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18.30 Requirements for improvements.

Prior to the construction of any minimum improvements, as approved upon the preliminary plat or binding site plan, the subdivider shall furnish certain construction plans. These plans must be prepared, signed, dated and stamped by a Washington State licensed civil engineer and shall be in accordance with the city of Buckley standards and specifications.

18.31 Preparation of construction drawings.

The construction plans shall be as follows:

A. Plan/profile maps shall be prepared for all proposed streets and all applicable utilities. The construction drawings shall be drawn with India ink on mylar measuring 24 inches by 36 inches in size allowing one-half inch for border. The horizontal scale of such plans shall be one inch equals 20 feet and the vertical scale shall be one inch equals two feet or as approved by the city engineer. The plans shall show all existing and proposed topography (contours), utilities, grades, lot lines with appropriate numbers, right-of-way and all other features or additional information required by the city engineer.

B. A drainage/site grading plan shall be prepared in conformance with the requirements of the Buckley Municipal Code.

C. The plan maps, plan profile maps and specifications shall be submitted to and approved and signed thereon by the city engineer prior to proceeding with the proposed improvements. No construction permit or approval shall be issued, and no construction activity shall commence relating to subdivision improvements until the plans have been approved and signed by the city engineer.

D. A complete set of as-built mylar reproducible construction drawings must be submitted after the final approval of the plat.

E. A complete site plan file, with utilities in CAD format shall be provided to the Building and Planning Department with the plat application.

18.32 Standards and specifications.

The adopted standard specifications for municipal public works construction prepared by the Washington State Chapter of the American Public Works Association are the “standards” together with the laws of the state of Washington and in accordance with the city of Buckley standards and specifications as set forth by the city engineer under the direction of the city council

18.33 Plan review, inspection and fees.

The public works and fire departments are responsible for reviewing all engineering drawings and for the supervision, inspection and acceptance of all subdivision improvements and shall make a charge therefor to the subdivider in the amount of the hourly cost to the city. The hourly cost includes wages and benefits calculated on an hourly basis.

18.34 Required improvements – Full subdivisions.

Minimum improvements within each major plat or binding site plan and along contiguous arterials shall consist of paved streets, installed curbs and gutters, sidewalks, survey monuments, sanitary and storm sewers, street lights, water mains, street trees, street name signs and all appurtenances thereto in accordance with specifications and standards approved by the city engineer and adopted by the city council.

18.35 Release of improvement guarantee.

If an improvement bond or other guarantee has been submitted, such guarantee shall be released upon acceptance by the city of a properly executed bill of sale for such improvements within the period specified by such guarantee. The guarantee, or a portion thereof, may be retained by the city for a period of time up to two years to ensure the adequate operation of such improvements, following which any unused portion of such guarantee shall be released.

18.37 Clearing and grading.

All streets, roads and alleys shall be graded to their full width so that pavement and sidewalks can be constructed on the same plane. Before grading is started, the entire right-of-way area shall be cleared of all stumps, roots, brush and other objectionable materials, and all trees not intended for preservation. Documentation will be kept by the permit holder of the location and type of fill on private property. For areas of ornamental landscaping, native soil (Buckley Loam or functional equivalent) shall be retained and used.

18.38 Street and block layout.

The subdivision shall abut on and/or be served by an open, maintained public street(s) and the street and block layout shall conform to the most advantageous development of adjoining areas of the entire neighborhood, and shall provide for the following:

- A. Continuity and connectivity of appropriate streets and arterials;
- B. Streets generally following existing grid where possible;
- C. Offset intersections shall be avoided;
- D. Streets intersecting at right angles, or as nearly possible; and
- E. Streets meeting the minimum right-of-way and pavement width standards, published in the City's *Development Guidelines*.

Anything not provided for in this section shall be approved by the City Engineer.

18.39 Block requirements.

A block shall consist of any two or more contiguous lots that are not separated by a street. Blocks shall meet the following requirements:

- A. Wherever appropriate, blocks shall provide for **two tiers of lots**, except that one tier of lots is encouraged between a residential street and an arterial, which lots shall front on and be accessed from the residential street or from any alley constructed between the two tiers of lots; and
- B. Where the average area of lots does not exceed two acres, the distance between intersections along a street or arterial shall not exceed 1,320 feet; and
- C. Where the average area of lots does not exceed two acres, and where there are two tiers of lots lying between approximately parallel streets or arterials, and where the distance between intersections along a street or arterial exceeds 660 feet, a walk or pedestrian right-of-way running between lots and lying roughly perpendicular to the street or arterial shall be provided at approximately mid-block point, the right-of-way of which shall be at least 10 feet in width and fully paved as approved by the city engineer; and

D. The number of streets intersecting with existing or proposed arterials shall be held to a minimum consistent with the provision of this section and consistent with adequate local circulation.

18.40 Street design criteria – Street grades.

A. The minimum grade on any street shall be one-half of one percent for purposes of drainage.

B. Maximum grades shall not exceed the following grades unless specifically approved by the city engineer:

1. Residential streets, 12 percent;
2. Collector streets, 12 percent;
3. Secondary arterials, eight percent;
4. Major arterials, five percent.

C. Horizontal Curves. On streets more than 60 feet in width, the center line radius or curvature shall be not less than 300 feet; on other streets, not less than 100 feet, except where necessary on local streets, this minimum may be reduced, but not less than 75 feet.

D. Vertical Curves. All changes in grade shall be connected by vertical curves of a minimum length of 200 feet unless otherwise specified by the engineering department.

18.41 Principal arterials.

Proposed and existing principal arterials located within or adjacent to the subdivision as designated by the Buckley comprehensive plan shall be dedicated to the city and constructed or improved to meet all city standards and specifications by the subdivider or their agent, and shall include, but not be limited to, the following:

A. Right-of-way width shall be a minimum of 72 feet;

B. Pavement width (curb to curb) shall be a minimum of 56 feet;

C. Sidewalks shall be provided on both sides of the arterial and shall be a minimum of five feet wide each in an area designated for industrial or residential uses, and shall be a minimum of seven and one-half feet wide each in an area designated for commercial uses;

D. The radius of curvature on the centerline shall be no less than 300 feet;

E. A tangent of at least 200 feet in length shall be provided between reverse curves; and

F. At intersections the street right-of-way shall be rounded by a minimum radius of 35 feet with the curb radius a minimum of 40 feet.

18.42 Minor arterials.

Proposed and existing arterials located within or adjacent to a subdivision, as designated by the city engineer in consultation with the Buckley comprehensive plan, shall be dedicated to the city and constructed or improved to meet all city standards and specifications including, but not limited to, the following:

- A. Right-of-way width shall be a minimum of 60 feet;
- B. Pavement width (curb to curb) shall be a minimum of 44 feet;
- C. Sidewalks shall be provided on both sides of the arterial and shall be a minimum of five feet wide each in an area designated for industrial or residential uses, and shall be a minimum of seven and one-half feet wide each in an area designated for commercial uses;
- D. The radius of curvature on the centerline shall be no less than 300 feet;
- E. A tangent of at least 200 feet in length shall be provided between reverse curves; and
- F. At intersections the street right-of-way shall be rounded by a minimum radius of 35 feet with the curb radius a minimum of 40 feet.

18.43 Collector streets.

Proposed and existing streets, other than designated arterials, which are located within or adjacent to the subdivision, and which are to serve property primarily designated for residential uses, shall be constructed or improved to meet all city standards and specifications including, but not limited to, the following; provided, that where the city council finds it necessary for the provision of safe and efficient circulation, the council may require any such streets to be developed or improved to collector arterial standards:

- A. Right-of-way width shall be a minimum of 60 feet (55 when the street is a dead-end);
- B. Pavement width (curb to curb) shall be a minimum of 34 feet;
- C. Sidewalks shall be provided on both sides of the street, and shall be a minimum of five feet wide each;
- D. The radius of curvature on the centerline shall be no less than 100 feet;
- E. A tangent of at least 100 feet in length shall be provided between reverse curves; and
- F. At intersections the street right-of-way shall be rounded by a minimum radius of 25 feet with the curb radius a minimum of 30 feet.



Collector streets shall be designated in those areas where local internal residential neighborhood streets are not appropriate for the amount of through traffic and the adjacent land uses. Collector streets are appropriate where adjacent land uses such as schools, parks, and commercial activities result in use of the street for extraordinary parking and circulation.

18.44 Local Access Streets.

Proposed and existing streets which are located within or adjacent to the subdivision, and which are to serve property primarily designated for residential uses shall be designated local access streets. Such a street shall generally not be longer than 300 feet, should have limited through traffic, should function as part of a grid of similar streets providing access to an area, and may be in conjunction with alleys which provide secondary access to lots. Neighborhood streets shall be constructed or improved to meet all city standards and specifications including, but not limited to, the following; provided, that where the city council finds it necessary for the provision of safe and efficient circulation, the council may require any such streets to be developed or improved to local residential street standards:

- A. Right-of-way width shall be a minimum of 50 feet;
- B. Pavement width (curb to curb) shall be a minimum of 28 feet;
- C. Sidewalks shall be provided on both sides of the street and shall be a minimum of five feet wide each;
- D. The radius of curvature on the centerline shall be no less than 100 feet;
- E. A tangent of at least 100 feet in length shall be provided between reverse curves; and
- F. At intersections the street right-of-way shall be rounded by a minimum radius of 25 feet with the turn radius a minimum of 30 feet; provided, that the city engineer may modify the radius in situations which shall not create a traffic hazard.

18.45 Alleys.



Alleys may be provided to the rear of lots zoned for commercial or residential purposes. Alleys shall be at least 16 feet and not greater than 30 feet wide and shall be paved to their full right-of-way width with asphalt concrete or cement concrete. Adequate storm drainage shall be provided as approved by the city engineer.

18.48 Private streets.

- A. Private streets **shall serve no more than two lots;** provided, that one of those lots also has access from a fronting public street.
- B. Private streets shall be improved or guaranteed to the standards considered appropriate to the situation by the city engineer and fire marshal, but in all cases shall be paved to a minimum depth of two inches.

C. A private street providing access to one or more commercial or industrial lots shall be a minimum of 30 feet wide; provided, that the city engineer may require such access to be up to 60 feet wide upon finding that such greater width is necessary to provide for adequate access and circulation.

18.49 Dead-end streets.

Dead-end streets are generally discouraged. Where restriction(s) occur,

A. All dead-end streets terminating where the development terminates shall result in a circular turnaround having a minimum right-of-way diameter of 110 feet and a minimum pavement diameter of 90 feet, and pedestrian access shall be provided;

B. New dead-end streets or culs-de-sac shall not be more than 500 feet in length, and pedestrian access shall be provided;

C. Existing dead-end streets that are greater than 800 feet in length should be aligned to other streets whenever the opportunity arises, unless it can be demonstrated that such connections would lead to a substantial rerouting of through traffic onto the street. Existing dead-end streets longer than 800 feet shall not be allowed to serve substantial new development unless linked to other streets, and pedestrian access shall be provided;

D. Street ends, when providing street access to adjoining property, shall be extended at full right-of-way width to the boundary of such property and shall be provided with a temporary cul-de-sac. Such cul-de-sac streets shall be paved with a temporary turn-around having a roadway radius of at least 35 feet on a temporary easement. Such temporary easement shall be automatically released upon the extension and construction of said street beyond the boundary of the original subdivision.

E. Dead-end streets shall be permitted to allow access to public facilities, such as recreational and/or educational facilities unless **an existing access is in place within 250 feet** of the proposed dead-end street.

18.50 Street lighting.

Street lighting shall conform to the standards of the city of Buckley and shall be provided and installed by the subdivider.

18.51 Street trees.

Street tree planting shall conform to the city of Buckley standards and species selection must be approved by the city planner prior to planting.

18.52 Underground utilities.

The following standards and specifications apply to underground utilities:

A. All utility lines serving the subdivisions including, but not limited to, power, telephone and television cables shall be installed underground. Easements shall be provided for all such utility lines which will not be located within the public right-of-way;

B. Whenever an intersection of an arterial and any other street is constructed or improved under the requirements of this chapter, and when the city engineer has determined that traffic signalization of such intersection will be needed in the future, the city engineer may require the installation, at the subdivider's expense, of underground conduit which will be necessary for and will facilitate such future signalization;

C. A 10-foot utility easement is required along the frontage of each lot adjacent to the street right-of-way for the installation of the aforesaid utilities; and

D. All lots are subject to an easement two and one-half feet in width, parallel with and adjacent to all interior lot lines and five feet in width parallel with and adjacent to all rear lot lines for the purpose of utilities and private drainage.

18.53 Street signs and channelization.

The subdivider shall provide and install all required traffic regulatory signs, street name signs and street striping and channelization as directed by the city engineer and in compliance with all applicable standards and regulations.

18.54 Sidewalks.

Concrete sidewalks shall be installed by the developer on both sides of the street to city of Buckley specifications unless the Right of Way contains a trail/safe route per the Trail/Open Space Plan.

18.55 Curbs and gutters.

The developer shall provide permanent concrete curbs and gutters according to city of Buckley standards.

18.56 Sanitary sewers.

Each lot in a subdivision shall be served by the Buckley sanitary sewer system, designed and installed subject to the review and approval of the city engineer, unless the city finds that:

A. City sanitary sewer service is not practical due to topography, distance from city sanitary sewer facilities of adequate capacity, extreme low proposed development density, or similar factors;

B. On-site sewage disposal systems will not be detrimental to the implementation of the adopted comprehensive sewerage plan;

C. On-site sewage disposal systems will not pose a threat to the public health, safety or welfare;

- D. On-site sewage disposal systems are necessary to accomplish the purposes of this chapter;
- E. The city engineer has reported favorably on the use of on-site sewage disposal systems; and
- F. Each lot to be served by an on-site sewage disposal system shall meet the minimum lot area requirements of the Tacoma-Pierce County board of health rules and regulations, or be not less than 15,000 square feet in area. Land contained in access easements or access panhandles shall not be included in lot area calculations for the purposes of this section.

18.57 Water.

The water distribution system, including fire hydrants, shall be designed and installed in accordance with city standards and the requirements of the engineering and fire departments. Each lot in a subdivision shall be served by the city of Buckley unless the city finds that:

- A. City water service is not practical due to topography, distance from city water facilities of adequate capacity, extreme low proposed developmental density, or similar factors, or legal constraints;
- B. Private water service will not be detrimental to the implementation of the adopted comprehensive water plan;
- C. Private water service will not pose a threat to the public health, safety or welfare; and
- D. Private water service is necessary to accomplish the purposes of the chapter. If private water service is approved, preliminary plat approval shall be conditioned on the ability of the subdivider to obtain all necessary approvals for the private water system or systems, and the final plat shall not be approved until the subdivider demonstrates, to the satisfaction of the city engineer, that the proposed water system or systems will adequately serve the domestic water and fire flow needs of future owners or property within the subdivision.

18.58 Storm drainage.

An adequate drainage system, including on-site storage systems, necessary pipes, culverts, intersectional drains, drop inlets, bridges, drainage releases where necessary, and similar devices, shall be provided for the proper drainage of all surface water. The Board of Adjustment may condition the approval of any subdivision plat upon the developer's installation of storm drainage system. The hearing examiner shall make his/her recommendations based upon a written report prepared by the city engineer.

18.59 Floods and flood control.

The city may disapprove a proposed subdivision because of flood, inundation or regulated wetlands if the city finds that such condition poses a threat to the public health, safety or general welfare. Where any portion of the proposed subdivision lies within one percent flood hazard area or the regulatory

floodway, the city shall impose a condition on the preliminary plat requiring the subdivider to conform to the Federal Emergency Management Agency (FEMA) flood hazard requirements. In such cases, no

development permit associated with the proposed subdivision shall be issued by the city until said FEMA requirements have been met. The city may require dedication of land to any public body and/or the construction of improvements and may impose other conditions necessary to protect against flooding or inundation.

18.60 Parks and open space set aside requirement.

For subdivisions under X acres, there is no open space requirement; however, open space set asides may be implemented at the discretion of the developer.

For subdivisions over Y acres, there shall be 20% of gross acreage set aside as open space. Open space shall be developed as follows:


Active space shall comprise 75% of total open space set-aside. Active space comprises three levels of increasing use intensity:

- Level 1. 20% of active space.
- Level 2. 40% of active space.
- Level 3. 40% of active space.

Examples of level 1 intensity include lightly paved paths with little or no connectivity to adjacent uses. Level 2 intensities include areas suitable for dog walking, casual walking, benches. Level 3 intensities include larger areas suitable for games, playground equipment, picnic tables, BBQs.

See Appendix [Z] for tables and complete descriptions of levels.

Green space shall comprise 25% of total open space set-aside.

- Level 1.  20% of green space.
- Level 2. 40% of green space.
- Level 3. 40% of green space.

Examples of level 1 intensity include semi-natural greenbelts, adjacencies to wetlands, conservation easements in agriculture or forest land . Level 2 intensities include areas landscaped for buffering, aesthetics. Level 3 intensities include areas designated Low-Impact Development (LID) and adjacent to active space, intensively-landscaped display areas, landscaped greenbelts that include turf and ornamental plants.

See Appendix [Z] for tables and complete descriptions of levels.

18.62 Stormwater detention.

Stormwater detention facilities shall be considered an amenity and shall conform to standards set forth in BMC x. At all times where possible, stormwater detention ponds should be placed adjacent to identified open space as identified in the City of Buckley Trail and Open Space Plan.

18.63 Flexible lot sizes.

In cases where hydrological restriction reduces buildable land or density bonuses are negotiated, flexible lot sizes may be implemented. Lot sizes lower than the minimum for the zone may be allowed in order to achieve City goals. One smaller lot per x acre may be allowed as y density bonus.

18.64 Density bonuses.

Density bonuses are allowed in full subdivisions in exchange for amenities granted. Density bonuses are granted in exchange for additional park acreage, x percent of wetland restriction, or y.

18.65 Phased subdivision.

Preliminary plat approval must be granted for the entire subdivision and must delineate the separate divisions which are to be developed in increments. The preliminary plat approval is conditioned upon completion of the proposed phases in a particular sequence and may specify a completion date for each phase. Final plat approval is granted for each separate phase of the preliminary plat and any changes at the preliminary plat stage would require approval per BMC x.

18.60 Additional requirements.

The standards and requirements established or referenced by this chapter are minimum requirements. These standards may be increased and additional requirements may be imposed for the purpose of mitigating identified adverse environmental impacts pursuant to the State Environmental Policy Act of 1971 as now established or hereafter amended. Such additional requirements may include, but shall not be limited to, off-site improvements to any public facility, the dedication and/or improvement of parks and open spaces, and monetary contributions to any city fund established to finance the provision of public services required by the subdivision.