f. Types, generalized locations, acreages, and densities of proposed residential and nonresidential development;

g. Proposed sites for public transit facilities;

h. Any existing easements located upon the property;

i. Identify areas that will be protected from development by the requirements of Chapter 19.10 (Sensitive Areas Ordinance).

2. A map, drawn at a scale as determined by the director, showing property boundaries and existing topography (five-foot contour intervals), areas of vegetation by type, other natural features, and existing structures.

3. A legal description of the MPD property, together with a title report no more than thirty days old, disclosing all lien holders and owners of record.

4. A projected phasing plan and development time schedule, regardless of intended ownership, for all development, including but not limited to, housing, stormwater

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systems, sanitary sewer facilities, public water facilities, roads, trails, commercial (including required neighborhood commercial) areas, recreational facilities, and open space, including any off-site improvements.

5. A completed SEPA checklist, with various environmental studies and SEPA documents. If the city and the applicant have agreed that an environmental impact statement will be prepared for the proposal, a checklist shall not be required.

6. A comprehensive fiscal analysis disclosing the short and long-term financial impacts of the proposed MPD upon the city both during development and following project completion, including an analysis of required balance of residential and commercial land uses needed to ensure a fiscal benefit to the city after project completion, and including an analysis of personnel demands and fiscal short-falls anticipated during the development phase of the MPD together with recommended mitigations to ensure that the MPD does not negatively impact the fiscal health of the city, nor the ability of the city to adequately serve existing residents, provided that if an EIS will be prepared, the fiscal analysis may be prepared concurrently.

7. A narrative description and illustrations of the MPD planning/design concept, demonstrating how the proposed MPD is consistent with the adopted MPD design standards, the comprehensive plan, all elements of sections 18.98.010 and 18.98.020, and other applicable policies and standards. If deviations from these standards are proposed, the narrative shall describe how the proposed deviations provide an equal or greater level of public benefit.

8. Typical cross-sections of all proposed street and trail types, including landscaping, pedestrian facilities, and any other proposed improvements within the right-of-way or trail corridors.

9. A listing of all property owners of record within five hundred feet of the exterior boundaries of all parcels proposed to be included within the MPD. (When one or more of the MPD property owners own property adjacent to but not included within the MPD, the five hundred feet shall be measured from the exterior boundary of this adjacent property.). The applicant shall update the list prior to each proposed public meeting or required public mailing, as requested by the city, in order to assure a current list of all required notices.

10. A narrative description and illustrations of how street alignments and land uses in the proposed MPD will coordinate and integrate with existing adjacent development, and adjacent undeveloped properties.

11. A narrative description of proposed ownership and proposed maintenance program for all lands and facilities required to be shown on the master plan drawings by subsection (A)(1)(a) of this section.

12. A proposed water conservation plan for the MPD pursuant to Section 18.98.190.

13. If applicable, a description of any mineral (or other resource) extraction operations proposed within the MPD, the timing and phasing of the proposed operation and reclamation of the land for subsequent proposed uses.

14. Proof of proper notice for the public information meeting.

15. A narrative description, with reference to the drawings required by subsection (A)(1)(a) above, of how the proposal will comply with the Sensitive Areas Ordinance (Chapter 19.10);

16. Proposed floor area ratios (FAR) for both residential and non-residential areas;

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17. A narrative description, with associated tables, showing the intended residential density, the number of development rights that are needed to meet the intended density, the number of development rights that are already associated with the property included within the proposed MPD boundaries, and the number of development rights that must be acquired to meet the intended density;

18. If Transfer of Development Rights are needed to attain proposed densities, a phase plan for the acquisition of ~~The originals of the~~ development rights certificates shall be submitted, demonstrating that for each residential phase, no more than sixty percent (60%) of the proposed density is based upon the land area included in that phase. Prior to approval of implementing project actions (subdivision approval, site plan approval, etc.), the originals or documentation of the right to use development rights held in trust by the city pursuant to the terms of the Transfer of Development Rights Program (Chapter 19.24), shall be provided. ~~showing that the development rights necessary to meet the intended density have been acquired or otherwise secured so that they will be available if the intended density is approved.~~

B. The director shall have the authority to administratively establish additional detailed submittal requirements.

C. The applicant shall pay all costs incurred by the city in processing the MPD permit application, including, but not limited to, the costs of planning and engineering staff and consultants, SEPA review, fiscal experts, legal services, and overall administration. A deposit in an amount equal to the staff's estimate of processing the MPD, as determined after the preapplication conference shall be required to be paid at the time of application, and shall be placed in a separate trust account. The city shall establish procedures for periodic billings to the applicant of MPD review costs as such costs are incurred, and may require the maintenance of a minimum fund balance through additional deposit requests. (Ord. 779 § 2 Exh. 1 (part), 2005)

18.98.050 MPD permit - Required approvals.

A. MPD Permit Required. An approved MPD permit and development agreement shall be required for every MPD.

B. Consolidated Review. An MPD permit will be allowed as part of a consolidated permit action as authorized by RCW 36.70B. Consolidation shall not be allowed for comprehensive plan amendments. At the city's discretion, an MPD permit may be processed concurrently with amendments to the development regulations or interlocal agreements, provided that the applicant acknowledges in writing that they assume the risk of the MPD permit application being denied or otherwise conditioned as a result of final action on any requested amendment.

C. Implementing Development Applications. An MPD permit must be approved, and a development agreement as authorized by RCW 36.70B completed, signed and recorded, before the city will grant approval to an application for any implementing development approval. An application for an MPD permit may be processed with amendments to the comprehensive plan, zoning code, inter-local agreements and land development permits associated with the MPD permit, such as forest practice permits, clearing and grading permits, shorelines permits, and permits required by other public agencies. The city shall not grant approvals to related permits before the granting of an MPD permit and

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recording of a development agreement except as provided in 18.98.030.A.4.. (Ord. 779 § 2 Exh. 1 (part), 2005)

18.98.060 MPD permit - Review process.

A. MPD Permit - Preapplication Conference, Public Information Meeting and Planning Commission Informational Meeting Required.

1. A preapplication conference between the MPD applicant or representative and staff is required before the city will accept an MPD permit application.

a. The purpose of this conference is for the applicant to familiarize the staff with the proposed MPD, and for the staff to review with the applicant the city's submittal requirements, anticipated staffing needs, and processing procedures for MPD permit approval. The goal is to identify the city's objectives and likely issues, and to eliminate potential problems that could arise during processing of the MPD permit application prior to formal processing on the MPD permit application.

b. The applicant or representative shall present the information required as part of the MPD application. The city's intent is that the conference occurs after site inventory and analysis has been substantially completed, but prior to the completion of detailed survey, architectural or engineering work on the proposal.

c. A nonrefundable preapplication conference fee in an amount set forth in the adopted fee schedule resolution shall be paid before the preapplication conference will be scheduled.

d. If, at the preapplication conference, the city determines that it does not have adequate staff, space, or equipment, to process the application, then the applicant shall deposit with the city an amount sufficient for the city to hire the additional staff and/or consultants, and acquire the space and/or equipment necessary to process the application. The deposit must be made no less than four months or more than five months before the application is submitted. The public information meeting may not be scheduled until the deposit has been made. The city council may waive or shorten the four-month period if it is determined the necessary arrangements for staffing, space and equipment can be made in less than four months.

2. After the preapplication conference has been completed, a public information meeting shall be conducted by the applicant prior to acceptance of an MPD permit application.

a. The applicant shall schedule and conduct a public information meeting regarding the proposed application. The public information meeting shall be conducted at City Hall, or at such other public location within the city that will accommodate the anticipated attendees. The applicant shall attend the meeting and provide information to the public regarding the proposed project, its timing, and consistency with the city's MPD code, the comprehensive plan, and other applicable city codes and regulations.

b. The public information meeting shall not be a public hearing, but shall allow for an informal exchange of comments between the applicant and the general public. Notice of this meeting shall be provided in the newspaper of record at least fourteen days in advance of the meeting and shall be mailed to the property owners identified in subsection (B)(7)(c) of this section.

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3. After the public information meeting has been completed, a planning commission informational meeting shall be conducted. The planning commission information meeting is required before the city will accept an application for MPD permit approval.

a. The planning commission informational meeting will take place at a regular meeting of the commission. At this meeting, the applicant shall present the overall planning and design concept of the proposed MPD, and the commission shall provide preliminary feedback to the applicant regarding the consistency of this concept with the city's adopted standards, goals and policies. The planning commission may bring specific issues of interest or concern to the attention of the applicant.

b. While a public meeting, the purpose of the planning commission informational meeting is not intended for the receipt of comments from the public regarding the proposed MPD.

B. MPD Permit Public Review Process.

1. Completeness Check and SEPA. Staff shall review the MPD application for completeness and, once it is determined to be complete, provide the required notice of application. Staff will then initiate the SEPA process.

2. Optional EIS Scoping Meeting. If the responsible official makes a determination of environmental significance regarding an MPD application, staff may schedule and conduct an EIS scoping meeting. The applicant shall attend the meeting and provide information regarding the proposed project, scope, planning, timing, and the results of any relevant environmental studies performed by the applicant's consultants.

3. Staff Review. At the conclusion of the SEPA process, staff will conduct its detailed review of the proposal. This review may include requesting additional information, or proposal revisions, from the applicant.

4. Staff Report. The staff will prepare a written staff report to the hearing examiner. The completed staff report shall be sent to the hearing examiner and to the applicant at least ten calendar days prior to the public hearing.

5. Hearing Examiner Public Hearing. The city's hearing examiner shall hold a public hearing on the MPD permit application. At least fourteen calendar days prior to the public hearing, the city shall provide notice of the hearing as follows:

a. Publication in the city's newspaper of record;

b. Posting of the proposal site, in at least three locations visible from public streets or rights-of-way;

c. Mailing to owners of record of properties within five hundred feet of the perimeter of the proposed MPD per 18.98.040(A)(9); and

d. Any person(s) formally requesting notice.

6. MPD Permit Approval Criteria. The hearing examiner shall prepare recommended findings of fact, conclusions of law, and conditions of approval or a recommendation for denial for the city council's consideration, and shall transmit these to the city council within fourteen calendar days of the close of the public hearing. The examiner shall evaluate the MPD application and other evidence submitted into the record, to determine if the application, when appropriately conditioned, meets or exceeds the approval criteria set forth in section 18.98.080.

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b. There are no significant adverse environmental impacts;¶

c. The proposed project will have no adverse financial impact upon the city at each phase of development, as well as at full build-out. This shall include conditioning any approval so that the fiscal analysis is updated to show continued compliance with this criteria, in accordance with the following schedule:¶

i. If any phase has not been completed within five years, a new fiscal analysis must be done with regards to that phase before an extension can be granted, and¶

ii. Prior to commencing a new phase;¶

d. There is concurrency for all utilities and transportation system improvements prior to occupancy at each phase and at build-out;¶

e. The project, at all phases and at build-out, will not exceed the available city staffing or result in the lowering of city staffing levels of service established by the city, including those related to public safety;¶

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7. City Council. At its first regular meeting following the receipt of the hearing examiner's recommendations, the city council shall schedule a time for its consideration of the MPD. The council may:

a. Accept the examiner's recommendation;

b. Remand the MPD application to the examiner with direction to open the hearing and provide supplementary findings and conclusions on specific issues; or

c. Modify the examiner's recommendation. If modifying the examiner's recommendation, the council shall enter its own modified findings and conclusions as needed.

8. Appeals. The council's decision with regard to an MPD permit shall be the city's final action for the purpose of any and all appeals. (Ord. 779 § 2 Exh. 1 (part), 2005)

Deleted: l. If the MPD project is adjacent to property already developed, or being developed as an MPD, or adjacent to property which is within an MPD overlay zone, then the project is designed so that there is connectivity of trails, open spaces and transportation corridors, the designs of streetscape and public open space amenities are compatible and the project will result in the functional and visual appearance of one integrated project with the adjacent properties subject to MPD approvals.¶

So long as to do so would not jeopardize the public health, safety, or welfare, the examiner may allow the applicant to voluntarily contribute money to the city in order to advance projects to meet the city's adopted concurrency or level of service standards, or to mitigate any identified adverse fiscal impact upon the city that is caused by the project.¶

18.98.070 MPD permit - Environmental review (SEPA).

A. Pursuant to the requirements of the State Environmental Policy Act (SEPA) and local SEPA regulations, the city shall determine whether an environmental impact statement is required for the MPD proposal. An application for an MPD permit shall include, at a minimum, a completed environmental checklist. Prior to or concurrent with application submittal, the city and the applicant may agree to prepare an environmental impact statement for the proposal.

B. If desired by the applicant and deemed appropriate by the city, an MPD proposal may be designated by the city as a planned action pursuant to RCW 43.21C.031(2) and WAC 197-11-164 et seq.

C. Implementing city permits and approvals, such as preliminary plats, building permits, and design reviews, shall be subject to applicable SEPA requirements. (Ord. 779 § 2 Exh. 1 (part), 2005)

18.98.080 MPD permit approval - Conditions of approval.

A. An MPD permit shall not be approved unless it is found to meet the intent of the following criteria or that appropriate conditions are imposed so that the objectives of the criteria are met:

1. The project complies with all applicable adopted policies, standards and regulations. In the event of a conflict between the policies, standards or regulations, the most stringent shall apply unless modifications are authorized in this chapter and all requirements of section 18.98.130 have been met. In the case of a conflict between a specific standard set forth in this chapter and other adopted policies, standards or regulations, then the specific requirement of this chapter shall be deemed the most stringent.

2. Significant adverse environmental impacts are appropriately mitigated.

3. The proposed project will have no adverse financial impact upon the city at each phase of development, as well as at full build-out. The fiscal analysis shall also include the operation and maintenance costs to the city for operating, maintaining and replacing public facilities required to be constructed as a condition of MPD approval or any implementing approvals related thereto. This shall include conditioning any approval so that the fiscal analysis is updated to show continued compliance with this criteria, in accordance with the following schedule:

Deleted: A. The MPD permit shall contain such conditions as are necessary to ensure that the approved MPD complies with all applicable policies, standards, and objectives of the city, including the provisions of this chapter and the criteria set forth in Section 18.98.060(B)(6) of this chapter. (Ord. 779 § 2 Exh. 1 (part), 2005)¶

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a. If any phase has not been completed within five years, a new fiscal analysis must be completed with regards to that phase before an extension can be granted; and

b. Prior to commencing a new phase.

4. A phasing plan and timeline for the construction of improvements and the setting aside of open space so that:

a. Prior to or concurrent with final plat approval or the occupancy of any residential or commercial structure, whichever occurs first, the improvements have been constructed and accepted and the lands dedicated that are necessary to have concurrency at full build out of that project for all utilities, parks, trails, recreational amenities, open space, stormwater and transportation improvements to serve the project, and to provide for connectivity of the roads, trails and other open space systems to other adjacent developed projects within the MPD and to the MPD boundaries; and

b. At full build out of the MPD, all required improvements and open space dedications have been completed, and adequate assurances have been provided for the maintenance of the same. The phasing plan shall assure that the required MPD objectives for employment, fiscal impacts, and connectivity of streets, trails, and open space corridors are met in each phase, even if the construction of improvements in subsequent phases is necessary to do so.

5. The project, at all phases and at build out, will not result in the lowering of established staffing levels of service including those related to public safety.

6. Throughout the project, a mix of housing types is provided that contributes to the affordable housing goals of the City.

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7. If the MPD proposal includes properties that are subject to the Black Diamond Urban Growth Area Agreement (December 1996), the proposal shall be consistent with the terms and conditions therein.

8. If the MPD proposal includes properties that were annexed into the city by Ordinances 515 and 517, then the proposal must be consistent with the terms and conditions therein.

9. The orientation of public building sites and parks preserves and enhances, where possible taking into consideration environmental concerns, views of Mt. Rainier and other views identified in the comprehensive plan. Major roads shall be designed to take advantage of the bearing lines for those views.

10. The proposed MPD meets or exceeds all of the public benefit objectives of 18.98.020 and the MPD purposes of 18.98.010, B through M.

11. If the MPD project is adjacent to property already developed, or being developed as an MPD, or adjacent to property which is within an MPD zone, then the project is designed so that there is connectivity of trails, open spaces and transportation corridors, the design of streetscape and public open space amenities are compatible and the project will result in the functional and visual appearance of one integrated project with the adjacent properties subject to an MPD permit or, if not yet permitted, within an MPD zone.

12. As part of the phasing plan, show open space acreages that, upon buildout, protect and conserve the open spaces necessary for the MPD as a whole. Subsequent implementing approvals shall be reviewed against this phasing plan to determine its consistency with open space requirements.

13. Lot dimensional and building standards shall be consistent with the MPD Design Guidelines.

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14. School sites shall be identified so that all school sites meet the walkable school standard set for in the comprehensive plan. The number and sizes of sites shall be designed to accommodate the total number of children that will reside in the MPD through full build out, using school sizes based upon the applicable school district's adopted standard. The requirements of this provision may be met by a separate agreement entered into between the applicant, the city and the applicable school district, which shall be incorporated into the MPD permit and development agreement by reference.

B. So long as to do so would not jeopardize the public health, safety, or welfare, the city may, as a condition of MPD permit approval, allow the applicant to voluntarily contribute money to the city in order to advance projects to meet the city's adopted concurrency or level of service standards, or to mitigate any identified adverse fiscal impact upon the city that is caused by the proposal.

18.98.090 MPD permit - Development agreement.

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The MPD conditions of approval shall be incorporated into a development agreement as authorized by RCW 36.70B.170. This agreement shall be binding on all MPD property owners and their successors, and shall require that they develop the subject property only in accordance with the terms of the MPD approval. This agreement shall be signed by the mayor and all property owners and lien holders within the MPD boundaries, and recorded, before the city may approve any subsequent implementing permits or approvals (preliminary plat, design review, building permit, etc.) (Ord. 779 § 2 Exh. 1 (part), 2005)

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18.98.100 MPD permit - Amendments to an approved MPD permit.

An applicant may request an amendment to any element or provision of an approved MPD. All applications for amendments shall be deemed either "minor" or "major." An amendment application shall be considered minor if it meets all of the following criteria:

A. Would not increase the total number of dwelling units in an MPD above the maximum number set forth in the approved MPD permit or reduce the number by more than ten percent;

B. Would not increase the total floor area of nonresidential uses by more than ten percent;

C. Would not decrease the minimum, or increase the maximum density for residential areas of the MPD beyond density ranges approved in the MPD permit;

D. Would not decrease the approved amount of open space or recreation space;

E. Would not increase any adverse environmental impact, provided that additional environmental review may be required to determine whether such change is likely to occur;

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F. Would not adversely impact the project's fiscal projections to the detriment of the city;

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G. Would not significantly impact the overall design of the approved MPD; and

H. Would not alter the size or location of any designated open space resulting in a lowered level of service and does not reduce the total amount of required open space.

I. Minor amendments may be approved administratively in accordance with the procedure set forth in the MPD development agreement, where applicable. Any amendment application that is not "minor" shall be deemed to be major. The final determination regarding whether an amendment is "minor" or "major" shall rest with the

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director, subject to appeal to the hearing examiner. Applications for major modifications shall be reviewed by the same procedures applicable to new MPD permit requests. The city, through the development agreement for the approved MPD, may specify additional criteria for determining whether a proposed modification is "major" or "minor", but the criteria listed in this section cannot be modified or reduced in a development agreement. (Ord. 779 § 2 Exh. 1 (part), 2005)

18.98.110 MPD standards - Design review required.

A. Design Standards. The MPD master plan and each subsequent implementing permit or approval request, including all proposed building permits, shall be consistent with the MPD design standards that are in effect at the time each application is determined to be complete.

B. Design Review Process.

1. MPD Permit. The hearing examiner shall evaluate the overall MPD master plan for compliance with the MPD design standards, as part of the examiner's recommendation to the city council on the overall MPD permit.

2. Implementing Permits or Approvals - Residential Subdivisions. Each residential subdivision that is part of an approved MPD shall be reviewed at the time of preliminary plat review for compliance with the city's MPD design standards. This review shall include typical elevations, and exterior material samples for the single-family residences and other structures to be built on the subdivided lots. This review shall be merged with the hearing examiner's review of the preliminary plat.

3. Implementing Permits or Approvals - Short Subdivisions (Short Plats). Short subdivisions (short plats) within an approved MPD shall be reviewed by the director for compliance with the city's MPD design standards as required in (2) above.

4. Implementing Permits or Approvals - Residential Building Permits. Staff shall administratively review residential building permit applications in approved and recorded subdivisions and short subdivisions for consistency with the MPD design guidelines.

5. Implementing Permits or Approvals - Other Building Permits. All other structures shall be reviewed by the director for compliance with the MPD design standards. The director shall make a decision on the proposal's compliance with the MPD design standards and adopt findings, conclusions and, where applicable, conditions of approval. Building permit applications that are found to be not consistent with the approved design standards shall be rejected, subject to appeal to the hearing examiner.

6. Future Project Consistency. The decision-maker shall not approve a preliminary plat or short plat, or issue a building permit or site plan review approval for a parcel located within an MPD, unless the city has found that the proposal is consistent with applicable MPD design standards. (Ord. 779 § 2 Exh. 1 (part), 2005)

18.98.120 MPD standards - Permitted uses and densities.

A. MPDs shall include a mix of residential and nonresidential use. Residential uses shall include a variety of housing types and densities.

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Deleted: , and shall take place at the same meeting at which the planning commission holds its public hearing on the plat. The city shall merge its public notice of the design review with the required public notice of the preliminary plat hearing, utilizing the notice requirements for that hearing, as set forth in divisions of land, Title 17 Black Diamond Municipal Code. The city's planning/design commission shall make a recommendation to the city council on the plat's compliance with the MPD design standards, including, but nc ... [2]
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B. The MPD shall include those uses shown or referenced for the applicable parcels or areas in the comprehensive plan, and shall also provide neighborhood commercial uses, as defined in the comprehensive plan, sized and located to primarily serve the residential portion of the MPD.

C. The MPD shall, within the MPD boundary, or elsewhere within the city, provide for sufficient properly zoned lands, and include sufficient incentives to encourage development as permit conditions, so that the employment targets set forth in the comprehensive plan for the number of proposed residential units within the MPD, will, with reasonable certainty, be met before full buildout of the residential portion of the MPD.

E. Property that is subject to a preannexation agreement, development agreement or annexation ordinance conditions relating to residential density will have as its base density the minimum density designated in such agreement or ordinance. All other property will have as its base density the minimum density designated in the comprehensive plan. The council may authorize a residential density of up to 12 dwelling units per acre so long as all of the other criteria of this chapter are met and the additional density is acquired by participation in the TDR program. In any development area within an MPD, the effective density of development 12 dwelling units per acre, up to a maximum of 18 dwelling units per acre, so long as the total project cap density is not exceeded and the development, as situated and designed, is consistent with the provisions of 18.98.010 and 18.98.020.

18.98.130 MPD standards - Development standards.

A. Where a specific standard or requirement is specified in this chapter, then that standard or requirement shall apply. Where there is no specific standard or requirement and there is an applicable standard in another adopted city code, policy or regulation, then the MPD permit and related development agreement may allow development standards different from set forth in other chapters of the Black Diamond Municipal Code, if the proposed alternative standard:

1 Is needed in order to provide flexibility to achieve a public benefit; and

2. Furthers the purposes of this chapter and achieves the public benefits set forth in section 18.98.010; and

3. Provides the functional equivalent and adequately achieves the purpose of the development standard from which it is intended to deviate.

B. Any approved development standards that differ from those in the otherwise applicable code shall not require any further zoning reclassification, variances, or other city approvals apart from the MPD permit approval.

18.98.140 MPD standards - Open space requirements.

A. An approved MPD shall contain at least fifty percent on-site open space, except as modified by prior agreements. Open space is defined as wildlife habitat areas, perimeter buffers, environmentally sensitive areas and their buffers, and trail corridors. It may also include developed recreation areas, such as golf courses, trail corridors, playfields, parks of one-quarter (1/4) acre or more in size, pocket parks that contain an active use element, those portions of school sites devoted to outdoor recreation, and stormwater

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detention/retention ponds that have been developed as a public amenity and incorporated into the public park system. An MPD application may proposed other areas to be considered as open space, subject to approval. It shall not include such space as vegetative strips in medians, isolated lands that are not integrated into a public trail or park system, landscape areas required by the landscape code, and any areas not open to the public, unless included within a sensitive area tract as required by the chapter 19.10.

B. Natural open space shall be located and designed to form a coordinated open space network resulting in continuous greenbelt areas and buffers to minimize the visual impacts of development within the MPD, and provide connections to existing or planned open space networks, wildlife corridors, and trail corridors on adjacent properties and throughout the MPD..

C. The open space shall be located and designed to minimize the adverse impacts on wildlife resources and achieve a high degree of compatibility with wildlife habitat areas where identified.

D. The approved MPD permit and development agreement shall establish specific uses for open space within the approved MPD.

E. The approved MPD permit and development agreement shall establish which open space shall be dedicated to the city, which shall be protected by conservation easements, and which shall be protected and maintained by other mechanisms. (Ord. 779 § 2 Exh. 1 (part), 2005)

18.98.150 MPD standards - On-site recreation and trail requirements.

A. An MPD shall provide on-site recreation areas and facilities sufficient to meet the needs of MPD residents, exceeding or at a minimum consistent with levels of service adopted by the city where applicable. This shall include providing for a coordinated system of trails and pedestrian linkages both within, and connecting to existing or planned regional or local trail systems outside of the MPD.

B. The MPD permit and development agreement shall establish the sizes, locations, and types of recreation facilities and trails to be built and also shall establish methods of ownership and maintenance. (Ord. 779 § 2 Exh. 1 (part), 2005)

18.98.155 MPD standards – sensitive areas.

A. The requirements of the Sensitive Areas Ordinance (BDMC 19.10) shall be the minimum standards imposed for all sensitive areas.

B. All development, including road layout and construction, shall be designed, located and constructed to minimize impact of wildlife habitat and migration corridors. This shall include minimizing use of culverts in preference to open span crossings.

18.98.160 MPD standards - Transfer of development rights.

A. All proposed transfers of development rights shall be consistent with the TDR program (Chapter 19.24). An MPD permit and development agreement shall establish the TDR requirements for a specific MPD. Maximum allowable MPD residential densities

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can only be achieved through participation in the city's TDR program as a receiving site. (Ord. 779 § 2 Exh. 1 (part), 2005)

B. Property that is subject to a preannexation agreement, development agreement or annexation ordinance conditions relating to residential density will have as its base density the density designated in such agreement or ordinance. All other property will have as its base density the minimum density designated in the comprehensive plan.

18.98.170 MPD standards - Street standards.

A. Street standards shall be consistent with the MPD design guidelines, which may deviate from city-wide street standards in order to incorporate "low impact development" concepts such as narrower pavement cross-sections, enhanced pedestrian features, low impact stormwater facilities, and increased connectivity or streets and trails. Any increased operation and maintenance costs to the city associated therewith shall be incorporated into the fiscal analysis.

B. The street layout shall be designed to preserve and enhance views of Mt. Rainier or other views identified in the city's comprehensive plan to the extent possible without adversely impacting sensitive areas and their buffers.

C. The approved street standards shall become part of the MPD permit approval, and shall apply to public and private streets in all subsequent implementing projects except when new or different standards are specifically determined by the city council to be necessary for public safety. (Ord. 779 § 2 Exh. 1 (part), 2005)

18.98.180 MPD standards - Stormwater management standards.

A. The stormwater management system shall enhance the adopted standards that apply generally within the city, in order to implement the concepts in sections 18.98.010(C), (H), and (L), 18.98.020(B) and (C), and 18.98.180(C). The stormwater detention system shall be publicly owned. Provided, in non-residential areas, the use of private vaults and filters may be authorized where: 1) the transmission of the stormwater by gravity flow to a regional system is not possible and 2) there is imposed a maintenance/replacement condition that requires vault filters to be regularly inspected and maintained by the property owner.

B. The stormwater management system shall apply to public and private stormwater management systems in all subsequent implementing projects within the MPD, except when new or different standards are specifically determined by the city council to be necessary for public health or safety, or as modified as authorized in section 18.98.195(B). C. Opportunities to infiltrate stormwater to the benefit of the aquifer, including opportunities for reuse, shall be implemented as part of the stormwater management plan for the MPD. (Ord. 779 § 2 Exh. 1 (part), 2005)

D. The use of small detention/retention ponds shall be discouraged in favor of the maximum use of regional ponds within the MPD, recognizing basin constraints. Ponds shall be designed with shallow slopes with native shrub and tree landscaping and integrated into the trail system or open space corridors whenever possible. Small ponds shall not be allowed unless designed as a public amenity and it is demonstrated that transmitting the stormwater to a regional pond within the MPD is not technically feasible.

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18.98.190 MPD standards - Water and sewer standards.

A. An MPD shall be served with public water and sanitary sewer systems that:

1. Employ innovative water conservation measures including metering technologies, irrigation technologies, landscaping and soil amendment technologies, and reuse technologies to reduce and/or discourage the reliance upon potable water for nonpotable uses including outdoor watering.

2. Are designed in such a way as to eliminate or at a minimum reduce to the greatest degree possible the reliance upon pumps, lift stations, and other mechanical devices and their associated costs to provide service to the MPD.

B. Each MPD shall develop and implement a water conservation plan to be approved as part of the development agreement that sets forth strategies for achieving water conservation at all phases of development and at full buildout, that results in water usage that is at least ten percent less the average water usage in the city for residential purposes at the time the MPD application is submitted. For example, if the average water usuage is 200 gallons per equivalent residential unit per day, then the MPD shall implement a water conservation strategy that will result in water use that is 180 gallons per day or less per equivalent residential unit. (Ord. 779 § 2 Exh. 1 (part), 2005)

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18.98.195 Vesting.

A. Except to the extent earlier terminated, modified by the provisions of this chapter, or as otherwise specified in the conditions of approval, the MPD permit approval vests the applicant for fifteen years to all conditions of approval and to the development regulations in effect on the date of approval.

B. Vesting as to stormwater regulations shall be on a phase by phase basis.

C. Vesting as to conditions necessary to meet the fiscal impacts analysis criteria required by Section 18.98.060(B)(6)(c) shall only be for such period of time as is justified by the required updated analysis. (Ord. 779 § 2 Exh. 1 (part), 2005)

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D. Building permit applications shall be subject to the building codes in effect at the time a building permit application is deemed complete.

E. The council may grant an extension of the 15 year vesting period for up to five years for any phase so long as the applicant demonstrates with clear and convincing evidence that all of the following are met:

1. The phase approval has not been revoked in accordance with the provisions of section 18.98.200;

2. The failure to obtain the implementing entitlement approval for the applicable phase is a result of factors beyond the applicant's control;

3. The granting of an extension will not adversely impact any of the purposes or public benefit provisions of this chapter; and

4. The city has not adopted ordinances of general application that impose a more stringent development standard than those in effect for the phase for which a time extension is requested or, in the alternative, the applicant agrees to comply with the more stringent standard.

Any request for an extension shall be considered as a major amendment to the MPD. The council may impose such additional conditions to the phases as it deems appropriate to

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further the purposes and public benefit objectives of the MPD code in light of the number of years that have passed since the original MPD permit approval and taking into consideration the effectiveness of the exiting permit conditions in meeting those purposes and public benefit objectives.

18.98.200 Revocation of MPD permit.

The city council may amend or revoke any or all conditions of MPD approval, after public hearing and notice under the following circumstances:

A. If the MPD permit allowed for phasing and the implementing action (i.e., final plat approval, site plan approval, etc.) for the development of the next phase has not been approved within five years of the approval of the previous phase or, in the case of the first phase, from the original MPD approval and an extension of said phase has not been previously granted. An extension may be granted for up to an additional two years on such additional conditions as the council determines are necessary in order to assure that the extension does not adversely impact the intent and purpose of the initial MPD approval.

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B. A condition of the MPD approval has been violated and the violation has not been corrected after sixty days notice of the violation unless said violation can be corrected through the use of a duly posted performance or maintenance bond provided at the time of MPD approval.

C. A violation of an MPD condition of approval that cannot be corrected, such as the destruction of wetlands or removal of trees and vegetation that was specifically prohibited and cannot be restored to their original state within sixty days, unless otherwise determined by the Director.

D. The MPD permit has been approved for more than five years and the city council finds that further development will present a threat to the public health, safety and welfare unless the amendment or revocation is implemented; provided, however, the city shall first determine that the condition cannot be amended in order to eliminate the threat to the public health, safety or welfare before it revokes the permit approval.

The above provisions notwithstanding, the vacation and/or amendment of the MPD approval shall not affect previously approved building permits. (Ord. 779 § 2 Exh. 1 (part), 2005)

E. If the MPD permit is revoked for undeveloped phases, the parcels for which the permit is revoked cannot be developed without a new MPD permit being obtained, even if the revoked parcels are less than the minimum acreage required by section 18.98.030.

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a. The city's adopted policies and regulations, including, but not limited to, the municipal code, comprehensive plan, public works standards, critical areas regulations, MPD ordinance and MPD design standards. In event of a conflict between the policies, standards, objectives, or regulations the most stringent shall apply unless modifications are authorized in the MPD ordinance and design standards;

b. There are no significant adverse environmental impacts;

c. The proposed project will have no adverse financial impact upon the city at each phase of development, as well as at full build-out. This shall include conditioning any approval so that the fiscal analysis is updated to show continued compliance with this criteria, in accordance with the following schedule:

i. If any phase has not been completed within five years, a new fiscal analysis must be done with regards to that phase before an extension can be granted, and

ii. Prior to commencing a new phase;

d. There is concurrency for all utilities and transportation system improvements prior to occupancy at each phase and at build-out;

e. The project, at all phases and at build-out, will not exceed the available city staffing or result in the lowering of city staffing levels of service established by the city, including those related to public safety;

f. The project, in each residential phase, provides a mix of housing types that allows the project to meet the percentage of affordable housing recommended under the county-wide planning policies;

g. For those portions of a proposed MPD that have comprehensive plan land use designations, the ratio of residential to commercial land uses within the MPD shall be the same as designated on the comprehensive land use map unless the required fiscal study supports or requires a different ratio of residential to commercial land uses;

h. If the MPD proposal includes properties that are subject to the Black Diamond urban growth area agreement (December 1996) then the proposal is consistent with the terms and conditions therein;

i. If the MPD proposal includes properties that were annexed into the city by Ordinances 515 and 517 then the proposal must be consistent with the terms and conditions therein;

j. The orientation of public building sites or parks shall preserve view corridors of Mt. Rainier or other view corridors identified in the city's comprehensive plan;

k. The proposed MPD meets or exceeds all of the public benefit objectives of Section 18.98.020 of this chapter, and the MPD purposes set forth in Section 18.98.010(B) through (M) of this chapter;

, and shall take place at the same meeting at which the planning commission holds its public hearing on the plat. The city shall merge its public notice of the design review with the required public notice of the preliminary plat hearing, utilizing the notice requirements for that hearing, as set forth in divisions of land, Title 17 Black Diamond Municipal Code. The city's planning/design commission shall make a recommendation to the city council on the plat's compliance with the MPD design standards, including, but not limited to, the compliance of the proposed street layout and schematic design of the proposed residential structures. This recommendation shall be forwarded to the council in conjunction with the planning commission's recommendation on the preliminary plat.

The planning/design commission shall adopt findings, conclusions and, where applicable, recommended conditions of approval with respect to the proposed subdivision's compliance with the city's MPD design standards. Individual detached single-family residential structures on lots seven thousand two hundred square feet or greater in size are subject to administrative review for compliance with the city MPD design standards but are exempt from the planning/design commission schematic drawing review process set forth above.

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. This review shall include typical schematic drawings (floor plans, elevations, and exterior material samples) for the single-family residences and other structures to be built on the subdivided lots. This review shall take place at a regular public meeting of the commission. The city shall provide public notice of the design review at least fourteen business days prior to the scheduled commission meeting, by publishing a notice in the city's newspaper of record, and posting the site in at least three locations visible from an adjacent public street or right-of-way. Mailed notice to individual adjacent property owners is not required. The commission shall make a decision on the short plat's compliance with the MPD design standards, including but not limited to the compliance of the proposed lot layout and schematic design of the proposed residential structures. The commission shall adopt findings, conclusions and, where applicable, conditions of approval. This decision shall be final unless appealed to the city council within fourteen days of the city's issuance of a notice of decision.

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in Approved Subdivisions or Short Subdivisions. Within an approved MPD, the city

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No public notification is required for this administrative design review. Applications for single-family residential structures that are found to be not consistent with the approved schematic drawings, or for which no schematic approval took place (other than individual detached single-family residential structures on lots seven thousand two hundred square feet or greater in size), shall be referred to the planning/design commission for its review.

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(including but not limited to commercial and multifamily buildings) within an approved MPD

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This review shall be made on schematic drawings (floor plans, elevations, and exterior material samples), site plans, and landscape plans for the proposed structure or structures. This review shall use the process, notice, and appeal provisions described in subsection (B)(3) of this section.

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, including, but not limited to, the compliance of the proposed site and landscape plans, and design of the proposed structure(s). The commission shall

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schematic drawings, or for which no schematic approval took place,

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B. Each MPD shall contain sufficient affordable housing, in each residential phase, in order to provide the percentage of affordable housing recommended in the county-wide planning policies.

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a. The city's adopted policies and regulations, including, but not limited to, the municipal code, comprehensive plan, public works standards, critical areas regulations, MPD ordinance and MPD design standards. In event of a conflict between the policies, standards, objectives, or regulations the most stringent shall apply unless modifications are authorized in the MPD ordinance and design standards;

b. There are no significant adverse environmental impacts;

c. The proposed project will have no adverse financial impact upon the city at each phase of development, as well as at full build-out. This shall include conditioning any approval so that the fiscal analysis is updated to show continued compliance with this criteria, in accordance with the following schedule:

i. If any phase has not been completed within five years, a new fiscal analysis must be done with regards to that phase before an extension can be granted, and

ii. Prior to commencing a new phase;

d. There is concurrency for all utilities and transportation system improvements prior to occupancy at each phase and at build-out;

e. The project, at all phases and at build-out, will not exceed the available city staffing or result in the lowering of city staffing levels of service established by the city, including those related to public safety;

f. The project, in each residential phase, provides a mix of housing types that allows the project to meet the percentage of affordable housing recommended under the county-wide planning policies;

g. For those portions of a proposed MPD that have comprehensive plan land use designations, the ratio of residential to commercial land uses within the MPD shall be the same as designated on the comprehensive land use map unless the required fiscal study supports or requires a different ratio of residential to commercial land uses;

h. If the MPD proposal includes properties that are subject to the Black Diamond urban growth area agreement (December 1996) then the proposal is consistent with the terms and conditions therein;

i. If the MPD proposal includes properties that were annexed into the city by Ordinances 515 and 517 then the proposal must be consistent with the terms and conditions therein;

j. The orientation of public building sites or parks shall preserve view corridors of Mt. Rainier or other view corridors identified in the city's comprehensive plan;

k. The proposed MPD meets or exceeds all of the public benefit objectives of Section 18.98.020 of this chapter, and the MPD purposes set forth in Section 18.98.010(B) through (M) of this chapter;

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, and shall take place at the same meeting at which the planning commission holds its public hearing on the plat. The city shall merge its public notice of the design review with the required public notice of the preliminary plat hearing, utilizing the notice requirements for that hearing, as set forth in divisions of land, Title 17 Black Diamond Municipal Code. The city's planning/design commission shall make a recommendation to the city council on the plat's compliance with the MPD design standards, including, but not limited to, the compliance of the proposed street layout and schematic design of the proposed residential structures. This recommendation shall be forwarded to the council in conjunction with the planning commission's recommendation on the preliminary plat.

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B. Each MPD shall contain sufficient affordable housing, in each residential phase, in order to provide the percentage of affordable housing recommended in the county-wide planning policies.

CITY OF BLACK DIAMOND
PLANNING COMMISSION
25510 Lawson Street, Black Diamond, Washington

MEMORANDUM

Date: December 9, 2008

To: City Council

From: Steve Pilcher, Community Development Director

Re: Proposed amendments to BDMC 18.98, MPD Ordinance

Background

Earlier this year, the City Council conducted a public hearing on the proposed new Zoning Code and Zoning Map, closed public testimony, but did not yet take formal action (adoption of the Comprehensive Plan update needs to occur first). Although the existing MPD (Master Planned Development) Ordinance is a portion of the Zoning Code (Chapter 18.98), proposed changes to that portion of code were not ready at the time the remainder of the code was considered. The City Attorney's office, in conjunction with input from staff, has since drafted proposed amendments to the MPD regulations. The Planning Commission is conducting a public hearing on the proposal this evening.

The MPD regulations were first adopted in December 2005, at the time the West Annexation Area was brought into the city limits and was zoned MPD. Now that MPD applications appear to be soon forthcoming, staff is recommending some adjustments to the code to reflect current concepts being considered and better address some of the "knowns" of the pending applications.

Major changes

As can be seen from the attached revisions, there are changes being proposed throughout the document. Some of the apparent magnitude of the changes relates to moving some sections to a different location in the document and to also eliminate the replication of some concepts. Therefore, the changes aren't exactly as broad-sweeping as they may appear to be in the attached document.

The following are the major changes being proposed:

1. The term "overlay" is proposed for elimination, as the MPD zone is actually a distinct zoning district. In other words, there isn't an "underlying" zone district which could impact allowable densities within the project. (The applicable Comprehensive Plan Future Land Use Map designation may, but not the current zoning).

2. New language is recommended in section 18.98.030.A to make it clear that development of geographically separated areas proposed for commercial development may be approved through a Site Plan Approval process (as opposed to the more lengthy MPD process), once an MPD application is filed. This would allow commercial development of the "Northern Triangle" area to occur on a faster track than the remainder of the MPD.
3. Also, within 18.98.030.B, existing language that would limit consideration of an MPD for property not currently within the city limits is proposed to be eliminated. This will allow for processing of the complete MPD applications to occur prior to finalization of the South and East Annexations.
4. Section 18.98.040 concerns application requirements. Several additions are made to this section to ensure that all desired information is being addressed within an application. Of greatest significance is (18), which requires an applicant to demonstrate that all Transferred Development Rights (TDRs) necessary to support the proposed density have been secured.
5. Section 18.98.080 concerns approval criteria for an MPD application. Item A.6 eliminates the need for an MPD to meet the affordable housing goals as defined in the King County Countywide Planning Policies in favor of meeting a City-established goal.
6. In the same section, item A.12 specifies that required open space shall be provided in phases throughout a project as development occurs.
7. Also, item A.14 provides that the location of school sites may be determined by an agreement between the applicant, city and school district (currently, negotiations to meet this continue).
8. Section 18.98.120.E establishes a cap on the maximum density that may be allowed within a specific project within an MPD (18 du/ac) and also sets a maximum density of 12 du/ac overall for an MPD.
9. A new section is added to address "environmentally sustainable development" standards (18.98.135), which must be met within a MPD.
10. Greater definition is provided concerning what types of lands will be considered as qualifying as open space (18.98.140).
11. Sections 18.98.170, -180 and -190 provide greater clarity on expectations for streets and utilities and what type of deviations may be considered from city-wide standards.
12. Since it will most likely take from 10-15 years (or longer, depending on market conditions) for a project to build out, additions have been made to section 18.98.195 to provide greater clarity regarding the vesting of a MPD project.

YARROWBAY GROUP

a passion to succeed

December 9, 2008

City of Black Diamond
Steve Pilcher, Director of Community Development
Planning Commission
P.O. Box 599
Black Diamond, WA 98010

Re: MPD Ordinance Public Hearing

Dear Planning Commission;

The City has come a long way since beginning the effort to update its policies and regulations and prepare for development. As you are aware, the Master Planned Communities proposed within Black Diamond make up much of the anticipated development to occur within the City. The Master Planned Development ordinance, being considered during the public hearing on December 9th, 2008, will guide that development.

The City has set forth a great vision for the residents of Black Diamond and the properties incorporated within it. In order to achieve that vision, it is important to cooperatively work with proponents for development that incorporates that vision. The original MPD ordinance went some distance in trying to achieve that. However, there has been significant change to the ordinance that has resulted in the ordinance becoming more burdensome on potential MPD proposals.

During this public hearing, we request that you consider the following three broad ideas. In addition, we have provided a list of comments that reflect an exhaustive review of the MPD ordinance based on our team's experience of developing Master Planned Communities.

1. Flexibility – The ordinance needs to provide more flexibility. Too many sections within this ordinance dictate very specifically how certain aspects must be approached. This sometimes is not only burdensome on the applicant, it sets a rigid standard for the City that cannot be deviated from. Without providing some flexibility, the applicant is not able to propose alternative means that achieve the same or better results, and the City is unable to consider such alternatives under a restrictive set of codes.

2. Vesting – In other cities, vesting for projects like these is often more than 15 years, which is currently the proposal in the ordinance. Projects of this size go through at least one, if not more, economic cycles just like the one we are going through now. Market conditions that currently exist certainly slow

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development, but oftentimes do not completely stop it. Having the ability to weather varying market conditions and several economic cycles which no one can predict is necessary to the life of the project. Ultimately if the concern for the length of vesting is over public safety (i.e., standards that need to change), that concern can be addressed through the Development Agreement by requiring some standards to be updated, if determined necessary.

3. Level of Detail – The level of detail required in much of the MPD application and required for MPD approval is more than can be specifically nailed down at this point. It must be understood that the lifecycle of projects like these will go through many iterations. Knowing now what will be tolerated or required by the market 10 or 12 years into the future is nearly impossible. Having the flexibility to "tweak as you go along" is intrinsic to projects of this scale.

We appreciate the opportunity to provide you with this input tonight. We hope it will be thoroughly considered, and we look forward to the opportunity to collaboratively work with Staff as the ordinance is updated.

Sincerely,

AICP

Ryan J. Kohlmann, AICP

Cc: Mayor Howard Botts
Council Member Kristine Hanson
Council Member Geoff Bowie
Council Member Bill Boston
Council Member Rebecca Olness
Council Member Leih Mulvihill

18.98.005 – *currently reads* "The master plan development (MPD) zoning district is created. No development activity may occur, or any application accepted for processing, on property subject to an MPD zoning designation, or for which the submittal of an MPD is required by a development agreement, unless it is done in accordance with the terms and conditions of a valid MPD permit. Development activity shall include, but not be limited to, grading, clearing, filling, tree harvesting, platting, short platting, building or any other activity for which a city permit or other approval is required. (Ord. 796 § 1, 2005)"

Recommended changes – Strike this section. I don't believe there is an "MPD zoning district" any more, based on the October 9, 2008 Zoning Map update. Additionally, the remaining part of this section appears to be in conflict with 18.98.030.A.4, which allows commercial areas geographically separated from the residential component to be approved through the site plan approval process, and 18.98.050.B, which allows consolidated review for associated land development permits.

18.98.030.B.2 – This section used to allow the submittal of an MPD with land intended to be annexed into the City. This section should be restored, and should allow the application to propose uses consistent with the MPD, provided the annexations are initiated or in process during the review of the MPD. As part of the MPDs, Yarrow Bay intends to begin very soon the annexation proceedings with the City.

18.98.030.C – *currently reads* "Contiguity. All properties to be included in an MPD must be contiguous, excepting those areas intended to be used for commercial purposes, other than neighborhood commercial."

Recommended changes – Add to the end "or open space that is an extension of open space adjacent to the proposed MPD, provides regionally significant trail, park, or other opportunities, or is open space subject to the Black Diamond Area Open Space Protection Agreement."

18.98.040.A.7 – *currently reads* "A narrative description and illustrations of the MPD planning/design concept, demonstrating how the proposed MPD is consistent with the adopted MPD design standards, the comprehensive plan, all elements of sections 18.98.010 and 18.98.020, and other applicable policies and standards."

Recommended change – Delete "and other applicable policies and standards." The MPD allows flexibility and variation from other policies and standards, unless explicitly referred to in the MPD code. Thus, the design and description really should pertain to the project itself and how it is consistent with those elements described in this section, and envisioned in the MPD design section of the Comprehensive Plan. Limit the description to MPD code and MPD design as described in the Comprehensive Plan.

18.98.040.A.18 – *currently reads* "The originals of the development rights certificates, or documentation of the right to use development rights held in trust by the city pursuant to the terms of the Transfer of Development Rights Program (Chapter 19.24), showing that the development rights necessary to meet the intended density have been acquired or otherwise secured so that they will be available if the intended density is approved."

Recommended change – Revise this section to instead require as part of the applicant's Phasing Plan to show how TDRs will be used in each phase and/or geographical area. Because each area has slightly different base densities and overall densities, TDR needs will vary from phase to phase, and this provides the best plan of action for when TDRs will be needed and how they will be applied. It also applies to how TDRs may be used onsite.

18.98.040.C – This section pertains to requiring a deposit for staff, consultant, and administrative and time as it pertains to review of the MPD application.

Recommended change – Add a clause that states "Unless a funding agreement or other cost capture agreement is in place with the applicant at the time of application, a separate deposit shall not be required. That agreement shall be amended, if necessary, to cover staff, consultant, and administrative time as it relates to the MPD review."

18.98.050.C – Implementing Development Applications, *currently reads* "Implementing Development Applications. An MPD permit must be approved, and a development agreement as authorized by RCW 36.70B completed, signed and recorded, before the city will grant approval to an application for any implementing development approval. An application for an MPD permit may be processed with amendments to the comprehensive plan, zoning code, inter-local agreements and land development permits associated with the MPD permit, such as forest practice permits, clearing and grading permits, shorelines permits, and permits required by other public agencies The city shall not grant approvals to related permits before the granting of an MPD permit and recording of a development agreement."

Recommended change – At the end, add "except as provided in 18.98.030.A.4." That section relates to allowing geographically separate commercial areas to move forward prior to an MPD application approval.

18.98.060.A.1.c – *currently reads* "A nonrefundable pre-application conference fee in an amount set forth in the adopted fee schedule resolution shall be paid before the preapplication [sic] conference will be scheduled."

Recommended change – At the end, add "unless the applicant has an existing funding agreement pursuant to 18.98.040.C"

18.98.060.B.6 – MPD Permit Approval Criteria. This section currently directs the hearing examiner to transmit a recommendation for approval or denial.

Recommended change – Revise this section to also allow the hearing examiner to recommend the council remand the application back to staff for further review or approve with conditions.

18.98.080.A – *currently reads* "An MPD permit shall not be approved unless it is found that appropriate conditions are imposed so that all of the following criteria are met:"

Recommended change – Strike this sentence and replace with "The MPD application shall be reviewed to determine if the following criterion are satisfied or other acceptable elements are proposed that meet the objectives of the criterion, as follows:"

This section severely limits the City Council's discretionary authority. There are many somewhat vague and subjective criteria set forth in this provision and the "all or nothing" approach makes it difficult to know if the MPD approval criteria are met based on the record created before the hearing examiner. Additionally, this section should be clarified to include any proposed elements in the MPD application, and not just conditions imposed by the City.

18.98.080.A.2 – *currently reads* "There are no significant adverse environmental impacts."

Recommended change – Strike this sentence. Although unlikely, there is a chance that the proposal may result in a significant adverse environmental impact that, although it cannot be completely mitigated, is deemed acceptable by the City. The SEPA process will govern this area, and that process must be allowed to define what is acceptable. Ultimately, the decision on an MPD is a policy decision that calls for balancing of costs and benefits. The Examiner and Council could decide that an MPD will have a number of benefits that justify its approval despite a significant adverse environmental impact. That policy decision should be left up to the decisionmakers.

18.98.080.A.4.a – *currently reads* "Prior to the occupancy of any residential or commercial structure in each phase, the improvements have been constructed and accepted and the lands dedicated that are necessary to have concurrency at full build out of that phase for all utilities, parks, trails, recreational amenities, open space, stormwater and transportation improvements to serve the phase, and to provide for

connectivity of the roads, trails and other open space systems to other developed phases within the MPD and to the MPD boundaries."

Recommended change – Delete this section. This is not an appropriate test in the MPD permit. The MPD permit should provide a phasing plan that outlines the major infrastructure and larger open spaces necessary to serve the larger phases. Concurrency and utility requirements should be reviewed at the preliminary plat, binding site plan, or building permit stage as the case may be.

18.98.080.A.5 – *currently reads* "The project, at all phases and at build out, will not result in the lowering of established staffing levels of service including those related to public safety."

Recommended change – Clarify. The fiscal analysis should show that, with phasing buildout and levels of service being held, the City would be able to hire the necessary staff. Holding a builder or developer responsible for *hiring* the staff seems extraordinary. That responsibility should remain with the City, and should be done at the discretion of the City, but the MPD is only required to show that hiring the staff to retain the levels of service dictated will not put a financial strain on the City.

18.98.080.A.6 – *currently reads* "The project, in each residential phase, provides a mix of housing types that allows the project to meet the affordable housing goals of the city."

Recommended change – Allow flexibility that provides a housing mix through the buildout of the project. It may be necessary to provide a surplus of housing the helps meet the affordable housing goals of the city in one phase, but in other phases there may be a deficit. But overall, the mix is provided within the entire MPD.

18.98.080.A.9 – *currently reads* "The orientation of public building sites and parks shall preserve and enhance, where possible taking into consideration environmental concerns, views of Mt. Rainier and other views identified in the comprehensive plan. Major roads shall be designed to take advantage of the bearing lines for those views."

Recommended change – Change "shall" to "should." Requiring this reaches beyond the regulatory authority given the City. Good urban planning *should* strive to incorporate or preserve vistas in site design. Sometimes it is not practical, possible, or it creates unnecessary challenges to the site plan.

18.98.080.A.12 – *currently reads* "The proportionate amount of open space to meet the open space to developable land ratio applicable to the MPD as a whole is provided for in each phase, is permanent protected and developed as required by conditions of approval, and appropriate access is provided before occupancy of any structure in the phase. Provided, if the intent and purpose of the MPD is met, some of the required

open space to meet the proportionate open space to developable land ratio may be protected and developed elsewhere in the MPD so long as developed connectivity is provided to the phase prior to occupancy of any structure in the phase."

Recommended change – This requirement is in conflict with other agreements already in place (BDUGAA, BD Open Space agreement) that require certain amounts of open space, sometimes in certain areas. This section should be simplified to read "As part of the phasing plan, show open space acreages that, upon buildout, protect and conserve the open spaces necessary for the MPD as a whole. Subsequent implementing approvals shall be reviewed against this phasing plan to determine its consistency with open space requirements."

18.98.080.A.13 – Pertains to FAR for residential projects.

Recommended change – Strike this section. This is an odd regulation, as typical residential development is governed by "dimensional" standards, meaning required front, rear, and side yard setbacks (with protrusion allowances), and maximum height. Restricting FAR is a certain way to end up with structures of nearly similar sizes, which diminishes the opportunity for character within the community.

18.98.080.A.14 – *currently reads* "School sites shall be set aside so that all school sites meet the walkable school standard set for in the comprehensive plan. The number and sizes of sites shall be designed to accommodate the total number of children that will reside in the MPD through full build out, including the transition of children from elementary to middle schools, using school sizes based upon the applicable school district's adopted standard. The requirements of this provision may be met by a separate agreement entered into between the applicant, the city and the applicable school district, which shall be incorporated into the MPD permit and development agreement by reference."

Recommended change – Strike this section. The SEPA and EIS process will mitigate for schools, just as it does for other public facilities. The mitigation, whatever is determined through SEPA, is required by law. This section is duplicative and unnecessary.

18.98.080.A.15 – Pertains to grading plans and best management practices.

Recommended change – Strike this section. Grading plans are not part of the MPD submittal, and their review should be reviewed under subsequent implementing approvals (preliminary plats, site development permits, binding site plans, etc.). Suggest providing guidance or goals as part of Developer's MPD Design Guidelines as it pertains to retaining or taking advantage of "significant natural contours."

18.98.100.H – *currently reads* "Would not alter the size or location of any designated open space resulting in a lowered level of service and does not reduce the total amount of required open space."

Recommended change –Change to "Would not significantly alter... [emphasis added for clarity]." Changes to size or location of open space may be necessary for site planning purposes and is likely as the plan progresses, but the overall open space requirement would not be reduced.

18.98.100.I – Simplify this section to read "The process and criteria in addition to those listed in this section for Major and Minor modifications shall be set forth in the Development Agreement."

New Section 18.98.105 Phasing Plan – Suggest adding new section that describes what elements are needed in the phasing plan (e.g. major utilities, roads, facilities, open space, parks). The phasing plan should be prepared in a way that describes the goals of the larger pieces of the MPD, while subsequent implementing approvals are checked against the phasing plan and finer grained details are added in. Amendments or modifications to the phasing plan should be allowed administratively to refine the plan, reflect new technologies, or reflect modifications to design. The phasing plan should be based more on geographic requirements than a specific amount of time as time is more or less dictated by the market. Amendments to the Phasing Plan should not be considered major, unless otherwise determined by the director.

18.98.110.B.2 – Implementing Permits or Approvals – This section currently requires the review of typical schematic drawings for single family residences at the planning commission level.

Recommended change – Strike from the sentence that starts "This review shall include..." to the end. Residential building permit review should be administrative, and the proposed residential buildings should adhere to the MPD design standards. Requiring this level of review is burdensome for the builder AND the Planning Commission. The City should rely on its professional staff and the Design Standard to govern this review, and relieve the Planning Commission of this onerous requirement.

18.98.110.B.4 – *currently reads* "Implementing Permits or Approvals - Residential Building Permits - Staff shall administratively review residential building permit applications in approved and recorded subdivisions and short subdivisions for consistency with the schematic building drawings approved in conjunction with preliminary plat or short plat approval."

Recommended change – In the last sentence, strike from "schematic building drawings..." to the end and replace with "MPD design standards." As previously

stated, residential buildings should adhere to the MPD design standards, and not be required to go through "schematic" approval at a platting stage.

18.98.120.E – *currently reads* "Property that is subject to a preannexation agreement, development agreement or annexation ordinance conditions relating to residential density will have as its base density the minimum density designated in such agreement or ordinance. All other property will have as its base density the minimum density designated in the comprehensive plan. The council may authorize a residential density of up to 12 dwelling units per acre so long as all of the other criteria of this chapter are met and the additional density is acquired by participation in the TDR program. In any development area within an MPD, the effective density of development 12 dwelling units per acre, up to a maximum of 18 dwelling units per acre, so long as the total project cap density is not exceeded and the development, as situated and designed, is consistent with the provisions of 18.98.010 and 18.98.020."

Recommended change – Strike this language and revert back to original language. The purpose and intent of the MPD is to allow flexibility and provide for opportunity to try innovative land use planning techniques. The maximum densities should be as proposed in the MPD. Higher densities are necessary to provide a variety of housing types, as desired in the MPD, and lower densities limit the types of housing that may be proposed.

18.98.135 – MPD standards – environmentally sustainable development

Recommended change – Revise language to set these as goals, and require them to be stated in the Development Agreement. These are excellent goals to strive for in the MPD. However, these are not entirely able to be reflected in the MPD. These should be set as guidelines or goals in the Development Agreement and associated standards. Many of these can't be designed or reviewed until much later through implementing approvals (platting, building permits, etc.)

18.98.135.A – *currently reads* "Site Design. Provide resource-efficient site design which includes consideration for saving trees, constructing on-site stormwater retention/infiltration features, and building orientation to maximize passive solar heating and cooling."

Recommended change – Add to the end "to the extent possible." In addition, although the EIS preferred alternative for stormwater treatment for Lawson was on-site stormwater facilities, if a basin plan or other off-site facility becomes the solution, there may be conflict with this provision. Also note, trees will be saved with the various open space requirements.

18.98.135.D – *currently reads* "Water Efficiency. Maximize water conservation by maintaining or restoring pre-development hydrology with regard to temperature, rate, volume and duration of flow; use native species in landscaping; recycle water for on-site irrigation use."

Recommended change – Strike "by maintaining or restoring predevelopment hydrology with regard to temperature, rate, volume and duration of flow." This concept is covered through the SEPA process (i.e. the EIS in process), and the test there is whether adverse impacts have been appropriately mitigated. In addition, there cannot be a standard to "improve" a pre-existing condition.

18.98.140 – Pertains to Open Space requirements and standards.

Recommended changes – Include allowing pocket parks (smaller than 1/4 acre) that have an active element (e.g. play gym, par course), and counting areas that are not open to the public as ½ credit towards the requirement. Pocket parks that create a network or provide active play areas are necessary and supplement the overall open space concept. In addition, it is not uncommon for larger multi-family or commercial areas to have large semi-private (i.e. controlled public access) or private areas for the tenants/owners of those properties, and these too contribute to the overall open space concept. However, because of their semi-private or private nature, they should only be counted as ½ credit. It is not expected the single family yards would be counted.

18.98.150.A – *currently reads* "An MPD shall provide on-site recreation areas and facilities sufficient to meet the needs of MPD residents, exceeding or at a minimum consistent with levels of service adopted by the city where applicable. This shall include providing for a coordinated system of trails and pedestrian linkages both within, and connecting to existing or planned regional or local trail systems outside of the MPD."

Recommended changes – The SAO, as currently written, does not allow trails across category one wetlands, or the Core Complex. Add the phrase "provided this section does not conflict with other provisions of City Code." Or, the SAO should be revised to allow trails across category one wetlands or the Core Complex as previously requested in public hearings.

18.98.180.A – Strike the new language and revert back to original language. There is no legal authority to require an "enhanced" standard, unless it is required to offset another standard that is being modified.

18.98.190.B – *currently reads* "Each MPD shall develop and implement a water conservation plan to be approved as part of the development agreement that sets

forth strategies for achieving water conservation at all phases of development and at full buildout, that results in water usage that is at least ten percent less the average water usage in the city for residential purposes at the time the MPD application is submitted. For example, if the average water usage is 200 gallons per equivalent residential unit per day, then the MPD shall implement a water conservation strategy that will result in water use that is 180 gallons per day or less per equivalent residential unit."

Recommended change – This should be revised to be stated as a goal of the water conservation plan to be proposed with the MPD. Water conservation is a good thing, but unless the utility intends to fund or facilitate conservation efforts, this requirement cannot be enforced. Change the last sentence to read "For example, if the average water usage is 200 gallons per equivalent residential unit per day, then the MPD water conservation strategy should strive to produce a water use that is, on average, 180 gallons per day or less per equivalent residential unit."

18.98.195.A – *currently reads* "Except to the extent earlier terminated, modified by the provisions of this chapter, or as otherwise specified in the conditions of approval, the MPD permit approval vests the applicant for fifteen years to all conditions of approval and to the development regulations in effect on the date of approval."

Recommended changes – Add "unless otherwise extended by Council pursuant to the process adopted in the development agreement." Also, the EIS for The Villages assumes a 2025 buildout, which makes a 15 year vesting period tough to make. For projects of this size, predictability is essential so that facilities that are planned and eventually built will meet the need of the project throughout buildout. Change the vesting period to 20 years to accommodate not only this need, but also to address likely market fluctuations that will impact the project over its life. Additionally, it is common for projects of this size to have vesting periods of at least 20 years.

18.98.195.B – *currently reads* "Vesting as to stormwater regulations shall be on a phase by phase basis."

Recommended change – Strike this sentence. Vesting for stormwater regulations must apply to the lifetime of the project. It would be impossible to engineer, plan for and develop regional stormwater systems as contemplated in 18.98.180.

18.98.195.E – Relates to extending the vesting period. Strike this section and replace it with, "A request to extend vesting beyond that which is approved with the Development Agreement shall be considered a Major Amendment. The process and criteria for this request shall be set forth in the Development Agreement."

18.98.200.A – Pertains to revoking an MPD permit due to phased development taking more than five years. *Recommended change* is to strike this provision. Presuming that any phase can be completed in a certain time frame assumes ideal market conditions that are out of the control of the developer. The only clock that should apply to the MPD is the vesting period.

18.98.200.C – *currently reads* "A violation of an MPD condition of approval that cannot be corrected, such as the destruction of wetlands or removal of trees and vegetation that was specifically prohibited and cannot be restored to their original state within sixty days."

Recommended change – It may not make sense or be physically feasible to restore unintentional damage in that time frame. Revise to require a permit and restoration bond be in place within 90 days. That time frame allows the appropriate studies and plans to be completed, and processed by the City. Add to the end, "unless otherwise determined by the Director." This will also allow flexibility for extenuating circumstances.

18.98.200.D – *currently reads* "The MPD permit has been approved for more than five years and the city council finds that further development will present a threat to the public health, safety and welfare unless the amendment or revocation is implemented; provided, however, the city shall first determine that the condition cannot be amended in order to eliminate the threat to the public health, safety or welfare before it revokes the permit approval.
The above provisions notwithstanding, the vacation and/or amendment of the MPD approval shall not affect previously approved building permits. (Ord. 779 § 2 Exh. 1 (part), 2005)"

Recommended changes – Change the last sentence to read "The above provisions notwithstanding, the vacation and/or amendment of the MPD approval shall not affect previously approved building permits, or complete applications for pending implementing permits and their subsequent building permits." In other words, if a preliminary plat, final plat, binding site plan, site development permit, or any other implementing permit has been deemed complete or approved prior to the vacation and/or amendment, the subsequent permits under that implementing permit (e.g. final plat, short plat, building permit, etc.) should not be affected.

18.98.200.E – *currently reads* "If the MPD permit is revoked for undeveloped phases, the parcels for which the permit is revoked cannot be developed without a new MPD permit being obtained, even if the revoked parcels are less than the minimum acreage required by section 18.98.030."

Recommended change – Strike this section. If the MPD permit is revoked, then it must have been clear at the time of revocation that there was no longer a desire to see the application be completed as intended. Other alternatives to resolution are available prior to revocation, but if revocation is chosen, then it is clear the MPD is no longer desirable. If a new application is necessary, it should either meet the MPD criteria (i.e. 80 acres or more) or be treated as a separate new application subject to existing standards (i.e. preliminary plat if less than 80 acres).

CITY COUNCIL AGENDA BILL

City of Black Diamond
Post Office Box 599
Black Diamond, WA 98010

ITEM INFORMATION

SUBJECT:

Public Hearing on proposed Ordinance 08-892 adding a new Chapter 18.14 to the Black Diamond Municipal Code, concerning vesting of project permit applications

Cost Impact: N/A

Fund Source: N/A

Timeline: N/A

Agenda Date: February 26, 2009 **AB09-021**

Department/Committee/Individual	Created	Reviewed
Mayor Howard Botts		
City Administrator –Gwen Voelpel		
City Attorney – Loren D. Combs	**X**	
City Clerk – Brenda L. Streepy		
Finance – May Miller		
Public Works – Seth Boettcher		
Economic Devel. – Andy Williamson		
Comm. Devel. – Steve Pilcher		**X**
Court – Kaaren Woods		
Natural Resources/Parks – Aaron Nix		

Attachments: Ordinance 08-892, creating Chapter 18.14

SUMMARY STATEMENT: The issue of "vesting" development applications has been discussed with Council at previous work sessions and at an initial public hearing. Either at or prior to the hearing, at least two private attorneys provided comments. Those comments have been considered and have resulted in some minor modifications to the proposed ordinance under consideration.

This ordinance will establish clear guidelines concerning when project permit applications are to be considered vested (and thus secured the right to be reviewed under the development regulations and standards in effect at that time) and also provides for a time frame "closing out" applications that have become inactive. The ordinance also provides the ability to expire initial land use and other approvals if no further permitting activity has occurred after a period of two (2) years. Opportunities for extensions of time are also provided.

This will be an important tool for dealing with both existing and future applications, ensuring applications are treated fairly and equitably.

COMMITTEE REVIEW AND RECOMMENDATION: **NA**

RECOMMENDED ACTION: **MOTION** to adopt Ordinance No. 08-892, relating to vesting of project permit applications and expiration of project permits and adding a new chapter 18.14 to the Black Diamond Municipal Code.

RECORD OF COUNCIL ACTION

Meeting Date	*Action*	*Vote*
February 26, 2009		

ORDINANCE NO. 08-892

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF BLACK DIAMOND, KING COUNTY, WASHINGTON, RELATING TO VESTING OF PROJECT PERMIT APPLICATIONS AND EXPIRATION OF PROJECT PERMITS AND ADDING A NEW CHAPTER 18.14 TO THE BLACK DIAMOND MUNICIPAL CODE

WHEREAS, the purpose of the vested rights doctrine is to provide a measure of certainty to City regulators and developers and to protect a developer's expectations against fluctuating land use policy; and

WHEREAS, although vesting of some land use development and building permit rights is regulated under state statutes, the law leaves certain aspects of vesting regulation to local judgment, including what shall constitute a completed permit application and, in some cases, how long a permit approval shall be valid; and

WHEREAS, it is in the best interests of the entire community to adopt a local vested rights policy, thereby providing a measure of clarity and certainty to City staff, developers and property owners; and

WHEREAS, providing clarity and certainty to both developers and the community affected by development requires that at some point after an application has been filed but not pursued by the applicant, the application should be closed.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF BLACK DIAMOND, WASHINGTON, DOES ORDAIN AS FOLLOWS:

Section 1. Title 18 of the Black Diamond Municipal Code is hereby amended by the addition of a new Chapter 18.14 titled "Vesting," which shall contain the following Sections:

18.14.010 Definitions
18.14.020 Period for review of permit applications—Lapsing of applications
18.14.030 Vesting of project permits
18.14.040 Amendments to permit—Effect on vesting.
18.14.050 Waiver of vesting
18.14.060 Duration of approvals—Effect of permit expiration
18.14.070 Suspension or revocation of permit—Effect on vesting
18.14.080 Lapsing of existing project approvals—Notice required

Section 2. The Black Diamond Municipal Code is hereby amended by the addition of a new section 18.14.010 to read as follows:

18.14.010 Definitions

For purposes of this Chapter, the following definitions shall apply:

A. "Complete application" or "complete project permit application" means a permit application that meets the procedural submission requirements required for such a permit by the Black Diamond Municipal Code and the city's administrative regulations, and includes all information needed under the city's municipal code and administrative regulations to make an application sufficient for continued processing; in addition, all applicable fees must have been paid.

B. "Lapse" means that any rights or potential rights created by the filing of a project permit application, whether the application is complete or incomplete, shall cease, and the application shall be deemed void.

C. "Project action" means a specific activity, located in a defined geographic area, relating to construction or development of such area.

D. "Project permit" means any land use or environmental permit or license required from the City for a project action, including but not limited to building permits, subdivisions, binding site plans, planned unit developments, conditional uses, shoreline substantial development permits, site plan review, permits or approvals required by sensitive area or critical area ordinances, master planned developments, and site-specific rezones authorized by a comprehensive plan or subarea plan, but excluding the adoption or amendment of a comprehensive plan, subarea plan, master planned development regulations or other development regulations.

E. "Vesting" means the establishment of a date that is used to determine which zoning and other land use control ordinances will apply to the review by the City of a complete project permit application.

Section 3. The Black Diamond Municipal Code is hereby amended by the addition of a new section 18.14.020 to read as follows:

18.14.020 Period for review of permit applications—Lapsing of applications

A. (1) *Timeframe for initial review.* As required by RCW 36.70B.070, as currently enacted or hereafter amended, within twenty-eight (28) days of receipt of any type of project permit application, the City shall mail or provide in person to the applicant a written determination stating either (a) that the application is complete, or (b) that the application is incomplete, and stating what is necessary to make the application complete. To the extent known to the city, the city shall identify other agencies of local, state, or federal government that may have jurisdiction over some aspect of the application. (2) *Timeframe for review after additional information provided to city.* As required by RCW 36.70B.070, as currently enacted or hereafter amended, within fourteen (14) days after the applicant has submitted additional information requested by the city as necessary for a complete application, the city shall notify the applicant whether the application is complete or what additional information is necessary. (3) *Timeframe for review of a complete application.* Once an application is deemed complete, the review process should take no longer than one hundred twenty (120) days to issue a determination or take other action unless the city issues written findings that a specified amount of additional time is needed to process specific complete permit applications or project types, as provided by RCW 36.70B.080, as currently enacted or hereafter amended.

B. Permit applications must be complete and all applicable fees paid within one hundred eighty (180) days of filing or will become void. However, the building official is authorized to grant one or more extensions for additional periods of no more than ninety (90) days each, but only where such extensions are requested in writing and justifiable cause is shown. The 180 days shall be tolled during any period in which the permit application is the subject of an appeal that has been properly and timely filed pursuant to BDMC chapter 2.30.

C. If, after the filing of a complete permit application, a period of at least one year occurs where the City has not been contacted by the applicant and no final action has been taken by the City to deny or issue said permit, the application shall lapse and become void.

D. Except as prohibited by law, any of the terms and conditions of this section may be waived or amended for a specific permit application for good cause shown by written agreement between the City and the applicant.

Section 4. The Black Diamond Municipal Code is hereby amended by the addition of a new section 18.14.030 to read as follows:

18.14.030 Vesting of project permits

A. All project permit applications shall be considered under the zoning and other land use control ordinances in effect on the date a complete application for such permit is filed.

B. Vesting of a complete project permit application does not vest any subsequently required permits, nor does it affect the requirements for vesting of subsequent permits or approvals, provided: (1) a complete application for a subdivision or short subdivision shall be vested pursuant to the terms of RCW 58.17.033, as currently enacted or hereafter amended; (2) the approved specific use and density identified in an approved final subdivision shall be vested for the period of time allowed under RCW 58.17.170, as currently enacted or hereafter amended; (3) short subdivisions shall be vested for the approved specific use and density identified in the approved final short subdivision for a period of five years from the date of final plat approval; (4) vesting of subsequent permits and approvals as part of a master planned development shall be governed by this chapter unless expressly overridden by the terms of a development agreement executed pursuant to BDMC Chapter 18.98.

C. A complete application for a grading or filling permit vests only to the grading and filling on the property and does not vest any subsequent development or construction activities, including but not limited to water, sewer, storm water, plumbing, electrical, or other mechanical work. However, a project shall vest as to storm water management regulations if a complete storm water drainage permit application is submitted concurrently. Pursuant to BDMC 18.98, vesting of storm water permits for a Master Planned Development shall be on a phase by phase basis, unless otherwise provided by the terms of the approved Master Planned Development agreement.

D. Submittal of pre-application materials does not, by itself, vest a project. However, SEPA checklists and other SEPA submittals may be considered in determining whether the underlying project permit application is complete.

E. Notwithstanding any other provisions of this chapter, the city may amend, alter, or suspend any vested rights created by the filing of a complete permit application and/or preliminary or final plat approval where the city's legislative body finds that a change in conditions creates a serious threat to public

health or safety in the permitted area if development were to proceed under the vested rights.

Section 5. The Black Diamond Municipal Code is hereby amended by the addition of a new section 18.14.040 to read as follows:

18.14.040 Amendments to permit—Effect on vesting.

A. *"Minor" amendments.* An applicant may be granted an amendment to any of the conditions or requirements of a permit: (1) upon a showing of changed circumstances and a determination by the mayor, or his or her designee, that (a) the requested amendments constitute "minor" adjustments that can be sufficiently mitigated through new actions that may be required as part of the permit amendment approval, and (b) each of the proposed amended conditions is not otherwise prohibited under the municipal code and would not require additional environmental review under BDMC Title 19, and (2) the proposed amendments would not (a) increase gross building area by more than ten percent, (b) increase the number of dwelling units, (c) increase total impervious surface area, (d) change the number of ingress or egress points, or (e) increase the area of site disturbance by more than ten percent. Modifications to a permit required by the city shall be deemed "minor" amendments.

B. *"Major" amendments.* An applicant shall not be granted an amendment to any condition or requirement of a permit if the mayor, or his or her designee, determines that the proposed amendment constitutes a "major" amendment. Any proposed amendment to the conditions and requirements of a permit that does not meet the requirements of subsection A shall be considered a "major" amendment. Permission to implement a "major" amendment shall require a new permit application to be filed and approved by the City, *provided,* any work or use covered by the existing permit that would be unaffected by the requested "major" amendment shall continue to be vested under the terms of the existing permit.

C. *Effect on vesting.*

(1) Unless otherwise agreed to in writing by the City, approval of "minor" amendments to permit conditions and requirements shall terminate any vested right to the original permit conditions insofar as those conditions are inconsistent with the approved amendments, and, unless also otherwise agreed, approval does not toll or otherwise change the date upon which the amended permit lapses under this chapter.

(2) Any new permit application filed as part of seeking a "major" change to the conditions and requirements of the original permit shall not be vested to any of the conditions of the original permit and shall be subject to the current codes and regulations in effect at the time the complete new application is filed.

D. *City's decision is final.* The city's determination that a requested amendment is "minor" or "major" shall be final and not subject to appeal.

E. *Amending MPD permits.* Amending of a Master Planned Development approval is controlled by the provisions of BDMC Chapter 18.98, *provided*, amending of subsequent permits and approvals required as part of a master planned development shall be governed by this chapter unless expressly overridden by the terms of a development agreement executed pursuant to BDMC Chapter 18.98.

Section 6. The Black Diamond Municipal Code is hereby amended by the addition of a new section 18.14.050 to read as follows:

18.14.050 Waiver of vesting

A property owner may voluntarily waive vested rights at any time during the processing of an application by delivering a written and signed waiver to the Community Development Director stating that the property owner agrees to comply with all development regulations in effect on the date of delivery of the waiver.

Section 7. The Black Diamond Municipal Code is hereby amended by the addition of a new section 18.14.060 to read as follows:

18.14.060 Duration of approvals—Effect of permit expiration

A. Except where a different duration is established elsewhere in the Black Diamond Municipal Code, or by executed development agreement, administrative ruling or judicial order, or by state or federal law, all project permits shall expire two (2) years after the date of issuance if, in the opinion of the City, construction of the project has not been substantially completed, *provided*, an extension of the permit may be granted as allowed under subsection B, and a building permit may become void after 180 days of inactivity, as detailed in subsection D, and *provided further*, permits that authorize an activity or use, rather than construction of a building or structure, shall expire as of the date indicated on the permit.

B. For project permits subject to the two-year duration set forth in subsection A, above, the City may extend the date of permit expiration up to two (2) years for good cause, upon proper request by the applicant at least thirty (30) days prior to expiration of the permit. Requests for extensions shall be submitted on forms provided by the City with payment of a fee equal to one-half of the permit application fee in effect at the time the request for extension is filed. Good cause shall mean the applicant was unable to substantially complete construction due to circumstances beyond the applicant's control and not foreseeable at the time of permit issuance, and the applicant demonstrates the ability to complete the project within the extended time period.

C. Unless a permit has been extended pursuant to subsection B, above, or as otherwise provided by an executed development agreement, any vested rights to particular fees, regulations, or conditions of issuance associated with a permit shall cease upon expiration of the permit, except as RCW 58.17.170 or other laws may apply. An individual or entity seeking to replace an expired permit shall be subject to each fee, regulation, or condition of issuance in effect at the time a new complete permit application is filed and to which no specific exemption applies.

D. Any otherwise valid building permit shall be deemed to have expired and become void if the work authorized by the permit has not been substantially commenced within one hundred eighty (180) days after its issuance or the work authorized by the permit is suspended or abandoned for a period of one hundred eighty (180) days after the work has commenced.

Section 8. The Black Diamond Municipal Code is hereby amended by the addition of a new section 18.14.070 to read as follows:

18.14.070 Suspension or revocation of permit—Effect on vesting.

A. The Community Development Director, or his or her designee, is authorized to suspend or revoke any permit issued by the city whenever the permit is issued in error or was issued on the basis of materially incorrect, inaccurate or incomplete information, or in violation of any ordinance or regulation or any of the provisions of the municipal code.

B. When, in the opinion of the city, the suspension or revocation of a permit is based on no fault of the applicant, a replacement permit issued for the same project

within ninety (90) days of the suspension or revocation shall be vested to the regulations and requirements in effect as of the date the original complete application was filed and no additional application fee shall be required, *provided,* the project must still fully comply with the regulations and requirements in effect at the time the original complete application was filed.

Section 9. The Black Diamond Municipal Code is hereby amended by the addition of a new section 18.14.080, to read as follows:

18.14.080 Lapsing of existing approvals—Notice required.

Any project approval or permit issued by the city prior to the enactment of this chapter, if such approval or permit is not already subject to a definite expiration date under the provisions of the city's municipal code, shall hereby lapse and become void on April 1, 2011, *provided,* the city shall take reasonable steps to notify persons who may possess such approvals or permits of this deadline. Reasonable steps shall include putting notice on the city's website and mailing written notice to any person whom the city is aware would be affected and for whom the city is able, through reasonable effort, to determine a current mailing address. Extension of such an approval or permit, or issuance of a new approval or permit, shall be subject to the provisions of this chapter.

Section 10. Each and every provision of this Ordinance shall be deemed severable. In the event that any portion of this Ordinance is determined by final order of a court of competent jurisdiction to be void or unenforceable, such determination shall not affect the validity of the remaining provisions thereof, provided the intent of this Ordinance can still be furthered without the invalid provision.

Section 11. This Ordinance shall be in full force and effect five (5) days after publication as required by law. A summary of this Ordinance may be published in lieu of the entire Ordinance, as authorized by State law.

Introduced on the ____ day of _____, 2009.

Passed by the City Council on the ____ day of _____, 2009.

_____
Mayor Howard Botts

ATTEST:

_____
Brenda Streepy, City Clerk

APPROVED AS TO FORM:

_____
Loren D. Combs, City Attorney

Published: _____
Effective Date:_____

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CITY COUNCIL AGENDA BILL

City of Black Diamond
Post Office Box 599
Black Diamond, WA 98010

ITEM INFORMATION

SUBJECT:

Ordinance No. 08-875, updating the city's protection of Sensitive Areas by adopting a new Sensitive Areas Ordinance.

Agenda Date: February 26, 2009 **AB08-116b**

Department/Committee/Individual	Created	Reviewed
Mayor Howard Botts		
City Administrator –Gwen Voelpel		
Asst. City Attorney –Tom Guilfoil		**X**
City Clerk – Brenda L. Streepy		
Finance – May Miller		
Public Works – Dan Dal Santo		
Economic Devel. – Andy Williamson		
Police –		
Court – Kaaren Woods		
Natural Resources/Parks – Aaron Nix	**X**	

Cost Impact: N/A
Fund Source: N/A
Timeline: N/A

Attachments: Memo, Ordinance No. 08-875, Final Version of SAO and Redlined Version of SAO

SUMMARY STATEMENT:

The final version of the SAO presented to the Council tonight incorporates all requested changes from the last study session (as outlined in Mr. Nix's cover memo), as well as a few housekeeping wording clarifications that were noticed by staff or Assistant City Attorney Tom Guilfoil while implementing the substantive changes.

The biggest changes that the Council will see is that, in line with their decision to allow DOE Alternative III methodology to be used in areas outside the Core, section 19.10.230.D has been reworked significantly, and former section 19.10.230.H (formerly on pages 40-43) has been removed.

COMMITTEE REVIEW AND RECOMMENDATION:

RECOMMENDED ACTION: **MOTION** to adopt Ordinance No. 08-875, updating the city's protection of sensitive areas by adopting a new sensitive areas ordinance that will be codified as a new chapter 19.10 to the Black Diamond Municipal Code and renaming Chapter 19.12 of the Municipal Code and making minor changes to 19.12 relating to agricultural activities.

RECORD OF COUNCIL ACTION

Meeting Date	*Action*	*Vote*
November 13, 2008	Continued to December 2, 2008	
December 2, 2008	Continued to February 26, 2009	
February 26, 2009		

INTEROFFICE MEMORANDUM

TO: MAYOR AND CITY COUNCIL

FROM: AARON NIX, PARKS/NATURAL RESOURCES DIRECTOR

SUBJECT: FINAL SENSITIVE AREAS ORDINANCE CHANGES

DATE: 2/23/2009

CC: GWENDOLYN VOELPEL, CITY ADMINISTRATOR
LOREN COMBS, CITY ATTORNEY
STEVE PILCHER, COMMUNITY DEVELOPMENT DIRECTOR

Staff has had a chance to make the changes you requested at the study session on February 12. I've listed the questions and answers that were discussed at that meeting for ease of reviewing the updated code. Our City Attorney's office has helped me review the code and make appropriate changes for "pick up" items and to reflect your policy direction.

Thanks for the all of the hard work you've put into this!

Question 1. Are the provisions of the SAO requiring buffer enhancement of a previously degraded buffer as a condition of any land use development permit filed after the effective date of the SAO legally defensible?

RESULTS: Yes, no changes made based on Council direction.

Question 2. Can Ecology's alternative III buffer methodology be utilized for "Other" wetland systems outside the Core and Headwater areas?

RESULTS: Yes, change made based on Council direction.

Question 3. Can stormwater facilities be placed in the buffers?

RESULTS: Yes, but Council gave direction to delete storm water facilities from all buffers. Note that a Yarrow Bay representative was concerned about the Council action eliminating the discharge of storm water into the buffers after appropriate water quality treatment outside of the buffers. I did not take the council action to exclude discharge for wetland recharge purposes, but instead to eliminate in invasive intrusion by retention/detention facilities into the buffer. Changes made.

Question 4. Can a buffer restoration requirement be based on the dollar value of the project alone, rather than the impact of the project on the wetland or buffer, where a current non-conforming use is being changed, modified, or expanded?

RESULTS: Yes, current code is sufficient. Council did not direct staff to make any changes.

Question 5. Is increasing the reasonable use exception to allow 2,500 square feet of buildable area legally defensible?

RESULTS: Yes, increase the rue to 2,500 square feet.

Question 6. Does BAS support reducing the buffer width from 185 feet to 155 feet north of Rock Creek?

RESULTS: No change in buffer width per Council direction.

Pickup item 1. Need to clean up the language in 19.10.170 to eliminate the grammatical confusion on lesser/greater discussion. Changes made.

Pickup item 2. Remove the reference in 19.10.230 (J) and the corresponding section elsewhere referencing 19.10.350(C), which doesn't exist. Changes made.

Pickup item 3. For buffer restoration relating to work on a non-conforming use property the Council agreed that there should be allowance of time to make the restoration if it is not possible to have it done by the time of the final inspection due to timing for planting, and will allow the posting of a bond, cash collateral, or blocked account to secure the plantings. This is addressed in code by section 19.10.130 Mitigation Plans. Handle administratively on a case-by-case basis.

ORDINANCE NO. 08-875

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF BLACK DIAMOND, KING COUNTY WASHINGTON, UPDATING THE CITY'S PROTECTION OF SENSITIVE AREAS BY ADOPTING A NEW SENSITIVE AREAS ORDINANCE THAT WILL BE CODIFIED AS A NEW CHAPTER 19.10 TO THE BLACK DIAMOND MUNICIPAL CODE AND RENAMING CHAPTER 19.12 OF THE MUNICIPAL CODE AND MAKING MINOR CHANGES TO 19.12 RELATING TO AGRICULTURAL ACTIVITIES

WHEREAS**,** the Growth Management Act requires cities and counties planning under it to periodically review, and, if needed, revise their sensitive areas ordinances to ensure compliance with the Growth Management Act; and

WHEREAS, RCW 36.70A.172 requires local governments to include the "best available science" in preparing policies and regulations to protect the functions and values of critical areas, giving special consideration to the conservation and protection measures necessary to preserve or enhance anadromous fisheries; and

WHEREAS, the last major updates to the City's sensitive areas regulations occurred in 1993; and

WHEREAS, the City Council held duly notice public hearings on the proposed sensitive areas ordinance on November 13, 2008 and December 2, 2008; and

WHEREAS, a Determination of Non-Significance was issued pursuant to the State Environmental Policy Act on February 22, 2008 by the City's Responsible Official, and

WHEREAS, on September 22, 2008, the City submitted the proposed sensitive areas ordinance to Washington State Department of Community Trade and Economic Development for review pursuant to RCW 36.70A.106, and received acknowledgment from that agency of having received the submittal; and

WHEREAS, RCW 36.70A.560 prohibits counties and cities, for the period beginning May 1, 2007, and concluding July 1, 2010, from amending or adopt sensitive area ordinances as they specifically apply to agricultural activities, as defined therein; therefore agricultural activities shall be exempt from this sensitive areas ordinance and the provisions of BDMC Chapter 19.12 in effect prior to this amendment shall remain in full force and effect as to agricultural activities only; and

WHEREAS, the proposed sensitive areas ordinance is based on analysis of

ecosystem functions and values in the City, Urban Growth Area and surrounding areas that documents that the "core" complex of wetlands along Rock Creek, Jones Lake, Jones Creek, Black Diamond Lake and Black Diamond Creek is an area of intensive processes that contributes disproportionate positive values to critical area functions and water quality in Lake Sawyer and therefore warrants a high level of protection and conservation, and

WHEREAS, the proposed sensitive areas ordinance provides for protection of sensitive areas in a manner that assures protection of the ecological functions and values of sensitive areas and provides special consideration to the preservation and conservation measures necessary to preserve and enhance anadromous fisheries, while appropriately balancing other goals of the Growth Management Act as provided in RCW 36.70A.020;

NOW THEREFORE,

THE CITY COUNCIL OF THE CITY OF BLACK DIAMOND, KING COUNTY, WASHINGTON, ORDAINS AS FOLLOWS:

SECTION 1. The City Council adopts the Findings of Fact attached to this ordinance and hereby incorporated by reference as Exhibit A, with each page of the exhibit being initialed and dated by the Mayor.

SECTION 2. The title to Chapter 19.12 of the Black Diamond Municipal Code is hereby amended to read as follows: "Environmentally Sensitive Areas—Agricultural Activities."

SECTION 3. Section 19.12.040 is hereby amended to read as follows:

19.12.040 Compliance with chapter provisions—Required.

No agricultural ~~action~~ activities shall be undertaken by any person or entity which results in a substantial alteration of a sensitive area except in compliance with the requirements and goals, purposes and objectives of this chapter and only with those mitigation measures set forth in Section 19.12.070, below. "Agricultural activities" shall mean uses and practices existing or legally allowed on the effective date of this ordinance on rural land or agricultural land designated under RCW 36.70A.170 including, but not limited to: producing, breeding, or increasing agricultural products; rotating and changing agricultural crops; allowing land used for agricultural activities to lie fallow in which it is plowed and tilled but left unseeded; allowing land used for agricultural activities to lie dormant as a result of adverse agricultural market conditions; allowing land used for agricultural activities to lie dormant because the land is enrolled in a local,

state, or federal conservation program, or the land is subject to a conservation easement; conducting agricultural operations; maintaining, repairing, and replacing agricultural equipment; maintaining, repairing, and replacing agricultural facilities, when the replacement facility is no closer to a sensitive area than the original facility; and maintaining agricultural lands under production or cultivation.

SECTION 4. A new Chapter 19.10, entitled "Sensitive Areas," is hereby added to the Black Diamond Municipal Code and it shall read as shown in the copy attached to this ordinance as Exhibit B and hereby incorporated by reference, with each page of the exhibit being initialed and dated by the Mayor.

SECTION 5. The provisions of the current Black Diamond Shoreline Master Program shall not be amended or affected by the adoption of this ordinance.

SECTION 6. This Ordinance shall be in full force and effect five days after its passage, approval, posting and publication as provided by law. A summary of this Ordinance may be published in lieu of publishing the Ordinance in its entirety.

SECTION 7. If any provision of this Ordinance is determined to be invalid or unenforceable for any reason, the remaining provisions of this Ordinance shall remain in force and effect.

Introduced the 26th day of February, 2009.

Passed by a majority of the City Council at a meeting held on the 26th day of February, 2009.

_____
Mayor Howard Botts

Attest:

_____
Brenda Streepy, City Clerk

APPROVED AS TO FORM:

_____
Loren D. Combs, City Attorney

Published: _____
Posted:_____
Effective Date: _____

Mayor Initial:_____

Date:_____

EXHIBIT B TO ORDINANCE NUMBER 08-875

Chapter 19.10

SENSITIVE AREAS

Section:

19.10.005 General Provisions

BDMC 19.10.005 to BDMC 19.10.190 are general provisions pertaining to sensitive areas.

19.10.010 Purpose

This chapter has been enacted for the following purposes:

A. To designate and classify sensitive areas and their ecosystems and to protect these areas and their functions and values using the best available science, giving special consideration to conservation or protection measures necessary to preserve or enhance anadromous fisheries, while recognizing and allowing for reasonable use of private property;

B. To limit development and alteration of sensitive areas to achieve the goal of no net loss of sensitive areas or their functions and values;

C. To protect members of the public and public resources and facilities from public health or safety concerns, including injury, loss of life, or property damage due to events such as landslides and steep slope failures, erosion, seismic events, and mine hazards;

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D. To provide for compatible land use on or adjacent to sensitive areas and direct activities not compatible with sensitive areas resources to less ecologically sensitive sites and mitigate unavoidable adverse impacts to sensitive areas by regulating alterations in and adjacent to sensitive areas; and

E. To prevent cumulative adverse environmental impacts to sensitive areas resulting from many individual actions.

F. To place the highest level of protection on what has been identified the "Core" and "Headwater Areas".

19.10.020 Applicability and Jurisdiction

A. This chapter shall apply to all uses, activities, and developments undertaken within or adjacent to one or more sensitive areas and their ecosystems, including buffers as designated herein. Sensitive areas designated and regulated by this chapter include:

1. Wetlands
2. Fish and wildlife conservation areas
3. Geologically hazardous areas.
4. Critical aquifer recharge areas
5. Frequently flooded areas

B. The jurisdiction of this chapter includes all development that may have adverse impacts on sensitive areas within the city and their buffers.

1. An inventory of designated sensitive areas is maintained by the City and has been mapped on the Black Diamond Sensitive Areas Maps, as amended or supplemented. Those maps are resources for the identification of the probable location, extent and classification of sensitive areas. Such information may be used by the mayor or his/her designee as a basis for applying the provisions of this code, including requiring field investigation and special reports. In the event of a conflict between information contained in the Sensitive Areas Maps and information relating to the criteria by which Sensitive Areas are defined, including information resulting from a field investigation, the latter shall prevail. Preparation and maintenance of such documents and maps shall not create liability on the part of the City of Black Diamond or any officer or employee thereof for any damages that result from reliance on said maps.
2. Any area within the city meeting the definition of one or more sensitive area, regardless of any formal mapping, identification or delineation, are hereby designated as sensitive areas and are

subject to the provisions of this chapter.

19.10.030 Relationship to other Regulations

A. These sensitive areas regulations shall apply as an overlay and in addition to zoning and other regulations adopted by the city.

B. Any sensitive area or buffer subject to another type of sensitive area shall be provided the buffer and meet the requirements that provide the most protection to the sensitive areas involved.

C. These sensitive areas regulations shall be applied concurrently with review required under other city codes for development and use and the State Environmental Policy Act (SEPA), and any conditions required pursuant to this chapter shall be included in the review of development or use permits, including SEPA review and threshold determination. If no other permits are required, a separate Sensitive Areas Permit is provided for in Section 19.10.120.B.3.

19.10.050 Mitigation

A. **Project Action.** Any project action taken pursuant to this chapter shall be mitigated and result in equivalent or greater functions and values of the sensitive areas associated with the proposed action.

B. **Proposed Action.** The design and development of a proposed action under this chapter must give special consideration to conservation or protection measures necessary to preserve or enhance anadromous fish, such as salmon, and their habitat.

C. **Mitigation sequencing.** All proposed actions and developments shall be designed to avoid, minimize, and/or restore all identified adverse impacts in the following order of preference:

1. Avoiding the impact altogether by not taking a certain action or parts of an action;
2. Minimizing adverse impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps, such as project redesign, relocation, or timing, to avoid or reduce impacts;
3. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment
4. Minimizing or eliminating a hazard by restoring or stabilizing the hazard area through engineered or other methods;
5. Reducing or eliminating the impact or hazard over time by preservation and maintenance operations during the life of the action;

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6. Compensating for the impact to by replacing, enhancing, or providing substitute resources or environments; and
7. Monitoring the impact and the required mitigation and taking corrective measures action when necessary.

19.10.060 Allowed activities.

The following activities are allowed under this chapter: The level of review shall be determined by the mayor or his/her designee and shall include (1) existing and compatible activities, (2) emergency actions, (3) activities requiring notification or (4) a full permit review through existing permits or the sensitive area review permit or the exception process. The allowed activities under each review process include:

A. **Existing and Compatible Activities:** The continuation of existing use and activities does not require prior review or approval. Review of expansion of existing use associated with new facilities shall be reviewed in accordance with non-conforming provisions in 19.10.170. Such activities include, but are not limited to:

1. **Operation, maintenance, or repair.** Operation, maintenance, or repair of existing legally established structures, infrastructure improvements, utilities, public or private roads, or drainage systems, that do not require construction permits, if the activity does not modify the character, scope, or size of the original structure or facility or increase the impact to, or encroach further within, the sensitive area or buffer and there is no increased risk to life or property as a result of the proposed operation, maintenance, or repair. Operation and maintenance includes vegetation management performed in accordance with best management practices that is part of ongoing maintenance of structures, infrastructure, or utilities, provided that such management actions are part of regular and ongoing maintenance, do not expand further into the sensitive area, are not the result of an expansion of the structure or utility, and do not directly impact an endangered or threatened species;
2. **Vegetation Management.** The following vegetation removal activities are allowed using hand labor and light equipment,

    a. The removal of non-native or noxious and invasive weeds; and

    b. Maintenance of existing, lawfully established landscaping and gardens within a regulated sensitive area or its buffer, including but not limited to, mowing lawns, weeding, removal of noxious and invasive species, harvesting and

replanting of garden crops, pruning and planting of ornamental vegetation or indigenous native species to maintain the condition and appearance of such areas as they existed prior to adoption of this code, provided that native growth protection areas, mitigation sites, or other areas protected via conservation easements or similar restrictive covenants are not covered by this exception.

3. **Outdoor activities.** Recreation, education, and scientific research activities that do not degrade the sensitive area, including such things as fishing, hiking, and bird watching.
4. **Forest Practices.** These practices are governed by a valid Forest Practices Permit granted by the Washington State Department of Natural Resources, except where:
    a. The lands have been or are proposed to be converted under a conversion option harvest plan to a use other than commercial forest product production as provided in chapter RCW 76.09.050 and RCW 76.09.240, or
    b. On lands which have been platted after January 1, 1960, as provided in RCW 76.09.050 and RCW 76.09.240.
5. **Agricultural activities.** Agricultural activities shall be subject to the provisions Chapter 19.12 of the Black Diamond Municipal Code. in effect prior to this amendment until July 1, 2010, pursuant to RCW 36.70A.560.
6. **Boundary markers.** Construction or modification of boundary markers.

B. **Emergencies.** Those activities necessary to prevent an immediate threat to public health, safety, or welfare, or that pose an immediate risk of damage to public or private property and that require remedial or preventative action in a time frame too short to allow for compliance with the requirements of this chapter may be undertaken without prior notification. The mayor or his/her designee shall be provided notification of action taken within two working days after work is initiated, except for city-wide or regional disasters. Mitigation for alteration of sensitive areas may be required and may require subsequent preparation of a sensitive areas report and appropriate permits for restoration. in accordance with the review procedures contained herein. Restoration and/or mitigation activities must be initiated within ninety (90) days of the date of the emergency, and completed in a timely manner;

C. **Actions Subject to Notification and Approval.** The following actions

that can be planned and programmed in advance require written notification to the mayor or his/her designee. If the Mayor or his/her designee does not respond within ten (10) days of notification, the activity is deemed approved. The notification must be in a format specified by the administrator to provide specific information describing the activity and the Best Management Practices proposed to minimize impacts on sensitive areas, as well as mitigation proposed. The Mayor or his/her designee may deny or impose conditions on proposed activities, or specify that an alternative review process is required. Such activities include:

1. **Minor site investigative work.** Work necessary for land use submittals, such as surveys, soil logs, percolation tests, and other related activities, where such activities do not require construction of new roads or displacement of more than 10 cubic yards of material. Investigations involving displacement of more than 10 cubic yards of material, including geotechnical soil borings, groundwater monitoring wells, percolation tests, and similar activities shall require submittal of specific plans and restoration plans. In every case, impacts to the sensitive area shall be minimized and disturbed areas shall be immediately restored; and
2. **Minor utility projects.** Utility projects that have minor or short-duration impacts to sensitive areas, as determined by the mayor or his/her designee in accordance with the criteria below, and which do not significantly impact the function or values of the sensitive area(s); provided, that such projects are constructed with best management practices and additional restoration measures are implemented. Minor activities shall not result in the transport of sediment or increased stormwater. Such allowed minor utility projects shall meet the following criteria:
    a. There is no practical alternative to the proposed activity with less impact on sensitive areas;
    b. The activity involves the placement of a utility pole, street signs, anchor, or vault or other small component of a utility facility; and
    c. The activity involves disturbance of an area less than 75 square feet.
3. **Activities within the improved right-of-way:** Replacement, modification, installation, or construction of new utility facilities, lines, pipes, mains, equipment, or appurtenances, not including substations, when such facilities are located within the improved portion of the public right-of-way or a city authorized private roadway (road surface, shoulder, sidewalks, and fill slopes not

characterized by re-establishment of trees in excess of 4 inches in diameter); except, those activities that alter a wetland or watercourse, such as culverts or bridges, or result in the transport of sediment or increased stormwater. All activities are subject to the following:

a. Sensitive area and/or buffer widths shall be increased, where possible, equal to the area of disturbance; and,

b. Retention and replanting of native vegetation shall occur wherever possible along the right-of-way improvement and resulting disturbance

4. **Hazardous Tree Removal** The removal of trees from sensitive areas and buffers that are hazardous, posing a threat to public safety, or posing an imminent risk of damage to private property can be conducted in accordance with the BDMC 19.30 provided that:

a. All vegetation cut (tree stems, branches, etc.) shall be left within the sensitive area or buffer unless removal is warranted due to the potential for disease or pest transmittal to other healthy vegetation or due to the potential for a public safety hazard;

b. The landowner shall replace any trees that are removed with new trees in accordance with an approved restoration plan within at a ratio that will lead to re-establishment of ecological functions of water cycle, erosion control, hade and habitat. Replacement plantings generally will consist of replanting of the area within the drip line of the removed tree and include either one gallon containers at a minimum triangular spacing of 5 feet, five gallon containers at a minimum triangular spacing of 8 feet, or at a minimum a ratio of two replacement trees for each tree removed (2:1) of trees a minimum of six 4 to 6 feet in height for deciduous trees and 6 to 12 feet for evergreens as measured from the top of the root ball. Restoration plantings must be installed within the next feasible growing season and in no case more than one (1) year from removal. A performance security may be required to assure implementation. Replacement trees shall be species that are native and indigenous to the site;

c. If a tree to be removed provides sensitive habitat, such as an eagle perch, a qualified wildlife biologist shall be consulted to determine timing and methods or removal that will

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minimize impacts. Compliance with state and federal requirements may be required, and;

5. Removal of vegetation or woody debris from a wildlife conservation area or wetland due to the potential for disease or pest transmittal to other healthy vegetation or due to the potential for a fire or other public safety hazard, or as a necessary part of an approved alteration;
6. Measures to control a fire or halt the spread of disease or damaging insects consistent with the state Forest Practices Act, Chapter 76.09 RCW, provided that the removed vegetation shall be replaced in-kind or with similar native species within one (1) year in accordance with an approved restoration plan.
7. Activities undertaken to comply with a United States Environmental Protection Agency superfund related order, or a Washington Department of Ecology order pursuant to the Model Toxics Control Act that specifically preempts local regulations in the findings of the order. Provided that an action that requires compliance with the purpose and intent of local regulations may require a submittal of sensitive area reports and may be processed as a sensitive areas permit.
8. Activities and facilities for restoration and enhancement of ecological functions of sensitive areas and related resources upon approval of a restoration and mitigation plan by all other relevant agencies in accordance with a watershed restoration project pursuant to RCW 89.08.460, a Salmonid Recovery Plan, or Salmon Recovery Board Habitat Project List, or identified by the Washington Department of Fish and Wildlife as essential for fish and wildlife habitat enhancement pursuant to RCW 77.55.290.

D. All actions that do not meet the criteria above must be approved in accordance with sensitive areas review integrated with other required permits or by a sensitive areas permit.

19.10.080 Exceptions

A. **Agricultural activities.** The provisions of this sensitive areas ordinance shall not apply to agricultural activities. "Agricultural activities" shall mean agricultural uses and practices existing or legally allowed on rural land or agricultural land designated under RCW 36.70A.170, as currently enacted or hereafter amended, including but not limited to: producing, breeding, or increasing agricultural products; rotating and changing agricultural crops; allowing land used for agricultural activities to lie fallow in which it is plowed and tilled but left unseeded; allowing land used for agricultural activities to lie dormant as a result of adverse

agricultural market conditions; allowing land used for agricultural activities to lie dormant because the land is enrolled in a local, state, or federal conservation program, or the land is subject to a conservation easement; conducting agricultural operations; maintaining, repairing, and replacing agricultural equipment or facilities, when the facility is no closer to a critical area than the original facility; and maintaining agricultural lands under production or cultivation.

B. **Essential public facility.** If the application of this chapter would prohibit a development proposal by a public agency or public utility that is essential to providing a public service, or if the application of this chapter would deny all reasonable economic use of the subject property by the property owner, then the agency or utility or property owner may apply for an exception pursuant to this Section.

C. **Exception request and review process.** An application for a public agency, public utility or reasonable use exception shall be made to the city and shall include a sensitive area identification form; sensitive area report, including mitigation plan, if necessary; and any other related project documents, such as permit applications to other agencies, special studies, and environmental documents. The mayor or his/her designee shall prepare a recommendation to the Hearing Examiner, except for the provisions for a non-conforming single family lot as provided in Subsection E. below, based on review of the submitted information, a site inspection, and the proposal's ability to comply with the applicable public agency and utility exception review criteria in Subsection (D) below.

D. **Hearing Examiner review.** The Hearing Examiner shall review the application, except for the provisions for a non-conforming single family lot as provided in Subsection E. below, consider the recommendation of the mayor or his/her designee, and consider public testimony at a public hearing. The Hearing Examiner shall approve, approve with conditions, or deny the request based on the proposal's ability to comply with all of the applicable exception criteria in Subsection (D).

E. **Exception review criteria.** The criteria for review and approval of a requested exception are as follows:

1. Public agencies and public utilities exception:

   a. There is no other practical alternative to the proposed development with less impact on the sensitive areas;

   b. The application of this chapter would unreasonably restrict the ability to provide utility services to the public;

   c. The proposal does not pose an unreasonable threat to the public health, safety, or welfare on or off the development proposal

site;

d. The proposal attempts to protect and mitigate adverse impacts to the sensitive area functions and values; and

e. The proposal is consistent with other applicable regulations and standards.

2. Private property reasonable use exception:

a. The application of this chapter would deny all reasonable economic use of the property;

b. No other reasonable economic use of the property has less impact on the sensitive area;

c. The proposed impact to the sensitive area is the minimum necessary to allow for reasonable economic use of the property;

d. The inability of the applicant to derive reasonable economic use of the property is not the result of actions by the applicant after the effective date of this chapter, or its predecessor;

e. The proposal does not pose an unreasonable threat to the public health, safety, or welfare on or off the development proposal site;

f. The proposal will result in no net loss of sensitive area functions and values; and

g. The proposal is consistent with other applicable regulations and standards.

3. Reasonable Use Exception for Non-Conforming Single Family Lots

a. A reasonable use exception may be approved administratively by the mayor or his/her designee for non-conforming single family residential lots within a subdivision filed within five years previous to the adoption of provisions of this code that render them non-conforming in compliance with RCW 58.17.17, or other lots or parcels under contiguous ownership and less than 20,000 square feet in size that are not subject to landslide hazard areas and associated buffers, shall be subject to the following standards, in conformance with the provisions for a reasonable use exception in subsection (D)(2) (c) through (g) and in accordance with the following criteria:

b. Non-conforming lots with an area of 2,500 square feet or more

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available for a building area unrestricted by sensitive areas or buffers shall comply with the standards of this chapter. The building area means the entire area that will be disturbed to construct a structure with a 10-foot setback containing an allowed use and normal appurtenances, including parking and landscaping.

c. Non-conforming lots that do not meet the requirement of subsection b, above, shall provide the maximum setback and buffer dimension feasible while providing for a building envelope, including 10-foot setback, to a maximum of 2,500 square feet on the lot. The building area shall generally be located on the portion of the lot farthest from the required sensitive area or buffer and/or the least-sensitive portion of the lot.

d. The area between the structure and the sensitive area should be maintained or planted in native trees and understory vegetation.

e. The mayor or his/her designee shall approve, approve with conditions, or deny the request based on the proposal's ability to comply with all of the applicable exception criteria in Subsection (D)(2)(c) through (g).

19.10.100 Sensitive Area Determination and Reports

BDMC 19.10.100 though BDMC 19.10.140 pertain to sensitive areas determination and reports.

19.10.110 Sensitive Area Pre-Application Meeting

Any person preparing to submit an application for development or use of land that may be regulated by the provisions of this chapter is encouraged to conduct a consultation meeting with the mayor or his/her designee prior to submitting an application for development or other approval. At this meeting, the Mayor or his/her designee shall discuss the requirements of this chapter; provide sensitive area maps, scientific information, and other source materials maintained by the city; outline the review process; and work with the applicant to identify any potential concerns that might arise during the review process, as well as discussing the need for other permit approvals and their procedures.

19.10.120 Sensitive Area Permit Review

A. **Integration with Other Permits.** The approval or denial of an activity or modification within a sensitive area shall be integrated with the review required by any other permit. The decision shall be made by the decision-maker prescribed by the underlying permit, provided that the mayor or his/her designee shall prepare a written analysis that may be in checklist

form, for compliance with sensitive area standards and criteria. The review process will be integrated with the review of the underlying permit. Public notice is required only if required by the underlying permit.

B. **Separate Permit Review.** If no other permit or approval is required, or for approval of allowed uses listed in Section 19.10.060, or for review of sensitive areas jurisdiction as provided in C.1 below, the Mayor or his/her designee may approve a separate sensitive areas permit. Submittal requirements may be modified to address the specific proposal. Fees shall be in accordance with the city fee schedule. Review shall be administrative. If variation in standards for any sensitive area is proposed, public notice shall be provide as provided for a variance in the zoning code. Sensitive area reviews include:

1. **Emergencies.** Notification of emergency actions taken where there is imminent danger to persons of property requiring that action must take place within 48 hours do not require prior approval. Such notification shall describe work performed and sensitive areas and buffers disturbed. The mayor or his/her designee may:

    a. Administratively approve the emergency action taken with no further action required;

    b. Administratively approve restoration activities that do not require other permits or approvals. A sensitive areas report and/or mitigation plan may be required.

    c. Direct the applicant to apply for other required permits or approvals for required restoration activities.

2. **Actions Subject to Notification and Approval.** Actions that can be planned and programmed in advance, including repair or replacement of utility facilities that do not require other permits or approval shall be subject to notification and administrative review. The mayor or his/her designee shall specify requirements for submittal requirements to address information required on the presence of sensitive areas, description of the activity proposed, and description of the BMPs proposed. The Mayor or his/her designee may approve said work and impose conditions upon finding that no substantive impact on sensitive area functions and values will occur. Notification shall be submitted at least ten (10) full business days prior to initiating work. Approvals may be granted for up to one year per activity provided that there is no change in the scope of the project including, but not limited to, the location and/or extent of the activity allowed under the notification process.

3. **Sensitive Area Permit.** Projects that may have substantial impacts on sensitive area functions, but do not require other permits may be reviewed by the mayor or his/her designee as a sensitive area permit subject to all submittal and review criteria and standards of this section. Jurisdiction determinations can be made for projects requiring other permits or approvals, however review of the proposal must take place in conjunction with other review required

C. **Sensitive Areas Jurisdiction Decision**. At the time of, or prior to the city's consideration of any proposed activity, the applicant shall submit to the department a completed sensitive area determination on a form provided by the city.

1. **Review.** Upon receipt of a project application and a sensitive area determination form, the mayor or his/her designee shall review available sensitive area maps and data and conduct a site inspection to review sensitive area conditions on site if needed. The administrator and/or his designee make a determination as to whether any sensitive areas may be affected by the proposal and if a sensitive areas report will be required based on the following indicators:

   a. Indication of a sensitive area on the city sensitive areas maps that may be impacted by the proposed activity;

   b. Information and scientific opinions from appropriate agencies, including but not limited to the departments of Fish and Wildlife, Natural Resources, and Ecology;

   c. Documentation, from a scientific or other reasonable source, of the possible presence of a sensitive area; or

   d. A finding by a qualified professional or a reasonable belief by the mayor or his/her designee that a sensitive area may exist on or adjacent to the site of the proposed activity.

2. **Determination decisions.**

   a. **No sensitive areas present.** If, after a site visit, the analysis by the mayor or his/her designee indicates that the project area is not within or adjacent to a sensitive area or buffer and that the proposed activity is unlikely to degrade the functions or values of a sensitive area, then the mayor or his designee shall rule that the sensitive area review is complete and note on the determination form the reasons that no further review is required. A summary of this information shall be included in any staff report or decision on the underlying permit.

b. **Sensitive areas present, but no impact – report waiver**. If the mayor or his/her designee determines that there are sensitive areas within or adjacent to the project area, but that the proposed activity is outside of required buffer areas and is unlikely to degrade the functions or values of the sensitive area, the administrator may waive the requirement for a sensitive area report. A summary of this analysis and the findings shall be included in any staff report or decision on the underlying permit. A waiver may be granted if there is substantial evidence that all of the following requirements will be met:

i. The boundaries and classification of the sensitive area and associated buffers can be reliably determined without a technical study, and there will be no alteration of the sensitive area or buffer;

ii. The development proposal will not adversely impact the sensitive area in a manner contrary to the purpose, intent, and requirements of this chapter; and

iii. The proposal is consistent with other applicable regulations and standards.

c. **Sensitive areas may be affected by proposal.** If the mayor or his/her designee determines that a sensitive area or areas may be adversely affected by the proposal, then the administrator shall notify the applicant that a sensitive areas report must be submitted prior to further review of the project, and indicate each of the sensitive area types that should be addressed in the report.

d. Sensitive area jurisdiction decisions shall be final unless, unknown information is brought to the attention of the mayor or his/her designee.

19.10.130 Sensitive Area Reports

A. **Preparation by qualified professional.** Sensitive area reports shall be prepared by a qualified professional(s) having expertise in the specific sensitive area category(s) that are the subject of the report.

B. **Use of existing documents.** Unless otherwise provided and as approved by the mayor or his designee, a sensitive area report may be supplemented by or composed, in whole or in part, of any reports or studies required under other laws and regulations or previously prepared for and applicable to the development proposal site.

C. **Modifications to report requirements.**

1. **Limitations to study area.** The required geographic area of the sensitive area report may be limited as appropriate if:

    a. The applicant, with assistance from the city, cannot obtain permission to access properties adjacent to the project area; or

    b. The proposed activity will affect only a limited part of the subject site.

2. **Modifications to required contents.** The applicant may consult with the mayor or his/her designee prior to or during preparation of the sensitive area report to obtain city approval of modifications to the required contents of the report where, in the judgment of a qualified professional, more or less information is required to adequately address the potential adverse impacts and required mitigation.

3. **Additional information requirements.** The mayor or his/her designee may require additional information to be included in the sensitive area report if necessary for the city to adequately review the proposed activity in accordance with this chapter.

D. **Minimum report contents**. At a minimum, the report shall contain the following information:

1. The name and contact information of the applicant, a description of the proposal, and identification of the permit requested;

2. A copy of the site plan for the development proposal including:

    a. A map to scale depicting sensitive areas and buffers, and any areas to be cleared;

    b. Extent of the project area for the proposed activity;

    c. Topographic elevations at two (2) foot intervals for the sensitive area and its buffer, and at five (5) foot intervals for the remainder of the project site;

    d. Location of existing and proposed structures, and areas for storage of materials;

    e. A description of the proposed stormwater management plan and facilities for the development and consideration of adverse impacts to drainage alterations.

3. The dates, names, and qualifications of the persons preparing the report and documentation of any fieldwork performed on the site;

4. Identification and characterization of all sensitive areas and

buffers, water bodies, and floodplains within 300 feet of the proposed project area;

5. Detailed description of vegetation in and adjacent to the project area and its associated buffer;
6. A statement documenting sources of best available science and all assumptions made and relied upon;
7. A description of reasonable efforts made to apply mitigation in the order of preference as stipulated in Section 19.10.050;
8. If required, plans for adequate mitigation to offset any adverse impacts, in accordance with 19.10.140, and including, but not limited to:
    a. The adverse impacts of any proposed development within or adjacent to a sensitive area or buffer on the sensitive area; and
    b. The adverse impacts of any proposed alteration of a sensitive area or buffer on the development proposal, other properties and the environment.
9. A discussion of the performance standards applicable to the sensitive area and proposed activity; and
10. Proposed financial guarantees to ensure compliance.

E. Additional information requirements for specific sensitive areas. In addition to the report requirements listed above in Section 19.10.130(D), the minimum information specific to each sensitive area category shall also be required.

F. The City maintains the authority to call for a third party, independent review, paid for by the applicant, if a disagreement exists in the content of the sensitive area report.

19.10.140 Mitigation Plans.

A. **Requirements.** When mitigation is required, the applicant shall submit for approval by the city, a mitigation plan as part of the sensitive area report. The mitigation plan shall include:

1. A description of the anticipated adverse impacts to the sensitive areas and the mitigating actions proposed and the purposes of the compensation measures (if applicable), including the site selection criteria; identification of compensation goals; identification of resource functions; and dates for beginning and completion of site compensation construction activities. The goals and objectives shall be related to the functions and values of the impacted sensitive area;

2. A review of the best available science supporting the proposed mitigation; and
3. Specific information requirements and criteria are provided below for each sensitive area.

B. **Plan criteria.** The mitigation plan shall include measurable specific criteria for evaluating whether or not the goals and objectives of the mitigation project have been successfully attained and whether or not the requirements of this chapter have been met.

C. **Plan specifications.** The mitigation plan shall include written specifications and descriptions of the mitigation proposed, such as (and if applicable):
   1. Specific calculations of the area of impact and mitigation area utilized;
   2. The proposed construction sequence, timing, and duration;
   3. Grading and excavation details;
   4. Erosion and sediment control features;
   5. A planting plan specifying plant species, quantities, locations, size, spacing, and density; and
   6. Measures to protect and maintain plants until established.

   These written specifications shall be accompanied by detailed site diagrams, scaled cross-sectional drawings, topographic maps showing slope percentage and final grade elevations, and any other drawings appropriate to show construction techniques or anticipated final outcome.

D. **Monitoring program.** The mitigation plan shall include a program for monitoring construction of the proposed mitigation or compensation project and for assessing the completed project. A protocol shall be included outlining the schedule for site monitoring (for example, monitoring shall occur during the construction of the development and also in years 1, 3, and 5 after final acceptance of the project by the City), and how the monitoring data will be evaluated to determine if the performance standards are being met. A monitoring report shall be submitted as needed to document milestones, successes, problems, and contingency actions of the project. After final acceptance of the project by the City, the mitigation efforts shall be monitored for a period necessary to establish that performance standards have been met, but not for a period less than three (3) years. Specific more detailed information requirements and criteria are provided below for each sensitive area.

E. **Contingencies.** The mitigation plan shall include identification of potential courses of action, and any corrective measures to be taken if

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monitoring or evaluation indicates project performance standards are not being met.

F. **Financial guarantees.** The mitigation plan shall include proposed financial guarantees, if necessary, to ensure that the mitigation plan is fully implemented. Financial guarantees ensuring fulfillment of the compensation project, monitoring program, and any contingency measures shall be posted with the city at the time of the first grading, clearing, or construction permit in the amount as provided below

1. Performance Surety. The applicant shall post a cash performance bond, letter of credit, or other security acceptable to the city in the amount of one hundred and twenty five percent (125%) of the estimated cost of the uncompleted actions or the estimated cost of restoring the functions and values of the sensitive area that are at risk, whichever is greater. The surety shall be based on an itemized cost estimate of the mitigation activity including clearing and grading, plant materials, plant installation, irrigation, weed management, monitoring, and other costs. The conditions of the surety shall be consistent with the purposes of this chapter and the conditions to be fulfilled. In the event of a breach of any condition of any such bond, the city may institute an action in a court of competent jurisdiction upon such bond and prosecute the same to judgment and execution. The city shall release the bond upon determining that:

   a. All activities, including any required compensatory mitigation, have been completed in compliance with the terms and conditions of the permit and the requirements of this chapter;

   b. Upon the posting by the applicant of a maintenance surety.

2. Maintenance and Monitoring Surety. The city shall require the holder of a development permit issued pursuant to this chapter to post a cash performance bond, letter of credit, or other security acceptable to the city in an amount and with surety and conditions sufficient to guarantee that structures, improvements and mitigation required by the permit and by this Chapter are performed satisfactorily, including performing required maintenance during the monitoring period identified in section 19.10.140.D that follows final acceptance of the development by the city. The city shall release the maintenance bond upon determining that performance standards established for evaluating the effectiveness and success of the structures, improvements and/or compensatory mitigation have been satisfactorily met for

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the required period. For compensation projects, the performance standards shall be those contained in the mitigation plan developed and approved during the permit review process. The maintenance bond applicable to a compensation project shall not be released until the city determines that performance standards established for evaluating the effect and success of the project have been met. The mayor or his/her designee may return up to 25% of the surety following the first year of monitoring provided that the year 1 performance standards are met and the risk of subsequent failure is considered low.

3. Depletion, failure, or collection of surety funds shall not discharge the obligation of an applicant or violator to complete required mitigation, maintenance, or monitoring.
4. Public development proposals may be relieved from having to comply with the surety requirements of this section if public funds have been committed through a budget process wit final approval for mitigation, maintenance, or monitoring.

G. **Mitigation Banking.** The City may approve mitigation banking as a form of compensatory mitigation for wetlands and fish and wildlife habitat conservation area impacts when the provisions of this chapter require mitigation and when it is clearly demonstrated that the use of a mitigation bank will provide equivalent or greater replacement of sensitive area functions and values when compared to conventional on-site mitigation, provided that all of the following criteria are met:

1. Mitigation banks shall only be used when they provide significant ecological benefits including long-term conservation of sensitive areas, important species, habitats and/or habitat linkages, and when they are consistent with the City's Comprehensive Plan and create a viable alternative to the piecemeal mitigation for individual project impacts to achieve ecosystem-based conservation goals.
2. The mitigation bank shall be established in accordance with the Washington State Draft Mitigation Banking Rule WAC 173-700 or as revised, and RCW 90.84 and the federal mitigation banking guidelines as outlined in the Federal Register Volume 60. No 228, November 28, 1995. These guidelines establish the procedural and technical criteria that banks must meet to obtain state and federal certification.
3. Preference shall be given to mitigation banks that implement restoration actions that have been identified in an adopted Shoreline Restoration Plan, watershed planning document prepared and adopted pursuant to RCW 90.82, a Salmonid Recovery Plan or

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project that has been identified on the Salmon Recovery Board Habitat Project List or by the Washington Department of Fish and Wildlife as essential for fish and wildlife habitat enhancement.

4. Mitigation banks shall be used for mitigation of impacts to wetlands and wildlife habitat areas within the Lake Sawyer watershed except in cases where the mayor or his/her designee determine that mitigation is not feasible within the Lake Sawyer watershed.

19.10.150 Notice on Title

A. **Recording of restriction.** The owner of any property containing sensitive areas on which a development proposal is approved shall file with the mayor or his/her designee and provide a copy of the filed notice to the city, unless notice is provided on a plat as provided in B, below. The notice shall:

1. State the presence of the sensitive area and/or buffer area on the property, and identify that there are limitations and restrictions on uses and actions in or affecting the sensitive area and/or buffer imposed by this code and by the provisions of the sensitive areas code and specific conditions of approval. The notice shall indicate that the restrictions run with the land and may be altered only in conjunction with amendment of this chapter or amendment of specific conditions of approval as provided by this chapter.
2. Provide that management of the sensitive area is required to include, but is not limited to, maintenance or replacement of vegetation to assure the long-term viability of a community of native vegetation, control of invasive plant control, and fulfillment of other conditions of approval.
3. Provide for the right of the public, and specifically the City of Black Diamond, to enforce the terms of the restrictions through civil infraction or other legal address.
4. If a site plan has been approved indicating the extent of the sensitive area and buffer and permit conditions, a copy of the site plan together with relevant survey information and permit conditions shall be included in the notice filed.

B. **Plats and Short Plats**. Restrictions on use and development of sensitive areas buffers and setback areas on plats and short plats shall include the information in A, above, shall designate the party responsible for maintenance of the sensitive area, if other than the property owner, and shall place sensitive areas in tracts or easements as provided below:

1. Designation of separate tracts for sensitive areas and buffers shall

be the preferred method of designation and protection of sensitive areas in plats to provide for integrated management of the sensitive area and buffer separately from lots. The tract may be:

a. Held in an undivided interest by each owner of a building lot within the development, the ownership of which shall pass with the ownership of the lot. Responsibility for meeting all requirements of preservation and management shall be designated to an incorporated homeowner's association or other legal entity that assures the ownership and protection of the sensitive area.

b. Dedicated to the City of Black Diamond or other governmental entity qualified to own and manage open space as soon as any mitigation and monitoring requirements have been completed by the applicant.

c. Conveyed to a non-profit land trust, provided the land may not be thereafter transferred to a private party, and provided that if the land trust is dissolved or otherwise fails to perform its functions, ownership and responsibility for management shall devolve to an undivided interest by each owner of a building lot within the development, as provided in a., above.

2. The mayor or his/her designee may allow a sensitive area and buffer to be placed within a protective easement on a parcel with the responsibility for meeting all requirements of preservation and management placed on the owner of the parcel over which the easement is placed. This means of designation shall be used in cases where the size and the ecological functions of the sensitive area do not require coordinated management or where formation of an incorporated homeowner's association or other legal entity for management is found to be impractical because of the limited number of lots, or where ownership and management by the City, a qualified special district or a land trust is found to be impractical. This alternative generally will be limited to sensitive areas and buffers of less than 20,000 square feet and developments of fewer than ten (10) parcels, or non-residential or multi-family development.

C. This notice on title shall not be required for a development proposal by a public agency or public or private utility within a right-of-way or easement for which they do not have fee-simple title.

D. The applicant shall submit proof that the notice, dedication or easement has been filed for public record before the City shall approve any final plat

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or final site plan for such site. The notice shall run with the land and failure to provide such notice to any purchaser prior to transferring any interest in the property shall be a violation of this section.

19.10.160 Building Setbacks

A. Buildings and other structures shall be set back a sufficient distance to assure that disturbance to sensitive area vegetation and soils is avoided during construction, maintenance and use.

B. Buildings and other structures shall be set back a distance of ten (10) feet from the edges of all sensitive area buffers or from the edges of all sensitive areas if no buffers are required, provided that the mayor or his/her designee may modify the building setback based on specific development plans that document that construction techniques, maintenance needs and use will not disturb sensitive areas or buffer.

C If slopes adjacent to the buffer for wetlands or water bodies exceed 15 percent, including slopes created by grading, a swale installed on the outside edge of the buffer or other engineered solution shall be installed sufficient to intercept surface water movement.

D. The following facilities and uses are allowed in the building setback:

1. Landscaping, including rockeries not over 42 inches high provided construction does not alter the buffer or sensitive area;
2. Uncovered decks, platforms, porches and similar projections not over 42 inches high;
3. Building eaves, cornices, chimneys and similar projections;
4. Impervious surfaces such as driveways, parking lots, roads, and patios provided that such surfaces conform to applicable water quality standards and that construction equipment does not enter the buffer or sensitive area;
5. Clearing and grading consisting of not over 42 inches of cut or fill.
6. Fences, in accordance with local convents and other design standards.
7. Small utility projects

19.10.170 Non-conforming development

The following provisions shall apply to lawfully established uses, buildings and/or structures that do not meet the specific standards of this Program.

A. Nonconforming uses shall be governed in accordance with the provisions of the zoning code or in accordance with the Shoreline Master Program subject to additional provisions in this chapter. Such use may not be altered or expanded except in compliance with standards provided in said

codes.

B. Nonconforming structures, facilities and developments damaged by fire or other cause shall be governed in accordance with the provisions of the zoning code or in accordance with the Shoreline Master Program subject to additional provisions in this chapter.

C. Alteration of existing structures or facilities may require modification to sensitive areas or buffers, in accordance with this section and other provisions of this code.

1. **Minor alteration or renovation** shall be defined as alteration or renovation of any structure, or making other improvements, that result in any of the following:

   a. Expansion of floor area by up to 500 square feet, or by up to 10 percent, whichever is less; or

   b. Expansion of impervious surface by up to 1,000 square feet, or by up to 10 percent, whichever is less; or

   c. Remodeling or renovation that equals less than 50 percent of the value of the existing structures or improvements, excluding plumbing, electrical and mechanical systems.

   Minor alteration may require compliance with specific performance standards of this code.

2. **Moderate alteration or renovation** shall be defined as the alteration or renovation of any structure, or making other improvements, that result in any of the following:

   a. Expansion of floor area by 500 square feet or more, or by more than 10 percent but less than 50 percent, whichever is less; or

   b. Expansion of impervious surface by more than 1,000 square feet, or by more than 10 percent but less than 50 percent, whichever is less; or

   c. Remodeling or renovation equal to or greater than 50 percent but less than 100 percent of the value of the existing structures or improvements, excluding plumbing, electrical and mechanical systems.

   Moderate alteration may require compliance with specific performance standards of this code.

3. **Substantial alteration or redevelopment** shall be defined as alteration or renovation of any structure, or making other improvements, that result in any of the following:

   a. Expansion of floor area by 50 percent or more, or the expansion of impervious surface by 50 percent or more; or

b. Remodeling or renovation equal to or exceeding 100 percent of the value of the existing structures or improvements, excluding plumbing and mechanical systems.

Such substantial reconstruction shall be considered the same as new construction and shall fully comply with the provisions of this code.

D. **Buffer adjustment based on existing lot depth.** The mayor or his/her designee may vary buffer dimensions on existing lots under contiguous ownership to take into consideration the existing depth of lots, measured perpendicular from the boundary of the wetland or stream or other sensitive area. Buffers on such lots may be adjusted up to the following, provided that this shall not apply to a geological hazard area unless all applicable design and other standards are met.

1. Lot depth less than 100 feet – buffers may be adjusted to utilize no more than 40% of lot depth, or as necessary to provide a buildable area outside the buffer no less than 40 feet deep, provided that a minimum buffer is not less than 25 feet or 50% of the distance between an existing primary building and the edge of the wetland or stream or other sensitive area.

2. Lot depth 100 feet to 150 feet – buffers may be adjusted to utilize no more than 50% of lot depth or 50% of the distance between an existing primary building and the edge of the wetland or stream or other sensitive area.

3. Lot depth 150 to 200 feet – buffers may be adjusted to utilize no more than 60% of lot depth or 60% of the distance between an existing primary building and the edge of the wetland or stream or other sensitive area.

4. Lot depth 200 feet to 250 feet – buffers may be adjusted to no more than 65% of lot depth or 65% of the distance between an existing primary building and the edge of the wetland or stream or other sensitive area.

4. Lot depth 250 feet to 300 feet – buffers may be adjusted to utilize no more than 70% of lot depth or 70% of the distance between an existing primary building and the edge of the wetland or stream or other sensitive area.

5. All other provisions for design and management of buffer areas and adjacent land shall apply, provided that allowed uses in buffer areas may be restricted to reduce impacts on ecological functions and values.

19.10.180 Administration

A. The mayor or his/her designee shall have the authority to adopt administrative rules as deemed necessary consistent with the provisions of this chapter and that are necessary for the implementation of sensitive area regulations.

B. The mayor or his/her designee shall have a right to enter upon any property at reasonable times and to make such inspections as are necessary to determine compliance with the provisions of this chapter or the conditions imposed pursuant to this chapter. The City shall make a reasonable effort to locate the owner or persons in charge and notify them of the times and purposes of required entry.

C. The mayor or his/her designee is further authorized to take such actions as may be necessary to enforce the provisions of this chapter including but not limited to the civil infraction, abatement and criminal penalties provided in Black Diamond Municipal Code.

D. The city's enactment or enforcement of this chapter shall not be construed for the benefit of any individual person or group of persons other than the general public.

19.10.190 Appeals

A. An aggrieved party may appeal a decision of the city granting or denying a permit that is subject to the appeal process provided for the underlying permit.

B. For a sensitive areas permit where no other permit is provided, an appeal may be filed pursuant to the provisions for administrative appeal in the zoning code.

19.10.200 Wetlands

BDMC 19.10.205 to BDMC 19.10.240 pertain to wetlands.

19.10.210 Designation, rating, and mapping wetlands

Wetlands in Black Diamond are designated and classified in accordance with the following provisions:

A. **Designating wetlands.** Wetlands are those areas designated in accordance with the requirements of RCW 36.70A.175 and 90.58.380 and the *Washington State Wetland Identification and Delineation Manual (1997)*. All areas meeting the criteria in manual regardless of mapping or other identification are designated sensitive areas and are subject to the provisions of this chapter.

B. Wetlands shall be rated based on categories that reflect the functions and values of each wetland.

1. **Core Wetland and Stream Complex.** The wetland complex associated with Rock Creek, Jones Lake, Jones Creek, Black Diamond Lake, Black Diamond Creek, and Ravensdale Creek are designated as the Core Stream and Wetland Complex. The general boundaries of the area affected are designated within the Best Available Science Document, Technical Appendix B, provided that the dimensions of the area shall be defined by the field verified wetland boundaries and the buffers defined in Section 19.10.230.

2. **Headwaters Wetlands.** The wetland complex associated with the headwaters of Ginder Creek, Lawson Creek and Ravensdale Creek are defined as headwaters wetlands. The general boundaries of the area affected are designated within the Best Available Science Document, Technical Appendix B, provided that the dimensions of the area shall be defined by the field verified wetland boundaries and the buffers defined in Section 19.10.230.

3. **Other Wetlands.** All other wetlands are rated according the following categories based on the criteria provided in the Washington State Wetland Rating System for Western Washington, revised August 2004 (Ecology Publication #04-06-025). These categories are generally defined as follows.

    a. Category I Wetlands. Category I wetlands are those wetlands of exceptional value in terms of protecting water quality, storing flood and storm water, and/or providing habitat for wildlife as indicated by a rating system score of 70 points or more. These are wetland communities of infrequent occurrence that often provide documented habitat for sensitive, threatened or endangered species, and/or have other attributes that are very difficult or impossible to replace if altered.

    b. Category II Wetlands. Category II wetlands have significant value based on their function as indicated by a rating system score of between 51 and 69 points. They do not meet the criteria for Category I rating but occur infrequently and have qualities that are difficult to replace if altered.

    c. Category III Wetlands. Category III wetlands have important resource value as indicated by a rating system score of between 30 and 50 points.

    d. Category IV Wetlands. Category IV wetlands are wetlands of limited resource value as indicated by a rating system score of less than 30 points. They typically have vegetation of

similar age and class, lack special habitat features, and/or are isolated or disconnected from other aquatic systems or high quality upland habitats.

C. **Illegal modifications.** Wetland rating categories shall not change due to illegal modifications.

D. **Mapping.** The approximate location and extent of identified wetlands are shown on the Black Diamond Sensitive Areas Map(s). These maps are to be used as a guide for the city, project applicants, and/or property owners, and may be continuously updated as mapped wetlands become more specifically delineated and new wetlands (if any) are identified. They are a reference and do not provide a final sensitive area designation.

19.10.220 Uses and activities allowed in wetlands and adjacent lands.

The activities listed below are allowed in wetlands in addition to those activities listed in, and consistent with, the provisions and activities established in Section 19.10.060, and 19.10.120 Sensitive area permit review

A. Activities and facilities that do not require prior review or approval, provided, that were the mayor or his/her designee determines such activities may result in a loss of functions and values of a wetland or its buffer the provisions of (B) or (C) shall apply. These activities include:

1. Outdoor recreational or educational activities directly related to the cultural, recreational, scientific and educational aspects of the wetland and buffer and that do not remove vegetation or otherwise affect the function of the wetland or buffer (including wildlife management, viewpoints, outdoor scientific or interpretive facilities, and sports fishing) that have a minimal adverse impact may be permitted within a Category II, III, or IV wetlands or their buffers and may be permitted only within the buffer of a Category I wetland the buffer of a wetland in the Core Complex or the buffer of a Headwaters Wetland.
2. Conservation or preservation of soil, water, vegetation, fish, shellfish, and other wildlife that does not entail changing the structure or functions of the existing wetland.
3. The harvesting of crops in a manner that is not injurious to natural reproduction of such crops and provided the harvesting does not require tilling of soil, planting of crops, chemical applications, or alteration of the wetland by changing existing topography, water conditions, or water sources may be permitted within a Category II, III, or IV wetlands or their buffers and may be permitted only within the buffer of a Category I wetland the buffer of a wetland in the Core Complex or the buffer of a Headwaters Wetland.

4. Enhancement of a wetland through the removal of non-native invasive species. Weeding shall be restricted to hand removal and weed material shall be removed from the site. Bare areas that remain after weed removal shall be re-vegetated with native shrubs, and trees at natural densities. Some hand seeding may also be done over the bare areas with native grasses.

B. Actions that can be planned and programmed in advance requiring notification and review in accordance with Section 19.10.060.B.2.

1. Drilling for utilities under a Category II, III, or IV wetland and buffer provided that the drilling does not interrupt the groundwater connection to the wetland or percolation of surface water down through the soil column. Specific studies by hydrologist are necessary to determine whether the groundwater connection to the wetland or percolation of surface water down through the soil column is disturbed. Staging areas shall be located outside the wetland buffer.

2. Overhead utility lines may cross a Category II, III, or IV wetland provided that the line spans the wetland with no poles or other supports within the wetland. Poles may be placed in Category II, III, or IV wetland buffers.

3. Trails may be permitted within a Category II, III, or IV wetlands or their buffers and may be permitted only within the buffer of a Category I wetland, the buffer of a wetland in the Core Complex or the buffer of a Headwaters Wetland if the following criteria are met:

   a. Trails are limited to buffer areas except for limited area of pile supported trail sections or viewing areas may be placed within Category II, III and IV wetlands for interpretive purposes.

   b. Trails shall not exceed 4 feet in width and shall be surfaced with wood chips, gravel or other pervious material, including boardwalks.

   c. The trail or facility is located in the outer fifty percent (50%) of the Category II, III and IV buffer and the outer 25% of the buffer of a Category I wetland, the buffer of a wetland in the Core Complex or the buffer of a Headwaters Wetland, except for limited placement closer to the wetland edge or within a Category II, III and IV wetland for interpretive purposes as provided above.

   d. The trail or facility is constructed and maintained in manner

that minimizes disturbance of the wetland or buffer. Trails or facilities within wetlands should be placed on an elevated structure as an alternative to fill.

e. Any adverse impacts on wetland functions and values are mitigated in accordance with Section 19.10.240.

C. Uses and activities that shall be reviewed by a full permit process include:

1. Drilling for utilities under a wetland or buffer in the Core Complex, within a Headwaters Wetland or buffer or a Category I wetland or buffer, may be permitted if the following criteria are met:

a. There is no reasonable location or route outside the wetland or wetland buffer based on analysis of system needs, available technology and alternative routes. Location within a wetland buffer shall be preferred over a location within wetlands.

b. The drilling does not interrupt the groundwater connection to the wetland or percolation of surface water down through the soil column. Specific studies by hydrologist are necessary to determine whether the groundwater connection to the wetland or percolation of surface water down through the soil column is disturbed.

c. Staging areas are located outside the wetland buffer.

d. Impacts on wetland functions are mitigated in accordance with Section 19.10.240.

2. Overhead utility lines that cross a wetland or buffer in the Core Complex, within a Headwaters Wetland or buffer or a Category I, II, III, or IV wetland or buffer, with no poles or other supports within the wetland

a. There is no reasonable location or route outside the wetland or wetland buffer based on analysis of system needs, available technology and alternative routes. Location within a wetland buffer shall be preferred over a location within a wetland.

b. Clearing, grading, and excavation activities are limited to the minimum necessary to install the utility line, and the area is restored following utility installation.

c. Impacts on wetland functions are mitigated in accordance with Section 19.10.240.

3. Linear utilities and facilities such as water and sewer lines providing local delivery service, but not including non-linear facilities such as electrical substations, water and sewage pumping stations, water storage tanks, and not including petroleum products pipelines and not including transformers or other facilities containing hazardous substances, may be located in Category II, III, and IV wetlands and their buffers and the buffer of a Category I wetland, the buffer of a wetland in the Core Complex or the buffer of a Headwaters Wetland if the following criteria are met:

   a. There is no reasonable location or route outside the wetland or wetland buffer based on analysis of system needs, available technology and alternative routes. Location within a wetland buffer shall be preferred over a location within a wetland.

   b. The utility line is located as far from the wetland edge as possible and in a manner that minimizes disturbance of soils and vegetation.

   c. Clearing, grading, and excavation activities are limited to the minimum necessary to install the utility line, which may include boring, and the area is restored following utility installation.

   d. Buried utility lines shall be constructed in a manner that prevents adverse impacts to subsurface drainage. This may include the use of trench plugs or other devices as needed to maintain hydrology.

   e. Impacts on wetland functions are mitigated in accordance with Section 19.10.240.

4. Public and private roadways and railroad facilities, including bridge construction and culvert installation, and access to private property may be permitted in wetlands or their buffers, if the following criteria are met:

   a. There is no reasonable location or route outside the wetland or wetland buffer based on analysis of alternative routes including through the provisions of RCW 8.24. Location within a wetland buffer shall be preferred over a location within a wetland. Location in a Category II, III, and IV wetlands or their buffers shall be preferred over location in a Category I wetland or its buffer, a wetland in the Core Complex or its buffer, or a Headwaters Wetland or its buffer.

   b. Facilities in the buffer parallel to the wetland edge shall be

located as far from the wetland edge as possible.

c. Clearing, grading, and excavation activities are limited to the minimum necessary, which may include placement on elevated structures as an alternative to fill, where feasible.

d. Disturbance of soils and vegetation shall be minimized;

e. Impacts on wetland functions are mitigated in accordance with Section 19.10.240.

5. Storm water detention/retention ponds are not permitted in a wetland buffer. However, storm water conveyance or discharge facilities such as dispersion trenches, level spreaders, and outfalls may be permitted within a wetland buffer, but only if the following criteria are met:

a. Due to topographic or other physical constraints, there are no feasible locations for these facilities to discharge to surface water through existing systems or outside the buffer.

b. Locations and designs that infiltrate water shall be preferred for Category I, II, III, or IV wetland buffer over a design that provides for pipelines or surface discharge across the buffer or into the wetland. Only infiltration facilities are allowed within the buffer of a wetland in the Core Complex, or the buffer of a Headwaters Wetland and only when no trees of greater than 4 inches in diameter are disturbed.

c. A hyrdoperiod analysis is conducted and no impact is demonstrated by the study.

d. The discharge into a Category I, II, III, or IV wetland is located as far from the wetland edge as possible and in a manner that minimizes disturbance of soils and vegetation and avoids long-term rill or channel erosion. Surface water discharge into a wetland in the Core Complex or a Headwaters Wetland is prohibited unless analysis demonstrates that infiltration is not feasible because of inherent features such as soil type.

6. On-site sewage disposal system conventional drainfields may be permitted in the outer 25 percent of a Category II, III and IV wetland buffer when accessory to an approved residential structure, if the following conditions are met:

a. It is not feasible to connect to a public sanitary sewer system;

b. There is no reasonable location outside the wetland buffer

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based on analysis of conditions within the contiguous property owned by the applicant;

c. The facility is located as far from the wetland edge as possible and is designed and constructed in a manner that minimizes disturbance of soils and vegetation, and no trees in excess of 4 inches in diameter are removed or disturbed;

d. Clearing, grading, and excavation activities are limited to the minimum necessary and the area is restored following installation.

e. A hyrdoperiod analysis is conducted and no impact is demonstrated by the study.

D. Development of adjacent land shall minimize adverse effects on the wetland, and shall include the following standards:

1. Fencing and appropriate sensitive area signage as dictated by the most recent version of the City of Black Diamond's design standards shall be provided at the perimeter of any development or land use activity.

2. Activities that generate noise shall be located as far from the wetland and buffer as feasible. Roads, driveways, and parking lots for other than park and recreation facilities, as well as loading areas, mechanical or ventilating equipment shall be located on sides of buildings away from the wetland.

3. Light penetration into buffer areas and wetlands shall be limited. All exterior lighting shall be designed, placed, shielded and\or directed so that no light directly shines or intrudes into the wetland, stream or any sensitive.

4. Management of surface runoff from adjacent land shall minimize adverse effects on wetland ecological functions and shall include:

a. Control of surface water peak flow and duration of flow should be maintained at rates typical of native forest cover;

b. Low impact development measures shall be incorporated to the maximum extent feasible, including but not limited to:

(i) Site design to maximize preservation of existing patterns of overland water flow and of groundwater interflow;

(ii) Vehicle and pedestrian circulation systems that minimize alteration of topography and natural hydrologic features and processes through following the natural contours, of the land.

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(iii) Road location and circulation patterns shall reduce or eliminate stream crossings and encroachment on sensitive areas and their buffers;

(iv) Utilities consolidated within roadway and driveway corridors to avoid additional clearing for multiple corridors.

(v) Layout of lots and or structures to minimize alteration of existing topography, disturbance to soils and native vegetation,

(vi) Runoff should be routed to infiltration systems, to the maximum extent feasible, to provide groundwater interflow recharge to wetlands and/or water bodies and to limit overland flow and erosion.

(1) Use of permeable pavement

(2) Dispersion of runoff into areas that permit infiltration

(3) Engineered facilities designed for bioretention and infiltration ranging from swales to ponds to tree wells to engineered wetlands.

c. Surface or piped stormwater should be routed to existing conveyances or to other areas, wherever hydraulic gradients allow. Where stormwater is routed to wetlands, system design shall assure that erosion and sedimentation will be avoided to the maximum extent feasible.

d. To prevent channelized flow from lawns and other landscaped areas from entering the buffer, and to prevent washing of fertilizers, herbicides and pesticides into the buffer, if slopes adjacent to the buffer exceed 15%, a 10 foot wide swale to intercept runoff shall be provided at the edge of the buffer or other effective surface water interception design approved by the mayor or his/her designee.

e. Adopt and implement an integrated pest management system including limiting use of fertilizers, herbicides and pesticides within 25 feet of the buffer of Category III, or IV wetland, within 50 feet of the buffer of a Category I, II, or Headwaters wetland, and within 100 feet of the buffer of a wetland in the Core Complex.

19.10.230 Wetland Buffers

A. **Wetland buffers.** Buffer requirements contained in this section shall

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apply to all wetlands designated in this chapter and all proposed mitigation sites. Except as otherwise provided for in this chapter, all wetland buffers shall be maintained in an undisturbed or enhanced condition.

B. **Core Wetland Complex buffers** shall be a minimum of 225 feet for all wetlands within the core area, except for the north side of the Rock Creek complex between Roberts Drive and State Route 169 where the buffer shall be a minimum of 185 feet, provided that

1. The buffer may be extended further :

   a. If land within and adjacent to the buffer has a slope in excess of thirty percent (30%) the buffer shall extend at least 25 feet beyond the top of the 30% slope, and

   b. If land within and adjacent to the buffer is designated a landslide hazard, the buffer shall extend at least to the extent of the buffer designated in Section 19.10.410.B.

2. If a Category III or IV wetland is located within the outer 50% of the buffer of a wetland designated as part of the Core Wetland Complex, and does not have a surface hydrologic connection to the core complex, the buffers for that wetland shall be the standard wetland buffer in Subsection D, below.

C. **Headwaters Wetland buffers** shall be a minimum of 225 feet for all wetlands.

D. **Other Wetlands—Standard buffer widths.** The standard buffer widths presume the existence of a relatively intact mature native vegetation community (relative density of 20 or greater) in the buffer zone adequate to protect the wetland functions and values at the time of the proposed activity. If the vegetation is inadequate, then the buffer width shall be increased or the buffer shall be planted to maintain the standard width. **The minimum buffer requirements assume that adjacent land use meets the conditions outlined in section 19.10.220.D,** in accordance with the Department of Ecology's Guidance on Wetlands in Washington State (2005), Volume 2 – Protecting and Managing wetlands, Appendix 8C (moderate intensity land use)**.** Required standard wetland buffers based on wetland category are as follows:

Buffer Dimensions for other wetlands (Moderate intensity)

Wetland Category	Wetland Characteristics	Minimum Buffer Width

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Category IV	All	40 feet
Category III	Moderate level of function for habitat (score for habitat 20 – 28 points)	110 feet
	Not meeting above characteristic	60 feet
Category II	High level of function for habitat (score for habitat 29 – 36 points)	225 feet
	Moderate level of function for habitat (score for habitat 20 – 28 points)	110 feet
	High level of function for water quality improvement and low for habitat (score for water quality 24-32 points; habitat less than 20)	75 feet
	All others	75 feet
Category I	National Heritage Wetlands	190 feet
	Bogs	190 feet
	Forested	Based on score for habitat or water quality
	High level of function for habitat (score for habitat 29 – 36 points)	225 feet
	Moderate level of function for habitat 20 – 28 points)	110 feet
	High level of function for water quality improvement (24	75 feet

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	– 32 points) and low for habitat (less than 20 points)	
	All others	75 feet

E. **Measurement of wetland buffers.** All buffers shall be measured from the wetland boundary as surveyed in the field. The width of the wetland buffer shall be determined according to the wetland category. The required buffer should be extended to include any adjacent regulated wildlife habitat area, landslide hazard areas and/or erosion hazard areas and required buffers. Buffers shall not be extended across existing human features that functionally and effectively separate the potential buffer from ecological functions of the resource, and shall include hardened surfaces including improved roads or other lawfully established structures or surfaces, or the developed portions of lots, under separate ownership, lying between the habitat area and the subject property, unless restoration of buffer functions on such property is or may reasonably be expected to be the subject of a permit condition or an adopted public plan. The buffer for a wetland created, restored, or enhanced as compensation for approved wetland alterations shall be the same as the buffer required for the category of the created, restored, or enhanced wetland. Only fully vegetated buffers will be considered. Lawns, walkways, driveways and other mowed or paved areas will not be considered buffers.

F. **Vegetation Management.** In order to maintain effective buffer conditions and functions, a vegetation management plan shall be required for all buffer areas, to include:

1. Maintaining adequate cover of native vegetation including trees and understory; if existing tree cover is less than a relative density of 20, planting shall be required consisting of a density of 300 seedlings per acre or the equivalent;
2. Provide a dense screen of native evergreen trees at the perimeter of the buffer. Clearing of existing second growth forest generally results in trees with little canopy at or near the ground level.
    a. Core Wetland and Stream Complex buffers generally will require interplanting among existing trees within an area of thirty to fifty feet to provide for regeneration of native species and prevent the establishment of invasive species.
    b. Other wetland buffers will require plantings if existing vegetation is not sufficient to prevent viewing adjacent

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development from within the buffer or penetration of light and glare into the buffer or to prevent establishment of invasive species.

c. Planting specifications generally shall consist of as many rows of the following units as required to accomplish the management objectives:

i) Two rows of 3' high stock of native evergreens at a triangular spacing of 15 feet, or

ii) Three rows of gallon containers at a triangular spacing of 8 feet.

3. Fencing may be required in order to separate sensitive areas from developed areas.

4. Provide a plan for control of invasive weeds, and remove existing invasive species;

5. Provide for a monitoring and maintenance plan for a period of at least five (5) years, except this provision may be waived for single family residential lots.

6. Vegetation management plans for all wetlands may provide for preservation of view corridors from existing single family residences by the placement of new vegetation in a manner that frames views, provided that the same density is maintained and key functions such as shading for temperature attenuation and habitat functions are maintained.

G. **Increased wetland buffer widths.** The mayor or his/her designee shall require increased buffer widths in accordance with the recommendations of an experienced, qualified professional wetland scientist, and the best available science on a case-by-case basis when a larger buffer is necessary to protect wetland functions and values based on site-specific characteristics. This determination shall be based on one or more of the following criteria:

1. A larger buffer is needed to protect other sensitive areas;

2. The buffer or adjacent uplands has a slope greater than fifteen percent (15%) or is susceptible to erosion and standard or proposed erosion-control measures will not prevent adverse impacts to the wetland.

H. **Wetland buffer width averaging.** The mayor or his/her designee may allow modification of the standard wetland buffer width in accordance with an approved sensitive area report and the best available science on a case-by-case basis by averaging buffer widths. Averaging of buffer

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widths may only be allowed where a qualified professional wetland scientist demonstrates that:

1. Averaging to improve wetland protection may be permitted when all of the following conditions are met:

    a. The wetland contains variations in sensitivity due to existing physical characteristics or the character of the buffer varies in slope, soils, or vegetation, and the wetland would benefit from a wider buffer in places and would not be adversely impacted by a narrower buffer in other places;

    b. Buffer averaging will not reduce wetland functions or functional performance;

    c. The total area contained in the buffer area after averaging is no less than that which would be contained within the standard buffer; and all increases in buffer dimension for averaging are generally parallel to the wetland edge;

    d. The buffer width at its narrowest point is not reduced to less than 50 percent (50%) of the standard width and in no case less than thirty-five (35) feet.

2. Averaging to allow reasonable use of a parcel may be permitted when all of the following criteria are met:

    a. There are no feasible alternatives to the site design that could be accomplished without buffer averaging;

    b. The buffer averaging does not reduce the functions or values wetland, or the buffer averaging, in conjunction with vegetation enhancement or other measures increases the wetland function;

    c. The total area contained in the buffer area after averaging is no less than that which would be contained within the standard buffer and all increases in buffer dimension for averaging are generally parallel to the wetland edge;

    d. The buffer at its narrowest point is never less than 1/2 of the required width except where the mayor or his/her designee finds that there is an existing feature such as a roadway that limits buffer dimension, or an essential element of a proposed development such as access that must be accommodated for reasonable use and requires a smaller buffer.

3. The width reduction may not be located within another sensitive area or associated buffer unless criteria for averaging said buffer

are also addressed and approved.

4. Buffer averaging may not be approved when buffer transfer is approved in accordance with subsection H, above.

I. **Buffer enhancement for changes to existing uses.** As provided in section 19.10.170, buffer vegetation shall be enhanced at the time of redevelopment or improvements on non-conforming lots as provided below; for substantial redevelopment, buffer width may be reduced as indicated:

1. Minor alteration or renovation of existing development:

   a. Buffer vegetation enhancement shall be either 50% of buffer standard or 50% of existing structure setback from wetland, whichever is less.

   b. Buffer area shall be fenced and signs posted.

2. Moderate alteration or renovation of existing development:

   a. Buffer vegetation enhancement shall be either 70% of buffer standard or 60% of existing structure setback from wetland, whichever is less.

   b. Buffer area shall be fenced and signs posted.

3. Substantial alteration or redevelopment:

   a. Buffer dimension shall be 100% of standard, *provided,* if the standard buffer dimension exceeds the existing setback as measured from the edge of the primary building, the buffer may be reduced to ninety percent (90%) of the existing setback from the primary building to the edge of the sensitive area.

   b. Buffer vegetation enhancement shall be 100% of standard.

   c. Buffer area shall be fenced and signs posted.

19.10.235 Provisions for Small Isolated Wetlands

A. All wetlands shall be regulated regardless of size, provided that the mayor or his/her designee shall assure that preservation of isolated wetlands and associated buffers of less than ten thousand (10,000) square feet of combined wetland and buffer shall maintain effective wetland functions, or be mitigated as provided below.

B. Wetlands and associated buffers of less than one thousand (1,000) square feet may be displaced when the wetland meets all of the following criteria, as documented in a wetland sensitive area study:

1. The wetland is not associated with a riparian corridor; and

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2. The wetland is not part of a wetland mosaic; and
3. The wetland does not contain habitat identified as essential for local populations of priority species identified by Washington Department of Fish and Wildlife.
4. Impacts of displaced wetlands shall be mitigated pursuant to Section 19.10.240.

C. Category 3 and 4 wetlands between 1,000 and 4,000 square feet may be displaced without meeting the provisions of Section 19.10.240 regarding avoidance, minimization, rectification, and reducing and eliminating the impact over time, provided that the criteria in subsection B, above, are met and the wetland does not score 20 points or greater for habitat in the 2004 Western Washington Rating System.

D. Preservation of isolated wetlands with a total area of the combined wetland and buffer of 10,000 square feet or less shall meet the following provisions, or if the said provisions cannot be demonstrated, the mayor or his/her designee may permit such a wetland to be displaced and mitigated as specified in Section 19.10.240.

1. Depressional wetlands recharged only by precipitation, interflow or groundwater shall be assured a source of recharge through stormwater infiltration, or other means, to maintain the wetland's hydrologic character.
2. Wetlands that have a potential to reduce flooding or erosion, or have the potential and opportunity to maintain or improve water quality as evidenced by a score of at least 10 points on the applicable criteria of the Wetland Rating Form for Western Washington, shall maintain a hydraulic connection to surface water that maintains effective wetland function for flood or erosion reduction or water quality and does not substantially alter the existing hydroperiod of the wetland.
3. Wetlands that achieve a score of at least 20 points on the Habitat Functions criteria of the Wetland Rating Form for Western Washington shall maintain a connection to a linear corridor maintained as a stream buffer, a buffer associated with a geological hazard or other designated open space buffer sufficient to allow movement of terrestrial wildlife to and from the wetland and buffer complex without interruption by roads, paved areas or buildings within fifty (50) feet.

19.10.240 Mitigation Requirements

A. **Mitigation plan.** A mitigation plan that achieves equivalent or greater

biologic functions will be required for all proposed wetland alterations or to mitigate unavoidable adverse impacts to the wetland functions and values resulting from a proposed action. Mitigation plans shall be prepared consistent with the minimum requirements of Section 19.10.140 and Subsection.

B. **Compensatory mitigation.** As a condition of any permit allowing alteration of a wetland and/or wetland buffer, or as part of an enforcement action, an applicant may be required to provide restoration, creation or enhancement of wetlands and their buffers to offset unavoidable adverse impacts resulting from the applicant's or violator's actions.

1. Compensation areas shall be determined according to the function, acreage, type, location, time factors, ability to be self sustaining and probability of project success.
2. Restored or created wetlands should have a higher function and value than the altered wetland.
3. Compensatory projects shall be completed immediately after the activities that will disturb wetlands and prior to use or occupancy, unless otherwise agreed to within the permit application. Construction of compensatory projects shall be timed to reduce adverse impacts to existing wildlife and flora.

C. **Type and location of mitigation.**

1. Unless it is demonstrated that a higher level of ecological functioning would result from an alternate approach, compensatory mitigation for ecological functions shall be either in-kind and on-site, or in-kind and within the same stream reach, or sub-basin. Mitigation actions shall be conducted within the same sub-drainage basin and on the same site as the alteration except when the all of the following apply:

    a. There are no reasonable on-site or in subdrainage basin opportunities or on-site and in-subdrainage basin opportunities do not have a high likelihood of success, after a determination of the natural capacity of the site to mitigate for the impacts. Consideration should include: anticipated wetland mitigation replacement ratios, buffer conditions and proposed widths, hydrogeomorphic classes of on-site wetlands when restored, proposed flood storage capacity, potential to mitigate riparian fish and wildlife.

    b. Off-site mitigation has a greater likelihood of providing equal or improved wetland functions than the impacted wetland; and

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c. Off-site locations shall be in the same sub-drainage basin unless established watershed goals for water quality, flood or conveyance, habitat, or other wetland functions have been established and strongly justify location of mitigation at another site.

2. In kind compensation shall be provided where feasible. The applicant may provide out-of-kind compensation provided:

   a. Out -of-kind replacement will result in a wetland with greater functional value; or

   b. Scientific problems such as exotic vegetation and changes in watershed hydrology make in-kind compensation impractical.

3. Mitigation actions that require compensation by replacing, enhancing, or substitution shall occur in the following order of preference:

   a. Restoring wetlands on upland sites that were formerly wetlands (also called re-establishment).

   b. Creating wetlands where none previously existed on upland sites. The preferred sites are those that have been disturbed such that vegetative cover consists primarily of non-native introduced species. Creation of wetlands in areas of mature native vegetation should be avoided when the habitat and other values of the site would be lost. Creation on upland sites should only be attempted when there is a consistent source of hydrology and it can be shown that the surface and subsurface hydrologic regime is conducive for the wetland community that is being designed.

   c. Restoration of wetland functions in an existing wetland area that is significantly degraded (also called rehabilitation). This may be done in combination with restoration or creation. Such enhancement should be part of a mitigation package that includes replacing the impacted area meeting appropriate ratio requirements.

   d. Enhancement of some wetland functions in an existing wetland that may reduce other functions

D. **Mitigation ratios.** The following ratios apply to the different categories of compensation:

	Wetland Mitigation Type and Replacement Ratio*

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Wetland Category	Reestablish-ment	Creation	Re-habilitation	Enhancement Only
Category IV	1.5:1	1.5:1	2:1	3:1
Category III	2:1	2.1	3:1	4:1
Category II	3:1	3.1	4:1	6:1
Category I	6:1	6:1	8:1	Not allowed
Headwaters Wetlands	6:1	6:1	8:1	Not allowed
Core Wetland Complex	6:1	8:1	10:1	Not allowed

*Ratio is the replacement area: impact area.

1. Buffers shall be provided for wetland compensation sites as provided in Section 19.10.230, provided that the mayor or his/her designee shall have the same authority to modify and average widths.
2. The mayor or his/her designee may increase the replacement ratios to account for uncertainties as to the success of the restoration or creation or the time required for replacement wetlands to be effective. Such an increase will be based on the review of a sensitive area report prepared by a qualified professional.
3. In the case of off-site compensation the mayor or his/her designee may decrease the replacement ratios based on the review of a sensitive area report prepared by a qualified professional and upon findings reviewed by agencies with expertise that no net loss of wetland function or value is attained under a reduced compensation ratio; which in no case shall be less 75% of the values in the table above for the Core Wetland Complex and 50% of the values in the table above for other wetlands and in no case lower than 1.5:1.

E. Compensation for wetland buffer impacts shall occur at a minimum 1:1 ratio. Compensatory mitigation for buffer impacts shall include enhancement of buffers by planting native species, removing structures and impervious surfaces within buffers, and other measures in accordance with Subsection 19.10.140.F.

F. Wetlands enhancement as mitigation: Any applicant proposing to alter a wetland may propose enhancement of existing significantly degraded wetlands. Applicants proposing to enhance wetlands must produce a sensitive area report that identifies how enhancement will increase the functions of the degraded wetland and how this increase will adequately mitigate for the loss of wetland area and function at the impact site.

19.10.250 Wetland Mitigation Plan

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In addition to meeting the requirements of Section 19.10.140, a compensatory mitigation plan for wetland and wetland buffer impacts shall meet the following requirements:

A. The plan shall be based on applicable portions of the Washington State Department of Ecology's Guidelines for Developing Freshwater Wetland Mitigation Plans and Proposals, 2004 or other appropriate guidance document that is consistent with best available science.

B. The plan shall contain sufficient information to demonstrate that the proposed activities are logistically feasible, constructible, ecologically sustainable, and likely to succeed. Specific information to be provided in the plan shall include:

1. The rationale for site selection;
2. General description and scaled drawings of the activities proposed including, but not limited to, clearing, grading/excavation, drainage alterations, planting, invasive plant management, installation of habitat structures, irrigation, and other site treatments associated with the development activities and proposed mitigation action(s);
3. A description of the ecological functions and values that the proposed alteration will affect and the specific ecological functions and values the proposed mitigation area(s) shall provide, together with a description of required or recommended mitigation ratios and an assessment of factors that may affect the success of the mitigation program;
4. Overall goals of the plan, including wetland function, value, and acreage;
5. Description of baseline (existing) site conditions including topography, vegetation, soils, hydrology, habitat features (i.e., snags), surrounding land use, and other pertinent information;
6. Field data confirming the presence of adequate hydrology (surface and/or groundwater) to support existing and compensatory wetland area(s);
7. Nature of mitigation activities, including area of restored, created, enhanced and preserved wetland, by wetland type;
8. Detailed grading and planting plans showing proposed post-construction topography; general hydrologic patterns; spacing and distribution of plant species, size and type of proposed planting stock, watering or irrigation plans, and other pertinent information;
9. A description of site treatment measures including invasive species removal, use of mulch and fertilizer, placement of erosion and

sediment control devices, and best management practices that will be used to protect existing wetlands and desirable vegetation.

10. A demonstration that the site will have adequate buffers sufficient to protect the wetland functions into perpetuity.

C. Specific measurable performance standards that the proposed mitigation action(s) shall achieve together with a description of how the mitigation action(s) will be evaluated and monitored to determine if the performance standards are being met and identification of potential courses of action, and any corrective measures to be taken if monitoring or evaluation indicates that project performance standards are not being met. The performance standards shall be tied to and directly related to the mitigation goals and objectives.

D. Cost estimates for the installation of the mitigation program, monitoring, and potential corrective actions if project performance standards are not being met.

19.10.260 Wetland Mitigation Monitoring

A. All wetland mitigation projects shall be monitored for a period necessary to establish that performance standards have been met, but generally not for a period less than five (5) years after final acceptance by the city. Reports shall be submitted annually for the first three (3) years following construction and at the completion of years 5, 7, and 10 if applicable to document milestones, successes, problems, and contingency actions of the compensatory mitigation. The mayor or his/her designee shall have the authority to modify or extend the monitoring period and require additional monitoring reports for up to ten (10) years when any of the following conditions apply:

1. The project does not meet the performance standards identified in the mitigation plan.
2. The project does not provide adequate replacement for the functions and values of the impacted sensitive area.
3. The project involves establishment of forested plant communities, which require longer time for establishment.

B. Mitigation monitoring reports shall include information sufficient to document and assess the degree of mitigation success or failure as defined by the performance standards contained in the approved mitigation plan. Information to be provided in annual monitoring reports shall include the following:

1. Number and location of vegetation sample plots used to document compliance with performance standards;
2. Measurements of the percent survival of planted material, plant

cover, stem density, presence of invasive species, or other attributes;

3. For sites that involve wetland creation, re-establishment or rehabilitation, hydrologic observations of soil saturation/inundation as needed to demonstrate that a site meets the wetland hydrology criterion;
4. Representative photographs of the site;
5. A written summary of overall site conditions and recommendations for maintenance actions if needed;
6. Other information that the mayor or his/her designee deems necessary to ensure the success of the site.

19.10.300 Fish and Wildlife Conservation Areas

BDMC 19.10.300 through BDMC 19.10.340 pertain to fish and wildlife conservation areas.

19.10.310 Designation and Mapping

Fish and wildlife conservation areas in Black Diamond are designated and classified in accordance with the following provisions:

A. **Core Stream and Wetland Complex**. The streams, lakes, ponds and wetland complex associated with Rock Creek, Jones Lake, Jones Creek, Black Diamond Lake, Black Diamond Creek, and Ravensdale Creek are designated as the Core Stream and Wetland Complex. The general boundaries of the area affected are designated on Attachment A, provided that the dimensions of the area shall be defined by the field verified stream boundaries and the buffers defined in Section 19.10.325.

B. **Other fish and wildlife conservation areas**. Areas outside of the Core Stream and Wetland Complex include areas within the City which state or federally designated endangered, threatened, and sensitive species have a known primary association, including;

1. The Washington State Department of Fish and Wildlife Priority Habitats and Species Recommendations for Species and Habitats, for:
    a. Endangered species listed at WAC 232-12-014
    b. Threatened species listed at WAC 232-12-001
    c. Sensitive species listed at WAC 232-12-011;
2. Bald Eagle habitat pursuant to WAC 232-12-292
3. Endangered or threatened species listed in accordance with the federal Endangered Species Act together with the areas with which

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they have a primary association.

4. State natural area preserves and natural resource conservation areas including

    a. Department of Natural Resources (DNR) designated Natural Areas Preserves (NAP) and Natural Resource Conservation Areas (NECA);

    b. Washington Department of Fish and Wildlife (WDFW) designated Wildlife Recreation Areas (WRA);

5. Waters of the state as defined in RCW 77.55.011, and RCW 90.56.010 including shorelines of the state as defined in RCW 90.58.010;

6. Naturally occurring ponds under twenty acres and their submerged aquatic beds that provide fish or wildlife habitat;

7. Lakes, ponds, streams, and rivers planted with game fish by a governmental or tribal entity;

C. Habitats and species of local importance as may be determined by the city.

1. In order to nominate an area or a species to the category of Locally Important an individual or organization must:

    a. Demonstrate a need for special consideration based on:

        i. Declining population;

        ii. High sensitivity to habitat manipulation; or

        iii. Demonstrated commercial, recreational, cultural, or other special value;

    b. Propose relevant management strategies considered effective and within the scope of this Chapter; and

    c. Provide a map showing the species or habitat location(s).

2. Submitted proposals shall be reviewed by the City and may be forwarded to the State departments of Fish and Wildlife, Natural Resources, and/or other local, State, Federal, and/or Tribal agencies or experts for comments and recommendations regarding accuracy of data and effectiveness of proposed management strategies.

3. If the proposal is found to be complete, accurate, and consistent with the purposes and intent of this chapter, the City Planning Commission will hold a public hearing to solicit comment. Approved nominations will become designated locally important

habitats or species and will be subject to the provisions of this chapter.

D. **Mapping.** The approximate location and extent of known wildlife conservation areas are shown on the sensitive area maps. These maps are a reference and do not provide a final sensitive area designation.

19.10.320 Classification of fish and wildlife habitat conservation areas – Water bodies

A. **Core Stream and Wetland Complex**. The streams, lakes, ponds and wetland complex associated with Rock Creek, Jones Lake, Jones Creek, Black Diamond Lake, Black Diamond Creek, and Ravensdale Creek are designated as the Core Stream and Wetland Complex. The general boundaries of the area affected are designated on Attachment A, provided that the dimensions of the area shall be defined by the field verified stream boundaries and the buffers defined in Section 19.10.325.

B. **Other fish and wildlife conservation areas**. Streams outside of the Core Stream and Wetland Complex shall be designated in accordance with the Washington State Department of Natural Resources (DNR) stream type as provided in WAC 222-16-030 with the following revisions:

1. Type S Water - all waters, as inventoried as "shorelines of the state" under chapter 90.58 RCW and the rules promulgated pursuant to Chapter 90.58 RCW including periodically inundated areas of their associated wetlands.
2. Type F Water - segments of natural waters other than Type S Waters, which are within defined channels and periodically inundated areas of their associated wetlands or within lakes, ponds, or impoundments having a surface area of 0.5 acre or greater at seasonal low water and which in any case contain fish habitat.
3. Type Np Water - all segments of natural waters within defined channels that are perennial non-fish habitat streams. Perennial streams are waters that do not go dry any time of a year of normal rainfall. However, for the purpose of water typing, Type Np Waters include the intermittent dry portions of the perennial channel below the uppermost point of perennial flow.
4. Type Ns Water - all segments of natural waters within defined channels that are not Type S, F, or Np Waters. These are seasonal, non-fish habitat streams in which surface flow is not present for at least some portion of a year of normal rainfall and are not located downstream from any stream reach that is a Type Np Water. Ns Waters must be physically connected by an above-ground channel

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system to Type S, F, or Np Waters.

C. Non-fish habitat streams are those streams that have no known or potential use by anadromous or resident fish based on the stream character, hydrology and gradient, provided that human-made barriers shall not be considered a limit on fish use except when the mayor or his/her designee makes the following findings:

1. The human-made barrier is located beneath public infrastructure that is unlikely to be replaced and it is not feasible to remove the barrier without removing the public infrastructure, provided that the infrastructure is not identified for future modification in the capital facility or other plans of the public agency responsible for the infrastructure, and the facility will not exceed its design-life within the foreseeable future;
2. The human-made barrier is located beneath one or more occupied structures and it is not feasible to remove the barrier without removing the structure, and the structure is of a size and condition that removal or substantial remodel is not likely;
3. The human-made barrier is not identified for removal by a public agency or in an adopted watershed plan.

19.10.325 Fish and wildlife habitat conservation areas – Water bodies – Buffers

The mayor or his/her designee shall have the authority to require buffers from the edges of all streams in accordance with the following:

A. **Buffers required.** Buffers shall be established for activities adjacent to habitat areas as necessary to protect the integrity, functions and values of the resource. Buffer widths shall reflect the sensitivity of the species or habitat and the type and intensity of the adjacent human use or activity.

B. **Buffer purposes.** The buffer widths required by this section are based on scientific studies of the conditions necessary to sustain ecological functions and values to support anadromous and resident fish and presume the existence of a dense native vegetation community in the buffer zone adequate to protect the stream functions and values at the time of the proposed activity. Buffers of undisturbed native vegetation shall be required along all streams as provided below. The buffer shall extend landward from the top of the bank.

C. **Core Stream and Wetland Complex** buffers shall be a minimum of 225 feet for all streams within the core area, except for the north side of the Rock Creek complex between Roberts Drive and State Route 169 where the buffer shall be a minimum of 185 feet, provided that the buffer may be extended further if:

1. Land within and adjacent to the buffer has a slope in excess of

thirty percent (30%) the buffer shall extend at least 25 feet beyond the top of the 30% slope, and

2. Land within and adjacent to the buffer is designated a landslide hazard, the buffer shall extend at least to the extent of the buffer

D. **Other streams, standard buffer.** All other streams shall be provided the following buffers based on the Department of Natural Resources (DNR) water typing classification system as defined in Section 19.10.320.B.

Type	Buffer Width
Type S- all waters, as inventoried as "shorelines of the state" under the jurisdiction of the Shoreline Management Act, except associated wetlands, which shall be regulated in accordance with this chapter	25 feet
Type F - segments of natural waters other than Type S Waters	150 feet
Type Np - segments of natural waters that are perennial non-fish habitat streams.	100 feet
Type Ns - segments of natural waters within defined channels that are seasonal, non-fish habitat streams	50 feet

E. **Buffer measurement.** The buffer shall be measured landward horizontally on both sides of the water body from the ordinary high water mark as identified in the field perpendicular to the alignment of the stream or lake/pond bank. The required buffer shall be extended to include any adjacent regulated wetland(s), landslide hazard areas and/or erosion hazard areas and required buffers. Buffers shall not be extended across existing human features that functionally and effectively separate the potential buffer from ecological functions of the resource, and shall include hardened surfaces, including improved roads or other lawfully established structures or surfaces, or the developed portions of lots, under separate ownership, lying between the habitat area and the subject property, unless restoration of buffer functions on such property is or may reasonably be expected to be the subject of a permit condition or an adopted public plan.

F. **Buffers in conjunction with other sensitive areas.** Where other sensitive areas defined in this chapter fall within the water body buffer, the buffer area shall be the most expansive of the buffers applicable to any applicable sensitive area.

G. **Vegetation management**. In order to maintain effective buffer conditions and functions, a vegetation management plan shall be required for all buffer areas, to include the standards found in Subsection 19.10.230.F.

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H. **Buffer increase.** The mayor or his/her designee shall have the authority to increase the width of a stream buffer on a case-by-case basis when such increase is necessary to achieve any of the following:

1. Protect fish and wildlife habitat, maintain water quality, ensure adequate flow conveyance; provide adequate recruitment for large woody debris, maintain adequate stream temperatures, or maintain in-stream conditions.
2. Compensate for degraded vegetation communities or steep slopes adjacent to the stream.
3. Maintain areas for channel migration.
4. Protect adjacent or downstream areas from erosion, landslides, or other hazards.

I. **Water body buffer width transfer.**

1. The mayor or his/her designee may allow decreased widths with transfer of an equal area of buffer from water bodies not within the Core Stream and Wetland Complex to the buffers of the Core Stream and Wetland Complex in accordance with the table below provided the specific measures in (2) below are incorporated into the buffers and adjacent development,

Type	Buffer Width (feet) after Transfer
Type S	25 feet
Type F	100 feet
Type Np	50 feet
Type Ns	30 feet

2. The specific mitigation measures in Subsection 19.10.230.F.2 shall be incorporated into adjacent development in order to utilize the buffer dimensions specified in (1) above.

J. **Habitat buffer averaging.** The mayor or his/her designee may allow the recommended habitat area buffer width to be reduced in accordance when the applicant demonstrates to the satisfaction of the administrator that all the following criteria are met.:

1. Averaging to improve water body habitat protection may be permitted when all of the following conditions are met:
    a. The water body or buffer area has significant differences in characteristics that affect its habitat functions;
    b. Buffer averaging will not reduce stream or adjacent upland

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habitat functions or adversely affect salmonid habitat;

c. Buffer averaging is combined with other provisions to provide additional habitat protection, such as buffer vegetation enhancement;

d. The total area contained in the buffer area after averaging is no less than that which would be contained within the standard buffer and the buffer is increased adjacent to the higher-functioning area of habitat or more sensitive portion of the water body and decreased adjacent to the lower-functioning or less sensitive portion and all increases in buffer dimension for averaging are generally parallel to the stream OHWM;

e. The buffer area width is not reduced by more than twenty-five percent (25%) in any location.

2. Averaging to allow reasonable use of a parcel may be permitted when all of the following criteria are met:

a. There are no feasible alternatives to the site design that could be accomplished without buffer averaging;

b. The buffer averaging does not reduce the functions or values of the stream or riparian habitat, or the buffer averaging, in conjunction with vegetation enhancement, increases the habitat function;

c. The total area contained in the buffer area after averaging is no less than that which would be contained within the standard buffer and all increases in buffer dimension for averaging are generally parallel to the wetland edge;

d. The buffer at its narrowest point is never less than 75% of the required width except where the mayor or his/her designee finds that there is an existing feature such as a roadway that limits buffer dimension, or an essential element of a proposed development such as access that must be accommodated for reasonable use and requires a smaller buffer.

3. The buffer width reduction may not be located within another sensitive area or associated buffer unless criteria for averaging said buffer are also addressed and approved.

4. Buffer averaging may not be approved when buffer transfer is approved in accordance with subsection I, above.

K. Development of adjacent land shall minimize adverse effects on the

habitat area, and shall include the standards in Subsection 19.10.220.D.

L. **Buffer enhancement for changes to existing non-conforming lots.** As provided in section 19.10.170, buffer vegetation shall be enhanced at the time of redevelopment or improvements on non-conforming lots as provided below; for substantial redevelopment, buffer width may be reduced as indicated:

1. Minor Alteration of Existing Development:

   a. Buffer vegetation enhancement shall be either 50% of buffer standard or 50% of existing shoreline structure setback.

   b. Buffer area shall be fenced and signs posted.

2. Moderate Alteration of Existing Development:

   a. Buffer vegetation enhancement shall be either 70% of buffer standard or 60% of existing shoreline structure setback.

   b. Buffer area shall be fenced and signs posted.

3. Substantial Alteration or Redevelopment:

   a. Buffer dimension shall be 100% of standard, *provided*, if the standard buffer dimension exceeds the existing setback as measured from the edge of the primary building, the buffer may be reduced to ninety percent (90%) of the existing setback from the primary building to the edge of the sensitive area.

   b. Buffer vegetation enhancement shall be 100% of standard.

   c. Buffer area shall be fenced and signs posted.

   d. Existing bulkheads and docks shall be replaced with conforming structures.

19.10.328 Water bodies – Culvert Replacement

A. Culverts on public or private roads that are a barrier to fish movement shall be replaced at the time of major reconstruction, or if additional subdivision increases the number of lots served by the roadway by 20 percent or more. Replacement structures shall meet the standards of 19.10.330.C.10. This provision does not limit potential requirements for replacement under other statutes or treaty rights.

B. Stream sections not within public or private roads that are culverted or enclosed shall be replaced by an open channel at any time of moderate or substantial reconstruction of uses on the parcel lots is served.

19.10.330 Activities allowed in water bodies and habitat buffers.

The activities listed below are allowed in water bodies and habitat buffers in

addition to those activities listed in, and consistent with, the provisions and activities established in Section 19.10.060, in accordance with the review provisions below.

A. Activities and facilities that do not require prior review or approval and do not require submission of a sensitive area report, provided, that where the mayor or his/her designee determines such activities may result in a loss to the functions and values of a habitat area or its buffer the provisions of (B) or (C) shall apply. These activities include:

1. Outdoor recreational or educational activities directly related to the cultural, recreational, scientific and educational aspects of the habitat and that do not remove vegetation or otherwise affect the function of the wetland or regulated buffer (including wildlife management, viewpoints, outdoor scientific or interpretive facilities, hunting blinds, and sports fishing) and that have a minimal adverse impact on the buffer and wildlife area.
2. The harvesting of crops in a manner that is not injurious to natural reproduction of such crops and provided the harvesting does not require tilling of soil, planting of crops, chemical applications, or alteration of the wetland by changing existing topography, water conditions, or water sources.
3. Enhancement of a water body or buffer through the removal of non-native invasive species. Weeding shall be restricted to hand removal and weed material shall be removed from the site. Bare areas that remain after weed removal shall be re-vegetated with native shrubs, and trees at natural densities. Some hand seeding may also be done over the bare areas with native herbs.

B. Actions that can be planned and programmed in advance requiring notification and review in accordance with Section 19.10.060.B.2.

1. Drilling for a single linear utility under a type F, Np and Ns water body. Drilling under buffers is preferred. Cut and cover installation may be approved only when impacts to buffer vegetation is minimized and mitigated. Expansion of buffer area may be required to compensate for replacement of mature vegetation with replanting.
2. Installation of single overhead utility lines that span the water body with no poles or other supports within the water body. Poles may be placed in buffers provided that impacts to vegetation is minimized and mitigated. Expansion of buffer area may be required to compensate for replacement of mature vegetation with replanting.
3. Trails may be permitted within buffers if the following criteria are

met:

a. Trails are limited to buffer areas except for limited area of pile supported trail sections or viewing areas may be placed within water bodies outside the Core Complex for interpretive purposes.

b. Trails shall not be permitted in buffer areas reduced through transfer of other adjustment.

c. Trails shall not exceed 4 feet in width and shall be surfaced with wood chips, gravel or pervious material, including boardwalks;

c. The trail or facility is located in the outer twenty five of a buffer, except for limited placement closer to the waters edge or within the water body for interpretive purposes for water bodies other than in the Core Complex, as provided above;

c. The trail or facility is constructed and maintained in manner that minimizes disturbance of the water body or buffer. Trails or facilities within water bodies shall be placed on an elevated structure as an alternative to fill.

d. Any adverse impacts on habitat functions and values are mitigated in accordance with Section 19.10.340.

C. Uses and activities that shall be reviewed by a full permit process include:

1. Drilling for utilities under a water body in the Core Complex may be permitted if the following criteria are met:

a. There is no reasonable location or route outside the wetland or wetland buffer based on analysis of system needs, available technology and alternative routes. Location under a buffer shall be preferred over a location under a water body.

b. The drilling does not interrupt groundwater flow or recharge to the water body or percolation of surface water down through the soil column. Specific studies by hydrologist are necessary to determine whether the groundwater connection to the wetland or percolation of surface water down through the soil column is disturbed.

c. Staging areas are located outside the buffer.

d. Impacts on habitat functions are mitigated.

2. Overhead utility lines that cross a water body or buffer in the Core Complex with no poles or other supports within the water body. Poles may be placed in buffers.

a. There is no reasonable location or route outside the water body or buffer based on analysis of system needs, available technology and alternative routes. Location within a buffer shall be preferred over a crossing of a water body.

b. Clearing, grading, and excavation activities are limited to the minimum necessary to install the utility line, and the area is restored following utility installation.

c. Impacts on habitat functions are mitigated.

3. Linear utilities and facilities such as water and sewer lines providing local delivery service, but not including non-linear facilities such as electrical substations, water and sewage pumping stations, water storage tanks, and not including petroleum products pipelines and not including transformers or other facilities containing hazardous substances, may be located in the buffer of a Type F, NP and Ns stream. if the following criteria are met:

   a. There is no reasonable location or route that does not cross the water body or outside the buffer based on analysis of system needs, available technology and alternative routes. Location within a buffer shall be preferred over a location within a water body. Crossings shall be contained within the footprint of an existing road or utility crossing where possible.

   b. Impacts to fish and wildlife habitat shall be avoided to the maximum extent possible and mitigated when avoidance is not feasible in accordance with Section 19.10.340.

   c. Utilities that cross water bodies shall be as close to perpendicular to the channel as possible to minimize disturbance. Boring under the water body may be required.

   d. If not a crossing, the utility line shall be located as far from the water body as possible.

   e. The utility installation shall maintain the existing stream gradient and substrate.

   f. Clearing, grading, and excavation activities shall be limited to the minimum necessary to install the utility line, and the area is restored following utility installation.

4. Road, railroad and similar rights-of-way, including trails not meeting the criteria in B.3, above, provided they meet the following criteria:

a. There is no other feasible alternative route with less impact on the sensitive area or buffer.

b. The crossing minimizes interruption of natural processes such as the downstream movement of wood and gravel and the movement of all fish and wildlife. Bridges are preferred for all stream crossings and are required for crossings of the Core Complex. Bridges should be designed to maintain the existing stream gradient and substrate provide adequate horizontal clearance on each side of the ordinary high water mark and adequate vertical clearance above ordinary high water mark for animal passage. If a bridge crossing is not feasible, culverts shall be designed according to applicable state and federal guidance criteria for fish passage as identified in Fish Passage Design at Road Culverts, WDFW March 1999, and/or the National Marine Fisheries Service Guidelines for Salmonid Passage at Stream Crossings, 2000, (and subsequent revisions) and in accordance with a state Hydraulic Project Approval. The applicant or property owner shall maintain fish passage through bridge or culvert.

c. The city may require that existing culverts be removed, repaired, or modified as a condition of approval if the culvert is detrimental to fish habitat or water quality, and a feasible alternative exists.

d. Crossings shall be limited to the minimum width necessary. Common crossings are the preferred approach where multiple properties can be accessed by one crossing.

e. Access to private development sites may be permitted to cross streams, if there are no feasible alternative alignments. Alternative access shall be pursued to the maximum extent feasible, including through the provisions of RCW 8.24. Exceptions or deviations from technical standards for width or other dimensions, and specific construction standards to minimize impacts may be specified, including placement on elevated structures as an alternative to fill, if feasible.

f. Any adverse impacts on habitat functions and values are mitigated in accordance with Section 19.10.340.

5. Storm water detention/retention ponds are not permitted in a fish and wildlife habitat conservation buffer. However, storm water conveyance, discharge facilities such as infiltration systems dispersion trenches, level spreaders, and outfalls may be permitted

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in a fish and wildlife habitat conservation area buffer on a case-by-case basis when all of the following are met:

a. Due to topographic or other physical constraints there are no feasible locations for these facilities outside the buffer;

b. The discharge is located as far from the ordinary high water mark as possible and in a manner that minimizes disturbance of soils and vegetation.

c. The discharge outlet is in an appropriate location and is designed to prevent erosion and promote infiltration.

d. The discharge meets stormwater flow and water quality standard as provided in the 2005 Ecology Stormwater Manual for Western Washington, or the equivalent.

e. Any adverse impacts on habitat functions and values are mitigated in accordance with Section 19.10.340.

6. Stream bank stabilization, shoreline protection, and public or private launching ramps may be permitted subject to all of the following standards:

a. Natural shoreline processes will be maintained to the maximum extent practicable. The activity will not result in increased erosion and will not alter the size or distribution of shoreline or stream substrate, or eliminate or reduce sediment supply from feeder bluffs;

b. Adverse impact to fish or wildlife habitat conservation areas, specifically juvenile and adult fish migration corridors, or associated wetlands will be mitigated,

c. Nonstructural measures, such as placing or relocating the development further from the shoreline, planting vegetation, or installing on-site drainage improvements, are not feasible or not sufficient;

d. Stabilization is achieved through bioengineering or soft armoring techniques in accordance with an applicable Hydraulic Project Approval is issued by the Washington Department of Fish and Wildlife;

e. Hard bank armoring may occur only when the property contains an existing permanent structure(s) that is in danger from shoreline erosion caused by riverine processes and not erosion caused by upland conditions, such as the alteration of natural vegetation or drainage, and the armoring shall not

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increase erosion on adjacent properties and shall not eliminate or reduce sediment supply;

7. New public flood protection measures and expansion of existing measures may be permitted, provided that bioengineering or soft armoring techniques shall be used where feasible. Hard bank armoring may occur only in situations where soft approaches do not provide adequate protection, and shall be subject to requirement of the Shoreline Master Program, where applicable, Hydraulic Project Approval and other permits

8. New docks shall be permitted only for public access, as an accessory to water-dependent uses or associated with a single-family residence provided that it is designed and used only as a facility for access to watercraft.

    a. To limit the effects on ecological functions, the number of docks should be limited and new subdivisions should employ shared moorage whenever feasible. Docks on shorelines of the state must comply with policies and regulations of the City of Black Diamond Shoreline Master Program.

    b. Docks shall be located and designed to minimize adverse effects on ecological processes through location where they will interfere with fluvial and limnal processes including gradient and substrate; recruitment of woody debris; and fish habitat, including that related to anadromous fish.

    c. Docks shall minimize reduction in ambient light level by limiting width to the minimum necessary and shall not exceed four (4) feet in width, except where specific information on use patterns justifies a greater width. Materials that will allow light to pass through the deck may be required including grating on walkways or gangplanks in nearshore areas.

    d. Approaches shall utilize piers or other structures to span the entire upper foreshore to the point of intersection with stable upland soils and shall be design to avoid interfering with stream processes.

    e. Pile spacing shall be the maximum feasible to minimize shading and avoid a wall effect that would block or baffle currents, sediment movement or movement of aquatic life forms, or result in structure damage from driftwood impact or entrapment.

    f. Docks should be constructed of materials that will not

adversely affect water quality or aquatic plants and animals in the long term.

g. Space for recreation activities other than those strictly water dependent (such as water sports) are prohibited over water.

9. Launch ramps may be permitted for access to the water for the public or for residents of a development for water dependent use subject to the following criteria:

a. Launch ramps shall be located and designed to minimize adverse effects on fluvial and limnal processes including stream gradient, and substrate; recruitment of woody debris; and fish habitat, including that related to anadromous fish.

b. Ramps shall be placed and maintained near flush with the bank slope. Preferred ramp designs, in order of priority, are:

i. Open grid designs with minimum coverage of beach substrate;

A. Seasonal ramps that can be removed and stored upland;

B. Structures with segmented pads and flexible connections that leave space for natural beach substrate and can adapt to changes in beach profile.

10. Instream structures, such as, but not limited to, high flow bypasses, dams, and weirs, other than those regulated exclusively by the Federal Energy Regulatory Commission (FERC) shall be permitted only when the multiple public benefits are provided and ecological impacts are fully mitigated. Dams on shorelines of the state shall be regulated in accordance with the Shoreline Master Program.

a. Instream facilities locations shall avoid areas of high habitat value for aquatic organisms, specifically anadromous fish.

b. Instream facilities shall be designed to produce the least feasible effect on fluvial processes and shall minimize change in gradient.

c. Instream facilities shall provide mitigation of all impacts on aquatic species and habitat.

d. Instream facilities shall provide fish passage, in accordance with RCW 77.57.

e. Any adverse impacts on habitat functions and values are mitigated in accordance with Section 19.10.340.

f. A construction bond for 125% of the cost of the structure and

all mitigation measures shall be filed prior to construction and a maintenance agreement shall specify responsibility for maintenance, shall incorporate the maintenance schedule specified by the design engineer, shall require annual inspections by a Civil Engineer licensed in the State of Washington and shall stipulate abandonment procedures which shall include, where appropriate, provisions for site restoration.

11. Facilities permitted as shoreline dependent or shoreline oriented uses in accordance with the City Shoreline Master Program, may be located in water bodies and buffers, provided that only those facilities that are water dependent or water oriented and facilities for necessary access may be located in water bodies and buffers and provided that the facility is located, designed, constructed and operated to minimize and, where possible, avoid sensitive area disturbance to the maximum extent feasible.

12. Clearing and grading, when allowed as part of an authorized use or activity or as otherwise allowed in these standards, may be permitted provided that the following shall apply:

    a. Grading is allowed only during the designated dry season, which is typically regarded as May 1 to October 1 of each year, provided that the City may extend or shorten the designated dry season on a case-by-case basis, based on actual weather conditions.

    b. Appropriate erosion and sediment control measures shall be used at all times. The soil duff layer shall remain undisturbed to the maximum extent possible. Where feasible, disturbed topsoil shall be redistributed to other areas of the site.

    c. The moisture-holding capacity of the topsoil layer shall be maintained by minimizing soil compaction or reestablishing natural soil structure and infiltrative capacity on all areas of the project area not covered by impervious surfaces.

19.10.335 Habitat other than fish habitat

A. Definition and Buffers. Protection standards for fish and wildlife habitat conservation areas other than streams and lakes are as provided in the table below.

Fish and Wildlife Habitat Conservation Area	Buffer Requirement

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Fish and Wildlife Habitat Conservation Area	Buffer Requirement
Areas with which federally listed threatened or endangered species have a primary association. State Priority Habitats and areas with which Priority Species have a Primary Association A primary association means a sensitive component(s) of the habitats of a species, which, if altered, may reduce the likelihood that the species will maintain and reproduce over the long term.	Buffers shall be based on recommendations provided by the Washington Department of Fish and Wildlife PHS Program; provided that where no such recommendations are available, the buffer width shall be determined based on published literature concerning the species/habitat(s) in question and/or the opinions and recommendations of qualified professional with appropriate expertise.
Natural Area Preserves and Natural Resource Conservation Areas	Buffers shall be based on recommendations provided by site managers provided that the management strategies are considered effective and within the scope of this chapter.
Locally Important Habitat Areas	The need for and dimensions of buffers for locally important species or habitats shall be determined on a case by case basis, according to the needs of specific species or habitat area of concern. The mayor or his/her designee shall coordinate with the Washington Department of Fish and Wildlife and other State, Federal or Tribal exerts in these instances, and shall use WDFW PHS management recommendations when available.

B. Alterations that occur within a locally important habitat area or that may affect a locally important species as defined herein shall be subject to review on a case-by-case basis. The mayor or his/her designee shall have the authority to require an assessment of the effects of the alteration on species or habitats and may require mitigation to ensure that adverse effects do not occur. This standard is intended to allow for flexibility and responsiveness with regard to locally important species and habitats.

C. Wildlife Corridors. Corridors providing for migration to and from areas outside the Urban Growth Area are provided in the Core Stream and Wetland Complex. Specific standards include:

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Stream, Wetland or other Corridor Feature	Corridor Requirements and Management Measures
Rock Creek/Lake Sawyer/Ravensdale Creek to the north and northeast	o All new bridges shall provide for animal passage including height sufficient for large mammals and width sufficient for a minimum 15 foot corridor adjacent to OHWM on at least one side o Existing Rock Creek/Abrams Road Bridge shall be replaced at the time of development of lands served by the bridge to meet the same standards. o Existing Rock Creek/Roberts Road bridge should be replaced to meet the same bridge standards when programmed as part of capital improvement program
Jones Lake/Jones Creek to the east	o o All new bridges shall provide for animal passage including height sufficient for large mammals and width sufficient for a minimum 15 foot corridor adjacent to OHWM on at least one side o Existing Jones Creek/SR 169 Bridge should be replaced to meet the same bridge standards when substantial improvements are made to the road, or when programmed as part of other improvements or as part of fish passage programs.
Black Diamond Lake/Black Diamond Creek to the southeast	o Minimum corridor width of 450' shall extend to the southwest boundary of the UGA along the general alignment of Black Diamond Creek following designated wetlands o All new bridges shall provide for animal passage including height sufficient for large mammals and width sufficient for a minimum 15 foot corridor adjacent to OHWM on at least one side o Existing bridge on Chub Lake Road creek shall be replaced at the time of development of lands served by the bridge to meet the same standards.

19.10.337 Fish and wildlife habitat conservation areas - Review and reporting requirements

The following provisions shall apply in addition to the Sensitive Area report requirements of 19.10.130:

A. When City sensitive area maps or Washington Department of Fish and Wildlife Priority Species and Habitat information, or other sources of credible information indicate that a site proposed for development or alteration is more likely than not to contain fish and wildlife habitat conservation areas or is within the buffer of a fish and wildlife habitat conservation area, the mayor or his/her designee shall require a site evaluation (field investigation) by a qualified professional or other measures to determine whether or not the species or habitat is present and if so, its relative location in relation to the proposed project area or site.

1. If no fish and wildlife habitat conservation areas are present, then review will be considered complete.
2. If the site evaluation determines that the species or habitat is present, the mayor or his/her designee may require a sensitive

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areas assessment report.

B. The mayor or his/her designee may waive the report requirement for a single-family development that involves less than two thousand five hundred (2,500) square feet of clearing and/or vegetation removal and will not directly disturb the designated stream or pond buffer area, designated species, or specific areas or habitat features that comprise the fish and wildlife habitat conservation area (nest trees, breeding sites, etc.) as indicated by a site plan or scaled drawing of the proposed development, except in the case of Bald Eagle Habitat.

C. The sensitive areas report shall describe the characteristics of the subject property and adjacent areas. The assessment shall include the following:

1. Existing physical features of the site including buildings, fences, and other structures, roads, parking lots, utilities, water bodies, etc;
2. Determination of the resource category and standard buffers.
3. Identification of sensitive areas and buffers within three hundred (300) feet of the site and an estimate of the existing approximate acreage for each. The assessment of off-site resources shall be based on available information and shall not require accessing off-site properties if permission of the property owner cannot be obtained.
4. Proposed development activity.
5. A detailed description of the effects of the proposed development on ecological functions and buffer function and value, including the area of direct disturbance; area of buffer reduction or averaging including documentation that functions and values will not be adversely affected by the reduction or averaging; effects of storm water management; proposed hydrologic alteration including changes to natural drainage or infiltration patterns; effects on fish and wildlife species and their habitats; clearing and grading impacts; temporary construction impacts; and effects of increased noise, light or human intrusion.
6. Provisions to reduce or eliminate adverse impacts of the proposed development activities including, but not limited to:

    a. Clustering and buffering of development,

    b. Retention of native vegetation,

    c. Access limitations, including fencing.

    d. Seasonal restrictions on construction activities in accordance with the guidelines developed by the Washington Department of Fish and Wildlife, the US Army Corps of

Engineers, the Salmonid Recovery Plan and/or other agency or tribe with expertise and jurisdiction over the subject species/ habitat, and

e. Methods to reduce proximity impacts

f. Other appropriate and proven low impact development techniques.

19.10.340 Mitigation Requirements

A. **Impacts and Mitigation.** Activities that adversely affect fish and wildlife habitat conservation areas and/or their buffers should generally be avoided through site design, including clustering. Unavoidable impacts to designated species or habitats shall be compensated for through habitat creation, restoration and/or enhancement to achieve no net loss of habitat functions and values in accordance with the purpose and goals of this Chapter.

B. **Alterations.** A fish and wildlife habitat conservation area may be altered only if the proposed alteration of the habitat or the mitigation proposed does not degrade the quantitative and qualitative functions and values of the habitat. All new structures and land alterations shall be prohibited from fish and wildlife conservation areas, except in accordance with this chapter.

C. **Mitigation plan**. A mitigation plan will be required for all proposed fish and wildlife conservation area alterations or to mitigate unavoidable adverse impacts to the habitat functions and values resulting from a proposed action. Mitigation plans shall be prepared in accordance with the requirements of Section 19.10.140. The mitigation plan for habitat areas provides sufficient information to demonstrate that the proposed activities are logistically feasible, constructible, ecologically sustainable, and likely to succeed. Specific information to be provided in the plan shall include, but not be limited to:

1. General description and scaled drawings of the activities proposed including, but not limited to, clearing, grading/excavation, drainage alterations, planting, invasive plant management, installation of habitat structures, irrigation, and other site treatments associated with the development activities and proposed mitigation action(s);
2. A description of the functions and values that the proposed mitigation area(s) shall provide, together with a description of required and an assessment of factors that may affect the success of the mitigation program; and
3. A description of known management objectives for the species or

habitat.

D. **Non-indigenous species.** Any plant, wildlife, or fish species not indigenous to the region shall not be introduced into a fish and wildlife conservation area unless authorized by a state or federal permit or approval.

E. **Mitigation standard.** Mitigation of alterations to fish and wildlife conservation areas shall achieve equivalent or greater biologic and hydrologic functions and shall include mitigation for adverse impacts upstream or downstream of the development proposal site. Mitigation shall address each function affected by the alteration to achieve functional equivalency or improvement on a per function basis.

F. **Timing.** Required mitigation shall be completed as soon as possible following activities that will disturb fish and wildlife habitat conservation areas and during the appropriate season. Mitigation shall be completed prior to use or occupancy of the activity or development. Construction of mitigation projects shall be timed to reduce impacts to existing wildlife and flora.

G. **Monitoring.** The mayor or his/her designee shall have authority to require monitoring of mitigation activities and submittal of annual monitoring reports to ensure and document that the goals and objectives of the mitigation are met. The frequency and duration of the monitoring shall be based on the specific needs of the project as determined by the city.

H. **Mitigation and contiguous corridors.** Mitigation sites shall be located to preserve or achieve contiguous fish and wildlife habitat corridors in accordance with a mitigation plan that is part of an approved sensitive area report to minimize the isolating effects of development on fish and wildlife conservation areas, so long as mitigation of aquatic habitat is located within the same aquatic ecosystem as the area disturbed.

19.10.400 Geologically Hazardous Areas

BDMC 19.10.400 through BDMC 19.10.440 pertain to geologically hazardous areas.

19.10.405 Designation and Mapping.

A. **Designations.** Geologically hazardous areas include the following:

1. **Erosion hazard areas.** Erosion hazard areas are those areas with soils identified by the U.S. Department of Agriculture's Natural Resources Conservation Service as having a "moderate to severe," "severe," or "very severe" rill and inter-rill erosion hazard.
2. **Landslide hazard areas.** Landslide hazard areas are areas

potentially subject to landslides based on a combination of geologic, topographic, and hydrologic factors. They include areas susceptible due to any combination of bedrock, soil, slope (gradient), slope aspect, structure, hydrology, or other factors. These may include the following:

a. Areas of historic failures, such as areas that have shown evidence of historic failure or instability, including but not limited to back-rotated benches on slopes; areas with structures that exhibit structural damage such as settling and racking of building foundations; and areas that have toppling, leaning, or bowed trees caused by ground surface movement;;

b. Those areas delineated by the U.S. Department of Agriculture's Natural Resources Conservation Service as having a "severe" limitation for building site development;

c. Those areas mapped by the Washington State Department of Natural Resources (slope stability mapping) as unstable (U or class 3), unstable old slides (UOS or class 4), or unstable recent slides (URS or class 5);

d. Areas with all three of the following characteristics:

   i. Slopes steeper than fifteen percent (15%); and

   ii. Hillsides intersecting geologic contacts with a relatively permeable sediment overlying a relatively impermeable sediment or bedrock; and

   iii. Springs or ground water seepage;

e. Areas potentially unstable because of rapid stream incision, stream bank erosion, and undercutting;

f. Any area with a slope of forty percent (40%) or steeper and with a vertical relief of ten (10) or more feet except areas composed of consolidated rock. A slope is delineated by establishing its toe and top and is measured by averaging the inclination over at least ten (10) feet of vertical relief.

g. Areas that are at risk of mass wasting due to seismic forces.

3. **Mine hazard areas.** Mine hazard areas are those areas underlain by or affected by mine workings such as adits, gangways, tunnels, drifts, or airshafts, and those areas of probable sink holes, gas releases, or subsidence due to mine workings. These are further described below in terms of degree of hazard.

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4. **Seismic Hazard Areas.** Areas subject to severe risk of damage as a result of earthquake-induced ground shaking, slope failure, soil liquefaction or surface faulting including:

   a. Areas subject to surface faulting during a seismic event;

   b. Areas with underlying deposits indicative of a risk of liquefaction during a seismic event;

   c. Areas subject to slope failure during a seismic event;

   Seismic hazards shall be as identified in Washington State Department of Natural Resources seismic hazard maps for Western Washington and other geologic resources.

B. **Mapping.** The approximate location and extent of known geologically hazardous areas are shown on the Black Diamond Sensitive Areas Map(s). Those maps are resources for the identification of the probable location, extent and classification of sensitive areas. The criteria by which geological hazards are defined and the results of field investigation shall prevail over information on the maps.

19.10.410 Development Standards – Landslide Hazard Areas:

A. Activities allowed in landslide hazard areas. The activities listed below are allowed in landslide hazard areas in addition to those activities listed in, and consistent with, the provisions and activities established in Section 19.10.060, in accordance with the review provisions below.

1. Activities and facilities that do not require prior review or approval, provided, that where the mayor or his/her designee determines such activities may result in a loss of functions and values of a wetland or its buffer the provisions of (B) or (C) shall apply. These activities include.

   a. Outdoor recreational or educational activities that do not remove vegetation or displace soils or install facilities, other than temporary or small scale structures that will be abandoned in the case of earth movement.

   b. The harvesting of crops in a manner that is not injurious to natural reproduction of such crops and provided the harvesting does not require tilling of soil, planting of crops, chemical applications, or alteration of the wetland by changing existing topography, water conditions, or water sources.

2. Actions that can be planned and programmed in advance requiring notification and review in accordance with Section 19.10.060.B.2.

   a. Overhead utility lines that span the landslide hazard areas or

that involve poles installed without soil movement for access roads.

b. Trails may be permitted within a landslide area if the trails does not exceed 4 feet in width, shall not exceed 18 inches of cut or fill and shall be surfaced with gravel or pervious material, including boardwalks;

3. Uses and activities that shall be reviewed by a full permit process include:

a. Utility lines and pipes shall be permitted in landslide hazard areas only when the applicant demonstrates that no other practical alternative is available. The preferred design is for a line or pipe to be located above ground and properly anchored and/or designed so that it will continue to function in the event of an underlying slide. Stormwater conveyance shall be allowed only through a high-density polyethylene pipe with fuse-welded joints, or similar product that is technically equal or superior;

b. Roads, driveways and other vehicular access, trails and walkways, may be permitted to serve existing lots and existing development, only if the applicant demonstrates that

i. No other feasible alternative exists, including through the provisions of RCW 8.24, and

ii. If analysis by a qualified professional establishes compliance with the standards in subsection C, below.

c. Alteration of a landslide hazard area and buffer in order to accommodate structures or land alteration may be authorized only in cases where the mayor or his/her designee find that

i. Reasonable development cannot be accommodated on portions of the site not subject to landslide hazards and buffers, and

ii. If analysis by a qualified professional establishes compliance with the standards in subsection C, below.

d. Point discharges from surface water facilities and roof drains onto or upgradient from an erosion or landslide hazard area shall be prohibited.

e. Vulnerable facilities, including, but not limited to, schools, nursing homes, hospitals, police, fire and emergency response installations, and installations that produce, use, or

store hazardous materials shall not be located in landslide hazard areas if there is a feasible alternative location outside the hazardous areas that would serve the intended service population. A facility may be allowed only subject to the standards in subsection (C), below.

B. **Buffer requirement.** A buffer shall be established from all edges of landslide hazard areas. The size of the buffer shall be determined by the mayor or his/her designee to eliminate or minimize the risk of property damage, death, or injury resulting from landslides, based upon review of and concurrence with a sensitive area report prepared by a qualified professional.

1. **Minimum buffer from the top of a slope.** The minimum buffer from the top of a slope shall be designed to protect persons and property from damage due to catastrophic slope failure and slope retreat over the lifetime of the use and provide an area of vegetation to promote shallow stability, control erosion and promote multiple benefits to wildlife and other resources. The minimum dimension of the buffer shall be equal to the greater of:

   a. Shall be equal to the height of the slope (the vertical distance from the toe of slope to the top of slope, for a 40% or greater slope, this shall be from the top of the portion of the slope which is a 40% slope, provided that another 40% slope is not located within the buffer area, in that case, the buffer shall be located from the top of the highest 40% slope).

   b. The distance from the top of slope equal to the distance from the toe of slope upslope at a slope of 2:1 (horizontal to vertical) to a point that intersects with the site's ground elevation., or

   c. Fifty (50) feet from the top of the slope.

2. **Minimum buffer from the bottom of a slope.** The minimum buffer from the bottom of a slope shall provide for safety of persons and property from the run-out resulting from slope failure and shall be the greater of:

   a. The height of the slope, or

   b. 50 feet from the toe of the slope.

3. **Minimum buffer from the side of a slope.** The minimum buffer from the bottom of a slope shall provide for safety of persons and property from the run-out resulting from slope failure and shall be the greater of:

a. 25 feet from the toe of the slope, or.

b. A triangular area that extends from the edge of the top of the slope outward at a 1:3 angle (one horizontal foot to three vertical feet)

4. **Buffer reduction.** The buffer may be reduced to a minimum of ten (10) feet when a qualified professional demonstrates to the satisfaction of the mayor or his/her designee that the reduction will adequately protect the proposed development, adjacent developments, proposed uses and the subject sensitive area and meet the development standards in subsection C.

5. **Increased buffer.** The buffer may be increased where the mayor or his/her designee determines through best available science documented in a sensitive area report prepared by a qualified professional that a larger buffer is necessary to prevent risk of damage to proposed and existing development or to meet the development standards in subsection C.

C. **Criteria and Design Standards for Landslide Hazard Areas.**

All uses and activities in landslide hazard areas shall conform to the following standards:

1. No use or alteration of a landslide hazard area and buffer may be authorized except where the mayor or his/her designee find that

a. reasonable development cannot be accommodated on portions of the site not subject to landslide hazards and buffers, and

b. if analysis by a qualified professional establishes compliance with the following standards based on specific development plans:

i. The proposed development will not result in a risk of landslide that may affect development on the subject property or other properties in the vicinity, and will not result in a greater risk or a need for increased buffers on neighboring properties; For unconsolidated deposits, development shall not decrease the factor of safety for landslide occurrences below the limits of 1.5 for static conditions and 1.2 for dynamic conditions. Analysis of dynamic conditions shall be based on a minimum horizontal acceleration as established by the current version of the International Building Code.

ii. Measures to maintain slope stability, such as drainage

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systems, must be of a design that will assure operation without facilities requiring regular maintenance that would jeopardize stability if the facility fails.

iii. The development will not increase erosion or sedimentation risk on the site;

iv. The development will not increase surface water discharge or sedimentation to adjacent properties beyond pre-development conditions;

v. Such alterations will not adversely impact other sensitive areas;

vi. Structures shall be located on the least sensitive portion of the site and clustered where possible to reduce disturbance and removal of vegetation.

vii. Structures will meet the following design standards:

(A) Grading shall minimize alterations to the natural contour of the slope,

(B) Foundations should conform to the natural contours of the slope and foundations should be stepped/tiered where possible to conform to existing topography of the site;

(C) Retaining walls shall be preferred over cut and fill and shall be incorporated into structures wherever feasible.

viii. Landslide hazard areas on unconsolidated deposits with a gradient of 40 percent where the toe of slope is within the buffer area of a wetland, stream, pond or lake are not eligible for alteration of landslide hazard areas or but may be subject to alteration of buffers, subject to compliance with the standards of this chapter.

2. Division of land within or adjacent to landslide hazard areas and associated buffers shall be clustered to avoid landslide hazard areas and associated buffers. Land that is located partially within a landslide hazard area or its buffer may be divided provided that each resulting lot has sufficient buildable area outside of the landslide area and buffer with provision for access, drainage, erosion control and related features that will not adversely affect the stability of the landslide area.

3. Utility lines and pipes shall be permitted in erosion and landslide

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hazard areas only when the applicant demonstrates that no other practical alternative is available. The preferred design is for a line or pipe to be located above ground and properly anchored and/or designed so that it will continue to function in the event of an underlying slide. Stormwater conveyance shall be allowed only through a high-density polyethylene pipe with fuse-welded joints, or similar product that is technically equal or superior;

4. Roads, driveways and other vehicular access, trails and walkways, may be permitted only if the applicant demonstrates that no other feasible alternative exists, including through the provisions of RCW 8.24 and subject to the standards in 1., above. If access through a hazard area is granted, exceptions or deviations from technical standards for width or other dimensions, and specific construction standards to minimize impacts may be specified. Access roads and trails shall be engineered and built to standards that avoid the need for major repair or reconstruction beyond that which would be required in non-hazard areas and shall be:

    a. Located in the least sensitive area of the site.

    b. Designed to minimize topographic modification with low gradients and/or parallel to the natural contours of the site.

    c. Retaining walls shall be preferred over cut and fill slopes to minimize topographic modification.

    d. Clearing and grading shall minimize ground disturbance to the maximum extent feasible to accommodate allowed development and generally shall not extend more than 10 feet beyond the approved development;

5. A qualified professional, licensed in the state of Washington, shall review project plans in landslide hazardous areas to ensure that they are properly designed and shall certify that they have inspected the construction of facilities and the facilities are constructed to incorporate all required facilities to meet the standards above, and no unanticipated features were identified during construction that change the design required to meet said standards. If any unanticipated features related to bedrock, soil, slope (gradient), slope aspect, structure, geologic contacts with a relatively permeable sediment overlying a relatively impermeable sediment or bedrock; hydrology including springs or ground water seepage or stream geomorphology relating to stream bank erosion or undercutting are identified during construction that were not anticipated in the initial review, the qualified professional shall be responsible for the cessation of work if the conclusions of the

initial review are no longer valid and report to the mayor or his/her designee.

19.10.415 Landslide Hazard Review and Reporting Requirements

A. When sensitive area maps or other sources of credible information indicate that a site proposed for development or alteration is or may be located within a landslide hazard area the mayor or his/her designee shall have the authority to require the submittal of a landslide hazard assessment report. The following provisions shall apply in addition to the Sensitive Area report requirements of 19.10.130:

B. The landslide hazard assessment shall describe and evaluate the geologic characteristics of the subject property and adjacent areas. The landslide hazard assessment shall include field investigation and may include the analysis of historical aerial photographs, review of public records and documentation, and interviews with adjacent property owners. The report shall include the following, provided that the mayor or his/her designee may determine that any portion of these requirements is unnecessary given the scope and/or scale of the proposed development:

1. A description of which areas on the site, surrounding areas that influence or could be influenced by the site, or areas within three hundred (300) feet of the site meet the criteria for a landslide hazard.
2. A scaled site plan showing:
    a. The type and extent of landslide hazard areas, and any other sensitive areas, and buffers on, adjacent to or that are likely to impact or influence the proposal, including properties upslope of the subject site;
    b. The location of existing and proposed structures, fill, access roads, storage of materials, and drainage facilities, with dimensions;
    c. The existing site topography preferably accurate to within two-foot contours; and
    d. Clearing limits.
3. A description of the site features, including surface and subsurface geology, hydrology, soils, and vegetation found in the project area and in all hazard areas addressed in the report. This may include surface exploration data such as borings, drill holes, test pits, wells, geologic reports, and other relevant reports or site investigations that may be useful in making conclusions or recommendations about the site under investigation;
4. A description of the processes affecting the property or affected by

development of the property including geologic processes, soil or water erosion, deposition, or accretion;

5. A description of the vulnerability of the site to seismic and other geologic processes and a description of any potential hazards that could be created or exacerbated as a result of site development.

C. Analysis of potential risks shall include:

1. A description and analysis of the level of risk associated with no development on the landslide hazard area and buffers;
2. A description and analysis of the level of risk associated with alternative proposals for development within or with less setback from the area of landslide hazard including risk to future occupants of the subject property, adjacent property, other sensitive areas and the general public safety;
3. A description and analysis of the level of risk associated with the measures proposed to mitigate the hazards, ensure public safety, and protect property and other sensitive areas, including the risk of failure if structures, drainage systems or other facilities are not monitored, maintained, or cease to function as designed for any reasons;
4. A description and analysis of the level of risk associated with increased erosion or sedimentation risk on the site and potential effects on adjacent properties, water bodies and wetlands.
5. Assessments and conclusions regarding slope stability for both the existing and developed conditions including the potential types of landslide failure mechanisms (e.g., debris flow, rotational slump, translational slip, etc.) that may affect the site. The stability evaluation shall also consider dynamic earthquake loading, and shall use a minimum horizontal acceleration as established by the current version of the International Building Code;
6. Description of the potential run-out hazard of landslide debris related to the proposed development that starts upslope (whether part of the subject property or on a neighboring property) and/or the impacts of landslide run-out on down slope properties and sensitive areas;
7. For proposed development on unconsolidated deposits, analysis of whether the development results in a factor of safety for landslide occurrences below the limits of 1.5 for static conditions and 1.2 for dynamic conditions. Analysis of dynamic conditions shall be based on a minimum horizontal acceleration as established by the current version of the International Building Code.

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8. The analysis shall include evaluation of stability under seismic conditions for both unconsolidated deposits and bedrock.

19.10.420 Development Standards – Erosion Hazard Areas:

A. **Activities allowed in erosion hazard areas.** Erosion hazard areas have soil and slope conditions such that development must incorporate adequate control in order to avoid soil movement and potential impacts on downgradient resources, including water quality and aquatic habitat. Activities in erosion control areas shall be subject to the following standards.

B. **Landslide hazard areas.** Except as otherwise provided for in this chapter, only those activities approved and permitted consistent with an approved sensitive area report in accordance with this chapter shall be allowed in erosion or landslide hazard areas.

C. **Development standards**

1. Structures shall be located on the least sensitive portion of the site and clustered where possible to reduce disturbance and removal of vegetation.
2. Grading shall minimize alterations to the natural contour of the slope. Building foundations shall conform to the natural contours of the slope and be stepped/tiered to conform to existing topography of the site;
3. Retaining walls shall be preferred over cut and fill for roads, parking lots and structures. Structures on slopes in excess of 25% shall incorporate earth retaining structures in buildings rather than employing free-standing earth retention structures. d. Clearing and grading shall minimize ground disturbance to the maximum extent feasible and generally shall not extend more than 10 feet beyond the approved development;
4. All structures or impervious surface improvements shall be required to have on-site drainage systems to meet the specifications of the public works department to control conveyance of stormwater to avoid erosion hazard areas. Point discharges or overland dispersion systems from surface water facilities and roof drains onto or upstream from an erosion or landslide hazard area shall be prohibited from discharging onto slopes in excess of 5%. Conveyance should be provided to the foot of slopes.
5. Roads, driveways and other vehicular access, trails and walkways, shall be

    a. Located in the least sensitive area of the site.

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b. Designed to minimize topographic modification with low gradients and/or parallel to the natural contours of the site.

c. Retaining walls shall be preferred over cut and fill slopes to minimize topographic modification.

19.10.425 Erosion hazard area review and reporting requirements

A. When sensitive area maps or other sources of credible information indicate that a site proposed for development or alteration is or may be located within a erosion hazard area the mayor or his/her designee shall have the authority to require the submittal of a erosion hazard assessment report. The following provisions shall apply in addition to the Sensitive Area report requirements of 19.10.130:

B. The erosion hazard assessment shall describe and evaluate the soil characteristics of the subject property and adjacent areas. The erosion hazard assessment shall include field investigation. The report shall include the following, provided that the mayor or his/her designee may determine that any portion of these requirements is unnecessary given the scope and/or scale of the proposed development:

1. A description of areas on the site and the surrounding areas that influence or could be influenced by the site, or areas within three hundred (300) feet of the site meet the criteria for an erosion hazard.
2. A scaled site plan showing:

a. The type and extent of soils subject to erosion hazard, and any other sensitive areas, and buffers on, adjacent to or that are likely to impact or be impacted by the proposal, including surface water, wetlands and other downgradient features;;

b. The location of existing and proposed areas of clearing, structures, fill, access roads, storage of materials, and drainage facilities, with dimensions;

c. The existing site topography preferably accurate to within two-foot contours; and

d. Proposed erosion control and drainage control features and facilities.

C. Analysis of potential erosion and best management practices to control erosion:

1. A description and analysis of the level of erosion associated with no development within the erosion hazard area;
2. A description and analysis of the level of erosion associated with the proposal and alternatives;

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3. A description and analysis of design features that could reduce erosion, including development standards within this section and other BMPs;
4. A description and analysis of the level of risk of sedimentation, degradation of water quality, impacts on aquatic species or other effects of the proposal and alternative design and BMPs.

19.10.430 Mine hazard areas

A. **Declassification of mine hazard areas.** Areas underlain by mine workings may be declassified as a mine hazard area by the mayor or his/her designee based on a detailed mine hazard study, field work, and completion of required mitigation to eliminate hazards of open workings, sinkholes, gas, fire and waste dumps and reducing the potential for settlement to 1:350 for ground tilt and 0.003 in/in strain such that hazards of mine workings are equivalent to lands not underlain by mines.

B. **Mine areas of low hazard.**

1. Mine areas of low hazard are defined as locations where:
   a. All workings are at a depth of more than three hundred feet or where a previous mine hazard assessment report has determined that all workings have collapsed or that potential subsidence is limited to no more than 1:350 for ground tilt and 0.003 in/in strain, and
   b. No unmitigated openings such as entries, portals, adits, mine shafts, air shafts, timber shafts, sinkholes, improperly filled sinkholes, tailings or other areas of past mining activity creating a significant probability for catastrophic ground surface collapse are within 100 feet of the location.
2. The mayor or his/her designee may allow the following activities or installations in low hazard mine areas without a detailed mine hazard assessment:
   a. Overhead utility lines;
   b. Trails and passive recreation uses;
   c. Mobile homes not on a rigid foundation
   d. Construction of new buildings with less than 2,500 square feet of floor area or roof area, whichever is greater, and which are not residential structures or used as places of employment or public assembly;
   e. Additions to existing residences that are 250 square feet or less; and

f. Installation of fences.

3. All other uses may be allowed in low hazard mine areas only if analysis by a qualified professional establishes compliance with the following standards, based on a specific risk assessment and remediation plans:

   a. The risk of sinkhole development is reduced to a level no greater than other properties not affected by mine workings; and

   b. The risk of other public safety hazards related to underground workings and or waste dumps is reduced to a level no greater than other properties not affected by mine workings; and

   c. If the site could be subject to trough subsidence due to collapse of mine workings, remediation plans shall include site-specific design specifications that can accommodate calculated potential subsidence effects as required by the performance standards in Subsection E, below.

4. Vulnerable facilities, including, but not limited to, schools, nursing homes, hospitals, police, fire and emergency response installations, and installations that produce, use, or store hazardous materials shall not be located in mine areas of low hazard if there is a feasible alternative location outside the hazardous areas that would serve the intended service population. A facility may be allowed only subject to the performance standards in Subsection E, below.

C. **Mine areas of moderate hazard.**

1. Areas of moderate mine hazard are defined as locations that pose significant risks of property damage that may be mitigated by implementing special engineering or architectural recommendations. These are locations that typically include, but are not limited to:

   a. Mine workings that are at a depth of 150 feet to 300 feet below the surface of the land, or

   b. No unmitigated openings such as entries, portals, adits, mine shafts, air shafts, timber shafts, sinkholes, improperly filled sinkholes, tailings and other areas of past or significant probability for catastrophic ground surface collapse are within 100 feet of the location.

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2. The mayor or his/her designee may allow the following activities or installations in a moderate mine hazard area without a detailed hazard assessment:

    a. Overhead utility lines.

3. All other uses may be allowed only if analysis by a qualified professional establishes compliance with the following standards, based on a specific risk assessment and remediation plans:

    a. All entries, portals, adits, mine shafts, air shafts, timber shafts, sinkholes, improperly filled sinkholes and other areas of past or significant probability for catastrophic ground surface collapse are mitigated in compliance with the performance standards in Subsection E; and

    b. The risk of sinkhole development is reduced to a level no greater than other properties not affected by mine workings; and

    c. The risk of other public safety hazards related to underground workings and or tailings is reduced to a level no greater than other properties not affected by mine workings; and

    d. If the site could be subject to trough subsidence due to collapse of mine workings, remediation plans include site-specific design specifications that can accommodate calculated potential subsidence effects as required in the performance standards in Subsection E, below.

4. Vulnerable facilities, including, but not limited to, schools, nursing homes, hospitals, police, fire and emergency response installations, and installations that produce, use, or store hazardous materials shall not be located in a moderate mine hazard areas if there is a feasible alternative location outside the hazardous areas that would serve the intended service population. A vulnerable facility may only be allowed in a moderate mine hazard area according to the performance standards in Subsection E, below.

D. **Mine areas of severe hazard.**

1. Mine areas of severe hazard are defined as locations that pose a significant risk of catastrophic ground surface collapse. These are locations that typically include, but are not limited to:

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a. Coal mine workings from a depth of less than one hundred fifty feet from the surface of the land; or

b. Unmitigated openings such as entries, portals, adits, mine shafts, air shafts, timber shafts; or

c. Sinkholes, improperly filled sinkholes and other areas of past or significant probability for catastrophic ground surface collapse.

2. All uses and activities within a severe mine hazard area require analysis by a qualified professional and compliance with specific risk assessment and remediation plans, including:

   a. Remediation of hazards related to entries, portals, adits, mine shafts, air shafts, timber shafts, sinkholes, improperly filled sinkholes, mine tailings and other areas of past or significant probability for catastrophic ground surface collapse are mitigated in compliance with development standards in Subsection (E) to a standard that reduces risk of personal injury and risk of damage to structures and public facilities to a level similar to lands not underlain by mine workings.

   b. The preferred uses for areas of severe mine hazard are:

      i. Open space and passive recreation facilities with no public assembly,

      ii. Public facilities that must traverse the area, such as roads and utilities, but only if mitigated in accordance with section 19.10.430 and section 19.10.435.

3. Vulnerable facilities, including, but not limited to, schools, nursing homes, hospitals, police, fire and emergency response installations, and installations that produce, use, or store hazardous materials are prohibited in severe mine hazard areas.

E. **Performance standards**

Development on or near a mine hazard area requires applicant to first demonstrate that hazards to health or safety, persons, or property at the proposed site as a result of the development is equivalent to land not underlain by mine workings. If a proposal is located on or near a mine hazard area, a study by a qualified professional geotechnical specialist may be required.

1. Development within mine hazard areas shall be accompanied by technical studies by qualified professionals that assess the potential risk from entries shafts and ventilation facilities, of potential future trough subsidence or sinkhole development due to collapse of abandoned coal mines and identifies specific measures

to mitigate the risk in accordance withy the criteria below:

a. Mine entries and shafts shall be permanently sealed using controlled backfill and/or grouting, or an approved, engineered seal and shall include permanently diversion of surface drainage away from the shaft or mine entry.

b. Existing sinkholes and shallow prospect excavations shall be backfilled to surface using controlled placement of suitable backfill and shall include permanently diversion of surface drainage away from existing sinkholes and prospect excavations.

c. Potential sinkhole hazards shall be assessed by a qualified professional utilizing direct subsurface investigation that demonstrate coal mine workings either do not exist, or that the workings have collapsed so that there is no remaining potential for sinkhole development; or show that the hazards associated with any voids that are identified are fully mitigated by backfilling, grouting, or other approved means such that the potential for sinkhole development is eliminated.

d. Any mine tailings or other fill materials shall be:

    i. Demonstrated to be stable through analysis by a qualified professional, or if such material does not met stability criteria it shall be regarded or otherwise mitigated to meet stability criteria.

    ii. If springs or seeps discharge from such areas, materials shall be removed or regraded to expose the source of the spring or seep.

    iii. Mine tailings or fill materials shall be covered with a minimum two feet of clean soil and be revegetated with native vegetation to control erosion, unless an alternative specific use has been approved.

    iv. Development shall not be permitted within 100 feet of tailings or fill materials that shows evidence of current or past combustion, unless combustible materials are removed.

    v. Development may be permitted over mine tailings or fill material only if an investigation and analysis by a qualified professional identifies feasible construction criteria for foundation stability and performance.

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e. Mine Gas hazards shall be mitigated by backfilling all mine entries, shafts, and sinkholes in and providing appropriate venting.

f. Mine fire potential shall be assessed through analysis by a qualified professional. Development shall not be permitted within 100 feet of workings where investigations indicate the possible presence of combustion in the underlying seam or seams.

2. Every development shall include appropriate construction standards established by a qualified professional in accordance with the criteria below:

a. Foundations shall be designed by a Washington State licensed structural engineer, with consideration of the subsidence effects documented for the site and the requirements of the International Building Code as provided by the criteria below:

i. Foundations and slabs on grade shall be designed to resist the ultimate forces for tension and/or compression as determined from the hazards report. The forces generated by subsidence effects of tilt and strain shall be treated as live loads with the appropriate load factors and/or factors of safety in design. Simultaneous friction drag force and lateral earth pressure loads shall be treated as earth pressure in load combinations.

ii. Ultimate passive soil pressure and distribution shall be assessed for all vertical surfaces in contact with foundation soil due to horizontal strain occurring from a subsidence and included in design specifications.

iii. Utility lines shall not be rigidly connected to the foundation wall. A flexible joint shall be provided at the point of transition from soil support to building support for all utilities.

iv. Positive drainage shall be designed for positive gravity flow under the most sensitive predicted subsidence conditions.

b. Roads and utilities shall be designed to accommodate the magnitudes of strains and tilts documented by technical studies through adequate strength to resist the forces of maximum predicted subsidence-related tilts and strains, or by adequate flexibility to accommodate the resulting

deformations.

i. Roadways shall be constructed of flexible material and shall be designed to maintain positive drainage with the maximum predicted subsidence.

ii. Bridges shall be designed to a factor of safely of 2 to accommodate maximum strains and tilts predicted.

iii. Water utilities shall be designed to provide for two times the maximum predicted tilts and strains, including service lines, structures, and related appurtenances.

iv. Sewer and storm drainage utility design shall provide for 1.5 times the maximum predicted tilts and strains, including service lines, structures, and related appurtenances. Design grades shall provide positive gradient after allowing for the maximum predicted subsidence.

vi. Storm drainage detention and retention facilities shall be designed to remain functional following the occurrence two times the maximum predicted tilts and strains. Such facilities may be located in mine hazard areas only if all risk of sinkhole development has been eliminated.

vii. Electric and gas cables and pipelines shall be designed to accommodate the maximum predicted tilts and strains with suitable safety factors applied to these magnitudes such that failure of the utility line will not present a risk to public safety. The applicant shall present certification from the respective private utility that utilities have been designed in accordance with the above.

19.10.435 Mine hazard review and reporting requirements

A mine hazard study shall be prepared by a qualified professional that addresses the information and criteria below, provided that the mayor or his/her designee may accept and review a preliminary report with limited content to outline the potential hazard level and propose a suggested analysis methodology. The administrator may retain, at the applicant's expense, an independent qualified professional to perform a peer review of the mine hazard report.

A. A mine hazard report shall contain all available documentary information about mine workings and the results of a surface reconnaissance that shall identify any

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public safety mine hazards, mine waste dumps, or evidence of mine subsidence or sinkholes and shall include:

1. Historical mining data, including available copies of original mine records for mine workings.
2. A map showing property boundaries, mine hazard boundaries, and any potential hazards identified on or within 300 feet of the property.

B. Shallow hazards such as entry portals, shaft collars, ventilation shafts, prospects and mine waste dumps may be investigated by test pits or trenching, providing the method enables investigation to an adequate depth for the hazard being investigated.

C. Site-Specific Evaluation of Potential Trough Subsidence

1. Review of Available Records of original mine workings that could potentially influence the site by trough subsidence.

   a. locations, depths, and thicknesses of such seams and workings

   b. workings that could potentially influence the site shall be determined by projecting the downdip limit angle from the lowest limit of the documented workings to the ground surface. Mine workings are considered to potentially influence the property if the property lies within the line at which the limit angle intersects the ground surface.

2. Subsurface conditions may be evaluated by drilling. Drilling is the most acceptable method for providing information for reducing the Remaining Mine Height value used in subsidence calculations to less than the height of the original workings.

   a. Drillholes shall be logged continuously from 100 feet above to 20 feet below mine workings, including lithology at 5-foot intervals, drill fluid circulation, penetration rate, and free fall of the drill string.

   b. Greater confidence will be placed in core drilling logs than rotary drilling logs.

   c. As a guideline, a minimum of one drillhole penetrating each seam that could potentially cause trough subsidence at the site should be drilled for each 200 foot length of the adit, unless alternative spacing is demonstrated to provide adequate information concerning the workings.

   d. Surface geophysics, or other indirect means, may be used to

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assist in projecting information between and beyond drillholes, but shall not be accepted as the sole method for evaluating the condition of underground mine workings and calculating Remaining Mine Height.

3. Calculation of Trough Subsidence Magnitudes, Tilts, and Strains shall be in accordance with the empirical function method of the British National Coal Board, as presented in their Subsidence Engineers' Handbook, adjusted to reflect the effects of inclined seams and a downdip limit angles encountered and shall be based on a conservative evaluation of site conditions developed from the review of available records, site investigation and subsurface exploration.

    a. Direct field evidence or a review of detailed mine records shall be used to calculate the subsidence factor, the downdip limit angle.

    b. Remaining Mine Height shall be presumed to be equal to the seam thickness for the subsidence calculations unless evidence from drilling justifies modification.

    c. The calculation of potential tilts and strains shall consider effects of individual panel widths and barrier pillar widths. If direct subsurface investigation indicates that the mine workings are fully collapsed, an estimate of potential surface settlements due to consolidation of rubble and loose material shall be made for the cumulative effect of all seams that could induce trough subsidence at the site.

4. Site plans shall be prepared showing the proposed development and calculated magnitudes of potential subsidence, strains, and tilts at the property boundaries and at the locations of any proposed structures.

    a. A map showing contours of potential subsidence magnitudes, strains, and tilts throughout the property shall be submitted for use in design of roads and utilities.

    b. Appropriate recommendations shall be provided for structural and civil design requirements.

D. Site-Specific Evaluation: Potential Sinkhole Hazards

1. Review of Available Record shall be as in (1) (a) above.
2. Subsurface conditions for workings located within 150 feet of the ground surface shall be investigated by drilling.

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a. Drillhole sites shall be selected at representative locations and at representative working depths. A minimum of five drillholes shall be drilled along the alignment of any linear structure, such as roads or utility lines designed to cross a mine hazard area. No less than one drillhole per acre shall be provided for a site.

b. Core drilling is preferred, but is not compulsory. Rotary drilling is an acceptable method provided it is used in combination with downhole geophysical logging, including caliper logs. Drilling shall penetrate immediately above and through the predicted workings locations to facilitate interpretation of the condition of the mine workings.

c. Drillholes shall be logged continuously throughout their length, including lithology at 5-foot intervals for rotary drillholes, drill fluid circulation, penetration rate, and free fall

19.10.440 Seismic Hazard Areas

Development may be allowed in seismic hazard areas when all of the following apply:

A. If evaluation of site-specific subsurface conditions by a qualified professional demonstrates that the proposed development site is not subject to the conditions indicating seismic risk in, the provisions of this subsection shall not apply.

B If a site is subject to seismic risk, the applicant shall implement appropriate engineering design based on analysis by a qualified professional of the best available engineering and geological practices that either eliminates or minimizes the risk of structural damage or injury resulting from seismically induced settlement or soil liquefaction, including compliance with the following criteria:

1. Subdivision within a seismic hazard areas shall assure that each resulting lot has sufficient buildable area outside of the hazard area or that appropriate limitations on building and reference to appropriate standards are incorporated into subdivision approval and may be placed as restrictions on the face of the plat;
2. Structures in seismic hazard areas shall conform to applicable analysis and design criteria of the International Building Code;
3. Public Roads, bridges, utilities and trails shall be allowed when there are no feasible alternative locations and geotechnical analysis and design are provided that ensure the roadway, bridge and utility structures and facilities will not be susceptible to damage from seismic induced ground deformation. Mitigation measures shall be designed in accordance with the most recent version of the

American Association of State Highway and Transportation Officials (AASHTO) Manual or other appropriate document.

C. The mayor or his/her designee may waive or reduce engineering study and design requirements for alterations in seismic hazard areas for:

1. Mobile homes;
2. Additions or alterations to existing structures that do not increase occupancy or significantly affect the risk of structural damage or injury; and
3. Buildings that are not dwelling units or used as places of employment or public assembly.

19.10.445 Seismic hazard review and reporting requirements

A. When sensitive area maps or other sources of credible information indicate that a site proposed for development or alteration is or may be located within a geologically hazardous area the mayor or his/her designee shall have the authority to require the submittal of a seismic hazard assessment report. The following provisions shall apply in addition to the Sensitive Area report requirements of 19.10.130:

B. An existing conditions assessment and investigation to evaluate the geologic characteristics of the subject property and adjacent areas and their susceptibility to damage during a seismic event.

1. The seismic assessment shall include field investigation and may include the analysis of historical aerial photographs, review of public records and documentation, and interviews with adjacent property owners, provided that the mayor or his/her designee may determine that any portion of these requirements is unnecessary given the scope and/or scale of the proposed development:
2. A description of the general surface and subsurface geology, hydrology, soils, and vegetation found in the project area, including faults and indicators of earth movement, past seismic events and other features that would affect the site response to seismic conditions. This may include surface exploration data such as borings, drill holes, test pits, wells, geologic reports, and other relevant reports or regional, local and site investigations that may be useful in making conclusions or recommendations about the site under investigation;

C. A description of the vulnerability of the site and structures to seismic and other geologic processes and a description of any potential hazards that could be created or exacerbated as a result of site development.

1. Evaluation of the current design in terms of the risk of structural

damage or injury resulting from seismically induced stress, settlement, soil liquefaction, and other processes.

2. A description and evaluation of the best available engineering and geological practices that either eliminates or minimizes the risk of structural damage or injury resulting from seismic forces including public roads, utilities and other features.

19.10.500 Sensitive Aquifer Recharge Areas

A. **Classification.**

Aquifer recharge areas are categorized according to the following criteria.

1. Category I - Severe Aquifer Sensitivity. "Category I - Severe aquifer sensitivity" are those areas which provide rapid recharge with little protection, having highly permeable soils. The predominant soil series and types are those listed in Category I in Table 19.10.500.B.
2. Category II - Moderate Aquifer Sensitivity. "Category II - Moderate aquifer sensitivity" are those areas with aquifers present, but which have a surface soil material that encourages run-off and slows water entry into the ground. The predominant soil series and types are those listed as Category II in Table 19.10.500.B.
3. Category III - Slight Aquifer Sensitivity. "Category III - Slight aquifer sensitivity" are those areas of low ground water availability and whose soil series are derived from basaltic, andesitic, or sedimentary rock or ancient glacial till which are parent material for soils with more clays at the surface. These geological formations do not provide abundant ground water. The predominant soil series and types are those listed as Category III in Table 19.10.500.B.

Table 19.10.500.A – Aquifer Sensitivity Ratings for Soil Texture

Soil Texture[1]	DRASTIC Rating[1]	Sensitivity
Thin or Absent[3]	10	Category I - Severe
Gravel	10	Category I - Severe
Sand	9	Category I - Severe
Peat	8	Category I - Severe
Shrink/Swell Clay	7	Category II - Moderate
Sandy loam	6	Category II - Moderate
Loam	5	Category II - Moderate
Silt loam	4	Category II - Moderate

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Clay loam	3	Category III - Slight
Muck	2	Category III - Slight
Non-shrink/Swell Clay	1	Category III - Slight

1. The DRASTIC Index (Aller et.al. June 1987) was developed cooperatively between the National Water Well Association (NWWA; now the National Ground Water Association) and the U.S. Environmental Protection Agency (EPA) to rank soil types with respect to pollution transport potential.

Table 19.10.500.B – Aquifer Sensitivity Ratings for Soil Units

Soil Series Name & Map Unit Symbol	Category I Severe	Category II Moderate	Category III Slight
Alderwood gravelly sandy loam (Ag)		X	
Alderwood and Kitsop soils, very steep (AkF)		X	
Beausite gravelly sandy loam (Be)		X	
Bellingham silt loam (Bh)		X	
Buckley silt loam (Bu)		X	
Everett gravelly sandy loam (Ev)		X	
Mixed alluvial land (Ma)		X	
Norma sandy loam (No)		X	
Ragnar-Indianola association, sloping (RdC)		X	
Seattle muck (Sk)			X
Shalcar muck (Sm)			X

B. **Prohibited Uses and Criteria**

1. The following new development proposals and alterations are not allowed on a site located in a category I sensitive aquifer recharge area:

   a. Disposal of radioactive wastes, as defined in chapter 43.200 RCW;

   b. Hydrocarbon extraction;

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c. Commercial wood treatment facilities;

d. Class V injection wells, but limited to subclasses 5F01, 5D03, 5D04, 5W09, 5W10, 5W11, 5W31, 5X13, 5X14, 5X1S, 5W20, 5X28, and 5N24;

e. Underground storage tanks, including tanks exempt from the requirements of chapter 173-360 WAC, with hazardous substances, as defined in chapter 70.105 RCW, that do not comply with the requirements of chapter 173-360 WAC and K.C.C. Title 17;

f. Above ground storage tanks for hazardous substances, as defined in chapter 70.105 RCW, unless protected with primary and secondary containment areas and a spill protection plan;

g. Landfills for hazardous waste, or special waste, as defined in WAC173-303;

h. Wrecking yards;

i. Electroplating;

j. Solid waste handling and processing facilities

k. Dry cleaners, excluding drop-off only operations;

l. Landfills for municipal solid waste;

m. Transmission pipelines carrying petroleum or petroleum products;

n. Sand and gravel, and hard rock mining

o. Mining of any type below the upper surface of the saturated ground water that could be used for potable water supply;

p. Vehicle repair

q. Biological research

r. Chemical manufacturing, mixing and remanufacturing

s. Golf courses;

t. Cemeteries;

2. Except as otherwise provided in subsection C. of this section, the following new development proposals and alterations are not allowed on a site located in a category II sensitive aquifer recharge area: items (a) through (i) in subsection (B)(1) above.

3. Except as otherwise provided in subsection C. of this section, the

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following new development proposals and alterations are not allowed on a site located in a category III sensitive aquifer recharge area: items (a) through (h) in subsection (B)(1) above.

C. The following standards apply to development proposals and alterations that are substantial improvements on a site located in a sensitive aquifer recharge area:

1. The owner of an underground storage tank, including a tank that is exempt from the requirements of chapter 173 WAC, in a category I, II or III sensitive aquifer recharge area shall either bring the tank into compliance with the standards of chapter 173 WAC and or properly decommission or remove the tank; and
2. A development proposal for new residential development, including, but not limited to, a subdivision, short subdivision, or dwelling unit, shall incorporate best management practices in order to infiltrate stormwater runoff to the maximum extent

19.10.600 Definitions.

Words not defined in this chapter shall be as defined in the city code, the Washington Administrative Code, or the Revised Code of Washington. Words not found in either code shall be as defined in the Webster's Third New International Dictionary, latest edition.

19.10.601 ***Adjacent*** **–** Immediately adjoining (in contact with the boundary of the influence area) or within a distance that is less than that needed to separate activities from sensitive areas to ensure protection of the functions and values of the sensitive areas. Adjacent shall be determined on a case by case basis and at the minimum shall include any activity or development located:

A. On a site immediately adjoining a sensitive area;
B. A distance equal to or less than the greatest potential sensitive area buffer width and building setback applicable to the resource;
C. A distance equal to or less than one-half mile (2,640 feet) from a bald eagle nest;
D. A distance equal to or less than three hundred (300) feet upland from a stream, wetland, or water body;
E. Bordering or within the floodway, floodplain or channel migration zone; or
F. A distance equal to or less than two hundred (200) feet from a sensitive aquifer recharge area.

19.10.602 ***Agricultural activities*** **–** Agricultural uses and practices existing or legally allowed on the effective date of this ordinance on rural land or agricultural land designated under RCW 36.70A.170 including, but not limited to: Producing, breeding, or increasing agricultural products; rotating and changing agricultural crops; allowing land used for agricultural activities to lie fallow in which it is plowed and tilled but left unseeded; allowing land used for agricultural activities to lie dormant as a result of adverse agricultural market conditions; allowing land used for agricultural activities to lie dormant because the land is enrolled in a local, state, or federal conservation program, or the land is subject to a conservation easement; conducting agricultural operations; maintaining, repairing, and replacing agricultural equipment; maintaining, repairing, and replacing agricultural facilities, when the replacement facility is no closer to a sensitive area than the original facility; and maintaining agricultural lands under production or cultivation

19.10.603 ***Alteration*** **–** Any human induced change on a site, or in the vicinity that alters the existing condition and/or ecological functions and values of a sensitive area or its buffer. Alterations include, but are not limited to grading, filling, channelizing, dredging, clearing (vegetation), construction, compaction, excavation, or any other activity that changes the character of the sensitive area.

19.10.604 ***Anadromous fish*** **–** Fish that spawn and rear in freshwater and mature in the marine environment.

19.10.605 ***Applicant*** **–** A person who files an application for permit under this chapter and who is either the owner of the land on which that proposed activity would be located, a contract purchaser, has a valid easement of other right to utilize, or is a public utility or public agency with the right of eminent domain, or is the authorized agent of such a person.

19.10.606 ***Aquifer, sole source*** **–** An area designated by the U.S. Environmental Protection Agency under the Safe Drinking Water Act of 1974, Section 1424(e). The aquifer(s) must supply fifty percent (50%) or more of the drinking water for an area without a sufficient replacement available.

19.10.607 ***Best available science*** **–** Current scientific information used in the process to designate, protect, or restore sensitive areas, that is derived from a valid scientific process as defined by WAC 365-195-900 through 925. Sources of best available science are included in Citations of Recommended Sources of the Best Available Science for Designating and Protecting Sensitive Areas published by the Washington State Office of Community Development.

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19.10.608 ***Best management practices (BMPs)*** **–** Conservation practices or systems of practices and management measures that reflect the current scientific and technical consensus on the best or most effective means of addressing adverse effects upon a resource.

19.10.609 ***Buffer or buffer zone*** **–** An area that is contiguous to a sensitive area and provides an area for related ecological functions to take place including, but not limited to, the continued maintenance, functioning, and/or structural stability of a sensitive area and/or separates and protects the sensitive area from adverse impacts associated with adjacent land uses.

19.10.610 ***Compensation project*** **–** Actions that are necessary to replace project-induced sensitive area and buffer losses, including land acquisition, planning, construction plans, monitoring, and contingency actions.

19.10.611 ***Compensatory mitigation*** **–** Replacing project-induced losses or impacts to a sensitive area, and includes, but is not limited to, the following:

Restoration – Actions performed to reestablish functional characteristics and processes that have been lost by alterations, activities, or catastrophic events within an area that no longer provides such functions.

Creation – Actions performed to intentionally establish functional characteristics of an ecosystem at a site where it did not formerly exist.

Enhancement – Actions performed to improve the condition of existing degraded ecological functions so that the functions they provide are of a higher quality.

19.10.612 ***Conservation easement*** **–** A legal agreement that the property owner enters into to restrict uses of the land. Such restrictions can include, but are not limited to, restrictions on use or specific facilities to protect resources such as water quality, wetland function, vegetation and habitat and may include passive recreation uses such as trails or scientific uses and may require specific measures to protect resources such as fences or other barriers. The easement is recorded on a property deed, runs with the land, and is legally binding on all present and future owners of the property, therefore, providing permanent or long-term protection.

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19.10.613 ***Cumulative impacts or effects*** **–** The combined, incremental effects of human activity on ecological or sensitive areas functions and values. Cumulative impacts result when the effects of an action are added to or interact with other effects or actions in a particular place and within a particular time.

19.10.614 ***Developable area*** **–** A site or portion of a site that may be utilized as the location of development, in accordance with the rules of this chapter.

19.10.615 ***Development*** **–** Any activity upon the land consisting of construction or alteration of structures, earth movement, dredging, dumping, grading, filling, mining, removal of any sand, gravel, or minerals, driving of piles, drilling operations, bulkheading, clearing of vegetation, or other land disturbance. Development includes the storage or use of equipment or materials inconsistent with the existing use. Development also includes approvals issued by the city that binds land to specific patterns of use, including but not limited to, subdivisions, short subdivisions, zone changes, conditional use permits, and binding site plans. Development activity does not include the following activities:

A. Interior building improvements.

B. Exterior structure maintenance activities, including painting and roofing.

C. Routine landscape maintenance of established, ornamental landscaping, such as lawn mowing, pruning and weeding.

D. Maintenance of the following *existing* facilities that does not expand the affected area: septic tanks (routine cleaning); wells; individual utility service connections; and individual cemetery plots in established and approved cemeteries.

19.10.616 ***Development permit*** **–** Any permit issued by the [city/county], or other authorized agency, for construction, land use, or the alteration of land.

19.10.617 ***Erosion*** **–** The process whereby wind, rain, water, and other natural agents mobilize and transport particles.

19.10.618 ***Erosion hazard areas*** **–** At least those areas identified by the United State Department of Agriculture National Resources Conservation Service as have a “severe” rill and inter-rill erosion hazard.

19.10.619 ***Exotic*** **–** Any species of plants or animals, which are foreign to the planning area.

19.10.620 ***Fish habitat*** **–** Habitat that provides the life supporting and reproductive needs of a species or life stage of fish. Although the habitat

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requirements of a species depend on its age and activity, the basic components of fish habitat in rivers, streams, ponds, lakes, and nearshore areas include, but are not limited to, the following:

A. Clean water and appropriate temperatures for spawning, rearing, and holding;

B. Adequate water depth and velocity for migrating, spawning, rearing, and holding, including off-channel habitat;

C. Abundance of bank and in-stream structures to provide hiding and resting areas and stabilize stream banks and beds;

D. Appropriate substrates for spawning and embryonic development. For stream and lake dwelling fishes, substrates range from sands and gravel to rooted vegetation or submerged rocks and logs. Generally, substrates must be relatively stable and free of silts or fine sand;

E. Presence of riparian vegetation that creates a transition zone, which provides shade, and food sources of aquatic and terrestrial insects for fish;

F. Unimpeded passage (i.e. due to suitable gradient and lack of barriers) for upstream and downstream migrating juveniles and adults.

19.10.621 ***Flood or flooding*** **–** A general and temporary condition of partial or complete inundation of normally dry land areas from the overflow of inland waters and/or the unusual and rapid accumulation of runoff of surface waters from any source.

19.10.622 ***Floodplain*** **–** The total land area adjoining a river, stream, watercourse or lake subject to inundation by the base flood.

19.10.623 ***Formation*** **–** An assemblage of earth materials grouped together into a unit that is convenient for description or mapping.

19.10.624 ***Functions and values*** **–** Functions are processes or attributes provided by areas of the landscape (e.g. wetlands, rivers, streams, and riparian areas) The beneficial roles served by sensitive areas including, but are not limited to, water quality protection and enhancement, fish and wildlife habitat, food chain support, flood storage, conveyance and attenuation, ground water recharge and discharge, erosion control, wave attenuation, protection from hazards. Values are human perceptions of individual and social benefit associated with these functions and may include functional value for economic benefit, historical and archaeological value, aesthetic appreciation, educational, scientific, recreational or religious pursuits. These beneficial roles are not listed in order of priority.

19.10.625 ***Ground water*** **–** Water in a saturated zone or stratum beneath the surface of land or a surface water body.

19.10.626 ***Geologically Hazardous areas*** **–** Areas designated as geologically hazardous areas due to potential for erosion, landslide, seismic activity, mine collapse, or other geological condition.

19.10.627 ***Hazardous substances*** **–** Any liquid, solid, gas, or sludge, including any material, substance, product, commodity, or waste, regardless of quantity, that exhibits any of the physical, chemical or biological properties described in WAC 173-303-090 or 173-303-100.

19.10.628 ***Natural condition*** **–** Condition of the land, including flora, fauna, soil, topography, and hydrology that existed before the area and vicinity were developed or altered by human activity.

19.10.629 ***In-kind compensation*** **–** To replace sensitive areas with substitute areas whose characteristics and functions closely approximate those destroyed or degraded by a regulated activity. It does not mean replacement "in-category."

19.10.630 ***Isolated wetlands*** **–** Those wetlands that are outside of and not contiguous to any 100-year floodplain of a lake, river, or stream, and have no contiguous hydric soil or hydrophytic vegetation between the wetland and any surface water.

19.10.631 ***Infiltration*** **–** The downward entry of water into the immediate surface of soil.

19.10.632 ***Landslide hazard areas*** **–** Areas that are potentially subject to risk of mass movement due to a combination of geologic landslide resulting from a combination of geologic, topographic, and hydrologic factors. These areas are typically susceptible to landslides because of a combination of factors including: bedrock, soil, slope gradient, slope aspect, geologic structure, ground water, or other factors.

19.10.633 ***Monitoring*** **–** Evaluating the impacts of development proposals on the biological, hydrological, and geological elements of such systems and assessing the performance of required mitigation measures throughout the collection and analysis of data by various methods for the purpose of understanding and documenting changes in natural ecosystems and features, and includes gathering baseline data.

19.10.634 ***Native growth protection area (NGPA)*** **–** An area where native vegetation is preserved for the purpose of preserving ecological functions or preventing harm to property and the environment, including, but not limited to, controlling surface water runoff and erosion, maintaining slope stability, buffering and protecting plants and animal habitat;

19.10.635 ***Native vegetation*** **–** Plant species that are indigenous to the area in question.

19.10.636 ***Natural waters*** **–** Waters, excluding water conveyance systems that are artificially constructed and actively maintained for irrigation.

19.10.637 ***Non-indigenous*** **–** See "exotic."

19.10.638 ***Nonconforming*** –A use, development, structure or parcel that was lawfully constructed or established prior to the effective date of this code or amendments hereto, but which does not conform to present regulations or standards. For purposes of this code, a nonconforming parcel or lot shall be a single family residential lots within a subdivision filed within five years previous to the adoption of provisions of this code that render them non-conforming in compliance with RCW 58.17.170, or any other lots or parcels under contiguous ownership.

19.10.639 ***Off-site compensation*** **–** To replace sensitive areas away from the site on which a sensitive area has been impacted.

19.10.640 ***On-site compensation*** **–** To replace sensitive areas at or adjacent to the site on which a sensitive areas has been impacted.

19.10.641 ***Out-of-kind compensation*** **–** To replace sensitive areas with substitute sensitive areas whose characteristics do not closely approximate those destroyed or degraded. It does not refer to replacement "out-of-category."

19.10.642 ***Practical alternative*** **–** An alternative that is available and capable of being carried out after taking into consideration, cost, existing technology, and logistics in light of overall project purposes, and having fewer impacts to sensitive areas.

19.10.643 ***Primary association area*** **–** The area used on a regular basis by, or is in close association with, or is necessary for the proper functioning of the habitat of a sensitive species. Regular basis means that the habitat area is normally, or usually known to contain a sensitive species, or based on known habitat requirements of the species, the area is likely to contain the sensitive species. Regular basis is species and population dependent. Species that exist in low numbers may be present infrequently yet rely on certain habitat types.

19.10.644 ***Priority habitat*** **–** Habitat type or elements with unique or significant value to one or more species as classified by the Department of Fish and Wildlife. A priority habitat may consist of a unique vegetation type or dominant plant species, a described successional stage, or a specific structural element (WAC 173-26-020(34)).

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19.10.645 ***Project area*** **–** The area proposed to be disturbed, altered, or used by the proposed activity or the construction of any proposed structures. When the action binds the land, such as a subdivision, short subdivision, binding site plan, planned unit development, or rezone, the project area shall include the entire contiguous parcel owned or controlled by the applicant, at a minimum.

19.10.646 ***Qualified professional*** **–** A person with experience and training in the pertinent scientific discipline, and who is a qualified scientific expert with expertise appropriate for the relevant sensitive area subject in accordance with WAC 365-195-905(4). A qualified professional must have obtained a B.S. or B.A. or equivalent degree in the relevant field, and two years of related work experience.

A. A qualified professional for terrestrial or aquatic habitats must have a degree in biology and professional experience related to the subject species.

B. A qualified professional for wetlands must have a degree in biology and professional experience related to wetlands and has passed a certification course.

C. A qualified professional for a geological hazard must be a professional engineer or geologist, licensed in the state of Washington.

D. A qualified professional for sensitive aquifer recharge areas means a hydrogeologist, geologist, engineer, or other scientist with experience in preparing hydrogeologic assessments.

19.10.647 ***Recharge*** **–** The process involved in the absorption and addition of water to ground water.

19.10.648 ***Relative density*** **–** A method for evaluating the density of trees in relation to the theoretical maximum density for trees of the same size and species. It is preferable to a simple density (trees/acre) because it is a more accurate measure of occupied growing space and suppression mortality. Relative density equals the basal area of all trees in the stand divided by the square root of the quadratic mean diameter.

19.10.649 ***Repair or maintenance*** **–** An activity that restores the character, scope, size, and design of a serviceable area, structure, or land use to its previously authorized and undamaged condition. Activities that change the character, size, or scope of a project beyond the original design and drain, dredge, fill, flood, or otherwise alter sensitive areas are not included in this definition.

19.10.650 ***Restoration*** **–** Measures taken to restore an altered or damaged natural feature including:

A. Active steps taken to restore damaged or altered ecological conditions, wetlands, streams, protected habitat, or their buffers to the functioning condition that existed prior to an unauthorized alteration; and

B. Actions performed to reestablish structural and functional characteristics of the sensitive area that have been lost by alteration, past management activities, or catastrophic events.

19.10.651 ***Riparian habitat*** **–** Areas adjacent to aquatic systems (stream, lake or pond) that contain elements of both aquatic and terrestrial ecosystems that mutually influence each other. Riparian areas include those portions of terrestrial ecosystems that significantly influence exchanges of energy and matter with aquatic ecosystems (i.e., zone of influence). The width of these areas extends to that portion of the terrestrial landscape that directly influences the aquatic ecosystem by providing shade, fine or large woody material, nutrients, organic and inorganic debris, terrestrial insects, or habitat for riparian-associated wildlife. Riparian habitat areas include those riparian areas altered due to human development activities.

19.10.652 ***River*** **–** See "Watercourse"

19.10.653 ***Scientific process*** **–** A valid scientific process is one that produces reliable information useful in understanding the consequences of a decision. The characteristics of a valid scientific process are as follows:

A. **Peer review.** The information has been sensitively reviewed by other qualified scientific experts in that scientific discipline.

B. **Methods.** The methods that were used are standardized in the pertinent scientific discipline or the methods have been appropriately peer-reviewed to assure their reliability and validity.

C. **Logical conclusions and reasonable inferences.** The conclusions presented are based on reasonable assumptions supported by other studies and are logically and reasonably derived from the assumptions and supported by the data presented.

D. **Quantitative analysis.** The data have been analyzed using appropriate statistical or quantitative methods.

E. **Context.** The assumptions, analytical techniques, data, and conclusions are appropriately framed with respect to the prevailing body of pertinent scientific knowledge.

F. **References.** The assumptions, techniques, and conclusions are well referenced with citations to pertinent existing information.

19.10.654 ***Seismic hazard areas*** **–** Areas that are subject to severe risk of damage as a result of earthquake-induced ground shaking, slope failure, settlement, or soil liquefaction.

19.10.655 ***Sensitive area tract*** **–** Land designated as a separate parcel and retained in an open condition in perpetuity for the protection of sensitive areas. Lands within this type of dedication may include sensitive areas and related buffers. Ownership may be vested in a private party, in undivided interest by lots in a subdivision, in a non-profit entity or a public entity.

19.10.656 ***Sensitive habitat-*** Habitat areas with which endangered, threatened, sensitive or monitored plant, fish, or wildlife species have a primary association (e.g., feeding, breeding, rearing of young, migrating). Such areas are identified herein with reference to lists, categories, and definitions promulgated by the Washington Department of Fish and Wildlife as identified in WAC 232-12-011 or 232-12-014; in the Priority Habitat and Species (PHS) program of the Department of Fish and Wildlife; or by rules and regulations adopted by the U.S. Fish and Wildlife Service, National Marine Fisheries Service, or other agency with jurisdiction for such designations.

19.10.657 ***SEPA*** **–** Washington State Environmental Policy Act, Chapter 43.21C RCW.

19.10.658 ***Shorelands or shoreland areas*** **–** Those lands extending landward for two hundred feet (200 ft) in all directions as measured on a horizontal plane from the ordinary high water mark; floodways and contiguous floodplain areas landward two hundred (200) feet from such floodways; and all wetlands and river deltas associated with the streams, lakes and tidal waters which are subject to the provisions of Chapter 90.58 RCW.

19.10.659 ***Soil survey*** **–** The most recent soil survey for the local area or county by the National Resources Conservation Service, U.S. Department of Agriculture.

19.10.660 ***Species*** **–** Any group of animals classified as a species or subspecies as commonly accepted by the scientific community.

19.10.661 ***Species, endangered*** **–** Any fish or wildlife species that is threatened with extinction throughout all or a significant portion of its range and is listed by the state or federal government as an endangered species.

19.10.662 ***Species of local importance*** **–** Those species of local concern due to their population status or their sensitivity to habitat manipulation, or that are game species.

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19.10.663 ***Species, priority*** **–** Any fish or wildlife species requiring protective measures and/or management guidelines to ensure their persistence as genetically viable population levels as classified by the Department of Fish and Wildlife, including endangered, threatened, sensitive, candidate and monitor species, and those of recreational, commercial, or tribal importance.

19.10.664 ***Species, threatened*** **–** Any fish or wildlife species that is likely to become an endangered species within the foreseeable future throughout a significant portion of its range without cooperative management or removal of threats, and is listed by the state or federal government as a threatened species.

19.10.665 ***Stream*** **–** See "Watercourse."

19.10.666 ***Sub-drainage basin or subbasin*** **–** The drainage area of the highest order stream containing the subject property impact area. Stream order is the term used to define the position of a stream in the hierarchy of tributaries in the watershed. The smallest streams are the highest order (first order) tributaries. These are the upper watershed streams and have no tributaries of their own. When two first order streams meet, they form a second order stream, and when two second order streams meet they become a third order stream, and so on.

19.10.667 ***Unavoidable*** **–** Adverse impacts that remain after all appropriate and practicable avoidance and minimization have been achieved.

19.10.668 ***Water dependent*** **–** A use or portion of a use that cannot exist in a location that is not adjacent to the water, but is dependent on the water by reason of the intrinsic nature of its operations. A use that can be carried out only on, in, or adjacent to water. Examples of water dependent uses include ship cargo terminal loading areas; fishing; ferry and passenger terminals; barge loading, ship building, and dry docking facilities; marinas, moorage, and boat launching facilities; aquaculture; float plane operations; surface water intake; and sanitary sewer and storm drain outfalls.

19.10.669 ***Water resource inventory area (WRIA)*** **–** One of sixty-two (62) watersheds in the state of Washington, each composed of the drainage areas of a stream or streams, as established in Chapter 173-500 WAC on January 1, 1997, as amended hereafter.

19.10.670 ***Water table*** **–** That surface in an unconfined aquifer at which the pressure is atmospheric. It is defined by the levels at which water stands in wells that penetrate the aquifer just far enough to hold standing water.

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19.10.671 *Watercourse* – Those areas where surface waters produce a defined channel or bed. A defined channel or bed is an area that demonstrates clear evidence of the annual passage of water and includes, but is not limited to, bedrock channels, gravel beds, sand and silt beds, and defined-channel swales. The channel or bed need not contain water year-round. This definition includes drainage ditches or other artificial water courses where natural streams existed prior to human alteration, and/or the waterway is used by anadromous or resident salmonid or other fish populations.

19.10.672 *Well* – A bored, drilled or driven shaft, or a dug hole whose depth is greater that the largest surface dimension for the purpose of withdrawing or injecting water or other liquids.

19.10.672 *Wetlands* – Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas. Wetlands do not include those artificial wetlands intentionally created from non-wetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from non-wetland areas to mitigate the conversion of wetlands. For identifying and delineating a wetland, local government shall use the Washington State Wetland Identification and Delineation Manual.

19.10.674 *Wetland edge* – The boundary of a wetland as delineated based on the definitions contained in this chapter.

EXHIBIT A

FINDINGS OF FACT

A. General Sensitive Areas Findings

1. The Growth Management Act requires the adoption of development regulations that protect sensitive areas designated in accordance with RCW 36.70A.170.
2. RCW 36.70A.172 requires local governments to give special consideration to the conservation and protection measures necessary to preserve or enhance anadromous fisheries.

Mayor Initial:_____

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3. Development may result in cumulative impacts to those functions and values of sensitive areas that contribute to and are necessary for a healthy natural environment and perceived quality of life.
4. The development of residences, businesses, shopping areas and other structures, and the clearing of land for accommodation of livestock and for such development all have the potential of adversely and significantly impacting the functions and values of sensitive areas.
5. The unwise development of resource lands or areas susceptible to natural hazards may lead to inefficient use of limited public resources, jeopardize environmental resource functions and values, subject persons and property to unsafe conditions, and affect the perceived quality of life.
6. It is more costly to remedy the loss of sensitive area functions and values than to conserve and protect them from loss or degradation.
7. In determining what sensitive areas are to be afforded a particular degree of protection, the City of Black Diamond has evaluated a wide range of the best science available with respect to the sensitive areas to make informed decisions that meet the intent of the Growth Management Act and that are also reflective of local needs. The sources of this best available science that were evaluated and included in this ordinance include the following:

August xx, 2008Washington State Wetland Identification and Delineation Manual, (Ecology Publication #96-94 1997).

Washington State Wetland Rating System for Western Washington, (Ecology Publication #04-06-025).

Wetland Mitigation in Washington State – Part 2: Guidelines for Developing Wetland Mitigation Plans and Proposals, April 2004 (Ecology Publication #04-06-013b).

Appendix 8-B *Wetland Language in a Sensitive Areas Ordinance* (April 2005).

Appendix 8-C *Guidance on Buffers and Ratios—Western Washington* (April 2005).

Wetland Replacement Ratios: Defining Equivalency, (Washington State Department of Ecology, 1992, Publication #92-08).

Sensitive Areas Assistance Handbook (CTED November 2003).
Appendix A, Example Code Provisions for Designating and Protecting Sensitive Areas.

Management Recommendations for Washington's Priority Habitats: Riparian, Washington Department of Fish and Wildlife, 1997.

U.S. Geological Survey landslide hazard, seismic hazard, and volcano hazard maps.

Washington State Department of Natural Resources seismic hazard maps for Western Washington.

Washington State Department of Natural Resources slope stability maps.

Black Diamond Sensitive Areas Map.

8. Protection standards for one sensitive area often provide protection for one or more other sensitive areas.
9. Sensitive areas may also be protected by other actions by the City of Black Diamond, such as stormwater management standards, sensitive area restoration, and public education; and from other regulations, such as the Forest Practices Act, the Shoreline Management Act, and the State Environmental Policy Act.

B. Wetlands

1. Wetlands and streams are environmentally sensitive and serve numerous natural functions and values. These functions include: wildlife and fisheries habitat; water quality protection; flood protection; shoreline stabilization; stream flow; and ground water recharge and discharge. In many situations, these functions cannot be adequately replicated or replaced.
2. The scientific literature supports in the inclusion of protective buffers from wetlands to provide sediment control and nutrient inputs to wetlands, and to protect important wetland functions.
3. Wetlands are identified and rated according to the Washington State Wetland Identification and Delineation Manual and Washington State Wetland Rating System Western

Washington, prepared by the Washington State Department of Ecology (Ecology).

4. The scientific literature supports protective buffers ranging from 25 to 300 feet of relatively intact native vegetation to adequately protect wetland functions and values.
5. Appropriate wetland mitigation ratios – ratios of areas of wetland replacement and enhancement to that altered or destroyed – are established in Wetland Mitigation Replacement Ratios: Defining Equivalency, published by Ecology, 1992.

C. Fish and Wildlife Habitat Conservation Areas

1. Fish and wildlife habitat conservation areas perform many important physical and biological functions that benefit the [jurisdiction] and its residents, including but not limited to: maintaining species diversity and genetic diversity; providing opportunities for food, cover, nesting, breeding and movement for fish and wildlife; serving as areas for recreation, education and scientific study and aesthetic appreciation; helping to maintain air and water quality; controlling erosion; and providing neighborhood separation and visual diversity within urban areas.
2. Wetlands and streams are environmentally sensitive and serve numerous natural functions and values. These functions include: wildlife and fisheries habitat; water quality protection; flood protection; shoreline stabilization; stream flow; and ground water recharge and discharge. In many situations these functions cannot be adequately replicated or replaced.
3. The scientific literature supports in the inclusion of protective buffers from streams to provide sediment control, nutrient inputs to downstream waters, large woody debris, and other functions important to riparian areas.
4. The Washington Department of Fish and Wildlife (WDFW) has prepared management recommendations for the preservation of priority habitat and species, which are based on the best available science, and include, in some instances, recommended protective buffer distances.
5. Salmonid and anadromous fish may be more impacted by development and human activity during some times than others. Such times are referred to as “fish windows,” which have been documented by WDFW.

6. DNR has classified watercourses according to a stream-typing system based on channel width, fish use, and perennial or intermittent status.
7. WAC 365-190-080(5) grants the City of Black Diamond the flexibility to make decisions in the context of local circumstances, and specifically excuses local jurisdictions from being required to protect "all individuals of all species at all time."

D. Geologically Hazardous Areas

1. Geologically hazardous areas are subject to periodic geological events that result in loss of life and property, health, and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures, and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare.
2. Geologic hazards may be exacerbated by development and human activity in sensitive areas, and impacts resulting from geologic hazards may be reduced by limiting development and human activity within or adjacent to the geologic hazard.
3. Some geologic hazards may be intensified during periods of consistent or heavy rainfall that results in ground saturation or surface water drainage flows.

Mayor Initial:_____

Date:_____

ORDINANCE NO. 09-

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF BLACK DIAMOND, KING COUNTY WASHINGTON, UPDATING THE CITY'S PROTECTION OF SENSITIVE AREAS BY ADOPTING A NEW SENSITIVE AREAS ORDINANCE THAT WILL BE CODIFIED AS A NEW CHAPTER 19.10 TO THE BLACK DIAMOND MUNICIPAL CODE AND RENAMING CHAPTER 19.12 OF THE MUNICIPAL CODE AND MAKING MINOR CHANGES TO 19.12 RELATING TO AGRICULTURAL ACTIVITIES

WHEREAS**,** the Growth Management Act requires cities and counties planning under it to periodically review, and, if needed, revise their sensitive areas ordinances to ensure compliance with the Growth Management Act; and

WHEREAS, RCW 36.70A.172 requires local governments to include the "best available science" in preparing policies and regulations to protect the functions and values of critical areas, giving special consideration to the conservation and protection measures necessary to preserve or enhance anadromous fisheries; and

WHEREAS, the last major updates to the City's sensitive areas regulations occurred in 1993; and

WHEREAS, the City Council held duly notice public hearings on the proposed sensitive areas ordinance on November 13, 2008 and December 2, 2008; and

WHEREAS, a Determination of Non-Significance was issued pursuant to the State Environmental Policy Act on February 22, 2008 by the City's Responsible Official, and

WHEREAS, on September 22, 2008, the City submitted the proposed sensitive areas ordinance to Washington State Department of Trade and Community Development for review pursuant to RCW 36.70A.106; and

WHEREAS, RCW 36.70A.560 prohibits counties and cities, for the period beginning May 1, 2007, and concluding July 1, 2010, from amending or adopt sensitive area ordinances as they specifically apply to agricultural activities, as defined therein; therefore agricultural activities shall be exempt from this sensitive areas ordinance and the provisions of BDMC Chapter 19.12 in effect prior to this amendment shall remain in full force and effect as to agricultural activities only; and

WHEREAS, the proposed sensitive areas ordinance is based on analysis of ecosystem functions and values in the City, Urban Growth Area and surrounding areas

that documents that the "core" complex of wetlands along Rock Creek, Jones Lake, Jones Creek, Black Diamond Lake and Black Diamond Creek is an area of intensive processes that contributes disproportionate positive values to critical area functions and water quality in Lake Sawyer and therefore warrants a high level of protection and conservation, and

WHEREAS, the proposed sensitive areas ordinance provides for protection of sensitive areas in a manner that assures protection of the ecological functions and values of sensitive areas and provides special consideration to the preservation and conservation measures necessary to preserve and enhance anadromous fisheries, while appropriately balancing other goals of the Growth Management Act as provided in RCW 36.70A.020;

NOW THEREFORE,

THE CITY COUNCIL OF THE CITY OF BLACK DIAMOND, KING COUNTY, WASHINGTON, ORDAINS AS FOLLOWS:

SECTION 1. The City Council adopts the Findings of Fact attached to this ordinance and hereby incorporated by reference as Exhibit A, with each page of the exhibit being initialed and dated by the Mayor.

SECTION 2. The title to Chapter 19.12 of the Black Diamond Municipal Code is hereby amended to read as follows: "Environmentally Sensitive Areas—Agricultural Activities."

SECTION 3. Section 19.12.040 is hereby amended to read as follows:

19.12.040 Compliance with chapter provisions--Required.

No agricultural activities shall be undertaken by any person or entity which results in a substantial alteration of a sensitive area except in compliance with the requirements and goals, purposes and objectives of this chapter and only with those mitigation measures set forth in Section 19.12.070 below.

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SECTION 4. A new Chapter 19.10, entitled "Sensitive Areas," is hereby added to the Black Diamond Municipal Code and it shall read as shown in the copy attached to this ordinance as Exhibit B and hereby incorporated by reference, with each page of the exhibit being initialed and dated by the Mayor.

SECTION 5. The provisions of the current Black Diamond Shoreline Master Program shall not be amended or affected by the adoption of this ordinance.

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SECTION 6. This Ordinance shall be in full force and effect five days after its passage, approval, posting and publication as provided by law. A summary of this Ordinance may be published in lieu of publishing the Ordinance in its entirety.

SECTION 7. If any provision of this Ordinance is determined to be invalid or unenforceable for any reason, the remaining provisions of this Ordinance shall remain in force and effect.

Introduced the ____ day of _____, 2009.

Passed by a majority of the City Council at a meeting held on the _____ day of _____, 2009.

_____
Mayor Howard Botts

Attest:

_____
Brenda Streepy, City Clerk

APPROVED AS TO FORM:

_____
Loren D. Combs, City Attorney

Published: _____
Posted:_____
Effective Date: _____

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Date:_____

EXHIBIT B TO ORDINANCE NUMBER 08- Deleted: 09

Chapter 19.10

SENSITIVE AREAS

Section:

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19.10.005 General Provisions

BDMC 19.10.005 to BDMC 19.10.190 are general provisions pertaining to sensitive areas.

19.10.010 Purpose

This chapter has been enacted for the following purposes:

A. To designate and classify sensitive areas and their ecosystems and to protect these areas and their functions and values using the best available science, giving special consideration to conservation or protection measures necessary to preserve or enhance anadromous fisheries, while recognizing and allowing for reasonable use of private property;

B. To limit development and alteration of sensitive areas to achieve the goal of no net loss of sensitive areas or their functions and values;

C. To protect members of the public and public resources and facilities from public health or safety concerns, including injury, loss of life, or property damage due to events such as landslides and steep slope failures, erosion, seismic events, and mine hazards;

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D. To provide for compatible land use on or adjacent to sensitive areas and direct activities not compatible with sensitive areas resources to less ecologically sensitive sites and mitigate unavoidable adverse impacts to sensitive areas by regulating alterations in and adjacent to sensitive areas; and

E. To prevent cumulative adverse environmental impacts to sensitive areas resulting from many individual actions.

F. To place the highest level of protection on what has been identified the "Core" and "Headwater Areas".

19.10.020 Applicability and Jurisdiction

A. This chapter shall apply to all uses, activities, and developments undertaken within or adjacent to one or more sensitive areas and their ecosystems, including buffers as designated herein. Sensitive areas designated and regulated by this chapter include:

1. Wetlands
2. Fish and wildlife conservation areas
3. Geologically hazardous areas.
4. Critical aquifer recharge areas
5. Frequently flooded areas

B. The jurisdiction of this chapter includes all development that may have adverse impacts on sensitive areas within the city and their buffers.

1. An inventory of designated sensitive areas is maintained by the City and has been mapped on the Black Diamond Sensitive Areas Maps, as amended or supplemented. Those maps are resources for the identification of the probable location, extent and classification of sensitive areas. Such information may be used by the mayor or his/her designee as a basis for applying the provisions of this code, including requiring field investigation and special reports. In the event of a conflict between information contained in the Sensitive Areas Maps and information relating to the criteria by which Sensitive Areas are defined, including information resulting from a field investigation, the latter shall prevail. Preparation and maintenance of such documents and maps shall not create liability on the part of the City of Black Diamond or any officer or employee thereof for any damages that result from reliance on said maps.

2. Any area within the city meeting the definition of one or more sensitive area, regardless of any formal mapping, identification or delineation, are hereby designated as sensitive areas and are

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subject to the provisions of this chapter.

19.10.030 Relationship to other Regulations

A. These sensitive areas regulations shall apply as an overlay and in addition to zoning and other regulations adopted by the city.

B. Any sensitive area or buffer subject to another type of sensitive area shall be provided the buffer and meet the requirements that provide the most protection to the sensitive areas involved.

C. These sensitive areas regulations shall be applied concurrently with review required under other city codes for development and use and the State Environmental Policy Act (SEPA), and any conditions required pursuant to this chapter shall be included in the review of development or use permits, including SEPA review and threshold determination. If no other permits are required, a separate Sensitive Areas Permit is provided for in Section 19.10.120.B.3.

19.10.050 Mitigation

A. **Project Action.** Any project action taken pursuant to this chapter shall be mitigated and result in equivalent or greater functions and values of the sensitive areas associated with the proposed action.

B. **Proposed Action.** The design and development of a proposed action under this chapter must give special consideration to conservation or protection measures necessary to preserve or enhance anadromous fish, such as salmon, and their habitat.

C. **Mitigation sequencing.** All proposed actions and developments shall be designed to avoid, minimize, and/or restore all identified adverse impacts in the following order of preference:

1. Avoiding the impact altogether by not taking a certain action or parts of an action;
2. Minimizing adverse impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps, such as project redesign, relocation, or timing, to avoid or reduce impacts;
3. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment
4. Minimizing or eliminating a hazard by restoring or stabilizing the hazard area through engineered or other methods;
5. Reducing or eliminating the impact or hazard over time by preservation and maintenance operations during the life of the action;

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6. Compensating for the impact to by replacing, enhancing, or providing substitute resources or environments; and
7. Monitoring the impact and the required mitigation and taking corrective measures action when necessary.

19.10.060 Allowed activities.

The following activities are allowed under this chapter: The level of review shall be determined by the mayor or his/her designee and shall include (1) existing and compatible activities, (2) emergency actions, (3) activities requiring notification or (4) a full permit review through existing permits or the sensitive area review permit or the exception process. The allowed activities under each review process include:

A. **Existing and Compatible Activities:** The continuation of existing use and activities does not require prior review or approval. Review of expansion of existing use associated with new facilities shall be reviewed in accordance with non-conforming provisions in 19.10.170. Such activities include, but are not limited to:

1. **Operation, maintenance, or repair.** Operation, maintenance, or repair of existing legally established structures, infrastructure improvements, utilities, public or private roads, or drainage systems, that do not require construction permits, if the activity does not modify the character, scope, or size of the original structure or facility or increase the impact to, or encroach further within, the sensitive area or buffer and there is no increased risk to life or property as a result of the proposed operation, maintenance, or repair. Operation and maintenance includes vegetation management performed in accordance with best management practices that is part of ongoing maintenance of structures, infrastructure, or utilities, provided that such management actions are part of regular and ongoing maintenance, do not expand further into the sensitive area, are not the result of an expansion of the structure or utility, and do not directly impact an endangered or threatened species;
2. **Vegetation Management.** The following vegetation removal activities are allowed using hand labor and light equipment,

   a. The removal of non-native or noxious and invasive weeds; and

   b. Maintenance of existing, lawfully established landscaping and gardens within a regulated sensitive area or its buffer, including but not limited to, mowing lawns, weeding, removal of noxious and invasive species, harvesting and

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replanting of garden crops, pruning and planting of ornamental vegetation or indigenous native species to maintain the condition and appearance of such areas as they existed prior to adoption of this code, provided that native growth protection areas, mitigation sites, or other areas protected via conservation easements or similar restrictive covenants are not covered by this exception.

3. **Outdoor activities.** Recreation, education, and scientific research activities that do not degrade the sensitive area, including such things as fishing, hiking, and bird watching.
4. **Forest Practices.** These practices are governed by a valid Forest Practices Permit granted by the Washington State Department of Natural Resources, except where:
   a. The lands have been or are proposed to be converted under a conversion option harvest plan to a use other than commercial forest product production as provided in chapter RCW 76.09.050 and RCW 76.09.240, or
   b. On lands which have been platted after January 1, 1960, as provided in RCW 76.09.050 and RCW 76.09.240.
5. **Agricultural activities.** Agricultural activities shall be subject to the provisions Chapter 19.12 of the Black Diamond Municipal Code. in effect prior to this amendment until July 1, 2010, pursuant to RCW 36.70A.560.
6. **Boundary markers.** Construction or modification of boundary markers.

B. **Emergencies.** Those activities necessary to prevent an immediate threat to public health, safety, or welfare, or that pose an immediate risk of damage to public or private property and that require remedial or preventative action in a time frame too short to allow for compliance with the requirements of this chapter may be undertaken without prior notification. The mayor or his/her designee shall be provided notification of action taken within two working days after work is initiated, except for city-wide or regional disasters. Mitigation for alteration of sensitive areas may be required and may require subsequent preparation of a sensitive areas report and appropriate permits for restoration. in accordance with the review procedures contained herein. Restoration and/or mitigation activities must be initiated within ninety (90) days of the date of the emergency, and completed in a timely manner;

C. **Actions Subject to Notification and Approval.** The following actions

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that can be planned and programmed in advance require written notification to the mayor or his/her designee. If the Mayor or his/her designee does not respond within ten (10) days of notification, the activity is deemed approved. The notification must be in a format specified by the administrator to provide specific information describing the activity and the Best Management Practices proposed to minimize impacts on sensitive areas, as well as mitigation proposed. The Mayor or his/her designee may deny or impose conditions on proposed activities, or specify that an alternative review process is required. Such activities include:

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1. **Minor site investigative work.** Work necessary for land use submittals, such as surveys, soil logs, percolation tests, and other related activities, where such activities do not require construction of new roads or displacement of more than 10 cubic yards of material. Investigations involving displacement of more than 10 cubic yards of material, including geotechnical soil borings, groundwater monitoring wells, percolation tests, and similar activities shall require submittal of specific plans and restoration plans. In every case, impacts to the sensitive area shall be minimized and disturbed areas shall be immediately restored; and
2. **Minor utility projects.** Utility projects that have minor or short-duration impacts to sensitive areas, as determined by the mayor or his/her designee in accordance with the criteria below, and which do not significantly impact the function or values of the sensitive area(s); provided, that such projects are constructed with best management practices and additional restoration measures are implemented. Minor activities shall not result in the transport of sediment or increased stormwater. Such allowed minor utility projects shall meet the following criteria:
    a. There is no practical alternative to the proposed activity with less impact on sensitive areas;
    b. The activity involves the placement of a utility pole, street signs, anchor, or vault or other small component of a utility facility; and
    c. The activity involves disturbance of an area less than 75 square feet.
3. **Activities within the improved right-of-way:** Replacement, modification, installation, or construction of new utility facilities, lines, pipes, mains, equipment, or appurtenances, not including substations, when such facilities are located within the improved portion of the public right-of-way or a city authorized private roadway (road surface, shoulder, sidewalks, and fill slopes not

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characterized by re-establishment of trees in excess of 4 inches in diameter); except, those activities that alter a wetland or watercourse, such as culverts or bridges, or result in the transport of sediment or increased stormwater. All activities are subject to the following:

a. Sensitive area and/or buffer widths shall be increased, where possible, equal to the area of disturbance; and,

b. Retention and replanting of native vegetation shall occur wherever possible along the right-of-way improvement and resulting disturbance

4. **Hazardous Tree Removal** The removal of trees from sensitive areas and buffers that are hazardous, posing a threat to public safety, or posing an imminent risk of damage to private property can be conducted in accordance with the BDMC 19.30 provided that:

a. All vegetation cut (tree stems, branches, etc.) shall be left within the sensitive area or buffer unless removal is warranted due to the potential for disease or pest transmittal to other healthy vegetation or due to the potential for a public safety hazard;

b. The landowner shall replace any trees that are removed with new trees in accordance with an approved restoration plan within at a ratio that will lead to re-establishment of ecological functions of water cycle, erosion control, hade and habitat. Replacement plantings generally will consist of replanting of the area within the drip line of the removed tree and include either one gallon containers at a minimum triangular spacing of 5 feet, five gallon containers at a minimum triangular spacing of 8 feet, or at a minimum a ratio of two replacement trees for each tree removed (2:1) of trees a minimum of six 4 to 6 feet in height for deciduous trees and 6 to 12 feet for evergreens as measured from the top of the root ball. Restoration plantings must be installed within the next feasible growing season and in no case more than one (1) year from removal. A performance security may be required to assure implementation. Replacement trees shall be species that are native and indigenous to the site;

c. If a tree to be removed provides sensitive habitat, such as an eagle perch, a qualified wildlife biologist shall be consulted to determine timing and methods or removal that will

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minimize impacts. Compliance with state and federal requirements may be required, and;

5. Removal of vegetation or woody debris from a wildlife conservation area or wetland due to the potential for disease or pest transmittal to other healthy vegetation or due to the potential for a fire or other public safety hazard, or as a necessary part of an approved alteration;
6. Measures to control a fire or halt the spread of disease or damaging insects consistent with the state Forest Practices Act, Chapter 76.09 RCW, provided that the removed vegetation shall be replaced in-kind or with similar native species within one (1) year in accordance with an approved restoration plan.
7. Activities undertaken to comply with a United States Environmental Protection Agency superfund related order, or a Washington Department of Ecology order pursuant to the Model Toxics Control Act that specifically preempts local regulations in the findings of the order. Provided that an action that requires compliance with the purpose and intent of local regulations may require a submittal of sensitive area reports and may be processed as a sensitive areas permit.
8. Activities and facilities for restoration and enhancement of ecological functions of sensitive areas and related resources upon approval of a restoration and mitigation plan by all other relevant agencies in accordance with a watershed restoration project pursuant to RCW 89.08.460, a Salmonid Recovery Plan, or Salmon Recovery Board Habitat Project List, or identified by the Washington Department of Fish and Wildlife as essential for fish and wildlife habitat enhancement pursuant to RCW 77.55.290.

D. All actions that do not meet the criteria above must be approved in accordance with sensitive areas review integrated with other required permits or by a sensitive areas permit.

19.10.080 Exceptions

A. **Agricultural activities.** The provisions of this sensitive areas ordinance shall not apply to agricultural activities. "Agricultural activities" shall mean agricultural uses and practices existing or legally allowed on rural land or agricultural land designated under RCW 36.70A.170, as currently enacted or hereafter amended, including but not limited to: producing, breeding, or increasing agricultural products; rotating and changing agricultural crops; allowing land used for agricultural activities to lie fallow in which it is plowed and tilled but left unseeded; allowing land used for agricultural activities to lie dormant as a result of adverse

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agricultural market conditions; allowing land used for agricultural activities to lie dormant because the land is enrolled in a local, state, or federal conservation program, or the land is subject to a conservation easement; conducting agricultural operations; maintaining, repairing, and replacing agricultural equipment or facilities, when the facility is no closer to a critical area than the original facility; and maintaining agricultural lands under production or cultivation.

B. **Essential public facility.** If the application of this chapter would prohibit a development proposal by a public agency or public utility that is essential to providing a public service, or if the application of this chapter would deny all reasonable economic use of the subject property by the property owner, then the agency or utility or property owner may apply for an exception pursuant to this Section.

C. **Exception request and review process.** An application for a public agency, public utility or reasonable use exception shall be made to the city and shall include a sensitive area identification form; sensitive area report, including mitigation plan, if necessary; and any other related project documents, such as permit applications to other agencies, special studies, and environmental documents. The mayor or his/her designee shall prepare a recommendation to the Hearing Examiner, except for the provisions for a non-conforming single family lot as provided in Subsection E. below, based on review of the submitted information, a site inspection, and the proposal's ability to comply with the applicable public agency and utility exception review criteria in Subsection (D) below.

D. **Hearing Examiner review.** The Hearing Examiner shall review the application, except for the provisions for a non-conforming single family lot as provided in Subsection E. below, consider the recommendation of the mayor or his/her designee, and consider public testimony at a public hearing. The Hearing Examiner shall approve, approve with conditions, or deny the request based on the proposal's ability to comply with all of the applicable exception criteria in Subsection (D).

E. **Exception review criteria.** The criteria for review and approval of a requested exception are as follows:

1. Public agencies and public utilities exception:

   a. There is no other practical alternative to the proposed development with less impact on the sensitive areas;

   b. The application of this chapter would unreasonably restrict the ability to provide utility services to the public;

   c. The proposal does not pose an unreasonable threat to the public health, safety, or welfare on or off the development proposal

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site;

d. The proposal attempts to protect and mitigate adverse impacts to the sensitive area functions and values; and

e. The proposal is consistent with other applicable regulations and standards.

2. Private property reasonable use exception:

a. The application of this chapter would deny all reasonable economic use of the property;

b. No other reasonable economic use of the property has less impact on the sensitive area;

c. The proposed impact to the sensitive area is the minimum necessary to allow for reasonable economic use of the property;

d. The inability of the applicant to derive reasonable economic use of the property is not the result of actions by the applicant after the effective date of this chapter, or its predecessor;

e. The proposal does not pose an unreasonable threat to the public health, safety, or welfare on or off the development proposal site;

f. The proposal will result in no net loss of sensitive area functions and values; and

g. The proposal is consistent with other applicable regulations and standards.

3. Reasonable Use Exception for Non-Conforming Single Family Lots

a. A reasonable use exception may be approved administratively by the mayor or his/her designee for non-conforming single family residential lots within a subdivision filed within five years previous to the adoption of provisions of this code that render them non-conforming in compliance with RCW 58.17.17, or other lots or parcels under contiguous ownership and less than 20,000 square feet in size that are not subject to landslide hazard areas and associated buffers, shall be subject to the following standards, in conformance with the provisions for a reasonable use exception in subsection (D)(2) (c) through (g) and in accordance with the following criteria:

b. Non-conforming lots with an area of 2,500 square feet or more

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available for a building area unrestricted by sensitive areas or buffers shall comply with the standards of this chapter. The building area means the entire area that will be disturbed to construct a structure with a 10-foot setback containing an allowed use and normal appurtenances, including parking and landscaping.

c. Non-conforming lots that do not meet the requirement of subsection b, above, shall provide the maximum setback and buffer dimension feasible while providing for a building envelope, including 10-foot setback, to a maximum of 2,500 square feet on the lot. The building area shall generally be located on the portion of the lot farthest from the required sensitive area or buffer and/or the least-sensitive portion of the lot.

d. The area between the structure and the sensitive area should be maintained or planted in native trees and understory vegetation.

e. The mayor or his/her designee shall approve, approve with conditions, or deny the request based on the proposal's ability to comply with all of the applicable exception criteria in Subsection (D)(2)(c) through (g).

19.10.100 Sensitive Area Determination and Reports

BDMC 19.10.100 though BDMC 19.10.140 pertain to sensitive areas determination and reports.

19.10.110 Sensitive Area Pre-Application Meeting

Any person preparing to submit an application for development or use of land that may be regulated by the provisions of this chapter is encouraged to conduct a consultation meeting with the mayor or his/her designee prior to submitting an application for development or other approval. At this meeting, the Mayor or his/her designee shall discuss the requirements of this chapter; provide sensitive area maps, scientific information, and other source materials maintained by the city; outline the review process; and work with the applicant to identify any potential concerns that might arise during the review process, as well as discussing the need for other permit approvals and their procedures.

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19.10.120 Sensitive Area Permit Review

A. **Integration with Other Permits.** The approval or denial of an activity or modification within a sensitive area shall be integrated with the review required by any other permit. The decision shall be made by the decision-maker prescribed by the underlying permit, provided that the mayor or his/her designee shall prepare a written analysis that may be in checklist

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form, for compliance with sensitive area standards and criteria. The review process will be integrated with the review of the underlying permit. Public notice is required only if required by the underlying permit.

B. **Separate Permit Review.** If no other permit or approval is required, or for approval of allowed uses listed in Section 19.10.060, or for review of sensitive areas jurisdiction as provided in C.1 below, the Mayor or his/her designee may approve a separate sensitive areas permit. Submittal requirements may be modified to address the specific proposal. Fees shall be in accordance with the city fee schedule. Review shall be administrative. If variation in standards for any sensitive area is proposed, public notice shall be provide as provided for a variance in the zoning code. Sensitive area reviews include:

1. **Emergencies.** Notification of emergency actions taken where there is imminent danger to persons of property requiring that action must take place within 48 hours do not require prior approval. Such notification shall describe work performed and sensitive areas and buffers disturbed. The mayor or his/her designee may:

   a. Administratively approve the emergency action taken with no further action required;

   b. Administratively approve restoration activities that do not require other permits or approvals. A sensitive areas report and/or mitigation plan may be required.

   c. Direct the applicant to apply for other required permits or approvals for required restoration activities.

2. **Actions Subject to Notification and Approval.** Actions that can be planned and programmed in advance, including repair or replacement of utility facilities that do not require other permits or approval shall be subject to notification and administrative review. The mayor or his/her designee shall specify requirements for submittal requirements to address information required on the presence of sensitive areas, description of the activity proposed, and description of the BMPs proposed. The Mayor or his/her designee may approve said work and impose conditions upon finding that no substantive impact on sensitive area functions and values will occur. Notification shall be submitted at least ten (10) full business days prior to initiating work. Approvals may be granted for up to one year per activity provided that there is no change in the scope of the project including, but not limited to, the location and/or extent of the activity allowed under the notification process.

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3. **Sensitive Area Permit.** Projects that may have substantial impacts on sensitive area functions, but do not require other permits may be reviewed by the mayor or his/her designee as a sensitive area permit subject to all submittal and review criteria and standards of this section. Jurisdiction determinations can be made for projects requiring other permits or approvals, however review of the proposal must take place in conjunction with other review required

C. **Sensitive Areas Jurisdiction Decision**. At the time of, or prior to the city's consideration of any proposed activity, the applicant shall submit to the department a completed sensitive area determination on a form provided by the city.

1. **Review.** Upon receipt of a project application and a sensitive area determination form, the mayor or his/her designee shall review available sensitive area maps and data and conduct a site inspection to review sensitive area conditions on site if needed. The administrator and/or his designee make a determination as to whether any sensitive areas may be affected by the proposal and if a sensitive areas report will be required based on the following indicators:

   a. Indication of a sensitive area on the city sensitive areas maps that may be impacted by the proposed activity;

   b. Information and scientific opinions from appropriate agencies, including but not limited to the departments of Fish and Wildlife, Natural Resources, and Ecology;

   c. Documentation, from a scientific or other reasonable source, of the possible presence of a sensitive area; or

   d. A finding by a qualified professional or a reasonable belief by the mayor or his/her designee that a sensitive area may exist on or adjacent to the site of the proposed activity.

2. **Determination decisions.**

   a. **No sensitive areas present.** If, after a site visit, the analysis by the mayor or his/her designee indicates that the project area is not within or adjacent to a sensitive area or buffer and that the proposed activity is unlikely to degrade the functions or values of a sensitive area, then the mayor or his designee shall rule that the sensitive area review is complete and note on the determination form the reasons that no further review is required. A summary of this information shall be included in any staff report or decision on the underlying permit.

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b. **Sensitive areas present, but no impact – report waiver**. If the mayor or his/her designee determines that there are sensitive areas within or adjacent to the project area, but that the proposed activity is outside of required buffer areas and is unlikely to degrade the functions or values of the sensitive area, the administrator may waive the requirement for a sensitive area report. A summary of this analysis and the findings shall be included in any staff report or decision on the underlying permit. A waiver may be granted if there is substantial evidence that all of the following requirements will be met:

i. The boundaries and classification of the sensitive area and associated buffers can be reliably determined without a technical study, and there will be no alteration of the sensitive area or buffer;

ii. The development proposal will not adversely impact the sensitive area in a manner contrary to the purpose, intent, and requirements of this chapter; and

iii. The proposal is consistent with other applicable regulations and standards.

c. **Sensitive areas may be affected by proposal.** If the mayor or his/her designee determines that a sensitive area or areas may be adversely affected by the proposal, then the administrator shall notify the applicant that a sensitive areas report must be submitted prior to further review of the project, and indicate each of the sensitive area types that should be addressed in the report.

d. Sensitive area jurisdiction decisions shall be final unless, unknown information is brought to the attention of the mayor or his/her designee.

19.10.130 Sensitive Area Reports

A. **Preparation by qualified professional.** Sensitive area reports shall be prepared by a qualified professional(s) having expertise in the specific sensitive area category(s) that are the subject of the report.

B. **Use of existing documents.** Unless otherwise provided and as approved by the mayor or his designee, a sensitive area report may be supplemented by or composed, in whole or in part, of any reports or studies required under other laws and regulations or previously prepared for and applicable to the development proposal site.

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C. **Modifications to report requirements.**

1. **Limitations to study area.** The required geographic area of the sensitive area report may be limited as appropriate if:

   a. The applicant, with assistance from the city, cannot obtain permission to access properties adjacent to the project area; or

   b. The proposed activity will affect only a limited part of the subject site.

2. **Modifications to required contents.** The applicant may consult with the mayor or his/her designee prior to or during preparation of the sensitive area report to obtain city approval of modifications to the required contents of the report where, in the judgment of a qualified professional, more or less information is required to adequately address the potential adverse impacts and required mitigation.

3. **Additional information requirements.** The mayor or his/her designee may require additional information to be included in the sensitive area report if necessary for the city to adequately review the proposed activity in accordance with this chapter.

D. **Minimum report contents**. At a minimum, the report shall contain the following information:

1. The name and contact information of the applicant, a description of the proposal, and identification of the permit requested;

2. A copy of the site plan for the development proposal including:

   a. A map to scale depicting sensitive areas and buffers, and any areas to be cleared;

   b. Extent of the project area for the proposed activity;

   c. Topographic elevations at two (2) foot intervals for the sensitive area and its buffer, and at five (5) foot intervals for the remainder of the project site;

   d. Location of existing and proposed structures, and areas for storage of materials;

   e. A description of the proposed stormwater management plan and facilities for the development and consideration of adverse impacts to drainage alterations.

3. The dates, names, and qualifications of the persons preparing the report and documentation of any fieldwork performed on the site;

4. Identification and characterization of all sensitive areas and

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buffers, water bodies, and floodplains within 300 feet of the proposed project area;

5. Detailed description of vegetation in and adjacent to the project area and its associated buffer;
6. A statement documenting sources of best available science and all assumptions made and relied upon;
7. A description of reasonable efforts made to apply mitigation in the order of preference as stipulated in Section 19.10.050;
8. If required, plans for adequate mitigation to offset any adverse impacts, in accordance with 19.10.140, and including, but not limited to:
    a. The adverse impacts of any proposed development within or adjacent to a sensitive area or buffer on the sensitive area; and
    b. The adverse impacts of any proposed alteration of a sensitive area or buffer on the development proposal, other properties and the environment.
9. A discussion of the performance standards applicable to the sensitive area and proposed activity; and
10. Proposed financial guarantees to ensure compliance.

E. Additional information requirements for specific sensitive areas. In addition to the report requirements listed above in Section 19.10.130(D), the minimum information specific to each sensitive area category shall also be required.

F. The City maintains the authority to call for a third party, independent review, paid for by the applicant, if a disagreement exists in the content of the sensitive area report.

19.10.140 Mitigation Plans.

A. **Requirements.** When mitigation is required, the applicant shall submit for approval by the city, a mitigation plan as part of the sensitive area report. The mitigation plan shall include:

1. A description of the anticipated adverse impacts to the sensitive areas and the mitigating actions proposed and the purposes of the compensation measures (if applicable), including the site selection criteria; identification of compensation goals; identification of resource functions; and dates for beginning and completion of site compensation construction activities. The goals and objectives shall be related to the functions and values of the impacted sensitive area;

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2. A review of the best available science supporting the proposed mitigation; and
3. Specific information requirements and criteria are provided below for each sensitive area.

B. **Plan criteria.** The mitigation plan shall include measurable specific criteria for evaluating whether or not the goals and objectives of the mitigation project have been successfully attained and whether or not the requirements of this chapter have been met.

C. **Plan specifications.** The mitigation plan shall include written specifications and descriptions of the mitigation proposed, such as (and if applicable):
   1. Specific calculations of the area of impact and mitigation area utilized;
   2. The proposed construction sequence, timing, and duration;
   3. Grading and excavation details;
   4. Erosion and sediment control features;
   5. A planting plan specifying plant species, quantities, locations, size, spacing, and density; and
   6. Measures to protect and maintain plants until established.

   These written specifications shall be accompanied by detailed site diagrams, scaled cross-sectional drawings, topographic maps showing slope percentage and final grade elevations, and any other drawings appropriate to show construction techniques or anticipated final outcome.

D. **Monitoring program.** The mitigation plan shall include a program for monitoring construction of the proposed mitigation or compensation project and for assessing the completed project. A protocol shall be included outlining the schedule for site monitoring (for example, monitoring shall occur in years 1, 3, 5, and 7 after site construction), and how the monitoring data will be evaluated to determine if the performance standards are being met. A monitoring report shall be submitted as needed to document milestones, successes, problems, and contingency actions of the project. The project shall be monitored for a period necessary to establish that performance standards have been met, but not for a period less than three (3) years. Specific more detailed information requirements and criteria are provided below for each sensitive area.

E. **Contingencies.** The mitigation plan shall include identification of potential courses of action, and any corrective measures to be taken if monitoring or evaluation indicates project performance standards are not being met.

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F. **Financial guarantees.** The mitigation plan shall include proposed financial guarantees, if necessary, to ensure that the mitigation plan is fully implemented. Financial guarantees ensuring fulfillment of the compensation project, monitoring program, and any contingency measures shall be posted with the city at the time of the first grading, clearing, or construction permit in the amount as provided below

1. Performance Surety. The applicant shall post a cash performance bond, letter of credit, or other security acceptable to the city in the amount of one hundred and twenty five percent (125%) of the estimated cost of the uncompleted actions or the estimated cost of restoring the functions and values of the sensitive area that are at risk, whichever is greater. The surety shall be based on an itemized cost estimate of the mitigation activity including clearing and grading, plant materials, plant installation, irrigation, weed management, monitoring, and other costs. The conditions of the surety shall be consistent with the purposes of this chapter and the conditions to be fulfilled. In the event of a breach of any condition of any such bond, the city may institute an action in a court of competent jurisdiction upon such bond and prosecute the same to judgment and execution. The city shall release the bond upon determining that:

   a. All activities, including any required compensatory mitigation, have been completed in compliance with the terms and conditions of the permit and the requirements of this chapter;

   b. Upon the posting by the applicant of a maintenance surety.

2. Maintenance and Monitoring Surety. The city shall require the holder of a development permit issued pursuant to this chapter to post a cash performance bond, letter of credit, or other security acceptable to the city in an amount and with surety and conditions sufficient to guarantee that structures, improvements and mitigation required by the permit of by this Chapter perform satisfactorily, generally for a period consistent with the monitoring period identified in section 19.10.140D and after final acceptance by the City. The city shall release the maintenance bond upon determining that performance standards established for evaluating the effectiveness and success of the structures, improvements and/or compensatory mitigation have been satisfactorily met for the required period. For compensation projects, the performance standards shall be those contained in the mitigation plan developed and approved during the permit review process. The maintenance

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bond applicable to a compensation project shall not be released until the city determines that performance standards established for evaluating the effect and success of the project have been met. The mayor or his/her designee may return up to 25% of the surety following the first year of monitoring provided that the year 1 performance standards are met and the risk of subsequent failure is considered low.

3. Depletion, failure, or collection of surety funds shall not discharge the obligation of an applicant or violator to complete required mitigation, maintenance, or monitoring.

4. Public development proposals may be relieved from having to comply with the surety requirements of this section if public funds have been committed through a budget process wit final approval for mitigation, maintenance, or monitoring.

G. **Mitigation Banking.** The City may approve mitigation banking as a form of compensatory mitigation for wetlands and fish and wildlife habitat conservation area impacts when the provisions of this chapter require mitigation and when it is clearly demonstrated that the use of a mitigation bank will provide equivalent or greater replacement of sensitive area functions and values when compared to conventional on-site mitigation, provided that all of the following criteria are met:

1. Mitigation banks shall only be used when they provide significant ecological benefits including long-term conservation of sensitive areas, important species, habitats and/or habitat linkages, and when they are consistent with the City's Comprehensive Plan and create a viable alternative to the piecemeal mitigation for individual project impacts to achieve ecosystem-based conservation goals.

2. The mitigation bank shall be established in accordance with the Washington State Draft Mitigation Banking Rule WAC 173-700 or as revised, and RCW 90.84 and the federal mitigation banking guidelines as outlined in the Federal Register Volume 60. No 228, November 28, 1995. These guidelines establish the procedural and technical criteria that banks must meet to obtain state and federal certification.

3. Preference shall be given to mitigation banks that implement restoration actions that have been identified in an adopted Shoreline Restoration Plan, watershed planning document prepared and adopted pursuant to RCW 90.82, a Salmonid Recovery Plan or project that has been identified on the Salmon Recovery Board Habitat Project List or by the Washington Department of Fish and Wildlife as essential for fish and wildlife habitat enhancement.

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4. Mitigation banks shall be used for mitigation of impacts to wetlands and wildlife habitat areas within the Lake Sawyer watershed except in cases where the mayor or his/her designee determine that mitigation is not feasible within the Lake Sawyer watershed.

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19.10.150 Notice on Title

A. **Recording of restriction.** The owner of any property containing sensitive areas on which a development proposal is approved shall file with the mayor or his/her designee and provide a copy of the filed notice to the city, unless notice is provided on a plat as provided in B, below. The notice shall:

1. State the presence of the sensitive area and/or buffer area on the property, and identify that there are limitations and restrictions on uses and actions in or affecting the sensitive area and/or buffer imposed by this code and by the provisions of the sensitive areas code and specific conditions of approval. The notice shall indicate that the restrictions run with the land and may be altered only in conjunction with amendment of this chapter or amendment of specific conditions of approval as provided by this chapter.
2. Provide that management of the sensitive area is required to include, but is not limited to, maintenance or replacement of vegetation to assure the long-term viability of a community of native vegetation, control of invasive plant control, and fulfillment of other conditions of approval.
3. Provide for the right of the public, and specifically the City of Black Diamond, to enforce the terms of the restrictions through civil infraction or other legal address.
4. If a site plan has been approved indicating the extent of the sensitive area and buffer and permit conditions, a copy of the site plan together with relevant survey information and permit conditions shall be included in the notice filed.

B. **Plats and Short Plats**. Restrictions on use and development of sensitive areas buffers and setback areas on plats and short plats shall include the information in A, above, shall designate the party responsible for maintenance of the sensitive area, if other than the property owner, and shall place sensitive areas in tracts or easements as provided below:

1. Designation of separate tracts for sensitive areas and buffers shall be the preferred method of designation and protection of sensitive areas in plats to provide for integrated management of the sensitive area and buffer separately from lots. The tract may be:

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a. Held in an undivided interest by each owner of a building lot within the development, the ownership of which shall pass with the ownership of the lot. Responsibility for meeting all requirements of preservation and management shall be designated to an incorporated homeowner's association or other legal entity that assures the ownership and protection of the sensitive area.

b. Dedicated to the City of Black Diamond or other governmental entity qualified to own and manage open space as soon as any mitigation and monitoring requirements have been completed by the applicant.

c. Conveyed to a non-profit land trust, provided the land may not be thereafter transferred to a private party, and provided that if the land trust is dissolved or otherwise fails to perform its functions, ownership and responsibility for management shall devolve to an undivided interest by each owner of a building lot within the development, as provided in a., above.

2. The mayor or his/her designee may allow a sensitive area and buffer to be placed within a protective easement on a parcel with the responsibility for meeting all requirements of preservation and management placed on the owner of the parcel over which the easement is placed. This means of designation shall be used in cases where the size and the ecological functions of the sensitive area do not require coordinated management or where formation of an incorporated homeowner's association or other legal entity for management is found to be impractical because of the limited number of lots, or where ownership and management by the City, a qualified special district or a land trust is found to be impractical. This alternative generally will be limited to sensitive areas and buffers of less than 20,000 square feet and developments of fewer than ten (10) parcels, or non-residential or multi-family development.

C. This notice on title shall not be required for a development proposal by a public agency or public or private utility within a right-of-way or easement for which they do not have fee-simple title.

D. The applicant shall submit proof that the notice, dedication or easement has been filed for public record before the City shall approve any final plat or final site plan for such site. The notice shall run with the land and failure to provide such notice to any purchaser prior to transferring any interest in the property shall be a violation of this section.

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19.10.160 Building Setbacks

A. Buildings and other structures shall be set back a sufficient distance to assure that disturbance to sensitive area vegetation and soils is avoided during construction, maintenance and use.

B. Buildings and other structures shall be set back a distance of ten (10) feet from the edges of all sensitive area buffers or from the edges of all sensitive areas if no buffers are required, provided that the mayor or his/her designee may modify the building setback based on specific development plans that document that construction techniques, maintenance needs and use will not disturb sensitive areas or buffer.

C If slopes adjacent to the buffer for wetlands or water bodies exceed 15 percent, including slopes created by grading, a swale installed on the outside edge of the buffer or other engineered solution shall be installed sufficient to intercept surface water movement.

D. The following facilities and uses are allowed in the building setback:

1. Landscaping, including rockeries not over 42 inches high provided construction does not alter the buffer or sensitive area;
2. Uncovered decks, platforms, porches and similar projections not over 42 inches high;
3. Building eaves, cornices, chimneys and similar projections;
4. Impervious surfaces such as driveways, parking lots, roads, and patios provided that such surfaces conform to applicable water quality standards and that construction equipment does not enter the buffer or sensitive area;
5. Clearing and grading consisting of not over 42 inches of cut or fill.
6. Fences, in accordance with local convents and other design standards.
7. Small utility projects

19.10.170 Non-conforming development

The following provisions shall apply to lawfully established uses, buildings and/or structures that do not meet the specific standards of this Program.

A. Nonconforming uses shall be governed in accordance with the provisions of the zoning code or in accordance with the Shoreline Master Program subject to additional provisions in this chapter. Such use may not be altered or expanded except in compliance with standards provided in said codes.

B. Nonconforming structures, facilities and developments damaged by fire or other cause shall be governed in accordance with the provisions of the

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zoning code or in accordance with the Shoreline Master Program subject to additional provisions in this chapter.

C. Alteration of existing structures or facilities may require modification to sensitive areas or buffers, in accordance with this section and other provisions of this code.

1. **Minor alteration or renovation** shall be defined as alteration or renovation of any structure, or making other improvements, that result in any of the following:

   a. Expansion of floor area by up to 500 square feet, or by up to 10 percent, whichever is less; or

   b. Expansion of impervious surface by up to 1,000 square feet, or by up to 10 percent, whichever is less; or

   c. Remodeling or renovation that equals less than 50 percent of the value of the existing structures or improvements, excluding plumbing, electrical and mechanical systems.

   Minor alteration may require compliance with specific performance standards of this code.

2. **Moderate alteration or renovation** shall be defined as the alteration or renovation of any structure, or making other improvements, that result in any of the following:

   a. Expansion of floor area by 500 square feet or more, or by more than 10 percent but less than 50 percent, whichever is less; or

   b. Expansion of impervious surface by more than 1,000 square feet, or by more than 10 percent but less than 50 percent, whichever is less; or

   c. Remodeling or renovation equal to or greater than 50 percent but less than 100 percent of the value of the existing structures or improvements, excluding plumbing, electrical and mechanical systems.

   Moderate alteration may require compliance with specific performance standards of this code.

3. **Substantial alteration or redevelopment** shall be defined as alteration or renovation of any structure, or making other improvements, that result in any of the following:

   a. Expansion of floor area by 50 percent or more, or the expansion of impervious surface by 50 percent or more; or

   b. Remodeling or renovation equal to or exceeding 100 percent of the value of the existing structures or improvements, excluding plumbing and mechanical systems.

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Such substantial reconstruction shall be considered the same as new construction and shall fully comply with the provisions of this code.

D. **Buffer adjustment based on existing lot depth.** The mayor or his/her designee may vary buffer dimensions on existing lots under contiguous ownership to take into consideration the existing depth of lots, measured perpendicular from the boundary of the wetland or stream or other sensitive area. Buffers on such lots may be adjusted up to the following, provided that this shall not apply to a geological hazard area unless all applicable design and other standards are met.

1. Lot depth less than 100 feet – buffers may be adjusted to utilize no more than 40% of lot depth, or as necessary to provide a buildable area outside the buffer no less than 40 feet deep, provided that a minimum buffer is not less than 25 feet or 50% of the distance between an existing primary building and the edge of the wetland or stream or other sensitive area.
2. Lot depth 100 feet to 150 feet – buffers may be adjusted to utilize no more than 50% of lot depth or 50% of the distance between an existing primary building and the edge of the wetland or stream or other sensitive area.
3. Lot depth 150 to 200 feet – buffers may be adjusted to utilize no more than 60% of lot depth or 60% of the distance between an existing primary building and the edge of the wetland or stream or other sensitive area.
4. Lot depth 200 feet to 250 feet – buffers may be adjusted to no more than 65% of lot depth or 65% of the distance between an existing primary building and the edge of the wetland or stream or other sensitive area.
4. Lot depth 250 feet to 300 feet – buffers may be adjusted to utilize no more than 70% of lot depth or 70% of the distance between an existing primary building and the edge of the wetland or stream or other sensitive area.
5. All other provisions for design and management of buffer areas and adjacent land shall apply, provided that allowed uses in buffer areas may be restricted to reduce impacts on ecological functions and values.

19.10.180 Administration

A. The mayor or his/her designee shall have the authority to adopt administrative rules as deemed necessary consistent with the provisions of this chapter and that are necessary for the implementation of sensitive area

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regulations.

B. The mayor or his/her designee shall have a right to enter upon any property at reasonable times and to make such inspections as are necessary to determine compliance with the provisions of this chapter or the conditions imposed pursuant to this chapter. The City shall make a reasonable effort to locate the owner or persons in charge and notify them of the times and purposes of required entry.

C. The mayor or his/her designee is further authorized to take such actions as may be necessary to enforce the provisions of this chapter including but not limited to the civil infraction, abatement and criminal penalties provided in Black Diamond Municipal Code.

D. The city's enactment or enforcement of this chapter shall not be construed for the benefit of any individual person or group of persons other than the general public.

19.10.190 Appeals

A. An aggrieved party may appeal a decision of the city granting or denying a permit that is subject to the appeal process provided for the underlying permit.

B. For a sensitive areas permit where no other permit is provided, an appeal may be filed pursuant to the provisions for administrative appeal in the zoning code.

19.10.200 Wetlands

BDMC 19.10.205 to BDMC 19.10.240 pertain to wetlands.

19.10.210 Designation, rating, and mapping wetlands

Wetlands in Black Diamond are designated and classified in accordance with the following provisions:

A. **Designating wetlands.** Wetlands are those areas designated in accordance with the requirements of RCW 36.70A.175 and 90.58.380 and the *Washington State Wetland Identification and Delineation Manual (1997)*. All areas meeting the criteria in manual regardless of mapping or other identification are designated sensitive areas and are subject to the provisions of this chapter.

B. Wetlands shall be rated based on categories that reflect the functions and values of each wetland.

1. **Core Wetland and Stream Complex.** The wetland complex associated with Rock Creek, Jones Lake, Jones Creek, Black

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Diamond Lake, Black Diamond Creek, and Ravensdale Creek are designated as the Core Stream and Wetland Complex. The general boundaries of the area affected are designated within the Best Available Science Document, Technical Appendix B, provided that the dimensions of the area shall be defined by the field verified wetland boundaries and the buffers defined in Section 19.10.230.

2. Headwaters Wetlands. The wetland complex associated with the headwaters of Ginder Creek, Lawson Creek and Ravensdale Creek are defined as headwaters wetlands. The general boundaries of the area affected are designated within the Best Available Science Document, Technical Appendix B, provided that the dimensions of the area shall be defined by the field verified wetland boundaries and the buffers defined in Section 19.10.230.

3. Other Wetlands: All other wetlands are rated according the following categories based on the criteria provided in the Washington State Wetland Rating System for Western Washington, revised August 2004 (Ecology Publication #04-06-025). These categories are generally defined as follows.

   a. Category I Wetlands. Category I wetlands are those wetlands of exceptional value in terms of protecting water quality, storing flood and storm water, and/or providing habitat for wildlife as indicated by a rating system score of 70 points or more. These are wetland communities of infrequent occurrence that often provide documented habitat for sensitive, threatened or endangered species, and/or have other attributes that are very difficult or impossible to replace if altered.

   b. Category II Wetlands. Category II wetlands have significant value based on their function as indicated by a rating system score of between 51 and 69 points. They do not meet the criteria for Category I rating but occur infrequently and have qualities that are difficult to replace if altered.

   c. Category III Wetlands. Category III wetlands have important resource value as indicated by a rating system score of between 30 and 50 points.

   d. Category IV Wetlands. Category IV wetlands are wetlands of limited resource value as indicated by a rating system score of less than 30 points. They typically have vegetation of similar age and class, lack special habitat features, and/or are isolated or disconnected from other aquatic systems or high

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quality upland habitats.

C. Wetland rating categories shall not change due to illegal modifications.

D. **Mapping.** The approximate location and extent of identified wetlands are shown on the Black Diamond Sensitive Areas Map(s). These maps are to be used as a guide for the city, project applicants, and/or property owners, and may be continuously updated as mapped wetlands become more specifically delineated and new wetlands (if any) are identified. They are a reference and do not provide a final sensitive area designation.

19.10.220 Uses and activities allowed in wetlands and adjacent lands.

The activities listed below are allowed in wetlands in addition to those activities listed in, and consistent with, the provisions and activities established in Section 19.10.060, and 19.10.120 Sensitive area permit review

A. Activities and facilities that do not require prior review or approval, provided, that were the mayor or his/her designee determines such activities may result in a loss of functions and values of a wetland or its buffer the provisions of (B) or (C) shall apply. These activities include:

1. Outdoor recreational or educational activities directly related to the cultural, recreational, scientific and educational aspects of the wetland and buffer and that do not remove vegetation or otherwise affect the function of the wetland or buffer (including wildlife management, viewpoints, outdoor scientific or interpretive facilities, and sports fishing) that have a minimal adverse impact may be permitted within a Category II, III, or IV wetlands or their buffers and may be permitted only within the buffer of a Category I wetland the buffer of a wetland in the Core Complex or the buffer of a Headwaters Wetland.
2. Conservation or preservation of soil, water, vegetation, fish, shellfish, and other wildlife that does not entail changing the structure or functions of the existing wetland.
3. The harvesting of crops in a manner that is not injurious to natural reproduction of such crops and provided the harvesting does not require tilling of soil, planting of crops, chemical applications, or alteration of the wetland by changing existing topography, water conditions, or water sources may be permitted within a Category II, III, or IV wetlands or their buffers and may be permitted only within the buffer of a Category I wetland the buffer of a wetland in the Core Complex or the buffer of a Headwaters Wetland.
4. Enhancement of a wetland through the removal of non-native invasive species. Weeding shall be restricted to hand removal and weed material shall be removed from the site. Bare areas that

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remain after weed removal shall be re-vegetated with native shrubs, and trees at natural densities. Some hand seeding may also be done over the bare areas with native grasses.

B. Actions that can be planned and programmed in advance requiring notification and review in accordance with Section 19.10.060.B.2.

1. Drilling for utilities under a Category II, III, or IV wetland and buffer provided that the drilling does not interrupt the groundwater connection to the wetland or percolation of surface water down through the soil column. Specific studies by hydrologist are necessary to determine whether the groundwater connection to the wetland or percolation of surface water down through the soil column is disturbed. Staging areas shall be located outside the wetland buffer.

2. Overhead utility lines may cross a Category II, III, or IV wetland provided that the line spans the wetland with no poles or other supports within the wetland. Poles may be placed in Category II, III, or IV wetland buffers.

3. Trails may be permitted within a Category II, III, or IV wetlands or their buffers and may be permitted only within the buffer of a Category I wetland, the buffer of a wetland in the Core Complex or the buffer of a Headwaters Wetland if the following criteria are met:

   a. Trails are limited to buffer areas except for limited area of pile supported trail sections or viewing areas may be placed within Category II, III and IV wetlands for interpretive purposes.

   b. Trails shall not exceed 4 feet in width and shall be surfaced with wood chips, gravel or other pervious material, including boardwalks.

   c. The trail or facility is located in the outer fifty percent (50%) of the Category II, III and IV buffer and the outer 25% of the buffer of a Category I wetland, the buffer of a wetland in the Core Complex or the buffer of a Headwaters Wetland, except for limited placement closer to the wetland edge or within a Category II, III and IV wetland for interpretive purposes as provided above.

   d. The trail or facility is constructed and maintained in manner that minimizes disturbance of the wetland or buffer. Trails or facilities within wetlands should be placed on an elevated structure as an alternative to fill.

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e. Any adverse impacts on wetland functions and values are mitigated in accordance with Section 19.10.240.

C. Uses and activities that shall be reviewed by a full permit process include:

1. Drilling for utilities under a wetland or buffer in the Core Complex, within a Headwaters Wetland or buffer or a Category I wetland or buffer, may be permitted if the following criteria are met:

a. There is no reasonable location or route outside the wetland or wetland buffer based on analysis of system needs, available technology and alternative routes. Location within a wetland buffer shall be preferred over a location within wetlands.

b. The drilling does not interrupt the groundwater connection to the wetland or percolation of surface water down through the soil column. Specific studies by hydrologist are necessary to determine whether the groundwater connection to the wetland or percolation of surface water down through the soil column is disturbed.

c. Staging areas are located outside the wetland buffer.

d. Impacts on wetland functions are mitigated in accordance with Section 19.10.240.

2. Overhead utility lines that cross a wetland or buffer in the Core Complex, within a Headwaters Wetland or buffer or a Category I, II, III, or IV wetland or buffer, with no poles or other supports within the wetland

a. There is no reasonable location or route outside the wetland or wetland buffer based on analysis of system needs, available technology and alternative routes. Location within a wetland buffer shall be preferred over a location within a wetland.

b. Clearing, grading, and excavation activities are limited to the minimum necessary to install the utility line, and the area is restored following utility installation.

c. Impacts on wetland functions are mitigated in accordance with Section 19.10.240.

3. Linear utilities and facilities such as water and sewer lines providing local delivery service, but not including non-linear facilities such as electrical substations, water and sewage pumping

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stations, water storage tanks, and not including petroleum products pipelines and not including transformers or other facilities containing hazardous substances, may be located in Category II, III, and IV wetlands and their buffers and the buffer of a Category I wetland, the buffer of a wetland in the Core Complex or the buffer of a Headwaters Wetland if the following criteria are met:

a. There is no reasonable location or route outside the wetland or wetland buffer based on analysis of system needs, available technology and alternative routes. Location within a wetland buffer shall be preferred over a location within a wetland.

b. The utility line is located as far from the wetland edge as possible and in a manner that minimizes disturbance of soils and vegetation.

c. Clearing, grading, and excavation activities are limited to the minimum necessary to install the utility line, which may include boring, and the area is restored following utility installation.

d. Buried utility lines shall be constructed in a manner that prevents adverse impacts to subsurface drainage. This may include the use of trench plugs or other devices as needed to maintain hydrology.

e. Impacts on wetland functions are mitigated in accordance with Section 19.10.240.

4. Public and private roadways and railroad facilities, including bridge construction and culvert installation, and access to private property may be permitted in wetlands or their buffers, if the following criteria are met:

a. There is no reasonable location or route outside the wetland or wetland buffer based on analysis of alternative routes including through the provisions of RCW 8.24. Location within a wetland buffer shall be preferred over a location within a wetland. Location in a Category II, III, and IV wetlands or their buffers shall be preferred over location in a Category I wetland or its buffer, a wetland in the Core Complex or its buffer, or a Headwaters Wetland or its buffer.

b. Facilities in the buffer parallel to the wetland edge shall be located as far from the wetland edge as possible.

c. Clearing, grading, and excavation activities are limited to the

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minimum necessary, which may include placement on elevated structures as an alternative to fill, where feasible.

d. Disturbance of soils and vegetation shall be minimized;

e. Impacts on wetland functions are mitigated in accordance with Section 19.10.240.

5. Storm water detention/retention ponds are not permitted in a wetland buffer. However, storm water conveyance or discharge facilities such as dispersion trenches, level spreaders, and outfalls may be permitted within a wetland buffer, but only if the following criteria are met:

   a. Due to topographic or other physical constraints, there are no feasible locations for these facilities to discharge to surface water through existing systems or outside the buffer.

   b. Locations and designs that infiltrate water shall be preferred for Category I, II, III, or IV wetland buffer over a design that provides for pipelines or surface discharge across the buffer or into the wetland. Only infiltration facilities are allowed within the buffer of a wetland in the Core Complex, or the buffer of a Headwaters Wetland and only when no trees of greater than 4 inches in diameter are disturbed.

   c. A hyrdoperiod analysis is conducted and no impact is demonstrated by the study.

   d. The discharge into a Category I, II, III, or IV wetland is located as far from the wetland edge as possible and in a manner that minimizes disturbance of soils and vegetation and avoids long-term rill or channel erosion. Surface water discharge into a wetland in the Core Complex or a Headwaters Wetland is prohibited unless analysis demonstrates that infiltration is not feasible because of inherent features such as soil type.

6. On-site sewage disposal system conventional drainfields may be permitted in the outer 25 percent of a Category II, III and IV wetland buffer when accessory to an approved residential structure, if the following conditions are met:

   a. It is not feasible to connect to a public sanitary sewer system;

   b. There is no reasonable location outside the wetland buffer based on analysis of conditions within the contiguous property owned by the applicant;

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c. The facility is located as far from the wetland edge as possible and is designed and constructed in a manner that minimizes disturbance of soils and vegetation, and no trees in excess of 4 inches in diameter are removed or disturbed;

d. Clearing, grading, and excavation activities are limited to the minimum necessary and the area is restored following installation.

e. A hyrdoperiod analysis is conducted and no impact is demonstrated by the study.

D. Development of adjacent land shall minimize adverse effects on the wetland, and shall include the following standards:

1. Fencing and appropriate sensitive area signage as dictated by the most recent version of the City of Black Diamond's design standards shall be provided at the perimeter of any development or land use activity.

2. Activities that generate noise shall be located as far from the wetland and buffer as feasible. Roads, driveways, and parking lots for other than park and recreation facilities, as well as loading areas, mechanical or ventilating equipment shall be located on sides of buildings away from the wetland.

3. Light penetration into buffer areas and wetlands shall be limited. All exterior lighting shall be designed, placed, shielded and\or directed so that no light directly shines or intrudes into the wetland, stream or any sensitive.

4. Management of surface runoff from adjacent land shall minimize adverse effects on wetland ecological functions and shall include:

a. Control of surface water peak flow and duration of flow should be maintained at rates typical of native forest cover;

b. Low impact development measures shall be incorporated to the maximum extent feasible, including but not limited to:

(i) Site design to maximize preservation of existing patterns of overland water flow and of groundwater interflow;

(ii) Vehicle and pedestrian circulation systems that minimize alteration of topography and natural hydrologic features and processes through following the natural contours, of the land.

(iii) Road location and circulation patterns shall reduce or eliminate stream crossings and encroachment on sensitive areas and their buffers;

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(iv) Utilities consolidated within roadway and driveway corridors to avoid additional clearing for multiple corridors.

(v) Layout of lots and or structures to minimize alteration of existing topography, disturbance to soils and native vegetation,

(vi) Runoff should be routed to infiltration systems, to the maximum extent feasible, to provide groundwater interflow recharge to wetlands and/or water bodies and to limit overland flow and erosion.

(1) Use of permeable pavement

(2) Dispersion of runoff into areas that permit infiltration

(3) Engineered facilities designed for bioretention and infiltration ranging from swales to ponds to tree wells to engineered wetlands.

c. Surface or piped stormwater should be routed to existing conveyances or to other areas, wherever hydraulic gradients allow. Where stormwater is routed to wetlands, system design shall assure that erosion and sedimentation will be avoided to the maximum extent feasible.

d. To prevent channelized flow from lawns and other landscaped areas from entering the buffer, and to prevent washing of fertilizers, herbicides and pesticides into the buffer, if slopes adjacent to the buffer exceed 15%, a 10 foot wide swale to intercept runoff shall be provided at the edge of the buffer or other effective surface water interception design approved by the mayor or his/her designee.

e. Adopt and implement an integrated pest management system including limiting use of fertilizers, herbicides and pesticides within 25 feet of the buffer of Category III, or IV wetland, within 50 feet of the buffer of a Category I, II, or Headwaters wetland, and within 100 feet of the buffer of a wetland in the Core Complex.

19.10.230 Wetland Buffers

A. **Wetland buffers.** Buffer requirements contained in this section shall apply to all wetlands designated in this chapter and all proposed mitigation sites. Except as otherwise provided for in this chapter, all wetland buffers shall be maintained in an undisturbed or enhanced condition.

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B. **Core Wetland Complex buffers** shall be a minimum of 225 feet for all wetlands within the core area, except for the north side of the Rock Creek complex between Roberts Drive and State Route 169 where the buffer shall be a minimum of 185 feet, provided that

1. The buffer may be extended further :

   a. If land within and adjacent to the buffer has a slope in excess of thirty percent (30%) the buffer shall extend at least 25 feet beyond the top of the 30% slope, and

   b. If land within and adjacent to the buffer is designated a landslide hazard, the buffer shall extend at least to the extent of the buffer designated in Section 19.10.410.B.

2. If a Category III or IV wetland is located within the outer 50% of the buffer of a wetland designated as part of the Core Wetland Complex, and does not have a surface hydrologic connection to the core complex, the buffers for that wetland shall be the standard wetland buffer in Subsection D, below.

C. **Headwaters Wetland buffers** shall be a minimum of 225 feet for all wetlands.

D. **Other Wetlands—Standard buffer widths.** The standard buffer widths presume the existence of a relatively intact mature native vegetation community (relative density of 20 or greater) in the buffer zone adequate to protect the wetland functions and values at the time of the proposed activity. If the vegetation is inadequate, then the buffer width shall be increased or the buffer shall be planted to maintain the standard width. **The minimum buffer requirements assume that adjacent land use meets the conditions outlined in section 19.10.220.D,** in accordance with the Department of Ecology's Guidance on Wetlands in Washington State (2005), Volume 2 – Protecting and Managing wetlands, Appendix 8C (moderate intensity land use)**.** Required standard wetland buffers based on wetland category are as follows:

Buffer Dimensions for other wetlands (Moderate intensity)

Wetland Category	Wetland Characteristics	Minimum Buffer Width
Category IV	All	40 feet

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Category III	Moderate level of function for habitat (score for habitat 20 – 28 points)	110 feet
	Not meeting above characteristic	60 feet
Category II	High level of function for habitat (score for habitat 29 – 36 points)	225 feet
	Moderate level of function for habitat (score for habitat 20 – 28 points)	110 feet
	High level of function for water quality improvement and low for habitat (score for water quality 24-32 points; habitat less than 20)	75 feet
	All others	75 feet
Category I	National Heritage Wetlands	190 feet
	Bogs	190 feet
	Forested	Based on score for habitat or water quality
	High level of function for habitat (score for habitat 29 – 36 points)	225 feet
	Moderate level of function for habitat 20 – 28 points)	110 feet
	High level of function for water quality improvement (24 – 32 points) and low for habitat (less than 20 points)	75 feet

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	All others	75 feet

E. **Measurement of wetland buffers.** All buffers shall be measured from the wetland boundary as surveyed in the field. The width of the wetland buffer shall be determined according to the wetland category. The required buffer should be extended to include any adjacent regulated wildlife habitat area, landslide hazard areas and/or erosion hazard areas and required buffers. Buffers shall not be extended across existing human features that functionally and effectively separate the potential buffer from ecological functions of the resource, and shall include hardened surfaces including improved roads or other lawfully established structures or surfaces, or the developed portions of lots, under separate ownership, lying between the habitat area and the subject property, unless restoration of buffer functions on such property is or may reasonably be expected to be the subject of a permit condition or an adopted public plan. The buffer for a wetland created, restored, or enhanced as compensation for approved wetland alterations shall be the same as the buffer required for the category of the created, restored, or enhanced wetland. Only fully vegetated buffers will be considered. Lawns, walkways, driveways and other mowed or paved areas will not be considered buffers.

F. **Vegetation Management.** In order to maintain effective buffer conditions and functions, a vegetation management plan shall be required for all buffer areas, to include:

1. Maintaining adequate cover of native vegetation including trees and understory; if existing tree cover is less than a relative density of 20, planting shall be required consisting of a density of 300 seedlings per acre or the equivalent;
2. Provide a dense screen of native evergreen trees at the perimeter of the buffer. Clearing of existing second growth forest generally results in trees with little canopy at or near the ground level.
    a. Core Wetland and Stream Complex buffers generally will require interplanting among existing trees within an area of thirty to fifty feet to provide for regeneration of native species and prevent the establishment of invasive species.
    b. Other wetland buffers will require plantings if existing vegetation is not sufficient to prevent viewing adjacent development from within the buffer or penetration of light and glare into the buffer or to prevent establishment of

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invasive species.

c. Planting specifications generally shall consist of as many rows of the following units as required to accomplish the management objectives:

i) Two rows of 3' high stock of native evergreens at a triangular spacing of 15 feet, or

ii) Three rows of gallon containers at a triangular spacing of 8 feet.

3. Fencing may be required in order to separate sensitive areas from developed areas.

4. Provide a plan for control of invasive weeds, and remove existing invasive species;

5. Provide for a monitoring and maintenance plan for a period of at least five (5) years, except this provision may be waived for single family residential lots.

6. Vegetation management plans for all wetlands may provide for preservation of view corridors from existing single family residences by the placement of new vegetation in a manner that frames views, provided that the same density is maintained and key functions such as shading for temperature attenuation and habitat functions are maintained.

G. **Increased wetland buffer widths.** The mayor or his/her designee shall require increased buffer widths in accordance with the recommendations of an experienced, qualified professional wetland scientist, and the best available science on a case-by-case basis when a larger buffer is necessary to protect wetland functions and values based on site-specific characteristics. This determination shall be based on one or more of the following criteria:

1. A larger buffer is needed to protect other sensitive areas;

2. The buffer or adjacent uplands has a slope greater than fifteen percent (15%) or is susceptible to erosion and standard or proposed erosion-control measures will not prevent adverse impacts to the wetland.

H. **Wetland buffer width averaging.** The mayor or his/her designee may allow modification of the standard wetland buffer width in accordance with an approved sensitive area report and the best available science on a case-by-case basis by averaging buffer widths. Averaging of buffer widths may only be allowed where a qualified professional wetland scientist demonstrates that:

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1. Averaging to improve wetland protection may be permitted when all of the following conditions are met:

   a. The wetland contains variations in sensitivity due to existing physical characteristics or the character of the buffer varies in slope, soils, or vegetation, and the wetland would benefit from a wider buffer in places and would not be adversely impacted by a narrower buffer in other places;

   b. Buffer averaging will not reduce wetland functions or functional performance;

   c. The total area contained in the buffer area after averaging is no less than that which would be contained within the standard buffer; and all increases in buffer dimension for averaging are generally parallel to the wetland edge;

   d. The buffer width at its narrowest point is not reduced to less than 50 percent (50%) of the standard width and in no case less than thirty-five (35) feet.

2. Averaging to allow reasonable use of a parcel may be permitted when all of the following criteria are met:

   a. There are no feasible alternatives to the site design that could be accomplished without buffer averaging;

   b. The buffer averaging does not reduce the functions or values wetland, or the buffer averaging, in conjunction with vegetation enhancement or other measures increases the wetland function;

   c. The total area contained in the buffer area after averaging is no less than that which would be contained within the standard buffer and all increases in buffer dimension for averaging are generally parallel to the wetland edge;

   d. The buffer at its narrowest point is never less than 1/2 of the required width except where the mayor or his/her designee finds that there is an existing feature such as a roadway that limits buffer dimension, or an essential element of a proposed development such as access that must be accommodated for reasonable use and requires a smaller buffer.

3. The width reduction may not be located within another sensitive area or associated buffer unless criteria for averaging said buffer are also addressed and approved.

4. Buffer averaging may not be approved when buffer transfer is

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approved in accordance with subsection H, above.

I. **Buffer enhancement for changes to existing uses.** As provided in section 19.10.170, buffer vegetation shall be enhanced at the time of redevelopment or improvements on non-conforming lots as provided below; for substantial redevelopment, buffer width may be reduced as indicated:

1. Minor alteration or renovation of existing development:

   a. Buffer vegetation enhancement shall be either 50% of buffer standard or 50% of existing structure setback from wetland, whichever is less.

   b. Buffer area shall be fenced and signs posted.

2. Moderate alteration or renovation of existing development:

   a. Buffer vegetation enhancement shall be either 70% of buffer standard or 60% of existing structure setback from wetland, whichever is less.

   b. Buffer area shall be fenced and signs posted.

3. Substantial alteration or redevelopment:

   a. Buffer dimension shall be 100% of standard, *provided*, if the standard buffer dimension exceeds the existing setback as measured from the edge of the primary building, the buffer may be reduced to ninety percent (90%) of the existing setback from the primary building to the edge of the sensitive area.

   b. Buffer vegetation enhancement shall be 100% of standard.

   c. Buffer area shall be fenced and signs posted.

19.10.235 Provisions for Small Isolated Wetlands

A. All wetlands shall be regulated regardless of size, provided that the mayor or his/her designee shall assure that preservation of isolated wetlands and associated buffers of less than ten thousand (10,000) square feet of combined wetland and buffer shall maintain effective wetland functions, or be mitigated as provided below.

B. Wetlands and associated buffers of less than one thousand (1,000) square feet may be displaced when the wetland meets all of the following criteria, as documented in a wetland sensitive area study:

1. The wetland is not associated with a riparian corridor; and
2. The wetland is not part of a wetland mosaic; and
3. The wetland does not contain habitat identified as essential for

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local populations of priority species identified by Washington Department of Fish and Wildlife.

4. Impacts of displaced wetlands shall be mitigated pursuant to Section 19.10.240.

C. Category 3 and 4 wetlands between 1,000 and 4,000 square feet may be displaced without meeting the provisions of Section 19.10.240 regarding avoidance, minimization, rectification, and reducing and eliminating the impact over time, provided that the criteria in subsection B, above, are met and the wetland does not score 20 points or greater for habitat in the 2004 Western Washington Rating System.

D. Preservation of isolated wetlands with a total area of the combined wetland and buffer of 10,000 square feet or less shall meet the following provisions, or if the said provisions cannot be demonstrated, the mayor or his/her designee may permit such a wetland to be displaced and mitigated as specified in Section 19.10.240.

1. Depressional wetlands recharged only by precipitation, interflow or groundwater shall be assured a source of recharge through stormwater infiltration, or other means, to maintain the wetland's hydrologic character.

2. Wetlands that have a potential to reduce flooding or erosion, or have the potential and opportunity to maintain or improve water quality as evidenced by a score of at least 10 points on the applicable criteria of the Wetland Rating Form for Western Washington, shall maintain a hydraulic connection to surface water that maintains effective wetland function for flood or erosion reduction or water quality and does not substantially alter the existing hydroperiod of the wetland.

3. Wetlands that achieve a score of at least 20 points on the Habitat Functions criteria of the Wetland Rating Form for Western Washington shall maintain a connection to a linear corridor maintained as a stream buffer, a buffer associated with a geological hazard or other designated open space buffer sufficient to allow movement of terrestrial wildlife to and from the wetland and buffer complex without interruption by roads, paved areas or buildings within fifty (50) feet.

19.10.240 Mitigation Requirements

A. **Mitigation plan.** A mitigation plan that achieves equivalent or greater biologic functions will be required for all proposed wetland alterations or to mitigate unavoidable adverse impacts to the wetland functions and

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values resulting from a proposed action. Mitigation plans shall be prepared consistent with the minimum requirements of Section 19.10.140 and Subsection.

B. **Compensatory mitigation.** As a condition of any permit allowing alteration of a wetland and/or wetland buffer, or as part of an enforcement action, an applicant may be required to provide restoration, creation or enhancement of wetlands and their buffers to offset unavoidable adverse impacts resulting from the applicant's or violator's actions.

1. Compensation areas shall be determined according to the function, acreage, type, location, time factors, ability to be self sustaining and probability of project success.
2. Restored or created wetlands should have a higher function and value than the altered wetland.
3. Compensatory projects shall be completed immediately after the activities that will disturb wetlands and prior to use or occupancy, unless otherwise agreed to within the permit application. Construction of compensatory projects shall be timed to reduce adverse impacts to existing wildlife and flora.

C. **Type and location of mitigation.**

1. Unless it is demonstrated that a higher level of ecological functioning would result from an alternate approach, compensatory mitigation for ecological functions shall be either in-kind and on-site, or in-kind and within the same stream reach, or sub-basin. Mitigation actions shall be conducted within the same sub-drainage basin and on the same site as the alteration except when the all of the following apply:

   a. There are no reasonable on-site or in subdrainage basin opportunities or on-site and in-subdrainage basin opportunities do not have a high likelihood of success, after a determination of the natural capacity of the site to mitigate for the impacts. Consideration should include: anticipated wetland mitigation replacement ratios, buffer conditions and proposed widths, hydrogeomorphic classes of on-site wetlands when restored, proposed flood storage capacity, potential to mitigate riparian fish and wildlife.

   b. Off-site mitigation has a greater likelihood of providing equal or improved wetland functions than the impacted wetland; and

   c. Off-site locations shall be in the same sub-drainage basin unless established watershed goals for water quality, flood or

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conveyance, habitat, or other wetland functions have been established and strongly justify location of mitigation at another site.

2. In kind compensation shall be provided where feasible. The applicant may provide out-of-kind compensation provided:

   a. Out -of-kind replacement will result in a wetland with greater functional value; or

   b. Scientific problems such as exotic vegetation and changes in watershed hydrology make in-kind compensation impractical.

3. Mitigation actions that require compensation by replacing, enhancing, or substitution shall occur in the following order of preference:

   a. Restoring wetlands on upland sites that were formerly wetlands (also called re-establishment).

   b. Creating wetlands where none previously existed on upland sites. The preferred sites are those that have been disturbed such that vegetative cover consists primarily of non-native introduced species. Creation of wetlands in areas of mature native vegetation should be avoided when the habitat and other values of the site would be lost. Creation on upland sites should only be attempted when there is a consistent source of hydrology and it can be shown that the surface and subsurface hydrologic regime is conducive for the wetland community that is being designed.

   c. Restoration of wetland functions in an existing wetland area that is significantly degraded (also called rehabilitation). This may be done in combination with restoration or creation. Such enhancement should be part of a mitigation package that includes replacing the impacted area meeting appropriate ratio requirements.

   d. Enhancement of some wetland functions in an existing wetland that may reduce other functions

D. **Mitigation ratios.** The following ratios apply to the different categories of compensation:

Wetland Category	Wetland Mitigation Type and Replacement Ratio*			
	Reestablish-ment	Creation	Re-habilitation	Enhancement Only

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Wetland Category	Wetland Mitigation Type and Replacement Ratio*			
	Reestablish-ment	Creation	Re-habilitation	Enhancement Only
Category IV	1.5:1	1.5:1	2:1	3:1
Category III	2:1	2.1	3:1	4:1
Category II	3:1	3.1	4:1	6:1
Category I	6:1	6:1	8:1	Not allowed
Headwaters Wetlands	6:1	6:1	8:1	Not allowed
Core Wetland Complex	6:1	8:1	10:1	Not allowed

*Ratio is the replacement area: impact area.

1. Buffers shall be provided for wetland compensation sites as provided in Section 19.10.230, provided that the mayor or his/her designee shall have the same authority to modify and average widths.
2. The mayor or his/her designee may increase the replacement ratios to account for uncertainties as to the success of the restoration or creation or the time required for replacement wetlands to be effective. Such an increase will be based on the review of a sensitive area report prepared by a qualified professional.
3. In the case of off-site compensation the mayor or his/her designee may decrease the replacement ratios based on the review of a sensitive area report prepared by a qualified professional and upon findings reviewed by agencies with expertise that no net loss of wetland function or value is attained under a reduced compensation ratio; which in no case shall be less 75% of the values in the table above for the Core Wetland Complex and 50% of the values in the table above for other wetlands and in no case lower than 1.5:1.

E. Compensation for wetland buffer impacts shall occur at a minimum 1:1 ratio. Compensatory mitigation for buffer impacts shall include enhancement of buffers by planting native species, removing structures and impervious surfaces within buffers, and other measures in accordance with Subsection 19.10.140.F.

F. Wetlands enhancement as mitigation: Any applicant proposing to alter a wetland may propose enhancement of existing significantly degraded wetlands. Applicants proposing to enhance wetlands must produce a sensitive area report that identifies how enhancement will increase the functions of the degraded wetland and how this increase will adequately mitigate for the loss of wetland area and function at the impact site.

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19.10.250 Wetland Mitigation Plan

In addition to meeting the requirements of Section 19.10.140, a compensatory mitigation plan for wetland and wetland buffer impacts shall meet the following requirements:

A. The plan shall be based on applicable portions of the Washington State Department of Ecology's Guidelines for Developing Freshwater Wetland Mitigation Plans and Proposals, 2004 or other appropriate guidance document that is consistent with best available science.

B. The plan shall contain sufficient information to demonstrate that the proposed activities are logistically feasible, constructible, ecologically sustainable, and likely to succeed. Specific information to be provided in the plan shall include:

1. The rationale for site selection;
2. General description and scaled drawings of the activities proposed including, but not limited to, clearing, grading/excavation, drainage alterations, planting, invasive plant management, installation of habitat structures, irrigation, and other site treatments associated with the development activities and proposed mitigation action(s);
3. A description of the ecological functions and values that the proposed alteration will affect and the specific ecological functions and values the proposed mitigation area(s) shall provide, together with a description of required or recommended mitigation ratios and an assessment of factors that may affect the success of the mitigation program;
4. Overall goals of the plan, including wetland function, value, and acreage;
5. Description of baseline (existing) site conditions including topography, vegetation, soils, hydrology, habitat features (i.e., snags), surrounding land use, and other pertinent information;
6. Field data confirming the presence of adequate hydrology (surface and/or groundwater) to support existing and compensatory wetland area(s);
7. Nature of mitigation activities, including area of restored, created, enhanced and preserved wetland, by wetland type;
8. Detailed grading and planting plans showing proposed post-construction topography; general hydrologic patterns; spacing and distribution of plant species, size and type of proposed planting stock, watering or irrigation plans, and other pertinent information;
9. A description of site treatment measures including invasive species

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removal, use of mulch and fertilizer, placement of erosion and sediment control devices, and best management practices that will be used to protect existing wetlands and desirable vegetation.

10. A demonstration that the site will have adequate buffers sufficient to protect the wetland functions into perpetuity.

C. Specific measurable performance standards that the proposed mitigation action(s) shall achieve together with a description of how the mitigation action(s) will be evaluated and monitored to determine if the performance standards are being met and identification of potential courses of action, and any corrective measures to be taken if monitoring or evaluation indicates that project performance standards are not being met. The performance standards shall be tied to and directly related to the mitigation goals and objectives.

D. Cost estimates for the installation of the mitigation program, monitoring, and potential corrective actions if project performance standards are not being met.

19.10.260 Wetland Mitigation Monitoring

A. All wetland mitigation projects shall be monitored for a period necessary to establish that performance standards have been met, but generally not for a period less than five (5) years. Reports shall be submitted annually for the first three (3) years following construction and at the completion of years 5, 7, and 10 if applicable to document milestones, successes, problems, and contingency actions of the compensatory mitigation. The mayor or his/her designee shall have the authority to modify or extend the monitoring period and require additional monitoring reports for up to ten (10) years when any of the following conditions apply:

1. The project does not meet the performance standards identified in the mitigation plan.
2. The project does not provide adequate replacement for the functions and values of the impacted sensitive area.
3. The project involves establishment of forested plant communities, which require longer time for establishment.

B. Mitigation monitoring reports shall include information sufficient to document and assess the degree of mitigation success or failure as defined by the performance standards contained in the approved mitigation plan. Information to be provided in annual monitoring reports shall include the following:

1. Number and location of vegetation sample plots used to document compliance with performance standards;
2. Measurements of the percent survival of planted material, plant

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cover, stem density, presence of invasive species, or other attributes;

3. For sites that involve wetland creation, re-establishment or rehabilitation, hydrologic observations of soil saturation/inundation as needed to demonstrate that a site meets the wetland hydrology criterion;
4. Representative photographs of the site;
5. A written summary of overall site conditions and recommendations for maintenance actions if needed;
6. Other information that the mayor or his/her designee deems necessary to ensure the success of the site.

19.10.300 Fish and Wildlife Conservation Areas

BDMC 19.10.300 through BDMC 19.10.340 pertain to fish and wildlife conservation areas.

19.10.310 Designation and Mapping

Fish and wildlife conservation areas in Black Diamond are designated and classified in accordance with the following provisions:

A. **Core Stream and Wetland Complex**. The streams, lakes, ponds and wetland complex associated with Rock Creek, Jones Lake, Jones Creek, Black Diamond Lake, Black Diamond Creek, and Ravensdale Creek are designated as the Core Stream and Wetland Complex. The general boundaries of the area affected are designated on Attachment A, provided that the dimensions of the area shall be defined by the field verified stream boundaries and the buffers defined in Section 19.10.325.

B. **Other fish and wildlife conservation areas**. Areas outside of the Core Stream and Wetland Complex include areas within the City which state or federally designated endangered, threatened, and sensitive species have a known primary association, including;

1. The Washington State Department of Fish and Wildlife Priority Habitats and Species Recommendations for Species and Habitats, for:
   a. Endangered species listed at WAC 232-12-014
   b. Threatened species listed at WAC 232-12-001
   c. Sensitive species listed at WAC 232-12-011;
2. Bald Eagle habitat pursuant to WAC 232-12-292
3. Endangered or threatened species listed in accordance with the federal Endangered Species Act together with the areas with which

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they have a primary association.

4. State natural area preserves and natural resource conservation areas including

   a. Department of Natural Resources (DNR) designated Natural Areas Preserves (NAP) and Natural Resource Conservation Areas (NECA);

   b. Washington Department of Fish and Wildlife (WDFW) designated Wildlife Recreation Areas (WRA);

5. Waters of the state as defined in RCW 77.55.011, and RCW 90.56.010 including shorelines of the state as defined in RCW 90.58.010;

6. Naturally occurring ponds under twenty acres and their submerged aquatic beds that provide fish or wildlife habitat;

7. Lakes, ponds, streams, and rivers planted with game fish by a governmental or tribal entity;

C. Habitats and species of local importance as may be determined by the city.

1. In order to nominate an area or a species to the category of Locally Important an individual or organization must:

   a. Demonstrate a need for special consideration based on:

      i. Declining population;

      ii. High sensitivity to habitat manipulation; or

      iii. Demonstrated commercial, recreational, cultural, or other special value;

   b. Propose relevant management strategies considered effective and within the scope of this Chapter; and

   c. Provide a map showing the species or habitat location(s).

2. Submitted proposals shall be reviewed by the City and may be forwarded to the State departments of Fish and Wildlife, Natural Resources, and/or other local, State, Federal, and/or Tribal agencies or experts for comments and recommendations regarding accuracy of data and effectiveness of proposed management strategies.

3. If the proposal is found to be complete, accurate, and consistent with the purposes and intent of this chapter, the City Planning Commission will hold a public hearing to solicit comment. Approved nominations will become designated locally important

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habitats or species and will be subject to the provisions of this chapter.

D. **Mapping.** The approximate location and extent of known wildlife conservation areas are shown on the sensitive area maps. These maps are a reference and do not provide a final sensitive area designation.

19.10.320 Classification of fish and wildlife habitat conservation areas – Water bodies

A. **Core Stream and Wetland Complex**. The streams, lakes, ponds and wetland complex associated with Rock Creek, Jones Lake, Jones Creek, Black Diamond Lake, Black Diamond Creek, and Ravensdale Creek are designated as the Core Stream and Wetland Complex. The general boundaries of the area affected are designated on Attachment A, provided that the dimensions of the area shall be defined by the field verified stream boundaries and the buffers defined in Section 19.10.325.

B. **Other fish and wildlife conservation areas**. Streams outside of the Core Stream and Wetland Complex shall be designated in accordance with the Washington State Department of Natural Resources (DNR) stream type as provided in WAC 222-16-030 with the following revisions:

1. Type S Water - all waters, as inventoried as "shorelines of the state" under chapter 90.58 RCW and the rules promulgated pursuant to Chapter 90.58 RCW including periodically inundated areas of their associated wetlands.
2. Type F Water - segments of natural waters other than Type S Waters, which are within defined channels and periodically inundated areas of their associated wetlands or within lakes, ponds, or impoundments having a surface area of 0.5 acre or greater at seasonal low water and which in any case contain fish habitat.
3. Type Np Water - all segments of natural waters within defined channels that are perennial non-fish habitat streams. Perennial streams are waters that do not go dry any time of a year of normal rainfall. However, for the purpose of water typing, Type Np Waters include the intermittent dry portions of the perennial channel below the uppermost point of perennial flow.
4. Type Ns Water - all segments of natural waters within defined channels that are not Type S, F, or Np Waters. These are seasonal, non-fish habitat streams in which surface flow is not present for at least some portion of a year of normal rainfall and are not located downstream from any stream reach that is a Type Np Water. Ns Waters must be physically connected by an above-ground channel

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system to Type S, F, or Np Waters.

C. Non-fish habitat streams are those streams that have no known or potential use by anadromous or resident fish based on the stream character, hydrology and gradient, provided that human-made barriers shall not be considered a limit on fish use except when the mayor or his/her designee makes the following findings:

1. The human-made barrier is located beneath public infrastructure that is unlikely to be replaced and it is not feasible to remove the barrier without removing the public infrastructure, provided that the infrastructure is not identified for future modification in the capital facility or other plans of the public agency responsible for the infrastructure, and the facility will not exceed its design-life within the foreseeable future;
2. The human-made barrier is located beneath one or more occupied structures and it is not feasible to remove the barrier without removing the structure, and the structure is of a size and condition that removal or substantial remodel is not likely;
3. The human-made barrier is not identified for removal by a public agency or in an adopted watershed plan.

19.10.325 Fish and wildlife habitat conservation areas – Water bodies – Buffers

The mayor or his/her designee shall have the authority to require buffers from the edges of all streams in accordance with the following:

A. **Buffers required.** Buffers shall be established for activities adjacent to habitat areas as necessary to protect the integrity, functions and values of the resource. Buffer widths shall reflect the sensitivity of the species or habitat and the type and intensity of the adjacent human use or activity.

B. **Buffer purposes.** The buffer widths required by this section are based on scientific studies of the conditions necessary to sustain ecological functions and values to support anadromous and resident fish and presume the existence of a dense native vegetation community in the buffer zone adequate to protect the stream functions and values at the time of the proposed activity. Buffers of undisturbed native vegetation shall be required along all streams as provided below. The buffer shall extend landward from the top of the bank.

C. **Core Stream and Wetland Complex** buffers shall be a minimum of 225 feet for all streams within the core area, except for the north side of the Rock Creek complex between Roberts Drive and State Route 169 where the buffer shall be a minimum of 185 feet, provided that the buffer may be extended further if:

1. Land within and adjacent to the buffer has a slope in excess of

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thirty percent (30%) the buffer shall extend at least 25 feet beyond the top of the 30% slope, and

2. Land within and adjacent to the buffer is designated a landslide hazard, the buffer shall extend at least to the extent of the buffer

D. **Other streams, standard buffer.** All other streams shall be provided the following buffers based on the Department of Natural Resources (DNR) water typing classification system as defined in Section 19.10.320.B.

Type	Buffer Width
Type S- all waters, as inventoried as "shorelines of the state" under the jurisdiction of the Shoreline Management Act, except associated wetlands, which shall be regulated in accordance with this chapter	25 feet
Type F - segments of natural waters other than Type S Waters	150 feet
Type Np - segments of natural waters that are perennial non-fish habitat streams.	100 feet
Type Ns - segments of natural waters within defined channels that are seasonal, non-fish habitat streams	50 feet

E. **Buffer measurement.** The buffer shall be measured landward horizontally on both sides of the water body from the ordinary high water mark as identified in the field perpendicular to the alignment of the stream or lake/pond bank. The required buffer shall be extended to include any adjacent regulated wetland(s), landslide hazard areas and/or erosion hazard areas and required buffers. Buffers shall not be extended across existing human features that functionally and effectively separate the potential buffer from ecological functions of the resource, and shall include hardened surfaces, including improved roads or other lawfully established structures or surfaces, or the developed portions of lots, under separate ownership, lying between the habitat area and the subject property, unless restoration of buffer functions on such property is or may reasonably be expected to be the subject of a permit condition or an adopted public plan.

F. **Buffers in conjunction with other sensitive areas.** Where other sensitive areas defined in this chapter fall within the water body buffer, the buffer area shall be the most expansive of the buffers applicable to any applicable sensitive area.

G. **Vegetation management**. In order to maintain effective buffer conditions and functions, a vegetation management plan shall be required for all buffer areas, to include the standards found in Subsection 19.10.230.F.

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H. **Buffer increase.** The mayor or his/her designee shall have the authority to increase the width of a stream buffer on a case-by-case basis when such increase is necessary to achieve any of the following:

1. Protect fish and wildlife habitat, maintain water quality, ensure adequate flow conveyance; provide adequate recruitment for large woody debris, maintain adequate stream temperatures, or maintain in-stream conditions.
2. Compensate for degraded vegetation communities or steep slopes adjacent to the stream.
3. Maintain areas for channel migration.
4. Protect adjacent or downstream areas from erosion, landslides, or other hazards.

I. **Water body buffer width transfer.**

1. The mayor or his/her designee may allow decreased widths with transfer of an equal area of buffer from water bodies not within the Core Stream and Wetland Complex to the buffers of the Core Stream and Wetland Complex in accordance with the table below provided the specific measures in (2) below are incorporated into the buffers and adjacent development,

Type	Buffer Width (feet) after Transfer
Type S	25 feet
Type F	100 feet
Type Np	50 feet
Type Ns	30 feet

2. The specific mitigation measures in Subsection 19.10.230.F.2 shall be incorporated into adjacent development in order to utilize the buffer dimensions specified in (1) above.

J. **Habitat buffer averaging.** The mayor or his/her designee may allow the recommended habitat area buffer width to be reduced in accordance when the applicant demonstrates to the satisfaction of the administrator that all the following criteria are met.:

1. Averaging to improve water body habitat protection may be permitted when all of the following conditions are met:
   a. The water body or buffer area has significant differences in characteristics that affect its habitat functions;
   b. Buffer averaging will not reduce stream or adjacent upland

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habitat functions or adversely affect salmonid habitat;

c. Buffer averaging is combined with other provisions to provide additional habitat protection, such as buffer vegetation enhancement;

d. The total area contained in the buffer area after averaging is no less than that which would be contained within the standard buffer and the buffer is increased adjacent to the higher-functioning area of habitat or more sensitive portion of the water body and decreased adjacent to the lower-functioning or less sensitive portion and all increases in buffer dimension for averaging are generally parallel to the stream OHWM;

e. The buffer area width is not reduced by more than twenty-five percent (25%) in any location.

2. Averaging to allow reasonable use of a parcel may be permitted when all of the following criteria are met:

a. There are no feasible alternatives to the site design that could be accomplished without buffer averaging;

b. The buffer averaging does not reduce the functions or values of the stream or riparian habitat, or the buffer averaging, in conjunction with vegetation enhancement, increases the habitat function;

c. The total area contained in the buffer area after averaging is no less than that which would be contained within the standard buffer and all increases in buffer dimension for averaging are generally parallel to the wetland edge;

d. The buffer at its narrowest point is never less than 75% of the required width except where the mayor or his/her designee finds that there is an existing feature such as a roadway that limits buffer dimension, or an essential element of a proposed development such as access that must be accommodated for reasonable use and requires a smaller buffer.

3. The buffer width reduction may not be located within another sensitive area or associated buffer unless criteria for averaging said buffer are also addressed and approved.

4. Buffer averaging may not be approved when buffer transfer is approved in accordance with subsection I, above.

K. Development of adjacent land shall minimize adverse effects on the

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habitat area, and shall include the standards in Subsection 19.10.220.D.

L. **Buffer enhancement for changes to existing non-conforming lots.** As provided in section 19.10.170, buffer vegetation shall be enhanced at the time of redevelopment or improvements on non-conforming lots as provided below; for substantial redevelopment, buffer width may be reduced as indicated:

1. Minor Alteration of Existing Development:

   a. Buffer vegetation enhancement shall be either 50% of buffer standard or 50% of existing shoreline structure setback.

   b. Buffer area shall be fenced and signs posted.

2. Moderate Alteration of Existing Development:

   a. Buffer vegetation enhancement shall be either 70% of buffer standard or 60% of existing shoreline structure setback.

   b. Buffer area shall be fenced and signs posted.

3. Substantial Alteration or Redevelopment:

   a. Buffer dimension shall be 100% of standard, *provided*, if the standard buffer dimension exceeds the existing setback as measured from the edge of the primary building, the buffer may be reduced to ninety percent (90%) of the existing setback from the primary building to the edge of the sensitive area.

   b. Buffer vegetation enhancement shall be 100% of standard.

   c. Buffer area shall be fenced and signs posted.

   d. Existing bulkheads and docks shall be replaced with conforming structures.

19.10.328 Water bodies – Culvert Replacement

A. Culverts on public or private roads that are a barrier to fish movement shall be replaced at the time of major reconstruction, or if additional subdivision increases the number of lots served by the roadway by 20 percent or more. Replacement structures shall meet the standards of 19.10.330.C.10. This provision does not limit potential requirements for replacement under other statutes or treaty rights.

B. Stream sections not within public or private roads that are culverted or enclosed shall be replaced by an open channel at any time of moderate or substantial reconstruction of uses on the parcel lots is served.

19.10.330 Activities allowed in water bodies and habitat buffers.

The activities listed below are allowed in water bodies and habitat buffers in

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addition to those activities listed in, and consistent with, the provisions and activities established in Section 19.10.060, in accordance with the review provisions below.

A. Activities and facilities that do not require prior review or approval and do not require submission of a sensitive area report, provided, that where the mayor or his/her designee determines such activities may result in a loss to the functions and values of a habitat area or its buffer the provisions of (B) or (C) shall apply. These activities include:

1. Outdoor recreational or educational activities directly related to the cultural, recreational, scientific and educational aspects of the habitat and that do not remove vegetation or otherwise affect the function of the wetland or regulated buffer (including wildlife management, viewpoints, outdoor scientific or interpretive facilities, hunting blinds, and sports fishing) and that have a minimal adverse impact on the buffer and wildlife area.
2. The harvesting of crops in a manner that is not injurious to natural reproduction of such crops and provided the harvesting does not require tilling of soil, planting of crops, chemical applications, or alteration of the wetland by changing existing topography, water conditions, or water sources.
3. Enhancement of a water body or buffer through the removal of non-native invasive species. Weeding shall be restricted to hand removal and weed material shall be removed from the site. Bare areas that remain after weed removal shall be re-vegetated with native shrubs, and trees at natural densities. Some hand seeding may also be done over the bare areas with native herbs.

B. Actions that can be planned and programmed in advance requiring notification and review in accordance with Section 19.10.060.B.2.

1. Drilling for a single linear utility under a type F, Np and Ns water body. Drilling under buffers is preferred. Cut and cover installation may be approved only when impacts to buffer vegetation is minimized and mitigated. Expansion of buffer area may be required to compensate for replacement of mature vegetation with replanting.
2. Installation of single overhead utility lines that span the water body with no poles or other supports within the water body. Poles may be placed in buffers provided that impacts to vegetation is minimized and mitigated. Expansion of buffer area may be required to compensate for replacement of mature vegetation with replanting.
3. Trails may be permitted within buffers if the following criteria are

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a. Trails are limited to buffer areas except for limited area of pile supported trail sections or viewing areas may be placed within water bodies outside the Core Complex for interpretive purposes.

b. Trails shall not be permitted in buffer areas reduced through transfer of other adjustment.

c. Trails shall not exceed 4 feet in width and shall be surfaced with wood chips, gravel or pervious material, including boardwalks;

c. The trail or facility is located in the outer twenty five of a buffer, except for limited placement closer to the waters edge or within the water body for interpretive purposes for water bodies other than in the Core Complex, as provided above;

c. The trail or facility is constructed and maintained in manner that minimizes disturbance of the water body or buffer. Trails or facilities within water bodies shall be placed on an elevated structure as an alternative to fill.

d. Any adverse impacts on habitat functions and values are mitigated in accordance with Section 19.10.340.

C. Uses and activities that shall be reviewed by a full permit process include:

1. Drilling for utilities under a water body in the Core Complex may be permitted if the following criteria are met:

a. There is no reasonable location or route outside the wetland or wetland buffer based on analysis of system needs, available technology and alternative routes. Location under a buffer shall be preferred over a location under a water body.

b. The drilling does not interrupt groundwater flow or recharge to the water body or percolation of surface water down through the soil column. Specific studies by hydrologist are necessary to determine whether the groundwater connection to the wetland or percolation of surface water down through the soil column is disturbed.

c. Staging areas are located outside the buffer.

d. Impacts on habitat functions are mitigated.

2. Overhead utility lines that cross a water body or buffer in the Core Complex with no poles or other supports within the water body. Poles may be placed in buffers.

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a. There is no reasonable location or route outside the water body or buffer based on analysis of system needs, available technology and alternative routes. Location within a buffer shall be preferred over a crossing of a water body.

b. Clearing, grading, and excavation activities are limited to the minimum necessary to install the utility line, and the area is restored following utility installation.

c. Impacts on habitat functions are mitigated.

3. Linear utilities and facilities such as water and sewer lines providing local delivery service, but not including non-linear facilities such as electrical substations, water and sewage pumping stations, water storage tanks, and not including petroleum products pipelines and not including transformers or other facilities containing hazardous substances, may be located in the buffer of a Type F, NP and Ns stream. if the following criteria are met:

a. There is no reasonable location or route that does not cross the water body or outside the buffer based on analysis of system needs, available technology and alternative routes. Location within a buffer shall be preferred over a location within a water body. Crossings shall be contained within the footprint of an existing road or utility crossing where possible.

b. Impacts to fish and wildlife habitat shall be avoided to the maximum extent possible and mitigated when avoidance is not feasible in accordance with Section 19.10.340.

c. Utilities that cross water bodies shall be as close to perpendicular to the channel as possible to minimize disturbance. Boring under the water body may be required.

d. If not a crossing, the utility line shall be located as far from the water body as possible.

e. The utility installation shall maintain the existing stream gradient and substrate.

f. Clearing, grading, and excavation activities shall be limited to the minimum necessary to install the utility line, and the area is restored following utility installation.

4. Road, railroad and similar rights-of-way, including trails not meeting the criteria in B.3, above, provided they meet the following criteria:

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a. There is no other feasible alternative route with less impact on the sensitive area or buffer.

b. The crossing minimizes interruption of natural processes such as the downstream movement of wood and gravel and the movement of all fish and wildlife. Bridges are preferred for all stream crossings and are required for crossings of the Core Complex. Bridges should be designed to maintain the existing stream gradient and substrate provide adequate horizontal clearance on each side of the ordinary high water mark and adequate vertical clearance above ordinary high water mark for animal passage. If a bridge crossing is not feasible, culverts shall be designed according to applicable state and federal guidance criteria for fish passage as identified in Fish Passage Design at Road Culverts, WDFW March 1999, and/or the National Marine Fisheries Service Guidelines for Salmonid Passage at Stream Crossings, 2000, (and subsequent revisions) and in accordance with a state Hydraulic Project Approval. The applicant or property owner shall maintain fish passage through bridge or culvert.

c. The city may require that existing culverts be removed, repaired, or modified as a condition of approval if the culvert is detrimental to fish habitat or water quality, and a feasible alternative exists.

d. Crossings shall be limited to the minimum width necessary. Common crossings are the preferred approach where multiple properties can be accessed by one crossing.

e. Access to private development sites may be permitted to cross streams, if there are no feasible alternative alignments. Alternative access shall be pursued to the maximum extent feasible, including through the provisions of RCW 8.24. Exceptions or deviations from technical standards for width or other dimensions, and specific construction standards to minimize impacts may be specified, including placement on elevated structures as an alternative to fill, if feasible.

f. Any adverse impacts on habitat functions and values are mitigated in accordance with Section 19.10.340.

5. Storm water detention/retention ponds are not permitted in a fish and wildlife habitat conservation buffer. However, Storm water conveyance, discharge facilities such as infiltration systems dispersion trenches, level spreaders, and outfalls and

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retention/detention facilities may be permitted in a fish and wildlife habitat conservation area buffer on a case-by-case basis when all of the following are met:

a. Due to topographic or other physical constraints there are no feasible locations for these facilities outside the buffer;

b. The discharge is located as far from the ordinary high water mark as possible and in a manner that minimizes disturbance of soils and vegetation.

c. The discharge outlet is in an appropriate location and is designed to prevent erosion and promote infiltration.

d. The discharge meets stormwater flow and water quality standard as provided in the 2005 Ecology Stormwater Manual for Western Washington, or the equivalent.

e. Any adverse impacts on habitat functions and values are mitigated in accordance with Section 19.10.340.

6. Stream bank stabilization, shoreline protection, and public or private launching ramps may be permitted subject to all of the following standards:

a. Natural shoreline processes will be maintained to the maximum extent practicable. The activity will not result in increased erosion and will not alter the size or distribution of shoreline or stream substrate, or eliminate or reduce sediment supply from feeder bluffs;

b. Adverse impact to fish or wildlife habitat conservation areas, specifically juvenile and adult fish migration corridors, or associated wetlands will be mitigated,

c. Nonstructural measures, such as placing or relocating the development further from the shoreline, planting vegetation, or installing on-site drainage improvements, are not feasible or not sufficient;

d. Stabilization is achieved through bioengineering or soft armoring techniques in accordance with an applicable Hydraulic Project Approval is issued by the Washington Department of Fish and Wildlife;

e. Hard bank armoring may occur only when the property contains an existing permanent structure(s) that is in danger from shoreline erosion caused by riverine processes and not erosion caused by upland conditions, such as the alteration of

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natural vegetation or drainage, and the armoring shall not increase erosion on adjacent properties and shall not eliminate or reduce sediment supply;

7. New public flood protection measures and expansion of existing measures may be permitted, provided that bioengineering or soft armoring techniques shall be used where feasible. Hard bank armoring may occur only in situations where soft approaches do not provide adequate protection, and shall be subject to requirement of the Shoreline Master Program, where applicable, Hydraulic Project Approval and other permits

8. New docks shall be permitted only for public access, as an accessory to water-dependent uses or associated with a single-family residence provided that it is designed and used only as a facility for access to watercraft.

    a. To limit the effects on ecological functions, the number of docks should be limited and new subdivisions should employ shared moorage whenever feasible. Docks on shorelines of the state must comply with policies and regulations of the City of Black Diamond Shoreline Master Program.

    b. Docks shall be located and designed to minimize adverse effects on ecological processes through location where they will interfere with fluvial and limnal processes including gradient and substrate; recruitment of woody debris; and fish habitat, including that related to anadromous fish.

    c. Docks shall minimize reduction in ambient light level by limiting width to the minimum necessary and shall not exceed four (4) feet in width, except where specific information on use patterns justifies a greater width. Materials that will allow light to pass through the deck may be required including grating on walkways or gangplanks in nearshore areas.

    d. Approaches shall utilize piers or other structures to span the entire upper foreshore to the point of intersection with stable upland soils and shall be design to avoid interfering with stream processes.

    e. Pile spacing shall be the maximum feasible to minimize shading and avoid a wall effect that would block or baffle currents, sediment movement or movement of aquatic life forms, or result in structure damage from driftwood impact or entrapment.

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f. Docks should be constructed of materials that will not adversely affect water quality or aquatic plants and animals in the long term.

g. Space for recreation activities other than those strictly water dependent (such as water sports) are prohibited over water.

9. Launch ramps may be permitted for access to the water for the public or for residents of a development for water dependent use subject to the following criteria:

a. Launch ramps shall be located and designed to minimize adverse effects on fluvial and limnal processes including stream gradient, and substrate; recruitment of woody debris; and fish habitat, including that related to anadromous fish.

b. Ramps shall be placed and maintained near flush with the bank slope. Preferred ramp designs, in order of priority, are:

i. Open grid designs with minimum coverage of beach substrate;

A. Seasonal ramps that can be removed and stored upland;

B. Structures with segmented pads and flexible connections that leave space for natural beach substrate and can adapt to changes in beach profile.

10. Instream structures, such as, but not limited to, high flow bypasses, dams, and weirs, other than those regulated exclusively by the Federal Energy Regulatory Commission (FERC) shall be permitted only when the multiple public benefits are provided and ecological impacts are fully mitigated. Dams on shorelines of the state shall be regulated in accordance with the Shoreline Master Program.

a. Instream facilities locations shall avoid areas of high habitat value for aquatic organisms, specifically anadromous fish.

b. Instream facilities shall be designed to produce the least feasible effect on fluvial processes and shall minimize change in gradient.

c. Instream facilities shall provide mitigation of all impacts on aquatic species and habitat.

d. Instream facilities shall provide fish passage, in accordance with RCW 77.57.

e. Any adverse impacts on habitat functions and values are mitigated in accordance with Section 19.10.340.

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f. A construction bond for 125% of the cost of the structure and all mitigation measures shall be filed prior to construction and a maintenance agreement shall specify responsibility for maintenance, shall incorporate the maintenance schedule specified by the design engineer, shall require annual inspections by a Civil Engineer licensed in the State of Washington and shall stipulate abandonment procedures which shall include, where appropriate, provisions for site restoration.

11. Facilities permitted as shoreline dependent or shoreline oriented uses in accordance with the City Shoreline Master Program, may be located in water bodies and buffers, provided that only those facilities that are water dependent or water oriented and facilities for necessary access may be located in water bodies and buffers and provided that the facility is located, designed, constructed and operated to minimize and, where possible, avoid sensitive area disturbance to the maximum extent feasible.

12. Clearing and grading, when allowed as part of an authorized use or activity or as otherwise allowed in these standards, may be permitted provided that the following shall apply:

    a. Grading is allowed only during the designated dry season, which is typically regarded as May 1 to October 1 of each year, provided that the City may extend or shorten the designated dry season on a case-by-case basis, based on actual weather conditions.

    b. Appropriate erosion and sediment control measures shall be used at all times. The soil duff layer shall remain undisturbed to the maximum extent possible. Where feasible, disturbed topsoil shall be redistributed to other areas of the site.

    c. The moisture-holding capacity of the topsoil layer shall be maintained by minimizing soil compaction or reestablishing natural soil structure and infiltrative capacity on all areas of the project area not covered by impervious surfaces.

19.10.335 Habitat other than fish habitat

A. Definition and Buffers. Protection standards for fish and wildlife habitat conservation areas other than streams and lakes are as provided in the table below.

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Fish and Wildlife Habitat Conservation Area	Buffer Requirement
Areas with which federally listed threatened or endangered species have a primary association. State Priority Habitats and areas with which Priority Species have a Primary Association A primary association means a sensitive component(s) of the habitats of a species, which, if altered, may reduce the likelihood that the species will maintain and reproduce over the long term.	Buffers shall be based on recommendations provided by the Washington Department of Fish and Wildlife PHS Program; provided that where no such recommendations are available, the buffer width shall be determined based on published literature concerning the species/habitat(s) in question and/or the opinions and recommendations of qualified professional with appropriate expertise.
Natural Area Preserves and Natural Resource Conservation Areas	Buffers shall be based on recommendations provided by site managers provided that the management strategies are considered effective and within the scope of this chapter.
Locally Important Habitat Areas	The need for and dimensions of buffers for locally important species or habitats shall be determined on a case by case basis, according to the needs of specific species or habitat area of concern. The mayor or his/her designee shall coordinate with the Washington Department of Fish and Wildlife and other State, Federal or Tribal exerts in these instances, and shall use WDFW PHS management recommendations when available.

B. Alterations that occur within a locally important habitat area or that may affect a locally important species as defined herein shall be subject to review on a case-by-case basis. The mayor or his/her designee shall have the authority to require an assessment of the effects of the alteration on species or habitats and may require mitigation to ensure that adverse effects do not occur. This standard is intended to allow for flexibility and responsiveness with regard to locally important species and habitats.

C. Wildlife Corridors. Corridors providing for migration to and from areas outside the Urban Growth Area are provided in the Core Stream and Wetland Complex. Specific standards include:

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Stream, Wetland or other Corridor Feature	Corridor Requirements and Management Measures
Rock Creek/Lake Sawyer/Ravensdale Creek to the north and northeast	o All new bridges shall provide for animal passage including height sufficient for large mammals and width sufficient for a minimum 15 foot corridor adjacent to OHWM on at least one side o Existing Rock Creek/Abrams Road Bridge shall be replaced at the time of development of lands served by the bridge to meet the same standards. o Existing Rock Creek/Roberts Road bridge should be replaced to meet the same bridge standards when programmed as part of capital improvement program
Jones Lake/Jones Creek to the east	o o All new bridges shall provide for animal passage including height sufficient for large mammals and width sufficient for a minimum 15 foot corridor adjacent to OHWM on at least one side o Existing Jones Creek/SR 169 Bridge should be replaced to meet the same bridge standards when substantial improvements are made to the road, or when programmed as part of other improvements or as part of fish passage programs.
Black Diamond Lake/Black Diamond Creek to the southeast	o Minimum corridor width of 450' shall extend to the southwest boundary of the UGA along the general alignment of Black Diamond Creek following designated wetlands o All new bridges shall provide for animal passage including height sufficient for large mammals and width sufficient for a minimum 15 foot corridor adjacent to OHWM on at least one side o Existing bridge on Chub Lake Road creek shall be replaced at the time of development of lands served by the bridge to meet the same standards.

19.10.337 Fish and wildlife habitat conservation areas - Review and reporting requirements

The following provisions shall apply in addition to the Sensitive Area report requirements of 19.10.130:

A. When City sensitive area maps or Washington Department of Fish and Wildlife Priority Species and Habitat information, or other sources of credible information indicate that a site proposed for development or alteration is more likely than not to contain fish and wildlife habitat conservation areas or is within the buffer of a fish and wildlife habitat conservation area, the mayor or his/her designee shall require a site evaluation (field investigation) by a qualified professional or other measures to determine whether or not the species or habitat is present and if so, its relative location in relation to the proposed project area or site.

1. If no fish and wildlife habitat conservation areas are present, then review will be considered complete.
2. If the site evaluation determines that the species or habitat is present, the mayor or his/her designee may require a sensitive

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areas assessment report.

B. The mayor or his/her designee may waive the report requirement for a single-family development that involves less than 2,500 square feet of clearing and/or vegetation removal and will not directly disturb the designated stream or pond buffer area, designated species, or specific areas or habitat features that comprise the fish and wildlife habitat conservation area (nest trees, breeding sites, etc.) as indicated by a site plan or scaled drawing of the proposed development, except in the case of Bald Eagle Habitat.

C. The sensitive areas report shall describe the characteristics of the subject property and adjacent areas. The assessment shall include the following:

1. Existing physical features of the site including buildings, fences, and other structures, roads, parking lots, utilities, water bodies, etc;
2. Determination of the resource category and standard buffers;
3. Identification of sensitive areas and buffers within three hundred (300) feet of the site and an estimate of the existing approximate acreage for each. The assessment of off-site resources shall be based on available information and shall not require accessing off-site properties if permission of the property owner cannot be obtained;
4. Proposed development activity.
5. A detailed description of the effects of the proposed development on ecological functions and buffer function and value, including the area of direct disturbance; area of buffer reduction or averaging including documentation that functions and values will not be adversely affected by the reduction or averaging; effects of storm water management; proposed hydrologic alteration including changes to natural drainage or infiltration patterns; effects on fish and wildlife species and their habitats; clearing and grading impacts; temporary construction impacts; and effects of increased noise, light or human intrusion.
6. Provisions to reduce or eliminate adverse impacts of the proposed development activities including, but not limited to:

a. Clustering and buffering of development,

b. Retention of native vegetation,

c. Access limitations, including fencing.

d. Seasonal restrictions on construction activities in accordance with the guidelines developed by the Washington Department of Fish and Wildlife, the US Army Corps of

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Engineers, the Salmonid Recovery Plan and/or other agency or tribe with expertise and jurisdiction over the subject species/ habitat, and

e. Methods to reduce proximity impacts

f. Other appropriate and proven low impact development techniques.

19.10.340 Mitigation Requirements

A. **Impacts and Mitigation.** Activities that adversely affect fish and wildlife habitat conservation areas and/or their buffers should generally be avoided through site design, including clustering. Unavoidable impacts to designated species or habitats shall be compensated for through habitat creation, restoration and/or enhancement to achieve no net loss of habitat functions and values in accordance with the purpose and goals of this Chapter.

B. **Alterations.** A fish and wildlife habitat conservation area may be altered only if the proposed alteration of the habitat or the mitigation proposed does not degrade the quantitative and qualitative functions and values of the habitat. All new structures and land alterations shall be prohibited from fish and wildlife conservation areas, except in accordance with this chapter.

C. **Mitigation plan**. A mitigation plan will be required for all proposed fish and wildlife conservation area alterations or to mitigate unavoidable adverse impacts to the habitat functions and values resulting from a proposed action. Mitigation plans shall be prepared in accordance with the requirements of Section 19.10.140. The mitigation plan for habitat areas provides sufficient information to demonstrate that the proposed activities are logistically feasible, constructible, ecologically sustainable, and likely to succeed. Specific information to be provided in the plan shall include, but not be limited to:

1. General description and scaled drawings of the activities proposed including, but not limited to, clearing, grading/excavation, drainage alterations, planting, invasive plant management, installation of habitat structures, irrigation, and other site treatments associated with the development activities and proposed mitigation action(s);
2. A description of the functions and values that the proposed mitigation area(s) shall provide, together with a description of required and an assessment of factors that may affect the success of the mitigation program; and
3. A description of known management objectives for the species or

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habitat.

D. **Non-indigenous species.** Any plant, wildlife, or fish species not indigenous to the region shall not be introduced into a fish and wildlife conservation area unless authorized by a state or federal permit or approval.

E. **Mitigation standard.** Mitigation of alterations to fish and wildlife conservation areas shall achieve equivalent or greater biologic and hydrologic functions and shall include mitigation for adverse impacts upstream or downstream of the development proposal site. Mitigation shall address each function affected by the alteration to achieve functional equivalency or improvement on a per function basis.

F. **Timing.** Required mitigation shall be completed as soon as possible following activities that will disturb fish and wildlife habitat conservation areas and during the appropriate season. Mitigation shall be completed prior to use or occupancy of the activity or development. Construction of mitigation projects shall be timed to reduce impacts to existing wildlife and flora.

G. **Monitoring.** The mayor or his/her designee shall have authority to require monitoring of mitigation activities and submittal of annual monitoring reports to ensure and document that the goals and objectives of the mitigation are met. The frequency and duration of the monitoring shall be based on the specific needs of the project as determined by the administrator.

H. **Mitigation and contiguous corridors.** Mitigation sites shall be located to preserve or achieve contiguous fish and wildlife habitat corridors in accordance with a mitigation plan that is part of an approved sensitive area report to minimize the isolating effects of development on fish and wildlife conservation areas, so long as mitigation of aquatic habitat is located within the same aquatic ecosystem as the area disturbed.

19.10.400 Geologically Hazardous Areas

BDMC 19.10.400 through BDMC 19.10.440 pertain to geologically hazardous areas.

19.10.405 Designation and Mapping.

A. **Designations.** Geologically hazardous areas include the following:

1. Erosion hazard areas. Erosion hazard areas are those areas with soils identified by the U.S. Department of Agriculture's Natural Resources Conservation Service as having a "moderate to severe," "severe," or "very severe" rill and inter-rill erosion hazard.

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2. Landslide hazard areas. Landslide hazard areas are areas potentially subject to landslides based on a combination of geologic, topographic, and hydrologic factors. They include areas susceptible due to any combination of bedrock, soil, slope (gradient), slope aspect, structure, hydrology, or other factors. These may include the following:

   a. Areas of historic failures, such as areas that have shown evidence of historic failure or instability, including but not limited to back-rotated benches on slopes; areas with structures that exhibit structural damage such as settling and racking of building foundations; and areas that have toppling, leaning, or bowed trees caused by ground surface movement;;

   b. Those areas delineated by the U.S. Department of Agriculture's Natural Resources Conservation Service as having a "severe" limitation for building site development;

   c. Those areas mapped by the Washington State Department of Natural Resources (slope stability mapping) as unstable (U or class 3), unstable old slides (UOS or class 4), or unstable recent slides (URS or class 5);

   d. Areas with all three of the following characteristics:

      i. Slopes steeper than fifteen percent (15%); and

      ii. Hillsides intersecting geologic contacts with a relatively permeable sediment overlying a relatively impermeable sediment or bedrock; and

      iii. Springs or ground water seepage;

   e. Areas potentially unstable because of rapid stream incision, stream bank erosion, and undercutting;

   f. Any area with a slope of forty percent (40%) or steeper and with a vertical relief of ten (10) or more feet except areas composed of consolidated rock. A slope is delineated by establishing its toe and top and is measured by averaging the inclination over at least ten (10) feet of vertical relief.

   g. Areas that are at risk of mass wasting due to seismic forces.

3. Mine hazard areas. Mine hazard areas are those areas underlain by or affected by mine workings such as adits, gangways, tunnels, drifts, or airshafts, and those areas of probable sink holes, gas releases, or subsidence due to mine workings. These are further

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described below in terms of degree of hazard.

4. Seismic Hazard Areas: Areas subject to severe risk of damage as a result of earthquake-induced ground shaking, slope failure, soil liquefaction or surface faulting including:

   a. Areas subject to surface faulting during a seismic event;

   b. Areas with underlying deposits indicative of a risk of liquefaction during a seismic event;

   c. Areas subject to slope failure during a seismic event;

   Seismic hazards shall be as identified in Washington State Department of Natural Resources seismic hazard maps for Western Washington and other geologic resources.

B. **Mapping.** The approximate location and extent of known geologically hazardous areas are shown on the Black Diamond Sensitive Areas Map(s). Those maps are resources for the identification of the probable location, extent and classification of sensitive areas. The criteria by which geological hazards are defined and the results of field investigation shall prevail over information on the maps.

19.10.410 Development Standards – Landslide Hazard Areas:

A. Activities allowed in landslide hazard areas. The activities listed below are allowed in landslide hazard areas in addition to those activities listed in, and consistent with, the provisions and activities established in Section 19.10.060, in accordance with the review provisions below.

1. Activities and facilities that do not require prior review or approval, provided, that where the mayor or his/her designee determines such activities may result in a loss of functions and values of a wetland or its buffer the provisions of (B) or (C) shall apply. These activities include.

   a. Outdoor recreational or educational activities that do not remove vegetation or displace soils or install facilities, other than temporary or small scale structures that will be abandoned in the case of earth movement.

   b. The harvesting of crops in a manner that is not injurious to natural reproduction of such crops and provided the harvesting does not require tilling of soil, planting of crops, chemical applications, or alteration of the wetland by changing existing topography, water conditions, or water sources.

2. Actions that can be planned and programmed in advance requiring notification and review in accordance with Section 19.10.060.B.2.

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a. Overhead utility lines that span the landslide hazard areas or that involve poles installed without soil movement for access roads.

b. Trails may be permitted within a landslide area if the trails does not exceed 4 feet in width, shall not exceed 18 inches of cut or fill and shall be surfaced with gravel or pervious material, including boardwalks;

3. Uses and activities that shall be reviewed by a full permit process include:

a. Utility lines and pipes shall be permitted in landslide hazard areas only when the applicant demonstrates that no other practical alternative is available. The preferred design is for a line or pipe to be located above ground and properly anchored and/or designed so that it will continue to function in the event of an underlying slide. Stormwater conveyance shall be allowed only through a high-density polyethylene pipe with fuse-welded joints, or similar product that is technically equal or superior;

b. Roads, driveways and other vehicular access, trails and walkways, may be permitted to serve existing lots and existing development, only if the applicant demonstrates that

i. No other feasible alternative exists, including through the provisions of RCW 8.24, and

ii. If analysis by a qualified professional establishes compliance with the standards in subsection C, below.

c. Alteration of a landslide hazard area and buffer in order to accommodate structures or land alteration may be authorized only in cases where the mayor or his/her designee find that

i. Reasonable development cannot be accommodated on portions of the site not subject to landslide hazards and buffers, and

ii. If analysis by a qualified professional establishes compliance with the standards in subsection C, below.

d. Point discharges from surface water facilities and roof drains onto or upgradient from an erosion or landslide hazard area shall be prohibited.

e. Vulnerable facilities, including, but not limited to, schools, nursing homes, hospitals, police, fire and emergency

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response installations, and installations that produce, use, or store hazardous materials shall not be located in landslide hazard areas if there is a feasible alternative location outside the hazardous areas that would serve the intended service population. A facility may be allowed only subject to the standards in subsection (C), below.

B. **Buffer requirement.** A buffer shall be established from all edges of landslide hazard areas. The size of the buffer shall be determined by the mayor or his/her designee to eliminate or minimize the risk of property damage, death, or injury resulting from landslides, based upon review of and concurrence with a sensitive area report prepared by a qualified professional.

1. **Minimum buffer from the top of a slope.** The minimum buffer from the top of a slope shall be designed to protect persons and property from damage due to catastrophic slope failure and slope retreat over the lifetime of the use and provide an area of vegetation to promote shallow stability, control erosion and promote multiple benefits to wildlife and other resources. The minimum dimension of the buffer shall be equal to the greater of:

   a. Shall be equal to the height of the slope (the vertical distance from the toe of slope to the top of slope, for a 40% or greater slope, this shall be from the top of the portion of the slope which is a 40% slope, provided that another 40% slope is not located within the buffer area, in that case, the buffer shall be located from the top of the highest 40% slope).

   b. The distance from the top of slope equal to the distance from the toe of slope upslope at a slope of 2:1 (horizontal to vertical) to a point that intersects with the site's ground elevation., or

   c. Fifty (50) feet from the top of the slope.

2. **Minimum buffer from the bottom of a slope.** The minimum buffer from the bottom of a slope shall provide for safety of persons and property from the run-out resulting from slope failure and shall be the greater of:

   a. The height of the slope, or

   b. 50 feet from the toe of the slope.

3. **Minimum buffer from the side of a slope.** The minimum buffer from the bottom of a slope shall provide for safety of persons and property from the run-out resulting from slope failure and shall be

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the greater of:

a. 25 feet from the toe of the slope, or.

b. A triangular area that extends from the edge of the top of the slope outward at a 1:3 angle (one horizontal foot to three vertical feet)

4. **Buffer reduction.** The buffer may be reduced to a minimum of ten (10) feet when a qualified professional demonstrates to the satisfaction of the mayor or his/her designee that the reduction will adequately protect the proposed development, adjacent developments, proposed uses and the subject sensitive area and meet the development standards in subsection C.

5. **Increased buffer.** The buffer may be increased where the mayor or his/her designee determines through best available science documented in a sensitive area report prepared by a qualified professional that a larger buffer is necessary to prevent risk of damage to proposed and existing development or to meet the development standards in subsection C.

C. **Criteria and Design Standards for Landslide Hazard Areas.**

All uses and activities in landslide hazard areas shall conform to the following standards:

1. No use or alteration of a landslide hazard area and buffer may be authorized except where the mayor or his/her designee find that

   a. reasonable development cannot be accommodated on portions of the site not subject to landslide hazards and buffers, and

   b. if analysis by a qualified professional establishes compliance with the following standards based on specific development plans:

      i. The proposed development will not result in a risk of landslide that may affect development on the subject property or other properties in the vicinity, and will not result in a greater risk or a need for increased buffers on neighboring properties; For unconsolidated deposits, development shall not decrease the factor of safety for landslide occurrences below the limits of 1.5 for static conditions and 1.2 for dynamic conditions. Analysis of dynamic conditions shall be based on a minimum horizontal acceleration as established by the current version of the International Building Code.

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ii. Measures to maintain slope stability, such as drainage systems, must be of a design that will assure operation without facilities requiring regular maintenance that would jeopardize stability if the facility fails.

iii. The development will not increase erosion or sedimentation risk on the site;

iv. The development will not increase surface water discharge or sedimentation to adjacent properties beyond pre-development conditions;

v. Such alterations will not adversely impact other sensitive areas;

vi. Structures shall be located on the least sensitive portion of the site and clustered where possible to reduce disturbance and removal of vegetation.

vii. Structures will meet the following design standards:

(A) Grading shall minimize alterations to the natural contour of the slope,

(B) Foundations should conform to the natural contours of the slope and foundations should be stepped/tiered where possible to conform to existing topography of the site;

(C) Retaining walls shall be preferred over cut and fill and shall be incorporated into structures wherever feasible.

viii. Landslide hazard areas on unconsolidated deposits with a gradient of 40 percent where the toe of slope is within the buffer area of a wetland, stream, pond or lake are not eligible for alteration of landslide hazard areas or but may be subject to alteration of buffers, subject to compliance with the standards of this chapter.

2. Division of land within or adjacent to landslide hazard areas and associated buffers shall be clustered to avoid landslide hazard areas and associated buffers. Land that is located partially within a landslide hazard area or its buffer may be divided provided that each resulting lot has sufficient buildable area outside of the landslide area and buffer with provision for access, drainage, erosion control and related features that will not adversely affect the stability of the landslide area.

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3. Utility lines and pipes shall be permitted in erosion and landslide hazard areas only when the applicant demonstrates that no other practical alternative is available. The preferred design is for a line or pipe to be located above ground and properly anchored and/or designed so that it will continue to function in the event of an underlying slide. Stormwater conveyance shall be allowed only through a high-density polyethylene pipe with fuse-welded joints, or similar product that is technically equal or superior;

4. Roads, driveways and other vehicular access, trails and walkways, may be permitted only if the applicant demonstrates that no other feasible alternative exists, including through the provisions of RCW 8.24 and subject to the standards in 1., above. If access through a hazard area is granted, exceptions or deviations from technical standards for width or other dimensions, and specific construction standards to minimize impacts may be specified. Access roads and trails shall be engineered and built to standards that avoid the need for major repair or reconstruction beyond that which would be required in non-hazard areas and shall be:

   a. Located in the least sensitive area of the site.

   b. Designed to minimize topographic modification with low gradients and/or parallel to the natural contours of the site.

   c. Retaining walls shall be preferred over cut and fill slopes to minimize topographic modification.

   d. Clearing and grading shall minimize ground disturbance to the maximum extent feasible to accommodate allowed development and generally shall not extend more than 10 feet beyond the approved development;

5. A qualified professional, licensed in the state of Washington, shall review project plans in landslide hazardous areas to ensure that they are properly designed and shall certify that they have inspected the construction of facilities and the facilities are constructed to incorporate all required facilities to meet the standards above, and no unanticipated features were identified during construction that change the design required to meet said standards. If any unanticipated features related to bedrock, soil, slope (gradient), slope aspect, structure, geologic contacts with a relatively permeable sediment overlying a relatively impermeable sediment or bedrock; hydrology including springs or ground water seepage or stream geomorphology relating to stream bank erosion or undercutting are identified during construction that were not anticipated in the initial review, the qualified professional shall be

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responsible for the cessation of work if the conclusions of the initial review are no longer valid and report to the mayor or his/her designee.

19.10.415 Landslide Hazard Review and Reporting Requirements

A. When sensitive area maps or other sources of credible information indicate that a site proposed for development or alteration is or may be located within a landslide hazard area the mayor or his/her designee shall have the authority to require the submittal of a landslide hazard assessment report. The following provisions shall apply in addition to the Sensitive Area report requirements of 19.10.130:

B. The landslide hazard assessment shall describe and evaluate the geologic characteristics of the subject property and adjacent areas. The landslide hazard assessment shall include field investigation and may include the analysis of historical aerial photographs, review of public records and documentation, and interviews with adjacent property owners. The report shall include the following, provided that the mayor or his/her designee may determine that any portion of these requirements is unnecessary given the scope and/or scale of the proposed development:

1. A description of which areas on the site, surrounding areas that influence or could be influenced by the site, or areas within three hundred (300) feet of the site meet the criteria for a landslide hazard.
2. A scaled site plan showing:
    a. The type and extent of landslide hazard areas, and any other sensitive areas, and buffers on, adjacent to or that are likely to impact or influence the proposal, including properties upslope of the subject site;
    b. The location of existing and proposed structures, fill, access roads, storage of materials, and drainage facilities, with dimensions;
    c. The existing site topography preferably accurate to within two-foot contours; and
    d. Clearing limits.
3. A description of the site features, including surface and subsurface geology, hydrology, soils, and vegetation found in the project area and in all hazard areas addressed in the report. This may include surface exploration data such as borings, drill holes, test pits, wells, geologic reports, and other relevant reports or site investigations that may be useful in making conclusions or recommendations about the site under investigation;

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4. A description of the processes affecting the property or affected by development of the property including geologic processes, soil or water erosion, deposition, or accretion;
5. A description of the vulnerability of the site to seismic and other geologic processes and a description of any potential hazards that could be created or exacerbated as a result of site development.

C. Analysis of potential risks shall include:

1. A description and analysis of the level of risk associated with no development on the landslide hazard area and buffers;
2. A description and analysis of the level of risk associated with alternative proposals for development within or with less setback from the area of landslide hazard including risk to future occupants of the subject property, adjacent property, other sensitive areas and the general public safety;
3. A description and analysis of the level of risk associated with the measures proposed to mitigate the hazards, ensure public safety, and protect property and other sensitive areas, including the risk of failure if structures, drainage systems or other facilities are not monitored, maintained, or cease to function as designed for any reasons;
4. A description and analysis of the level of risk associated with increased erosion or sedimentation risk on the site and potential effects on adjacent properties, water bodies and wetlands.
5. Assessments and conclusions regarding slope stability for both the existing and developed conditions including the potential types of landslide failure mechanisms (e.g., debris flow, rotational slump, translational slip, etc.) that may affect the site. The stability evaluation shall also consider dynamic earthquake loading, and shall use a minimum horizontal acceleration as established by the current version of the International Building Code;
6. Description of the potential run-out hazard of landslide debris related to the proposed development that starts upslope (whether part of the subject property or on a neighboring property) and/or the impacts of landslide run-out on down slope properties and sensitive areas;
7. For proposed development on unconsolidated deposits, analysis of whether the development results in a factor of safety for landslide occurrences below the limits of 1.5 for static conditions and 1.2 for dynamic conditions. Analysis of dynamic conditions shall be based on a minimum horizontal acceleration as established by the current version of the International Building Code.

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8. The analysis shall include evaluation of stability under seismic conditions for both unconsolidated deposits and bedrock.

19.10.420 Development Standards – Erosion Hazard Areas:

A. **Activities allowed in erosion hazard areas.** Erosion hazard areas have soil and slope conditions such that development must incorporate adequate control in order to avoid soil movement and potential impacts on downgradient resources, including water quality and aquatic habitat. Activities in erosion control areas shall be subject to the following standards.

B. **Landslide hazard areas.** Except as otherwise provided for in this chapter, only those activities approved and permitted consistent with an approved sensitive area report in accordance with this chapter shall be allowed in erosion or landslide hazard areas.

C. **Development standards**

1. Structures shall be located on the least sensitive portion of the site and clustered where possible to reduce disturbance and removal of vegetation.
2. Grading shall minimize alterations to the natural contour of the slope. Building foundations shall conform to the natural contours of the slope and be stepped/tiered to conform to existing topography of the site;
3. Retaining walls shall be preferred over cut and fill for roads, parking lots and structures. Structures on slopes in excess of 25% shall incorporate earth retaining structures in buildings rather than employing free-standing earth retention structures. d. Clearing and grading shall minimize ground disturbance to the maximum extent feasible and generally shall not extend more than 10 feet beyond the approved development;
4. All structures or impervious surface improvements shall be required to have on-site drainage systems to meet the specifications of the public works department to control conveyance of stormwater to avoid erosion hazard areas. Point discharges or overland dispersion systems from surface water facilities and roof drains onto or upstream from an erosion or landslide hazard area shall be prohibited from discharging onto slopes in excess of 5%. Conveyance should be provided to the foot of slopes.
5. Roads, driveways and other vehicular access, trails and walkways, shall be

    a. Located in the least sensitive area of the site.

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b. Designed to minimize topographic modification with low gradients and/or parallel to the natural contours of the site.

c. Retaining walls shall be preferred over cut and fill slopes to minimize topographic modification.

19.10.425 Erosion hazard area review and reporting requirements

A. When sensitive area maps or other sources of credible information indicate that a site proposed for development or alteration is or may be located within a erosion hazard area the mayor or his/her designee shall have the authority to require the submittal of a erosion hazard assessment report. The following provisions shall apply in addition to the Sensitive Area report requirements of 19.10.130:

B. The erosion hazard assessment shall describe and evaluate the soil characteristics of the subject property and adjacent areas. The erosion hazard assessment shall include field investigation. The report shall include the following, provided that the mayor or his/her designee may determine that any portion of these requirements is unnecessary given the scope and/or scale of the proposed development:

1. A description of areas on the site and the surrounding areas that influence or could be influenced by the site, or areas within three hundred (300) feet of the site meet the criteria for an erosion hazard.
2. A scaled site plan showing:

a. The type and extent of soils subject to erosion hazard, and any other sensitive areas, and buffers on, adjacent to or that are likely to impact or be impacted by the proposal, including surface water, wetlands and other downgradient features;;

b. The location of existing and proposed areas of clearing, structures, fill, access roads, storage of materials, and drainage facilities, with dimensions;

c. The existing site topography preferably accurate to within two-foot contours; and

d. Proposed erosion control and drainage control features and facilities.

C. Analysis of potential erosion and best management practices to control erosion:

1. A description and analysis of the level of erosion associated with no development within the erosion hazard area;
2. A description and analysis of the level of erosion associated with the proposal and alternatives;

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3. A description and analysis of design features that could reduce erosion, including development standards within this section and other BMPs;
4. A description and analysis of the level of risk of sedimentation, degradation of water quality, impacts on aquatic species or other effects of the proposal and alternative design and BMPs.

19.10.430 Mine hazard areas

A. **Declassification of mine hazard areas.** Areas underlain by mine workings may be declassified as a mine hazard area by the mayor or his/her designee based on a detailed mine hazard study, field work, and completion of required mitigation to eliminate hazards of open workings, sinkholes, gas, fire and waste dumps and reducing the potential for settlement to 1:350 for ground tilt and 0.003 in/in strain such that hazards of mine workings are equivalent to lands not underlain by mines.

B. **Mine areas of low hazard.**

1. Mine areas of low hazard are defined as locations where:
   a. All workings are at a depth of more than three hundred feet or where a previous mine hazard assessment report has determined that all workings have collapsed or that potential subsidence is limited to no more than 1:350 for ground tilt and 0.003 in/in strain, and
   b. No unmitigated openings such as entries, portals, adits, mine shafts, air shafts, timber shafts, sinkholes, improperly filled sinkholes, tailings or other areas of past mining activity creating a significant probability for catastrophic ground surface collapse are within 100 feet of the location.
2. The mayor or his/her designee may allow the following activities or installations in low hazard mine areas without a detailed mine hazard assessment:
   a. Overhead utility lines;
   b. Trails and passive recreation uses;
   c. Mobile homes not on a rigid foundation
   d. Construction of new buildings with less than 2,500 square feet of floor area or roof area, whichever is greater, and which are not residential structures or used as places of employment or public assembly;
   e. Additions to existing residences that are 250 square feet or less; and

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f. Installation of fences.

3. All other uses may be allowed in low hazard mine areas only if analysis by a qualified professional establishes compliance with the following standards, based on a specific risk assessment and remediation plans:

   a. The risk of sinkhole development is reduced to a level no greater than other properties not affected by mine workings; and

   b. The risk of other public safety hazards related to underground workings and or waste dumps is reduced to a level no greater than other properties not affected by mine workings; and

   c. If the site could be subject to trough subsidence due to collapse of mine workings, remediation plans shall include site-specific design specifications that can accommodate calculated potential subsidence effects as required by the performance standards in Subsection E, below.

4. Vulnerable facilities, including, but not limited to, schools, nursing homes, hospitals, police, fire and emergency response installations, and installations that produce, use, or store hazardous materials shall not be located in mine areas of low hazard if there is a feasible alternative location outside the hazardous areas that would serve the intended service population. A facility may be allowed only subject to the performance standards in Subsection E, below.

C. **Mine areas of moderate hazard.**

1. Areas of moderate mine hazard are defined as locations that pose significant risks of property damage that may be mitigated by implementing special engineering or architectural recommendations. These are locations that typically include, but are not limited to:

   a. Mine workings that are at a depth of 150 feet to 300 feet below the surface of the land, or

   b. No unmitigated openings such as entries, portals, adits, mine shafts, air shafts, timber shafts, sinkholes, improperly filled sinkholes, tailings and other areas of past or significant probability for catastrophic ground surface collapse are within 100 feet of the location.

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2. The mayor or his/her designee may allow the following activities or installations in a moderate mine hazard area without a detailed hazard assessment:

    a. Overhead utility lines.

3. All other uses may be allowed only if analysis by a qualified professional establishes compliance with the following standards, based on a specific risk assessment and remediation plans:

    a. All entries, portals, adits, mine shafts, air shafts, timber shafts, sinkholes, improperly filled sinkholes and other areas of past or significant probability for catastrophic ground surface collapse are mitigated in compliance with the performance standards in Subsection E; and

    b. The risk of sinkhole development is reduced to a level no greater than other properties not affected by mine workings; and

    c. The risk of other public safety hazards related to underground workings and or tailings is reduced to a level no greater than other properties not affected by mine workings; and

    d. If the site could be subject to trough subsidence due to collapse of mine workings, remediation plans include site-specific design specifications that can accommodate calculated potential subsidence effects as required in the performance standards in Subsection E, below.

4. Vulnerable facilities, including, but not limited to, schools, nursing homes, hospitals, police, fire and emergency response installations, and installations that produce, use, or store hazardous materials shall not be located in a moderate mine hazard areas if there is a feasible alternative location outside the hazardous areas that would serve the intended service population. A vulnerable facility may only be allowed in a moderate mine hazard area according to the performance standards in Subsection E, below.

D. **Mine areas of severe hazard.**

1. Mine areas of severe hazard are defined as locations that pose a significant risk of catastrophic ground surface collapse. These are locations that typically include, but are not limited to:

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a. Coal mine workings from a depth of less than one hundred fifty feet from the surface of the land; or

b. Unmitigated openings such as entries, portals, adits, mine shafts, air shafts, timber shafts; or

c. Sinkholes, improperly filled sinkholes and other areas of past or significant probability for catastrophic ground surface collapse.

2. All uses and activities within a severe mine hazard area require analysis by a qualified professional and compliance with specific risk assessment and remediation plans, including:

   a. Remediation of hazards related to entries, portals, adits, mine shafts, air shafts, timber shafts, sinkholes, improperly filled sinkholes, mine tailings and other areas of past or significant probability for catastrophic ground surface collapse are mitigated in compliance with development standards in Subsection (E) to a standard that reduces risk of personal injury and risk of damage to structures and public facilities to a level similar to lands not underlain by mine workings.

   b. The preferred uses for areas of severe mine hazard are:

      i. Open space and passive recreation facilities with no public assembly,

      ii. Public facilities that must traverse the area, such as roads and utilities, but only if mitigated in accordance with section 19.10.430 and section 19.10.435.

3. Vulnerable facilities, including, but not limited to, schools, nursing homes, hospitals, police, fire and emergency response installations, and installations that produce, use, or store hazardous materials are prohibited in severe mine hazard areas.

E. **Performance standards**

Development on or near a mine hazard area requires applicant to first demonstrate that hazards to health or safety, persons, or property at the proposed site as a result of the development is equivalent to land not underlain by mine workings. If a proposal is located on or near a mine hazard area, a study by a qualified professional geotechnical specialist may be required.

1. Development within mine hazard areas shall be accompanied by technical studies by qualified professionals that assess the potential risk from entries shafts and ventilation facilities, of potential future trough subsidence or sinkhole development due to collapse of abandoned coal mines and identifies specific measures

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to mitigate the risk in accordance withy the criteria below:

a. Mine entries and shafts shall be permanently sealed using controlled backfill and/or grouting, or an approved, engineered seal and shall include permanently diversion of surface drainage away from the shaft or mine entry.

b. Existing sinkholes and shallow prospect excavations shall be backfilled to surface using controlled placement of suitable backfill and shall include permanently diversion of surface drainage away from existing sinkholes and prospect excavations.

c. Potential sinkhole hazards shall be assessed by a qualified professional utilizing direct subsurface investigation that demonstrate coal mine workings either do not exist, or that the workings have collapsed so that there is no remaining potential for sinkhole development; or show that the hazards associated with any voids that are identified are fully mitigated by backfilling, grouting, or other approved means such that the potential for sinkhole development is eliminated.

d. Any mine tailings or other fill materials shall be:

   i. Demonstrated to be stable through analysis by a qualified professional, or if such material does not met stability criteria it shall be regarded or otherwise mitigated to meet stability criteria.

   ii. If springs or seeps discharge from such areas, materials shall be removed or regraded to expose the source of the spring or seep.

   iii. Mine tailings or fill materials shall be covered with a minimum two feet of clean soil and be revegetated with native vegetation to control erosion, unless an alternative specific use has been approved.

   iv. Development shall not be permitted within 100 feet of tailings or fill materials that shows evidence of current or past combustion, unless combustible materials are removed.

   v. Development may be permitted over mine tailings or fill material only if an investigation and analysis by a qualified professional identifies feasible construction criteria for foundation stability and performance.

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e. Mine Gas hazards shall be mitigated by backfilling all mine entries, shafts, and sinkholes in and providing appropriate venting.

f. Mine fire potential shall be assessed through analysis by a qualified professional. Development shall not be permitted within 100 feet of workings where investigations indicate the possible presence of combustion in the underlying seam or seams.

2. Every development shall include appropriate construction standards established by a qualified professional in accordance with the criteria below:

a. Foundations shall be designed by a Washington State licensed structural engineer, with consideration of the subsidence effects documented for the site and the requirements of the International Building Code as provided by the criteria below:

i. Foundations and slabs on grade shall be designed to resist the ultimate forces for tension and/or compression as determined from the hazards report. The forces generated by subsidence effects of tilt and strain shall be treated as live loads with the appropriate load factors and/or factors of safety in design. Simultaneous friction drag force and lateral earth pressure loads shall be treated as earth pressure in load combinations.

ii. Ultimate passive soil pressure and distribution shall be assessed for all vertical surfaces in contact with foundation soil due to horizontal strain occurring from a subsidence and included in design specifications.

iii. Utility lines shall not be rigidly connected to the foundation wall. A flexible joint shall be provided at the point of transition from soil support to building support for all utilities.

iv. Positive drainage shall be designed for positive gravity flow under the most sensitive predicted subsidence conditions.

b. Roads and utilities shall be designed to accommodate the magnitudes of strains and tilts documented by technical studies through adequate strength to resist the forces of maximum predicted subsidence-related tilts and strains, or by adequate flexibility to accommodate the resulting

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deformations.

i. Roadways shall be constructed of flexible material and shall be designed to maintain positive drainage with the maximum predicted subsidence.

ii. Bridges shall be designed to a factor of safely of 2 to accommodate maximum strains and tilts predicted.

iii. Water utilities shall be designed to provide for two times the maximum predicted tilts and strains, including service lines, structures, and related appurtenances.

iv. Sewer and storm drainage utility design shall provide for 1.5 times the maximum predicted tilts and strains, including service lines, structures, and related appurtenances. Design grades shall provide positive gradient after allowing for the maximum predicted subsidence.

vi. Storm drainage detention and retention facilities shall be designed to remain functional following the occurrence two times the maximum predicted tilts and strains. Such facilities may be located in mine hazard areas only if all risk of sinkhole development has been eliminated.

vii. Electric and gas cables and pipelines shall be designed to accommodate the maximum predicted tilts and strains with suitable safety factors applied to these magnitudes such that failure of the utility line will not present a risk to public safety. The applicant shall present certification from the respective private utility that utilities have been designed in accordance with the above.

19.10.435 Mine hazard review and reporting requirements

A mine hazard study shall be prepared by a qualified professional that addresses the information and criteria below, provided that the mayor or his/her designee may accept and review a preliminary report with limited content to outline the potential hazard level and propose a suggested analysis methodology. The administrator may retain, at the applicant's expense, an independent qualified professional to perform a peer review of the mine hazard report.

A. A mine hazard report shall contain all available documentary information about mine workings and the results of a surface reconnaissance that shall identify any

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public safety mine hazards, mine waste dumps, or evidence of mine subsidence or sinkholes and shall include:

1. Historical mining data, including available copies of original mine records for mine workings.
2. A map showing property boundaries, mine hazard boundaries, and any potential hazards identified on or within 300 feet of the property.

B. Shallow hazards such as entry portals, shaft collars, ventilation shafts, prospects and mine waste dumps may be investigated by test pits or trenching, providing the method enables investigation to an adequate depth for the hazard being investigated.

C. Site-Specific Evaluation of Potential Trough Subsidence

1. Review of Available Records of original mine workings that could potentially influence the site by trough subsidence.

   a. locations, depths, and thicknesses of such seams and workings

   b. workings that could potentially influence the site shall be determined by projecting the downdip limit angle from the lowest limit of the documented workings to the ground surface. Mine workings are considered to potentially influence the property if the property lies within the line at which the limit angle intersects the ground surface.

2. Subsurface conditions may be evaluated by drilling. Drilling is the most acceptable method for providing information for reducing the Remaining Mine Height value used in subsidence calculations to less than the height of the original workings.

   a. Drillholes shall be logged continuously from 100 feet above to 20 feet below mine workings, including lithology at 5-foot intervals, drill fluid circulation, penetration rate, and free fall of the drill string.

   b. Greater confidence will be placed in core drilling logs than rotary drilling logs.

   c. As a guideline, a minimum of one drillhole penetrating each seam that could potentially cause trough subsidence at the site should be drilled for each 200 foot length of the adit, unless alternative spacing is demonstrated to provide adequate information concerning the workings.

   d. Surface geophysics, or other indirect means, may be used to

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assist in projecting information between and beyond drillholes, but shall not be accepted as the sole method for evaluating the condition of underground mine workings and calculating Remaining Mine Height.

3. Calculation of Trough Subsidence Magnitudes, Tilts, and Strains shall be in accordance with the empirical function method of the British National Coal Board, as presented in their Subsidence Engineers' Handbook, adjusted to reflect the effects of inclined seams and a downdip limit angles encountered and shall be based on a conservative evaluation of site conditions developed from the review of available records, site investigation and subsurface exploration.

   a. Direct field evidence or a review of detailed mine records shall be used to calculate the subsidence factor, the downdip limit angle.

   b. Remaining Mine Height shall be presumed to be equal to the seam thickness for the subsidence calculations unless evidence from drilling justifies modification.

   c. The calculation of potential tilts and strains shall consider effects of individual panel widths and barrier pillar widths. If direct subsurface investigation indicates that the mine workings are fully collapsed, an estimate of potential surface settlements due to consolidation of rubble and loose material shall be made for the cumulative effect of all seams that could induce trough subsidence at the site.

4. Site plans shall be prepared showing the proposed development and calculated magnitudes of potential subsidence, strains, and tilts at the property boundaries and at the locations of any proposed structures.

   a. A map showing contours of potential subsidence magnitudes, strains, and tilts throughout the property shall be submitted for use in design of roads and utilities.

   b. Appropriate recommendations shall be provided for structural and civil design requirements.

D. Site-Specific Evaluation: Potential Sinkhole Hazards

1. Review of Available Record shall be as in (1) (a) above.
2. Subsurface conditions for workings located within 150 feet of the ground surface shall be investigated by drilling.

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a. Drillhole sites shall be selected at representative locations and at representative working depths. A minimum of five drillholes shall be drilled along the alignment of any linear structure, such as roads or utility lines designed to cross a mine hazard area. No less than one drillhole per acre shall be provided for a site.

b. Core drilling is preferred, but is not compulsory. Rotary drilling is an acceptable method provided it is used in combination with downhole geophysical logging, including caliper logs. Drilling shall penetrate immediately above and through the predicted workings locations to facilitate interpretation of the condition of the mine workings.

c. Drillholes shall be logged continuously throughout their length, including lithology at 5-foot intervals for rotary drillholes, drill fluid circulation, penetration rate, and free fall

19.10.440 Seismic Hazard Areas

Development may be allowed in seismic hazard areas when all of the following apply:

A. If evaluation of site-specific subsurface conditions by a qualified professional demonstrates that the proposed development site is not subject to the conditions indicating seismic risk in, the provisions of this subsection shall not apply.

B If a site is subject to seismic risk, the applicant shall implement appropriate engineering design based on analysis by a qualified professional of the best available engineering and geological practices that either eliminates or minimizes the risk of structural damage or injury resulting from seismically induced settlement or soil liquefaction, including compliance with the following criteria:

1. Subdivision within a seismic hazard areas shall assure that each resulting lot has sufficient buildable area outside of the hazard area or that appropriate limitations on building and reference to appropriate standards are incorporated into subdivision approval and may be placed as restrictions on the face of the plat;
2. Structures in seismic hazard areas shall conform to applicable analysis and design criteria of the International Building Code;
3. Public Roads, bridges, utilities and trails shall be allowed when there are no feasible alternative locations and geotechnical analysis and design are provided that ensure the roadway, bridge and utility structures and facilities will not be susceptible to damage from seismic induced ground deformation. Mitigation measures shall be designed in accordance with the most recent version of the

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American Association of State Highway and Transportation Officials (AASHTO) Manual or other appropriate document.

C. The mayor or his/her designee may waive or reduce engineering study and design requirements for alterations in seismic hazard areas for:

1. Mobile homes;
2. Additions or alterations to existing structures that do not increase occupancy or significantly affect the risk of structural damage or injury; and
3. Buildings that are not dwelling units or used as places of employment or public assembly.

19.10.445 Seismic hazard review and reporting requirements

A. When sensitive area maps or other sources of credible information indicate that a site proposed for development or alteration is or may be located within a geologically hazardous area the mayor or his/her designee shall have the authority to require the submittal of a seismic hazard assessment report. The following provisions shall apply in addition to the Sensitive Area report requirements of 19.10.130:

B. An existing conditions assessment and investigation to evaluate the geologic characteristics of the subject property and adjacent areas and their susceptibility to damage during a seismic event.

1. The seismic assessment shall include field investigation and may include the analysis of historical aerial photographs, review of public records and documentation, and interviews with adjacent property owners, provided that the mayor or his/her designee may determine that any portion of these requirements is unnecessary given the scope and/or scale of the proposed development:
2. A description of the general surface and subsurface geology, hydrology, soils, and vegetation found in the project area, including faults and indicators of earth movement, past seismic events and other features that would affect the site response to seismic conditions. This may include surface exploration data such as borings, drill holes, test pits, wells, geologic reports, and other relevant reports or regional, local and site investigations that may be useful in making conclusions or recommendations about the site under investigation;

C. A description of the vulnerability of the site and structures to seismic and other geologic processes and a description of any potential hazards that could be created or exacerbated as a result of site development.

1. Evaluation of the current design in terms of the risk of structural

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damage or injury resulting from seismically induced stress, settlement, soil liquefaction, and other processes.

2. A description and evaluation of the best available engineering and geological practices that either eliminates or minimizes the risk of structural damage or injury resulting from seismic forces including public roads, utilities and other features.

19.10.500 Sensitive Aquifer Recharge Areas

A. **Classification.**

Aquifer recharge areas are categorized according to the following criteria.

1. Category I - Severe Aquifer Sensitivity. "Category I - Severe aquifer sensitivity" are those areas which provide rapid recharge with little protection, having highly permeable soils. The predominant soil series and types are those listed in Category I in Table 19.10.500.B.
2. Category II - Moderate Aquifer Sensitivity. "Category II - Moderate aquifer sensitivity" are those areas with aquifers present, but which have a surface soil material that encourages run-off and slows water entry into the ground. The predominant soil series and types are those listed as Category II in Table 19.10.500.B.
3. Category III - Slight Aquifer Sensitivity. "Category III - Slight aquifer sensitivity" are those areas of low ground water availability and whose soil series are derived from basaltic, andesitic, or sedimentary rock or ancient glacial till which are parent material for soils with more clays at the surface. These geological formations do not provide abundant ground water. The predominant soil series and types are those listed as Category III in Table 19.10.500.B.

Table 19.10.500.A – Aquifer Sensitivity Ratings for Soil Texture

Soil Texture[1]	DRASTIC Rating[1]	Sensitivity
Thin or Absent[3]	10	Category I - Severe
Gravel	10	Category I - Severe
Sand	9	Category I - Severe
Peat	8	Category I - Severe
Shrink/Swell Clay	7	Category II - Moderate
Sandy loam	6	Category II - Moderate
Loam	5	Category II - Moderate
Silt loam	4	Category II - Moderate

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Clay loam	3	Category III - Slight
Muck	2	Category III - Slight
Non-shrink/Swell Clay	1	Category III - Slight

1. The DRASTIC Index (Aller et.al. June 1987) was developed cooperatively between the National Water Well Association (NWWA; now the National Ground Water Association) and the U.S. Environmental Protection Agency (EPA) to rank soil types with respect to pollution transport potential.

Table 19.10.500.B – Aquifer Sensitivity Ratings for Soil Units

Soil Series Name & Map Unit Symbol	Category I Severe	Category II Moderate	Category III Slight
Alderwood gravelly sandy loam (Ag)		X	
Alderwood and Kitsop soils, very steep (AkF)		X	
Beausite gravelly sandy loam (Be)		X	
Bellingham silt loam (Bh)		X	
Buckley silt loam (Bu)		X	
Everett gravelly sandy loam (Ev)		X	
Mixed alluvial land (Ma)		X	
Norma sandy loam (No)		X	
Ragnar-Indianola association, sloping (RdC)		X	
Seattle muck (Sk)			X
Shalcar muck (Sm)			X

B. **Prohibited Uses and Criteria**

1. The following new development proposals and alterations are not allowed on a site located in a category I sensitive aquifer recharge area:

   a. Disposal of radioactive wastes, as defined in chapter 43.200 RCW;

   b. Hydrocarbon extraction;

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c. Commercial wood treatment facilities;

d. Class V injection wells, but limited to subclasses 5F01, 5D03, 5D04, 5W09, 5W10, 5W11, 5W31, 5X13, 5X14, 5X1S, 5W20, 5X28, and 5N24;

e. Underground storage tanks, including tanks exempt from the requirements of chapter 173-360 WAC, with hazardous substances, as defined in chapter 70.105 RCW, that do not comply with the requirements of chapter 173-360 WAC and K.C.C. Title 17;

f. Above ground storage tanks for hazardous substances, as defined in chapter 70.105 RCW, unless protected with primary and secondary containment areas and a spill protection plan;

g. Landfills for hazardous waste, or special waste, as defined in WAC173-303;

h. Wrecking yards;

i. Electroplating;

j. Solid waste handling and processing facilities

k. Dry cleaners, excluding drop-off only operations;

l. Landfills for municipal solid waste;

m. Transmission pipelines carrying petroleum or petroleum products;

n. Sand and gravel, and hard rock mining

o. Mining of any type below the upper surface of the saturated ground water that could be used for potable water supply;

p. Vehicle repair

q. Biological research

r. Chemical manufacturing, mixing and remanufacturing

s. Golf courses;

t. Cemeteries;

2. Except as otherwise provided in subsection C. of this section, the following new development proposals and alterations are not allowed on a site located in a category II sensitive aquifer recharge area: items (a) through (i) in subsection (B)(1) above.

3. Except as otherwise provided in subsection C. of this section, the

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following new development proposals and alterations are not allowed on a site located in a category III sensitive aquifer recharge area: items (a) through (h) in subsection (B)(1) above.

C. The following standards apply to development proposals and alterations that are substantial improvements on a site located in a sensitive aquifer recharge area:

1. The owner of an underground storage tank, including a tank that is exempt from the requirements of chapter 173 WAC, in a category I, II or III sensitive aquifer recharge area shall either bring the tank into compliance with the standards of chapter 173 WAC and or properly decommission or remove the tank; and
2. A development proposal for new residential development, including, but not limited to, a subdivision, short subdivision, or dwelling unit, shall incorporate best management practices in order to infiltrate stormwater runoff to the maximum extent

19.10.600 Definitions.

Words not defined in this chapter shall be as defined in the city code, the Washington Administrative Code, or the Revised Code of Washington. Words not found in either code shall be as defined in the Webster's Third New International Dictionary, latest edition.

19.10.601 ***Adjacent*** **–** Immediately adjoining (in contact with the boundary of the influence area) or within a distance that is less than that needed to separate activities from sensitive areas to ensure protection of the functions and values of the sensitive areas. Adjacent shall be determined on a case by case basis and at the minimum shall include any activity or development located:

A. On a site immediately adjoining a sensitive area;
B. A distance equal to or less than the greatest potential sensitive area buffer width and building setback applicable to the resource;
C. A distance equal to or less than one-half mile (2,640 feet) from a bald eagle nest;
D. A distance equal to or less than three hundred (300) feet upland from a stream, wetland, or water body;
E. Bordering or within the floodway, floodplain or channel migration zone; or
F. A distance equal to or less than two hundred (200) feet from a sensitive aquifer recharge area.

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19.10.602 ***Agricultural activities*** **–** Agricultural uses and practices existing or legally allowed on the effective date of this ordinance on rural land or agricultural land designated under RCW 36.70A.170 including, but not limited to: Producing, breeding, or increasing agricultural products; rotating and changing agricultural crops; allowing land used for agricultural activities to lie fallow in which it is plowed and tilled but left unseeded; allowing land used for agricultural activities to lie dormant as a result of adverse agricultural market conditions; allowing land used for agricultural activities to lie dormant because the land is enrolled in a local, state, or federal conservation program, or the land is subject to a conservation easement; conducting agricultural operations; maintaining, repairing, and replacing agricultural equipment; maintaining, repairing, and replacing agricultural facilities, when the replacement facility is no closer to a sensitive area than the original facility; and maintaining agricultural lands under production or cultivation

19.10.603 ***Alteration*** **–** Any human induced change on a site, or in the vicinity that alters the existing condition and/or ecological functions and values of a sensitive area or its buffer. Alterations include, but are not limited to grading, filling, channelizing, dredging, clearing (vegetation), construction, compaction, excavation, or any other activity that changes the character of the sensitive area.

19.10.604 ***Anadromous fish*** **–** Fish that spawn and rear in freshwater and mature in the marine environment.

19.10.605 ***Applicant*** **–** A person who files an application for permit under this chapter and who is either the owner of the land on which that proposed activity would be located, a contract purchaser, has a valid easement of other right to utilize, or is a public utility or public agency with the right of eminent domain, or is the authorized agent of such a person.

19.10.606 ***Aquifer, sole source*** **–** An area designated by the U.S. Environmental Protection Agency under the Safe Drinking Water Act of 1974, Section 1424(e). The aquifer(s) must supply fifty percent (50%) or more of the drinking water for an area without a sufficient replacement available.

19.10.607 ***Best available science*** **–** Current scientific information used in the process to designate, protect, or restore sensitive areas, that is derived from a valid scientific process as defined by WAC 365-195-900 through 925. Sources of best available science are included in Citations of Recommended Sources of the Best Available Science for Designating and Protecting Sensitive Areas published by the Washington State Office of Community Development.

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19.10.608 ***Best management practices (BMPs)*** **–** Conservation practices or systems of practices and management measures that reflect the current scientific and technical consensus on the best or most effective means of addressing adverse effects upon a resource.

19.10.609 ***Buffer or buffer zone*** **–** An area that is contiguous to a sensitive area and provides an area for related ecological functions to take place including, but not limited to, the continued maintenance, functioning, and/or structural stability of a sensitive area and/or separates and protects the sensitive area from adverse impacts associated with adjacent land uses.

19.10.610 ***Compensation project*** **–** Actions that are necessary to replace project-induced sensitive area and buffer losses, including land acquisition, planning, construction plans, monitoring, and contingency actions.

19.10.611 ***Compensatory mitigation*** **–** Replacing project-induced losses or impacts to a sensitive area, and includes, but is not limited to, the following:

Restoration – Actions performed to reestablish functional characteristics and processes that have been lost by alterations, activities, or catastrophic events within an area that no longer provides such functions.

Creation – Actions performed to intentionally establish functional characteristics of an ecosystem at a site where it did not formerly exist.

Enhancement – Actions performed to improve the condition of existing degraded ecological functions so that the functions they provide are of a higher quality.

19.10.612 ***Conservation easement*** **–** A legal agreement that the property owner enters into to restrict uses of the land. Such restrictions can include, but are not limited to, restrictions on use or specific facilities to protect resources such as water quality, wetland function, vegetation and habitat and may include passive recreation uses such as trails or scientific uses and may require specific measures to protect resources such as fences or other barriers. The easement is recorded on a property deed, runs with the land, and is legally binding on all present and future owners of the property, therefore, providing permanent or long-term protection.

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19.10.613 ***Cumulative impacts or effects*** **–** The combined, incremental effects of human activity on ecological or sensitive areas functions and values. Cumulative impacts result when the effects of an action are added to or interact with other effects or actions in a particular place and within a particular time.

19.10.614 ***Developable area*** **–** A site or portion of a site that may be utilized as the location of development, in accordance with the rules of this chapter.

19.10.615 ***Development*** **–** Any activity upon the land consisting of construction or alteration of structures, earth movement, dredging, dumping, grading, filling, mining, removal of any sand, gravel, or minerals, driving of piles, drilling operations, bulkheading, clearing of vegetation, or other land disturbance. Development includes the storage or use of equipment or materials inconsistent with the existing use. Development also includes approvals issued by the city that binds land to specific patterns of use, including but not limited to, subdivisions, short subdivisions, zone changes, conditional use permits, and binding site plans. Development activity does not include the following activities:

A. Interior building improvements.

B. Exterior structure maintenance activities, including painting and roofing.

C. Routine landscape maintenance of established, ornamental landscaping, such as lawn mowing, pruning and weeding.

D. Maintenance of the following *existing* facilities that does not expand the affected area: septic tanks (routine cleaning); wells; individual utility service connections; and individual cemetery plots in established and approved cemeteries.

19.10.616 ***Development permit*** **–** Any permit issued by the [city/county], or other authorized agency, for construction, land use, or the alteration of land.

19.10.617 ***Erosion*** **–** The process whereby wind, rain, water, and other natural agents mobilize and transport particles.

19.10.618 ***Erosion hazard areas*** **–** At least those areas identified by the United State Department of Agriculture National Resources Conservation Service as have a “severe” rill and inter-rill erosion hazard.

19.10.619 ***Exotic*** **–** Any species of plants or animals, which are foreign to the planning area.

19.10.620 ***Fish habitat*** **–** Habitat that provides the life supporting and reproductive needs of a species or life stage of fish. Although the habitat

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requirements of a species depend on its age and activity, the basic components of fish habitat in rivers, streams, ponds, lakes, and nearshore areas include, but are not limited to, the following:

A. Clean water and appropriate temperatures for spawning, rearing, and holding;

B. Adequate water depth and velocity for migrating, spawning, rearing, and holding, including off-channel habitat;

C. Abundance of bank and in-stream structures to provide hiding and resting areas and stabilize stream banks and beds;

D. Appropriate substrates for spawning and embryonic development. For stream and lake dwelling fishes, substrates range from sands and gravel to rooted vegetation or submerged rocks and logs. Generally, substrates must be relatively stable and free of silts or fine sand;

E. Presence of riparian vegetation that creates a transition zone, which provides shade, and food sources of aquatic and terrestrial insects for fish;

F. Unimpeded passage (i.e. due to suitable gradient and lack of barriers) for upstream and downstream migrating juveniles and adults.

19.10.621 ***Flood or flooding*** **–** A general and temporary condition of partial or complete inundation of normally dry land areas from the overflow of inland waters and/or the unusual and rapid accumulation of runoff of surface waters from any source.

19.10.622 ***Floodplain*** **–** The total land area adjoining a river, stream, watercourse or lake subject to inundation by the base flood.

19.10.623 ***Formation*** **–** An assemblage of earth materials grouped together into a unit that is convenient for description or mapping.

19.10.624 ***Functions and values*** **–** Functions are processes or attributes provided by areas of the landscape (e.g. wetlands, rivers, streams, and riparian areas) The beneficial roles served by sensitive areas including, but are not limited to, water quality protection and enhancement, fish and wildlife habitat, food chain support, flood storage, conveyance and attenuation, ground water recharge and discharge, erosion control, wave attenuation, protection from hazards. Values are human perceptions of individual and social benefit associated with these functions and may include functional value for economic benefit, historical and archaeological value, aesthetic appreciation, educational, scientific, recreational or religious pursuits. These beneficial roles are not listed in order of priority.

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19.10.625 ***Ground water*** **–** Water in a saturated zone or stratum beneath the surface of land or a surface water body.

19.10.626 ***Geologically Hazardous areas*** **–** Areas designated as geologically hazardous areas due to potential for erosion, landslide, seismic activity, mine collapse, or other geological condition.

19.10.627 ***Hazardous substances*** **–** Any liquid, solid, gas, or sludge, including any material, substance, product, commodity, or waste, regardless of quantity, that exhibits any of the physical, chemical or biological properties described in WAC 173-303-090 or 173-303-100.

19.10.628 ***Natural condition*** **–** Condition of the land, including flora, fauna, soil, topography, and hydrology that existed before the area and vicinity were developed or altered by human activity.

19.10.629 ***In-kind compensation*** **–** To replace sensitive areas with substitute areas whose characteristics and functions closely approximate those destroyed or degraded by a regulated activity. It does not mean replacement "in-category."

19.10.630 ***Isolated wetlands*** **–** Those wetlands that are outside of and not contiguous to any 100-year floodplain of a lake, river, or stream, and have no contiguous hydric soil or hydrophytic vegetation between the wetland and any surface water.

19.10.631 ***Infiltration*** **–** The downward entry of water into the immediate surface of soil.

19.10.632 ***Landslide hazard areas*** **–** Areas that are potentially subject to risk of mass movement due to a combination of geologic landslide resulting from a combination of geologic, topographic, and hydrologic factors. These areas are typically susceptible to landslides because of a combination of factors including: bedrock, soil, slope gradient, slope aspect, geologic structure, ground water, or other factors.

19.10.633 ***Monitoring*** **–** Evaluating the impacts of development proposals on the biological, hydrological, and geological elements of such systems and assessing the performance of required mitigation measures throughout the collection and analysis of data by various methods for the purpose of understanding and documenting changes in natural ecosystems and features, and includes gathering baseline data.

19.10.634 ***Native growth protection area (NGPA)*** **–** An area where native vegetation is preserved for the purpose of preserving ecological functions or preventing harm to property and the environment, including, but not limited to, controlling surface water runoff and erosion, maintaining slope stability, buffering and protecting plants and animal habitat;

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19.10.635 ***Native vegetation*** **–** Plant species that are indigenous to the area in question.

19.10.636 ***Natural waters*** **–** Waters, excluding water conveyance systems that are artificially constructed and actively maintained for irrigation.

19.10.637 ***Non-indigenous*** **–** See "exotic."

19.10.638 ***Nonconforming*** –A use, development, structure or parcel that was lawfully constructed or established prior to the effective date of this code or amendments hereto, but which does not conform to present regulations or standards. For purposes of this code, a nonconforming parcel or lot shall be a single family residential lots within a subdivision filed within five years previous to the adoption of provisions of this code that render them non-conforming in compliance with RCW 58.17.170, or any other lots or parcels under contiguous ownership.

19.10.639 ***Off-site compensation*** **–** To replace sensitive areas away from the site on which a sensitive area has been impacted.

19.10.640 ***On-site compensation*** **–** To replace sensitive areas at or adjacent to the site on which a sensitive areas has been impacted.

19.10.641 ***Out-of-kind compensation*** **–** To replace sensitive areas with substitute sensitive areas whose characteristics do not closely approximate those destroyed or degraded. It does not refer to replacement "out-of-category."

19.10.642 ***Practical alternative*** **–** An alternative that is available and capable of being carried out after taking into consideration, cost, existing technology, and logistics in light of overall project purposes, and having fewer impacts to sensitive areas.

19.10.643 ***Primary association area*** **–** The area used on a regular basis by, or is in close association with, or is necessary for the proper functioning of the habitat of a sensitive species. Regular basis means that the habitat area is normally, or usually known to contain a sensitive species, or based on known habitat requirements of the species, the area is likely to contain the sensitive species. Regular basis is species and population dependent. Species that exist in low numbers may be present infrequently yet rely on certain habitat types.

19.10.644 ***Priority habitat*** **–** Habitat type or elements with unique or significant value to one or more species as classified by the Department of Fish and Wildlife. A priority habitat may consist of a unique vegetation type or dominant plant species, a described successional stage, or a specific structural element (WAC 173-26-020(34)).

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19.10.645 ***Project area*** **–** The area proposed to be disturbed, altered, or used by the proposed activity or the construction of any proposed structures. When the action binds the land, such as a subdivision, short subdivision, binding site plan, planned unit development, or rezone, the project area shall include the entire contiguous parcel owned or controlled by the applicant, at a minimum.

19.10.646 ***Qualified professional*** **–** A person with experience and training in the pertinent scientific discipline, and who is a qualified scientific expert with expertise appropriate for the relevant sensitive area subject in accordance with WAC 365-195-905(4). A qualified professional must have obtained a B.S. or B.A. or equivalent degree in the relevant field, and two years of related work experience.

A. A qualified professional for terrestrial or aquatic habitats must have a degree in biology and professional experience related to the subject species.

B. A qualified professional for wetlands must have a degree in biology and professional experience related to wetlands and has passed a certification course.

C. A qualified professional for a geological hazard must be a professional engineer or geologist, licensed in the state of Washington.

D. A qualified professional for sensitive aquifer recharge areas means a hydrogeologist, geologist, engineer, or other scientist with experience in preparing hydrogeologic assessments.

19.10.647 ***Recharge*** **–** The process involved in the absorption and addition of water to ground water.

19.10.648 ***Relative density*** **–** A method for evaluating the density of trees in relation to the theoretical maximum density for trees of the same size and species. It is preferable to a simple density (trees/acre) because it is a more accurate measure of occupied growing space and suppression mortality. Relative density equals the basal area of all trees in the stand divided by the square root of the quadratic mean diameter.

19.10.649 ***Repair or maintenance*** **–** An activity that restores the character, scope, size, and design of a serviceable area, structure, or land use to its previously authorized and undamaged condition. Activities that change the character, size, or scope of a project beyond the original design and drain, dredge, fill, flood, or otherwise alter sensitive areas are not included in this definition.

19.10.650 ***Restoration*** **–** Measures taken to restore an altered or damaged natural feature including:

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A. Active steps taken to restore damaged or altered ecological conditions, wetlands, streams, protected habitat, or their buffers to the functioning condition that existed prior to an unauthorized alteration; and

B. Actions performed to reestablish structural and functional characteristics of the sensitive area that have been lost by alteration, past management activities, or catastrophic events.

19.10.651 ***Riparian habitat*** **–** Areas adjacent to aquatic systems (stream, lake or pond) that contain elements of both aquatic and terrestrial ecosystems that mutually influence each other. Riparian areas include those portions of terrestrial ecosystems that significantly influence exchanges of energy and matter with aquatic ecosystems (i.e., zone of influence). The width of these areas extends to that portion of the terrestrial landscape that directly influences the aquatic ecosystem by providing shade, fine or large woody material, nutrients, organic and inorganic debris, terrestrial insects, or habitat for riparian-associated wildlife. Riparian habitat areas include those riparian areas altered due to human development activities.

19.10.652 ***River*** **–** See "Watercourse"

19.10.653 ***Scientific process*** **–** A valid scientific process is one that produces reliable information useful in understanding the consequences of a decision. The characteristics of a valid scientific process are as follows:

A. **Peer review.** The information has been sensitively reviewed by other qualified scientific experts in that scientific discipline.

B. **Methods.** The methods that were used are standardized in the pertinent scientific discipline or the methods have been appropriately peer-reviewed to assure their reliability and validity.

C. **Logical conclusions and reasonable inferences.** The conclusions presented are based on reasonable assumptions supported by other studies and are logically and reasonably derived from the assumptions and supported by the data presented.

D. **Quantitative analysis.** The data have been analyzed using appropriate statistical or quantitative methods.

E. **Context.** The assumptions, analytical techniques, data, and conclusions are appropriately framed with respect to the prevailing body of pertinent scientific knowledge.

F. **References.** The assumptions, techniques, and conclusions are well referenced with citations to pertinent existing information.

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19.10.654 ***Seismic hazard areas*** **–** Areas that are subject to severe risk of damage as a result of earthquake-induced ground shaking, slope failure, settlement, or soil liquefaction.

19.10.655 ***Sensitive area tract*** **–** Land designated as a separate parcel and retained in an open condition in perpetuity for the protection of sensitive areas. Lands within this type of dedication may include sensitive areas and related buffers. Ownership may be vested in a private party, in undivided interest by lots in a subdivision, in a non-profit entity or a public entity.

19.10.656 ***Sensitive habitat-*** Habitat areas with which endangered, threatened, sensitive or monitored plant, fish, or wildlife species have a primary association (e.g., feeding, breeding, rearing of young, migrating). Such areas are identified herein with reference to lists, categories, and definitions promulgated by the Washington Department of Fish and Wildlife as identified in WAC 232-12-011 or 232-12-014; in the Priority Habitat and Species (PHS) program of the Department of Fish and Wildlife; or by rules and regulations adopted by the U.S. Fish and Wildlife Service, National Marine Fisheries Service, or other agency with jurisdiction for such designations.

19.10.657 ***SEPA*** **–** Washington State Environmental Policy Act, Chapter 43.21C RCW.

19.10.658 ***Shorelands or shoreland areas*** **–** Those lands extending landward for two hundred feet (200 ft) in all directions as measured on a horizontal plane from the ordinary high water mark; floodways and contiguous floodplain areas landward two hundred (200) feet from such floodways; and all wetlands and river deltas associated with the streams, lakes and tidal waters which are subject to the provisions of Chapter 90.58 RCW.

19.10.659 ***Soil survey*** **–** The most recent soil survey for the local area or county by the National Resources Conservation Service, U.S. Department of Agriculture.

19.10.660 ***Species*** **–** Any group of animals classified as a species or subspecies as commonly accepted by the scientific community.

19.10.661 ***Species, endangered*** **–** Any fish or wildlife species that is threatened with extinction throughout all or a significant portion of its range and is listed by the state or federal government as an endangered species.

19.10.662 ***Species of local importance*** **–** Those species of local concern due to their population status or their sensitivity to habitat manipulation, or that are game species.

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19.10.663 ***Species, priority*** **–** Any fish or wildlife species requiring protective measures and/or management guidelines to ensure their persistence as genetically viable population levels as classified by the Department of Fish and Wildlife, including endangered, threatened, sensitive, candidate and monitor species, and those of recreational, commercial, or tribal importance.

19.10.664 ***Species, threatened*** **–** Any fish or wildlife species that is likely to become an endangered species within the foreseeable future throughout a significant portion of its range without cooperative management or removal of threats, and is listed by the state or federal government as a threatened species.

19.10.665 ***Stream*** **–** See "Watercourse."

19.10.666 ***Sub-drainage basin or subbasin*** **–** The drainage area of the highest order stream containing the subject property impact area. Stream order is the term used to define the position of a stream in the hierarchy of tributaries in the watershed. The smallest streams are the highest order (first order) tributaries. These are the upper watershed streams and have no tributaries of their own. When two first order streams meet, they form a second order stream, and when two second order streams meet they become a third order stream, and so on.

19.10.667 ***Unavoidable*** **–** Adverse impacts that remain after all appropriate and practicable avoidance and minimization have been achieved.

19.10.668 ***Water dependent*** **–** A use or portion of a use that cannot exist in a location that is not adjacent to the water, but is dependent on the water by reason of the intrinsic nature of its operations. A use that can be carried out only on, in, or adjacent to water. Examples of water dependent uses include ship cargo terminal loading areas; fishing; ferry and passenger terminals; barge loading, ship building, and dry docking facilities; marinas, moorage, and boat launching facilities; aquaculture; float plane operations; surface water intake; and sanitary sewer and storm drain outfalls.

19.10.669 ***Water resource inventory area (WRIA)*** **–** One of sixty-two (62) watersheds in the state of Washington, each composed of the drainage areas of a stream or streams, as established in Chapter 173-500 WAC on January 1, 1997, as amended hereafter.

19.10.670 ***Water table*** **–** That surface in an unconfined aquifer at which the pressure is atmospheric. It is defined by the levels at which water stands in wells that penetrate the aquifer just far enough to hold standing water.

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19.10.671 ***Watercourse*** **–** Those areas where surface waters produce a defined channel or bed. A defined channel or bed is an area that demonstrates clear evidence of the annual passage of water and includes, but is not limited to, bedrock channels, gravel beds, sand and silt beds, and defined-channel swales. The channel or bed need not contain water year-round. This definition includes drainage ditches or other artificial water courses where natural streams existed prior to human alteration, and/or the waterway is used by anadromous or resident salmonid or other fish populations.

19.10.672 ***Well*** **–** A bored, drilled or driven shaft, or a dug hole whose depth is greater that the largest surface dimension for the purpose of withdrawing or injecting water or other liquids.

19.10.672 ***Wetlands*** **–** Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas. Wetlands do not include those artificial wetlands intentionally created from non-wetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from non-wetland areas to mitigate the conversion of wetlands. For identifying and delineating a wetland, local government shall use the Washington State Wetland Identification and Delineation Manual.

19.10.674 ***Wetland edge*** **–** The boundary of a wetland as delineated based on the definitions contained in this chapter.

EXHIBIT A

FINDINGS OF FACT

A. General Sensitive Areas Findings

1. The Growth Management Act requires the adoption of development regulations that protect sensitive areas designated in accordance with RCW 36.70A.170.
2. RCW 36.70A.172 requires local governments to give special consideration to the conservation and protection measures necessary to preserve or enhance anadromous fisheries.

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3. Development may result in cumulative impacts to those functions and values of sensitive areas that contribute to and are necessary for a healthy natural environment and perceived quality of life.
4. The development of residences, businesses, shopping areas and other structures, and the clearing of land for accommodation of livestock and for such development all have the potential of adversely and significantly impacting the functions and values of sensitive areas.
5. The unwise development of resource lands or areas susceptible to natural hazards may lead to inefficient use of limited public resources, jeopardize environmental resource functions and values, subject persons and property to unsafe conditions, and affect the perceived quality of life.
6. It is more costly to remedy the loss of sensitive area functions and values than to conserve and protect them from loss or degradation.
7. In determining what sensitive areas are to be afforded a particular degree of protection, the City of Black Diamond has evaluated a wide range of the best science available with respect to the sensitive areas to make informed decisions that meet the intent of the Growth Management Act and that are also reflective of local needs. The sources of this best available science that were evaluated and included in this ordinance include the following:

August xx, 2008Washington State Wetland Identification and Delineation Manual, (Ecology Publication #96-94 1997).

Washington State Wetland Rating System for Western Washington, (Ecology Publication #04-06-025).

Wetland Mitigation in Washington State – Part 2: Guidelines for Developing Wetland Mitigation Plans and Proposals, April 2004 (Ecology Publication #04-06-013b).

Appendix 8-B *Wetland Language in a Sensitive Areas Ordinance* (April 2005).

Appendix 8-C *Guidance on Buffers and Ratios—Western Washington* (April 2005).

Wetland Replacement Ratios: Defining Equivalency, (Washington State Department of Ecology, 1992, Publication #92-08).

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Sensitive Areas Assistance Handbook (CTED November 2003).

Appendix A, Example Code Provisions for Designating and Protecting Sensitive Areas.

Management Recommendations for Washington's Priority Habitats: Riparian, Washington Department of Fish and Wildlife, 1997.

U.S. Geological Survey landslide hazard, seismic hazard, and volcano hazard maps.

Washington State Department of Natural Resources seismic hazard maps for Western Washington.

Washington State Department of Natural Resources slope stability maps.

Black Diamond Sensitive Areas Map.

8. Protection standards for one sensitive area often provide protection for one or more other sensitive areas.
9. Sensitive areas may also be protected by other actions by the City of Black Diamond, such as stormwater management standards, sensitive area restoration, and public education; and from other regulations, such as the Forest Practices Act, the Shoreline Management Act, and the State Environmental Policy Act.

B. Wetlands

1. Wetlands and streams are environmentally sensitive and serve numerous natural functions and values. These functions include: wildlife and fisheries habitat; water quality protection; flood protection; shoreline stabilization; stream flow; and ground water recharge and discharge. In many situations, these functions cannot be adequately replicated or replaced.
2. The scientific literature supports in the inclusion of protective buffers from wetlands to provide sediment control and nutrient inputs to wetlands, and to protect important wetland functions.
3. Wetlands are identified and rated according to the Washington State Wetland Identification and Delineation Manual and Washington State Wetland Rating System Western

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Washington, prepared by the Washington State Department of Ecology (Ecology).

4. The scientific literature supports protective buffers ranging from 25 to 300 feet of relatively intact native vegetation to adequately protect wetland functions and values.
5. Appropriate wetland mitigation ratios – ratios of areas of wetland replacement and enhancement to that altered or destroyed – are established in Wetland Mitigation Replacement Ratios: Defining Equivalency, published by Ecology, 1992.

C. Fish and Wildlife Habitat Conservation Areas

1. Fish and wildlife habitat conservation areas perform many important physical and biological functions that benefit the [jurisdiction] and its residents, including but not limited to: maintaining species diversity and genetic diversity; providing opportunities for food, cover, nesting, breeding and movement for fish and wildlife; serving as areas for recreation, education and scientific study and aesthetic appreciation; helping to maintain air and water quality; controlling erosion; and providing neighborhood separation and visual diversity within urban areas.
2. Wetlands and streams are environmentally sensitive and serve numerous natural functions and values. These functions include: wildlife and fisheries habitat; water quality protection; flood protection; shoreline stabilization; stream flow; and ground water recharge and discharge. In many situations these functions cannot be adequately replicated or replaced.
3. The scientific literature supports in the inclusion of protective buffers from streams to provide sediment control, nutrient inputs to downstream waters, large woody debris, and other functions important to riparian areas.
4. The Washington Department of Fish and Wildlife (WDFW) has prepared management recommendations for the preservation of priority habitat and species, which are based on the best available science, and include, in some instances, recommended protective buffer distances.
5. Salmonid and anadromous fish may be more impacted by development and human activity during some times than others. Such times are referred to as "fish windows," which have been documented by WDFW.

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6. DNR has classified watercourses according to a stream-typing system based on channel width, fish use, and perennial or intermittent status.
7. WAC 365-190-080(5) grants the City of Black Diamond the flexibility to make decisions in the context of local circumstances, and specifically excuses local jurisdictions from being required to protect "all individuals of all species at all time."

D. Geologically Hazardous Areas

1. Geologically hazardous areas are subject to periodic geological events that result in loss of life and property, health, and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures, and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare.
2. Geologic hazards may be exacerbated by development and human activity in sensitive areas, and impacts resulting from geologic hazards may be reduced by limiting development and human activity within or adjacent to the geologic hazard.
3. Some geologic hazards may be intensified during periods of consistent or heavy rainfall that results in ground saturation or surface water drainage flows.

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CITY COUNCIL AGENDA BILL

City of Black Diamond
Post Office Box 599
Black Diamond, WA 98010

ITEM INFORMATION

SUBJECT:

Resolution No. 09-581, amending the City's fee schedule

Agenda Date: February 26, 2009 **AB09-022**

Department/Committee/Individual	Created	Reviewed
Mayor Howard Botts		
City Administrator –Gwen Voelpel		
City Attorney – Loren D. Combs		
City Clerk – Brenda L. Streepy		**X**
Finance – May Miller		
Public Works – Seth Boettcher		
Economic Devel. – Andy Williamson		
Police – Jamey Kiblinger		
Court – Kaaren Woods		
Comm. Dev. – Steve Pilcher	**X**	

Cost Impact:
Fund Source:
Timeline:

Attachments: Resolution No. 09-581, Exhibit A (Proposed Fee Schedule) Exhibit B (Current Fee Schedule)

SUMMARY STATEMENT:

Staff has reviewed the current Master Planned Development application fee and determined that a revision to the fee schedule would better serve both the interests of the City and a potential applicant. The proposed revision will: 1) raise the basic application fee from the current $7500 to $25,000; eliminate the "per lot" additional charge of $60/lot; and establish a $75,000 deposit to cover the initial costs of processing. When it appears these initial fees are being exhausted, the City will require an applicant to submit additional deposit funds in order for review and processing to continue. This method will ensure that all City expenses are covered in full and also that an applicant pays only for actual review costs.

As a housekeeping item, City staff fees were updated to reflect 2009 rates.

COMMITTEE REVIEW AND RECOMMENDATION:

RECOMMENDED ACTION: **MOTION to adopt Resolution No. 09-591, updating the City's Fee Schedule to make housekeeping corrections and update fees to master planned development applications.**

RECORD OF COUNCIL ACTION

Meeting Date	*Action*	*Vote*
February 26, 2009		

Resolution No. 09-581

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF BLACK DIAMOND, KING COUNTY, WASHINGTON, UPDATING THE CITY'S OFFICIAL FEE SCHEDULE TO MAKE HOUSEKEEPING CORRECTIONS AND UPDATE FEES RELATED TO MASTER PLANNED DEVELOPMENT APPLICATIONS.

WHEREAS, as codified in chapter 2.62 of the Black Diamond Municipal Code, the City of Black Diamond has previously authorized and adopted an official schedule of fees that shall specify the amounts to be charged for services provided by city employees and their agents; and

WHEREAS, this fee schedule needs to be updated from time to time to ensure that the fees charged for services reflect the city's cost to provide these services; and

WHEREAS, city staff have reviewed the costs associated with processing a master planned development application and determined that the changes being proposed to the city's official fee schedule are necessary and appropriate.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF BLACK DIAMOND HEREBY RESOLVES AS FOLLOWS:

Section 1. The City's official fee schedule, previously adopted by resolution number 08-532, and shown in attached Exhibit B, is hereby amended as shown in attached Exhibit A, both of which are incorporated by reference to this Resolution. The areas of the fee schedule where amendments have been made are highlighted for ease of comparison.

RESOLVED this 26th day of February, 2009

CITY OF BLACK DIAMOND

_____
Mayor Howard Botts

ATTESTED BY:

_____
Brenda Streepy, City Clerk

DATE OF PASSAGE BY THE CITY COUNCIL: _____

DATE OF FILING WITH THE CITY CLERK: _____

2008 FEE SCHEDULE
Adopted 08-07-08

EXHIBIT "A" TO RESOLUTION 09-581 (Proposed changes to fee schedule)

POLICE	DESCRIPTION	FEE
Animal License		By King County Ordinance
Fingerprinting	Non-Resident	$15.00
Fingerprinting	Resident	$10.00
Fingerprinting (FBI Fee)	For original permits only	$19.25
Electronic Monitoring	Per Day, payable in advance	$17.00
Hook Up Fee	One Time Charge	Current IRS Rate
	within 20 mile radius	$25.00
Deposit		$350.00
Hook Up Fee	One Time Charge	Current IRS Rate
	outside 20 mile radius	
Concealed Weapons Permit	See Fingerprint fees above	
Original	Original Permit, see above	$55.25
Renewal	Valid Permit Renewal	$32.00
Late	Within 90 days after expiration	$42.00
Replacement		$10.00
Process Service		$25.00
Mileage for process service	$0.505/Per Mile as of 01/01/08	Current IRS Rate
False Alarm Responses	First Occurrence	None
	Second Occurrence per year	$50.00
	Third or more per year	$75.00
Discovery	No charge for one copy of	
	documents provided in	
	compliance with defense	
	request on Muni Court cases	
	others:	$0.25
Civil Service Testing	Per Applicant	Contract w/Public Safety Testing
Work Release	Per day, payable in advance	Contract Amount
Traffic Safety School		$200.00
Booking Processing Fee	Per booking	Contract Rate
Police Reports	Per Case Reports	$0.25 per page
Photographs		
Copies	each	$0.25
Originals	each	$8.00
Video Tape Reproduction	each	$50.00
CD Reproduction	each	$10.00
Audio Tape Reproduction	each	$10.00
Expurngements		$35.00
Firearms Clearance Letter	For Foreign Countries	$15.00
Local Record Clearance Letter	In-House Records Check	$15.00

Vehicle Storage	For other PD only, per day	$1.50

2008 FEE SCHEDULE
Adopted 08-07-08

STREETS	DESCRIPTION	FEE
FRANCHISE		
Right of Way Use Permit	Incld. 2 Inspect. & 1/2 hr. City Review$250.00	$250.00
Franchise Extra Inspection	1 hour minimum	$95.00/hour
Franchise Extra City Staff Review	1 hour minimum	$50.00/hour
Street Cleaning		Cost, plus 20%
Fines - ROW Use Permits	Failure to Call for Inpsection	$1,000.00
NON-FRANCHISE		
Right of Way Use Permit	Inclds. permit, inspect., review	$500.00
Street Cleaning		Cost, plus 20%
Fines - ROW Use Permits	Failure to Call for Inpsection	$1,000.00
Public Works Variance	Application and Review Fee	$1,000.00
	Professional Services	Actual costs + 20%
Street Signs Charge	Sign Purchase	Actual costs plus 20%
	Installation	Hourly Rates
Street, Alley, City Property	Application Fees	$750.00
Vacations	Deposit	$1,000.00
Unauthorized connection	No meter present or bypassing	$1,200.00
Meter Testing charge		Costs plus actual staff time
Customer Requested Turn Off	After Business Hours	2 Hour Minimum
WATER SERVICE CHARGES		
DROP IN METER CHARGES		
5/8" meter	City Installed	$500.00
3/4' meter	City Installec	$500.00
1" meter	City Installec	$600.00
1-1/2" meter thru 6" meter	City Installed	Meter cost, plus 20%
Irrigation 5/8" meter	City Installed	$500.00
Installation of water service charges	Homeowner incurs **ALL** costs, plus deposit	Deposit $1,000.00
	Per BDMC 13.04.050	
Installation Re-Inspection Fees		Hourly rates, 30 min. minimum
Connection Fee		Per BDMC 13.04.280
Door Hanger Charge, Warning		$10.00
Door Hanger w/Shut Off		$20.00
Unpaid Account Reconnect		
Fee	During Working Hours	$25.00
	After Working Hours	1 1/2 time, 2hr. minimum
	Holidays	Double time, 2hr. minimum
Capital Surcharge	Per month, per unit	$2.30
Lien Release		$120.00
Meter Rental/water purchase	Collect Deposit, Connection Fee, Rental Rate	Deposit $1,000.00
	Connection Fee dbl. current basic rate plus	Rental, per day $25.00
	Connection Fee dbl. current basic rate plus	Rental, per week $100.00
	Connection Fee dbl. current basic rate plus	Rental, per month $250.00

Water Investigation Certificates		
	Residential	$100.00
	Multi Family, Commercial	$200.00
	Industrial, Public Use	$200.00
Hydraulic Model for Water System	Deposit	$500.00
Non Account Water Purchase		Double out of city rates
Water Equipment and Parts		Actual Cost plus 20%
VARIOUS SEWER CHARGES		
Connection Fee		Per BDMC 13.20.080
Sewer Investigation Certificates		
Residential		$100.00
Multi-Family, Commercial,		
Industrial, Public Use		$200.00
Engineered Hydraulic Flows to	Deposit	$1,000.00
Sewer System		
Side Sewer Re-inspection Fees		Hourly rate, 30 min. minimum
ALL UTILITY EMERGENCY CALL OUT CHARGES		
Emergency Repair	Working hours, if prior locate	Time and materials
	Working hours, if no locate	3 times, time and materials
	After hours, if prior locate	1 1/2 Time and materials
	After hours, no locate	3 Times, 1 1/2 time and materia
	Holidays	Double time to above rates
Equipment Fee without Operator	City Dump Truck	$75.00 per hour
	City Vehicle	$50 per hour
	City Backhoe	$75.00 per hour
	Miscellaneous Utility Equipment	$25.00 per hour
	Parts	Cost plus 20%
CEMETERY	**DESCRIPTION**	**FEE**
Opening and Closing	For Normal Lots	$500.00
Opening and Closing	For Cremation	$100.00
Single Lot Purchase		$1,500.00
Double Lot Purchase (2 lots)		$2,500.00
Saturday Service - Burial	11 a.m. to 1 p.m.	$1,000.00
Saturday Service - Cremation	11 a.m. to 1 p.m.	$250.00
Liner		Actual Cost plus 20%
Liner Setting Fee		$250.00
Vault		Actual Cost plus 20%

Vault Setting Fee		$250.00
Niche	Single	$325.00
	Double	$425.00
Head Stone Placement	Normal, up to 44" x 20"	$100.00
	Oversized Stone	.15 per square inch
Exhumation		Lesser of $5,000.00
		or Actual Contract Cost
PLANNING, LAND USE	**DESCRIPTION**	**FEE**
Preliminary Long Plat Review	Permit Fee	$2,000.00
	Per Lot Charge	$100.00
	Deposit	10,000.00
Binding Site Plan	Permit Fee	1,500.00
Final Long Plat	Permit Fee	$1,500.00
Five Lots plus	Per Lot Charge	$100.00
	Deposit	$7,500.00
Short Plat	Permit Fee	$750.00
Four Lots or less	Per Lot Charge	$100.00
	Deposit	$1,500.00
Long Plat Extensions	1 Year Extensions	$1,000.00
	Deposit	$1,500.00
Lot Line Adjustments	Residential	$300.00
	Others	$600.00
	Deposit	$1,000.00
Mobile Home Park Application	Permit Fee	$5,000.00
	Per Lot Charge	$50.00
	Deposit	$2,500.00
Master Plan Application	Application Fee	$25,000.00
	Deposit	$75,000.00
Annexation	Deposit	$10,000.00
Annexation Filing Fee	Less than 50% developed	$1,000.00
	More Than 50% developed	None
Conditional Use/Special Use Permi	Permit Fee	$800.00
	Deposit	$1,000.00
Accessory Dwelling Unit	Permit Fee	$500.00
	Deposit	$1,000.00
Variance	Single Family	$300.00
	Others	$600.00
	Deposit	$1,000.00
Plat Inspections	Construction	Actual Staff Hours
	Deposit	$5,000.00
Shoreline Exemption Determination	Permit Fee	$100.00

Shorelines Substantial	Permit Fee	$500.00
	Deposit	$1,000.00
Shorelines Variance	Permit Fee	$500.00
	Deposit	$1,000.00
Shorelines Conditional Use	Permit Fee	$500.00
	Deposit	$1,000.00
Site Plan Review	Residential	$1,000.00
	Deposit	$2,000.00
	Commercial	$1,500.00
	Deposit	$3,500.00
Comprehensive Plan Amendment	Fee	$1,000.00
Request	Deposit	$3,500.00
Rezone Application	Permit Fee	$1,200.00
	Deposit	$3,500.00
Temporary Watchmans	1st Six Months	$275.00
Quarters	Seven to Twelve Months	$525.00
	Thirteen to Eighteen Months	$1,050.00
	Doubling in succeeding 6 month	$2,100.00 and up
SEPA Checklist	Checklist w/planning permit	$400.00
	Checklist w/o planning permit	$500.00
	Deposit	$1,000.00
SEPA Appeals		$300.00
Appeal on Land Use	Appeal Fee	$500.00
Environmental Impact Statem.	City Review Time Charged	Consultant + 20%
	Deposit	$75,000.00
Temporary Use Permit	Residential-Permit for first 6 months	$150.00
	1 six month extention	$240.00
	(not to exceed 12 total months)	
	All Others-Permit for first 6 months	$300.00
	1 six month extention	$400.00
	(not to exceed 12 total months)	
TDR Application		$250.00
Each TDR Development Credit		$50.00
U.L.I.D. or L.I.D.	City Costs	Actual costs plus 20%
TREE PERMIT	LEVEL I	$250.00
	LEVEL II	$500.00
Mobile Homes Landing	Landing Permit	Refer to 18.56.030d in Muni code
Livability Inspection	Deposit	$100.00
	First Hour on site	$50.00
	Each Hour Thereafter	$30.00

2008 FEE SCHEDULE
Adopted 08-07-08

CITY STAFF FEES	DESCRIPTION	FEE PER HOUR
City Administrator	Per Hour	$93.00
Assistant City Administrator/City Clerk	Per Hour	$77.00
Deputy City Clerk	Per Hour	$45.00
Finance Director	Per Hour	$60.00
Deputy Finance Director	Per Hour	$61.00
Senior Accountant	Per Hour	$25.00
Community Devel. Director	Per Hour	$70.00
Permit Technician Supervisor	Per Hour	$50.00
Permit Technician	Per Hour	$45.00
Economic Devel. Director	Per Hour	$77.00
Natural Resources/Parks Director	Per Hour	$71.00
Building Official-Compliance	Per Hour	Per Contract + 20%
Public Works Director	Per Hour	$75.00
Utilities Supervisor	Per Hour	$74.00
Utility Operator	Per Hour	$45.00
Utility Worker	Per Hour	$41.00
Facilities Coordinator	Per Hour	$50.00
Construction Inspection	Per Hour	$95.00
Police Chief	Per Hour	$86.00
Police Officer w/vehicle	Per Hour	$85.00
Police Officer w/o vehicle	Per Hour	$60.00
City Planner	Per Hour	$48.00
Clerical Staff	Per Hour	$25.00
City Engineer		Per Contract + 20%
City Attorney		Per Contract + 20%
Landscape Architect		Per Contract + 20%
Consultant Planner		Per Contract + 20%
Other Consult. or Contractors		Per Contract + 20%
Contract Administration		Per Contract + 20%
Hearing Examiner		Per Contract + 20%

BDMC 2.62.012 may require the posting of a deposit and payment of actual city costs for certain permits and applications.

Deposits that are listed on the Fee Schedule are required to be paid in addition to Application Fees or applicable Permit Fees at the time of application.

The deposit shall be used to pay for actual staff cost, engineering, and /or other professional consultant costs plus 20%

Deposits and costs will be tracked on a monthly basis. If the unused amount from the original deposit appears insufficient to cover remaining necessary work, or if the costs exceed the deposit,an additional deposit may be required and an invoice will be sent in writing. If the additional deposit is not paid within 30 days, the city may discontinue review or work on the project or deem the project incomplete.
At the end of the project, the city will invoice in writing any final costs over the deposits, or refund any remaining balance to the person who made the deposit. Final invoices are due within 30 days.

BUILDING DEPARTMENT	DESCRIPTION	FEE
Building Permits		$ Based on Currently Adopted
Plan Check Fees		Uniform Building Code, Uniform
Plumbing & Mechanical Fees		Plumbing Code and
Others		Uniform Mechanical Code
		and Uniform Fire Code

2008 FEE SCHEDULE
Adopted 08-07-08

BUILDING APPLICATION FEES		
New Single Family Res. Review	Deposit	$400.00
Building- addition, repair, alteration	including decks & out-bldgs	$120.00
Demo - SFR, out-building etc.		Permit Fee 120.00 + 1,000.00 Dep.
Relocation Permit	incl mfg home	$200.00
Fire Sprinkler/Alarm System		$120.00
Driveway (stand alone)	expansion & new	$200.00
Spa & Hot Tubs		$60.00
Swimming Pool		$250.00
Commercial Bldg.	Deposit	Plan Check Fee
Residential LPG Tanks	Base Fee	$120.00
	Tank Under 125 gallons, add.	$45.00
	126 to 500 gallons, additional	$70.00
	501 gallons and up, additional	$95.00
	Each 500 gallons additional	$120.00
BUSINESS LICENSE	**DESCRIPTION**	**FEE**
Empolyess 0-50		Initial Fee $70 Renewal $60
Employees 51-100		Initial Fee $130 Renewal $120
Employees 101 or more		Initial Fee $210 Renewal $200
Duplicate Business License		$10.00
Penalty, Late Payment	1- 30 Days	$10.00
	31-60 Days	$20.00
	61-90 Days	$30.00
SPECIAL LICENSES	**DESCRIPTION**	**FEE**
Carnivals, circus and shows	Per Event	$50.00
Cabaret	Per Event	$75.00
	Per Year	$150.00
Solicitors and Mobile Vendors	Per Day	$15.00
	Per Month	$50.00
	Per Year	$150.00
Amusement Devices	Per Machine, per year	$25.00
Adult Entertainment License	Per Establishment	$1,000.00
	Operator License	$100.00
	Employees License	$50.00
Pawnbrokers	Yearly License	$100.00
Firearms Dealers License	Federal Firearms License, yearly	$250.00
Outdoor Advertising		See Sign Ordinance
Temp. Fireworks Stand	Permit	$100.00
	Removal Bond	$750.00

2008 FEE SCHEDULE
Adopted 08-07-08

MISC. FEES/PLAN COPIES	**DESCRIPTION**	**FEE**
Photocopying	Per Page	$0.25
Duplication Audio TapesCD's	Per TapeCD	$10.00
Notary Public Work		$10.00
Return Check Fee		$35.00
Computer Printout List	Set Up Fee	$25.00
	1st 100 pages of Printout	$0.20
	All Additional Pages	$0.20
City of Black Diamond Maps		$5.00
Black Diamond Zoning Map		$10.00
Zoning Ordinance		$50.00
Comprehensive Plan		$85.00
Water Comp. Plan		$80.00
Sewer Comp. Plan		$80.00
Municipal Code		Current Publishing Price
Public Works Standards		$50.00
Stormwater Ordinance		$25.00
BD Design Standards+Guildlines		$50.00
- Each Section		$10.00
TYPE OF SIGN	**DESCRIPTION**	**FEE**
Wall Sign, non electric	25-50sq ft, 51-99sq ft, 100+ sq ft	$100.00, $150.00, $200.00
Wall Sign, electric	25-50sq ft, 51-99sq ft, 100+ sq ft	$120.00, $170.00, $220.00
Ground, nonelectric	25-50sq ft, 51-99sq ft, 100+ sq ft	$140.00, $190.00, $240.00
Ground, electric	25-50sq ft, 51-99sq ft, 100+ sq ft	$160.00, $210.00, $260.00
All signs less than 25 sq feet		$90.00
Change of sign, all sizes		$90.00
Variance application		Per Fee Schedule
Sign Permit Review	Per Hour	$47.00
CLEARING AND GRADING	**DESCRIPTION**	**FEE**
Clearing and Grading Fees	Per King County Chapter 27	King County Fees + 20% or
	Clearing and Grading Fees	Professional Service Fees + 20%

EXHIBIT "B" TO RESOLUTION NUMBER 09-581 (Current fee schedule)

POLICE	DESCRIPTION
Animal License	
Fingerprinting	Non-Resident
Fingerprinting	Resident
Fingerprinting (FBI Fee)	For original permits only
Electronic Monitoring	Per Day, payable in advance
Hook Up Fee	One Time Charge
	within 20 mile radius
Deposit	
Hook Up Fee	One Time Charge
	outside 20 mile radius
Concealed Weapons Permit	See Fingerprint fees above
Original	Original Permit, see above
Renewal	Valid Permit Renewal
Late	Within 90 days after expiration
Replacement	
Process Service	
Mileage for process service	$0.505/Per Mile as of 01/01/08
False Alarm Responses	First Occurrence
	Second Occurrence per year
	Third or more per year
Discovery	No charge for one copy of
	documents provided in
	compliance with defense
	request on Muni Court cases
	others:
Civil Service Testing	Per Applicant
Work Release	Per day, payable in advance
Traffic Safety School	
Booking Processing Fee	Per booking
Police Reports	Per Case Reports
Photographs	
Copies	each
Originals	each
Video Tape Reproduction	each
CD Reproduction	each
Audio Tape Reproduction	each
Expurngements	
Firearms Clearance Letter	For Foreign Countries

Local Record Clearance Letter	In-House Records Check
Vehicle Storage	For other PD only, per day

2008 FEE SCHEDULE
Adopted 08-07-08

STREETS	**DESCRIPTION**
FRANCHISE	
Right of Way Use Permit	Incld. 2 Inspect. & 1/2 hr. City Review$250.00
Franchise Extra Inspection	1 hour minimum
Franchise Extra City Staff Review	1 hour minimum
Street Cleaning	
Fines - ROW Use Permits	Failure to Call for Inpsection
NON-FRANCHISE	
Right of Way Use Permit	Inclds. permit, inspect., review
Street Cleaning	
Fines - ROW Use Permits	Failure to Call for Inpsection
Public Works Variance	Application and Review Fee
	Professional Services
Street Signs Charge	Sign Purchase
	Installation
Street, Alley, City Property	Application Fees
Vacations	Deposit
Unauthorized connection	No meter present or bypassing
Meter Testing charge	
Customer Requested Turn Off	After Business Hours
WATER SERVICE CHARGES	
DROP IN METER CHARGES	
5/8" meter	City Installed
3/4' meter	City Installed
1" meter	City Installed
1-1/2" meter thru 6" meter	City Installed
Irrigation 5/8" meter	City Installed
Installation of water service charges	Homeowner incurs **ALL** costs, plus deposit
	Per BDMC 13.04.050
Installation Re-Inspection Fees	
Connection Fee	
Door Hanger Charge, Warning	
Door Hanger w/Shut Off	
Unpaid Account Reconnect	
Fee	During Working Hours
	After Working Hours
	Holidays
Capital Surcharge	Per month, per unit
Lien Release	
Meter Rental/water purchase	Collect Deposit, Connection Fee, Rental Rate
	Connection Fee dbl. current basic rate plus
	Connection Fee dbl. current basic rate plus

	Connection Fee dbl. current basic rate plus

Water Investigation Certificates	
	Residential
	Multi Family, Commercial
	Industrial, Public Use
Hydraulic Model for Water System	Deposit
Non Account Water Purchase	
Water Equipment and Parts	
VARIOUS SEWER CHARGES	
Connection Fee	
Sewer Investigation Certificates	
Residential	
Multi-Family, Commercial,	
Industrial, Public Use	
Engineered Hydraulic Flows to	Deposit
Sewer System	
Side Sewer Re-inspection Fees	
ALL UTILITY EMERGENCY CALL OUT CHARGES	
Emergency Repair	Working hours, if prior locate
	Working hours, if no locate
	After hours, if prior locate
	After hours, no locate
	Holidays
Equipment Fee without Operator	City Dump Truck
	City Vehicle
	City Backhoe
	Miscellaneous Utility Equipment
	Parts
CEMETERY	**DESCRIPTION**
Opening and Closing	For Normal Lots
Opening and Closing	For Cremation
Single Lot Purchase	
Double Lot Purchase (2 lots)	
Saturday Service - Burial	11 a.m. to 1 p.m.
Saturday Service - Cremation	11 a.m. to 1 p.m.
Liner	
Liner Setting Fee	
Vault	

Vault Setting Fee	
Niche	Single
	Double
Head Stone Placement	Normal, up to 44" x 20"
	Oversized Stone
Exhumation	
PLANNING, LAND USE	**DESCRIPTION**
Preliminary Long Plat Review	Permit Fee
	Per Lot Charge
	Deposit
Binding Site Plan	Permit Fee
Final Long Plat	Permit Fee
Five Lots plus	Per Lot Charge
	Deposit
Short Plat	Permit Fee
Four Lots or less	Per Lot Charge
	Deposit
Long Plat Extensions	1 Year Extensions
	Deposit
Lot Line Adjustments	Residential
	Others
	Deposit
Mobile Home Park Application	Permit Fee
	Per Lot Charge
	Deposit
Master Plan Application	Permit Fee
	Per Lot Charge
	Deposit
Annexation	Deposit
Annexation Filing Fee	Less than 50% developed
	More Than 50% developed
Conditional Use/Special Use Permit	Permit Fee
	Deposit
Accessory Dwelling Unit	Permit Fee
	Deposit
Variance	Single Family
	Others
	Deposit
Plat Inspections	Construction
	Deposit
Shoreline Exemption Determination	Permit Fee

Shorelines Substantial	Permit Fee
	Deposit
Shorelines Variance	Permit Fee
	Deposit
Shorelines Conditional Use	Permit Fee
	Deposit
Site Plan Review	Residential
	Deposit
	Commercial
	Deposit
Comprehensive Plan Amendment	Fee
Request	Deposit
Rezone Application	Permit Fee
	Deposit
Temporary Watchmans	1st Six Months
Quarters	Seven to Twelve Months
	Thirteen to Eighteen Months
	Doubling in succeeding 6 month
SEPA Checklist	Checklist w/planning permit
	Checklist w/o planning permit
	Deposit
SEPA Appeals	
Appeal on Land Use	Appeal Fee
Environmental Impact Statem.	City Review Time Charged
	Deposit
Temporary Use Permit	Residential-Permit for first 6 months
	1 six month extention
	(not to exceed 12 total months)
	All Others-Permit for first 6 months
	1 six month extention
	(not to exceed 12 total months)
TDR Application	
Each TDR Development Credit	
U.L.I.D. or L.I.D.	City Costs
TREE PERMIT	LEVEL I
	LEVEL II
Mobile Homes Landing	Landing Permit

Livability Inspection	Deposit
	First Hour on site
	Each Hour Thereafter
CITY STAFF FEES	**DESCRIPTION**
City Administrator	Per Hour
City Clerk	Per Hour
Finance Director	Per Hour
Community Devel. Director	Per Hour
Economic Devel. Director	Per Hour
Building Official-Compliance	Per Hour
Public Works Representative	Per Hour
Construction Inspection	Per Hour
Police Chief	Per Hour
Police Officer w/vehicle	Per Hour
Police Officer w/o vehicle	Per Hour
City Planner	Per Hour
Clerical Staff	Per Hour
City Engineer	
City Attorney	
Landscape Architect	
Consultant Planner	
Other Consult. or Contractors	
Contract Administration	
Hearing Examiner	

BDMC 2.62.012 may require the posting of a deposit and payment of actual city costs for

Deposits that are listed on the General Fee Schedule are required to be paid in addition t time of application.

The deposit is used to cover actual staff cost, engineering, and /or other professional con

Deposits and costs will be tracked on a monthly basis. If the costs exceed the deposit, a invoice will be sent in writing. If the additional deposit is not paid within 30 days, the city or work on the project or deem the project incomplete.

At the end of the project, the city will invoice in writing any final costs over the deposits, o remaining balance to the person who made the deposit. Final invoices are due within 30

BUILDING DEPARTMENT	**DESCRIPTION**
Building Permits	
Plan Check Fees	
Plumbing & Mechanical Fees	
Others	
BUILDING APPLICATION FEES	
New Single Family Res. Review	Deposit
Building- addition, repair, alteration	including decks & out-bldgs
Demo - SFR, out-building etc.	
Relocation Permit	incl mfg home
Fire Sprinkler/Alarm System	
Driveway (stand alone)	expansion & new

Spa & Hot Tubs	
Swimming Pool	
Commercial Bldg.	Deposit

2008 FEE SCHEDULE
Adopted 08-07-08

Residential LPG Tanks	Base Fee
	Tank Under 125 gallons, add.
	126 to 500 gallons, additional
	501 gallons and up, additional
	Each 500 gallons additional
BUSINESS LICENSE	**DESCRIPTION**
Empolyess 0-50	
Employees 51-100	
Employees 101 or more	
Duplicate Business License	
Penalty, Late Payment	1- 30 Days
	31-60 Days
	61-90 Days
SPECIAL LICENSES	**DESCRIPTION**
Carnivals, circus and shows	Per Event
Cabaret	Per Event
	Per Year
Solicitors and Mobile Vendors	Per Day
	Per Month
	Per Year
Amusement Devices	Per Machine, per year
Adult Entertainment License	Per Establishment
	Operator License
	Employees License
Pawnbrokers	Yearly License
Firearms Dealers License	Federal Firearms License, yearly
Outdoor Advertising	
Temp. Fireworks Stand	Permit
	Removal Bond
MISC. FEES/PLAN COPIES	**DESCRIPTION**
Photocopying	Per Page
Duplication Audio TapesCD's	Per TapeCD
Notary Public Work	
Return Check Fee	
Computer Printout List	Set Up Fee
	1st 100 pages of Printout
	All Additional Pages

City of Black Diamond Maps	
Black Diamond Zoning Map	
Zoning Ordinance	
Comprehensive Plan	
Water Comp. Plan	
Sewer Comp. Plan	
Municipal Code	
Public Works Standards	
Stormwater Ordinance	
BD Design Standards+Guildlines	
- Each Section	
TYPE OF SIGN	**DESCRIPTION**
Wall Sign, non electric	25-50sq ft, 51-99sq ft, 100+ sq ft
Wall Sign, electric	25-50sq ft, 51-99sq ft, 100+ sq ft
Ground, nonelectric	25-50sq ft, 51-99sq ft, 100+ sq ft
Ground, electric	25-50sq ft, 51-99sq ft, 100+ sq ft
All signs less than 25 sq feet	
Change of sign, all sizes	
Variance application	
Sign Permit Review	Per Hour
CLEARING AND GRADING	**DESCRIPTION**
Clearing and Grading Fees	Per King County Chapter 27
	Clearing and Grading Fees

FEE
By King County Ordinance
$15.00
$10.00
$19.25
$17.00
Current IRS Rate
$25.00
$350.00
Current IRS Rate
$55.25
$32.00
$42.00
$10.00
$25.00
Current IRS Rate
None
$50.00
$75.00
$0.25
Contract w/Public Safety Testing
Contract Amount
$200.00
Contract Rate
$0.25 per page
$0.25
$8.00
$50.00
$10.00
$10.00
$35.00
$15.00

$15.00
$1.50

FEE
$250.00
$95.00/hour
$50.00/hour
Cost, plus 20%
$1,000.00
$500.00
Cost, plus 20%
$1,000.00
$1,000.00
Actual costs + 20%
Actual costs plus 20%
Hourly Rates
$750.00
$1,000.00
$1,200.00
Costs plus actual staff time
2 Hour Minimum
$500.00
$500.00
$600.00
Meter cost, plus 20%
$500.00
Deposit $1,000.00

Hourly rates, 30 min. minimum
Per BDMC 13.04.280
$10.00
$20.00
$25.00
1 1/2 time, 2hr. minimum
Double time, 2hr. minimum
$2.30
$120.00
Deposit $1,000.00
Rental, per day $25.00
Rental, per week $100.00

Rental, per month $250.00

$100.00
$200.00
$200.00
$500.00
Double out of city rates
Actual Cost plus 20%
Per BDMC 13.20.080
$100.00
$200.00
$1,000.00
Hourly rate, 30 min. minimum
Time and materials
3 times, time and materials
1 1/2 Time and materials
3 Times, 1 1/2 time and material
Double time to above rates
$75.00 per hour
$50 per hour
$75.00 per hour
$25.00 per hour
Cost plus 20%
FEE
$500.00
$100.00
$1,500.00
$2,500.00
$1,000.00
$250.00
Actual Cost plus 20%
$250.00
Actual Cost plus 20%

$250.00
$325.00
$425.00
$100.00
.15 per square inch
Lesser of $5,000.00
or Actual Contract Cost
FEE
$2,000.00
$100.00
10,000.00
1,500.00
$1,500.00
$100.00
$7,500.00
$750.00
$100.00
$1,500.00
$1,000.00
$1,500.00
$300.00
$600.00
$1,000.00
$5,000.00
$50.00
$2,500.00
$7,500.00
$60.00
Determined by City Administrator
$10,000.00
$1,000.00
None
$800.00
$1,000.00
$500.00
$1,000.00
$300.00
$600.00
$1,000.00
Actual Staff Hours
$5,000.00
$100.00

$500.00
$1,000.00
$500.00
$1,000.00
$500.00
$1,000.00
$1,000.00
$2,000.00
$1,500.00
$3,500.00
$1,000.00
$3,500.00
$1,200.00
$3,500.00
$275.00
$525.00
$1,050.00
$2,100.00 and up
$400.00
$500.00
$1,000.00
$300.00
$500.00
Consultant + 20%
$75,000.00
$150.00
$240.00
$300.00
$400.00
$250.00
$50.00
Actual costs plus 20%
$250.00
$500.00
Refer to 18.56.030d in Muni code

$100.00
$50.00
$30.00
FEE PER HOUR
$75.00
$60.00
$60.00
$60.00
$60.00
Per Contract + 20%
$50.00
$95.00
$75.00
$75.00
$55.00
$45.00
$25.00
Per Contract + 20%
Per Contract + 20%
Per Contract + 20%
Per Contract + 20%
Per Contract + 20%
Per Contract + 20%
Per Contract + 20%

r certain permits

to the Permit Fees at the

nsultant costs plus 20%

n additional deposit
may discontinue review

r refund any
days.

FEE
$ Based on Currently Adopted
Uniform Building Code, Uniform
Plumbing Code and
Uniform Mechanical Code
and Uniform Fire Code
$400.00
$120.00
Permit Fee 120.00 + 1,000.00 Dep.
$200.00
$120.00
$200.00

$60.00
$250.00
Plan Check Fee

$120.00
$45.00
$70.00
$95.00
$120.00
FEE
Initial Fee $70 Renewal $60
Initial Fee $130 Renewal $120
Initial Fee $210 Renewal $200
$10.00
$10.00
$20.00
$30.00
FEE
$50.00
$75.00
$150.00
$15.00
$50.00
$150.00
$25.00
$1,000.00
$100.00
$50.00
$100.00
$250.00
See Sign Ordinance
$100.00
$750.00
FEE
$0.25
$10.00
$10.00
$35.00
$25.00
$0.20
$0.20

$5.00
$10.00
$50.00
$85.00
$80.00
$80.00
Current Publishing Price
$50.00
$25.00
$50.00
$10.00
FEE
$100.00, $150.00, $200.00
$120.00, $170.00, $220.00
$140.00, $190.00, $240.00
$160.00, $210.00, $260.00
$90.00
$90.00
Per Fee Schedule
$47.00
FEE
King County Fees + 20% or
Professional Service Fees + 20%