

## SECTION 4

### 4. STREET STANDARDS

#### 4A. GENERAL CONSIDERATIONS

##### 4A.01 General

This chapter provides minimum street design standards. These standards encourage the uniform development of an integrated, fully accessible public transportation system that will facilitate present and future travel demand with minimal environmental impact to the community as a whole.

The Functional Classification of a street shall govern right-of-way and the road cross section. The design elements of streets shall conform to the Street and Storm Drainage Standards as set forth herein and as indicated in the Town's Standard Details provided in Section 7.

#### 4B. STREETS

##### 4B.01 Functional Classification

Town streets are divided into five classifications: major arterial, minor arterials, local access streets, RES-50' RW and RES-40' RW, in accordance with regional transportation needs and the function use each serves. Function is the controlling element for classification and shall govern right-of-way, and street width, and street geometrics. The following list is provided to assist the developer in determining the classification of a particular street. Streets not listed are classified as local access streets. New streets will be classified by the Town.

##### A. Major Arterials:

<u>Street Name</u>	<u>From</u>	<u>To</u>	<u>RW Width</u>
Court Street	First Street	Second Street	80'
East Street	Front Street	Harrison Street	80'
First Street	East Street	Northwest terminus	80'
Front Street	East Street	Northwest terminus	80'
Spring Street	Waterfront	Argyle Avenue	80'
West Street	Front Street	Second Street	80'

##### B. Minor Arterials:

<u>Street Name</u>	<u>From</u>	<u>To</u>	<u>RW Width</u>
A Street	Harrison Street	Nichols Street	60'
B Street	Harrison Street	Nichols Street	60'
Argyle Avenue	Spring Street	Town limits	50' – 40'
Blair Avenue	Spring Street	Guard Street	50' – 45'
Grover Street	Argyle Avenue	East terminus	60'
Guard Street	Blair Avenue	Town limits	60' – 50'

STREET STANDARDS

<u>Street Name</u>	<u>From</u>	<u>To</u>	<u>RW Width</u>
Harrison Street	A Street	300' west of Geneste St.	60'
Market Street	Mullis Street	Nash Street	50'
Mullis Street	Spring Street	Town limits	60'
Nash Street	Caines Street	Spruce Street	50'
Nichols Street	Argyle Avenue	C Street	50' – 40'
Park Street	Blair Avenue	Guard Street	60'
Second Street	Blair Avenue	Spring Street	60'
Spring Street	Argyle Avenue	Town limits	60'
Tucker Avenue	Guard Street	Town limits	60' – 45'

C. Local Access Streets

<u>Street Name</u>	<u>From</u>	<u>To</u>	<u>RW Width</u>
A Street	Nichols Street	Web Street	40'
Caines Street	Spring Street	Argyle Avenue	40'
Culver Avenue	Guard Street	Martin Street	60'
Malcom Street	Argyle Avenue	East terminus	50'
Marguerite Street	Spring Street	Guard Street	50' – 40'
Price Street	Spring Street	Park Street	50' – 40'
Reed Street	Blair Avenue	Second Street	40'
Rhone Street	Reed Street	East terminus	40'
Web Street	Argyle Avenue	A Street	50' – 40'

D. RES – 50' RW or More

This classification is for streets which are located within residentially zoned areas with 50' or more dedicated right of way.

<u>Street Name</u>	<u>From</u>	<u>To</u>	<u>RW Width</u>
Carter Avenue	Guard Street	Harbor Street	50'
Chinook Way	Coho Drive	South terminus	50'
Coho Drive	Chinook Way	North terminus	50'
Friday Avenue	McDonald Street	North terminus	60'
Harbor Street	Carter Avenue	Tucker Avenue	50'
John Street	Argyle Avenue	East terminus	60'
Kelsando Circle	Larson Street	Larson Street	50'
Larson Street	Guard Street	Carter Avenue	60'
Martin Street	Tucker Avenue	Culver Avenue	60'
Mason Court	Kelsando Circle	East terminus	50'
McDonald	Tucker Avenue	Friday Avenue	50'
Rose Lane	Argyle Avenue	West terminus	50'
Spruce Street	Argyle Avenue	Rose Lane	50'
Terra Bella Lane	Carter Avenue	West terminus	50'

E. RES – 40' RW or Less

This classification is for streets which are located within residentially zoned areas with 40' or less dedicated right of way.

<u>Street Name</u>	<u>From</u>	<u>To</u>	<u>RW Width</u>
Alder Court	West terminus	Spruce Street	40'
Beach Court	McDonald Street	Martin Street	30'
Beck Street	Geneste Street	East terminus	20'
Beck Street	Gould Street	East terminus	20'
C Street	Harrison Street	Franck Street	40'
Carter Avenue	Harbor Street	North terminus	40'
Charles Place	Hillcrest Place	Northeast terminus	24'
Franck Street	C Street	East terminus	40'
Geneste Street	Harrison Street	Beck Street	40'
Gould Street	Franck Street	South terminus	40'
Green Way	Spruce Street	East terminus	40'
Harrison Street	300' West of Geneste St.	Warbass Way	30'
Hemlock Court	West terminus	Spruce Street	40'
Hillcrest Place	North terminus	Lampard Road	40' – 30'
Hunt Street	Franck Street	Grover Street	40'
Jennifer Place	North terminus	Hillcrest Place	24'
Lampard Road	Town limits	Spring Street	30'
Larson Street	Carter Avenue	Tucker Avenue	40'
Linder Street	North terminus	South terminus	40'
Maple Street	Franck Street	South terminus	40'
Marble Street	Tucker Avenue	East terminus	30'
Nelson Street	Linder Avenue	East terminus	20'
Perry Place	Tucker Avenue	East terminus	35'
Scenic Place	North terminus	South terminus	40'
Tree House Place	North terminus	Hillcrest Place	24'
Vine Street	Franck Street	South terminus	40'
Warbass Way	B Street	Harrison Street	40'

## 4B.02 Right-of-Way

Right-of-way is determined by the functional classification of a street. Minimum right-of-way requirements are shown in Table 4B-1. Right-of-way requirements may be increased if additional lanes, turning lanes, bus loading zones, posted speed, bike lanes, utilities, schools or other factors are required as determined by the Town. Right-of-way shall be conveyed to the Town on a recorded plat and/or by a right-of-way dedication deed.

4B.03 Street Frontage Improvements

A. Requirements

All non-single family development and subdivisions of more than four (4) lots shall install street frontage improvements prior to the issuance of a building permit for the proposed development. Such improvements shall include curb and gutter, sidewalk, street storm drainage, street lighting system, utility relocation, landscaping and irrigation, and street widening all per these Street and Storm Drainage Standards. Plans shall be prepared and signed by a licensed civil engineer registered in the State of Washington as determined by the Town. All frontage improvements shall be made along full frontage of property from centerline of right-of-way to the property line.

B. Exceptions

When the Town deems that the above such improvements cannot be accomplished due to unique circumstances of the topography of those adjacent areas required to be improved, then the provisions of FHMC Chapter 12.02 shall apply.

4B.04 Signing

The developer is responsible for providing all traffic control signs. Traffic control signing shall comply with the provisions as established by the MUTCD. All signs (regulatory, warning, street name, etc.), including poles and hardware, shall be paid for by the developer.

4B.05 Street Names and Address Number

A. Street Names

The developer shall submit proposed new street names to the Town during the preliminary plat process. The Town will insure that the name assigned to a new street is consistent with policies of the Town.

B. Address Number

An address number will be assigned to all new buildings at the time the building permit is issued. It is then the owner's responsibility to see that the building numbers are placed clearly and visibly at the main entrance to the property or at the principal place of ingress.

4B.06 Street Design Standards

A. General

The layout of streets shall provide for the continuation of existing streets in adjoining subdivisions or of their future projection when adjoining property is not subdivided. Streets, which serve primarily to provide access to residential

subdivisions, shall be designed to discourage through traffic. Table 4B-1 outlines the minimum street design standards for each functional classification.

B. Grade

Street grade should conform closely to the natural contour of the land. In some cases, a different grade may be required by the Town. The minimum allowable grade shall be 0.5 percent. The maximum allowable grade shall be 15 percent, depending upon the street classification.

C. Width

The pavement and right-of-way width depend upon the functional classification. The Minimum Street Design Standard Table, Table 4B-1, indicates the minimum widths allowed. Street widths shall be measured from face of curb to face of curb.

D. Pavement Design

The pavement design shall meet the requirements in the latest publication of the AASHTO Guide for Design of Pavement Structures. The pavement section shall be designed and stamped by an engineer licensed in the State of Washington as determined by the Town. As required by the Town, a soils report, signed and stamped by a soils engineer licensed by the State of Washington, shall be based on actual soils tests and submitted with the plans. One soil sample per each 500 LF of centerline with 3 minimum per project representative of the roadway subgrade shall be taken to determine a statistical representation. Soil tests shall be performed by an engineering firm specializing in soils analysis.

E. General Notes

As required, the Street Construction General Notes, shown on Table 4B-2, shall be included on any street construction plans.

TABLE 4B-1

## MINIMUM STREET DESIGN AND ACCESS STANDARDS

<u>Design Standard</u>	<u>Major Arterial</u>	<u>Minor Arterial</u>	<u>Local Access</u>	<u>RES - 50' RW</u>	<u>RES - 40' RW</u>
Minimum Right-of-Way	80'	60'-50'	50'	50'	40'
Minimum Pavement Width	63'	43'-37'	30'	24'	22'
Parking Lane	Both sides	Both sides	No	No	No
Minimum/Maximum Grade	0.5%-10%	0.5%-10%	0.5%-15%	0.5%-15%	0.5%-15%
Curb	Vertical Concrete Curb & Gutter	Vertical Concrete Curb & Gutter	Vertical Concrete Curb & Gutter	Vertical Concrete Curb & Gutter or rolled concrete curb	Vertical Concrete Curb & Gutter or rolled concrete curb
Sidewalks	Both Sides: 8' wide	Both Sides: 8' - 6' wide	Both Sides: 6' wide	Both Sides: 6' wide	Both Sides: 5' wide
Cul-De-Sac Radius (pavement width)	N/A	N/A	40' turnaround radius, (50' right-of-way radius)	N/A	N/A
Intersection Curb Radius	30'	30'	25'	25'	25'
Design Speed (MPH)	30	30	25	25	25
Minimum Centerline Radius for Normal Grown	275'	275'	175'	175'	175'
Stopping Site Distance	200'	200'	160'	160'	160'
Street Section	Dwg. No. 4-1	Dwg. No. 4-2 Dwg. No. 4-3	Dwg. 4-5	Dwg. 4-4A	Dwg. 4-4

1) **Note:** Existing land locked parcels may be accessed by a private easement with a minimum width of 20 feet.

TABLE 4B-2

## STREET CONSTRUCTION GENERAL NOTES

1. All workmanship and materials shall be in accordance with Town of Friday Harbor Street and Storm Drainage Standards and the most current edition of the State of Washington Standard Specifications for Road, Bridge, and Municipal Construction.
2. The contractor shall be responsible for all traffic control in accordance with MUTCD. Prior to disruption of any traffic, traffic control plans shall be prepared and submitted to the Town for approval. No work shall commence until all approved traffic control is in place.
3. All curb and gutter, streets, sidewalks, and any other horizontal construction shall be staked by an engineering firm, surveying firm, or Town authorized Contractor capable of performing such work.
4. Where new asphalt joins existing, the existing asphalt shall be cut to a neat vertical edge and tacked with Asphalt Emulsion type CSS-1 in accordance with the Standard Specifications. The new asphalt shall be feathered back over existing to provide for a seal at the saw cut location and the joint sealed with grade AR-4000W paving asphalt.
5. Compaction of subgrade, rock, and asphalt shall be in accordance with the Street and Storm Drainage Standards.
6. Form and subgrade inspection by the Town is required before placing concrete. Twenty-four hours notice is required for form inspection.
7. See Town of Friday Harbor Street and Storm Drainage Standards, Section 6: Specifications, for testing and sampling frequencies.

4B.07 Cul-de-sac Street

Streets designed to have one end permanently closed shall be no longer than 400 feet. At the closed end, there shall be a widened "bulb" having a minimum paved travelled radius as shown in the Table 4B-1. The Town may require an off street walk or emergency vehicle access to connect a cul-de-sac at its terminus with other streets, parks, schools, bus stop or other pedestrian generators.

4B.08 Temporary Dead Ends

Where a street is temporarily terminated, turn around provisions must be provided where the road serves more than six lots or is longer than 150 feet. The turn around may be a hammerhead with a minimum distance on both sides at the centerline intersection of 60 feet to facilitate emergency vehicle turn-around. Removal of temporary cul-de-sac bulb or hammerhead shall be the responsibility of the developer who extends the road.

4B.09 Intersections

A. Traffic Control

Traffic control will be as specified in the MUTCD or as modified by the Town as a result of appropriate traffic engineering studies.

B. Intersection Design

Street intersections shall be laid out so as to intersect as nearly as possible at right angles. Sharp angled intersections shall be avoided. For reasons of traffic safety, a "T" intersection is preferable to the cross intersection for local access streets. For safe design, the following types of intersection features should be avoided:

Intersections with more than four intersecting streets;

"Y" type intersections where streets meet at acute angles;

Intersections adjacent to sight obstructions.

C. Intersection Spacing

Spacing between adjacent intersecting streets, whether crossing or "T" should be as follows:

Highest classification involved is:	Minimum centerline offset should be:
Major Arterial	300 feet
Minor Arterial	300 feet
Local Access	150 feet
RES - 50' RW	150 feet

RES - 40' RW

150 feet

D. Curb Radius

Curb radius for each street classification is indicated in Table 4B-1, "Minimum Street Design Standards". When streets with different classifications intersect, the higher street classification standard shall apply. Deviations to this may be allowed at the direction of the Town as a result of a traffic study.

E. Approaches

On sloping approaches at an intersection, landings shall be provided with grade not to exceed one foot difference in elevation for a distance of 30 feet approaching any arterial or 20 feet approaching a local access, RES-50' RW or RES-40' RW street, measured from nearest right-of-way line (extended) of intersecting street.

4B.10 Sight Distance for Intersections

A. Sight Distance Area

The sight distance area is a clear-view triangle formed on all intersections by extending two lines of specified length as shown on the Standard Detail in Section 7 from the center of the intersecting streets along the centerlines of both streets and connecting those endpoints to form the hypotenuse of the triangle. The area within the triangle shall be subject to restrictions to maintain a clear view on the intersection approaches.

B. Vertical Clearance Area

The vertical clearance area within the sight distance triangle shall be free from obstructions to a motor vehicle operator's view between a height of 3 feet and 10 feet above the existing surface of the street.

C. Exclusions

Sight obstructions that may be excluded from these requirements include: fences in conformance with the Town's ordinances, utility poles, regulatory signs, trees trimmed from the base to a height of 10 feet above the street, places where the contour of the ground is such that there can be no cross visibility at the intersection, saplings or plant species of open growth habits and not in the form of a hedge which are so planted and trimmed as to leave at all seasons a clear and unobstructed cross view, buildings constructed in conformance with the provisions of appropriate zoning regulations and preexisting buildings at the time of enactment of these Street and Storm Drainage Standards.

## 4B.11 Driveways

## A. Major and Minor Arterials

- (1) Driveway details are provided in Section 7.
- (2) Joint-use driveways serving two adjacent parcels may be built on their common boundary upon formal written agreement by both property owners and approval of the Town. The agreement shall be a recorded easement for both parcels of land specifying joint usage.
- (3) Driveways serving all uses shall not be approved where backing onto the sidewalk or street will occur.
- (4) Driveway aprons shall not extend into the street further than the face of the curb.
- (5) The angle between any driveway and the street shall be not less than 45°.
- (6) Driveway edges shall be parallel.
- (7) Grade breaks, including the tie to the roadway, shall be constructed as smooth vertical curves. The maximum change in driveway grade shall be 8 percent within any 10 feet of distance on a crest and 12 percent within any 10 feet of distance in a sag vertical curve. The grades of all driveway approaches are to be approved by the Town.
- (8) All driveways shall be constructed of Portland Concrete Cement, and shall be at least 6-inches thick, over a 4-inch crushed surfacing top course. Driveways shall be subject to the same testing and inspection requirements as curb, gutter, and sidewalk construction.
- (9) Maintenance of driveway approaches shall be the responsibility of the owners whose property they serve.
- (10) Driveways giving direct access onto arterials may be denied if alternate access is available.
- (11) Driveways should be situated as far away from intersections as practicable.
- (12) Driveways shall not be located within 20 feet of a crosswalk.
- (13) Driveway shall not be located so as to conflict with power poles, street lights, fire hydrants, traffic regulating devices or other above-ground facilities, and shall not create a hazard to pedestrians or motorists as determined by the Town.

- (14) All abandoned driveway areas on the same frontage shall be removed and the curbing and sidewalk or shoulder and ditch section shall be properly restored, at the Owner's expense.
  - (15) Right turn tapers, left turn pockets and acceleration lanes may be required in light industrial and commercial zoned areas as directed by the Town as a result of a traffic engineering study.
  - (16) Deviations of these standards may be permitted by the Town as a result of a traffic engineering study.
- B. Local Access, RES-50' RW and RES-40' RW
- (1) Driveway details are provided in Section 7.
  - (2) Joint-use driveways serving two adjacent parcels may be built on their common boundary upon formal written agreement by both property owners and approval of the Town. The agreement shall be a recorded easement for both parcels of land specifying joint usage.
  - (3) Driveway serving other than single family use shall not be approved where backing onto the sidewalk or street will occur.
  - (4) Driveway aprons shall not extend into the street further than the face of the curb.
  - (5) The angle between any driveway and the street shall be not less than 45°.
  - (6) Driveway edges shall be parallel.
  - (7) Grade breaks, including the tie to the roadway, shall be constructed as smooth vertical curves. The maximum change in driveway grade shall be 8 percent within any 10 feet of distance on a crest and 12 percent within any 10 feet of distance in a sag vertical curve. The grades of all driveway approaches are to be approved by the Town.
  - (8) All driveways shall be constructed of Portland Concrete Cement, and shall be at least 6-inches thick, over a 4-inch crushed surfacing top course. Driveways shall be subject to the same testing and inspection requirements as curb, gutter, and sidewalk construction.
  - (9) Maintenance of driveway approaches shall be the responsibility of the owners whose property they serve.
  - (10) Driveways should be situated as far away from intersections as practicable.

- (11) Driveways shall not be located within 20 feet of a crosswalk.
- (12) Driveway shall not be located so as to conflict with power poles, street lights, fire hydrants, traffic regulating devices or other above-ground facilities, and shall not create a hazard to pedestrians or motorists as determined by the Town.
- (13) All abandoned driveway areas on the same frontage shall be removed and the curbing and sidewalk or shoulder and ditch section shall be properly restored, at the Owner's expense.
- (14) Deviations of these standards may be permitted by the Town as a result of a traffic engineering study.

C. Private Intersection

A private intersection opening shall be used in lieu of a conventional driveway where all the following criteria as determined by the Town are met.

- (1) Projected driveway usage is greater than two-thousand (2,000) vehicles per day; and
- (2) Where traffic signalization is required by a traffic study; and
- (3) A minimum 100 foot long travel lane is provided between the street and any turning or parking maneuvers within the development; and
- (4) The opening is at least one-hundred and fifty feet (150') from any other intersection opening; and
- (5) The opening is at least one-hundred and fifty feet (150') away from any other driveway on the property frontage under control of the applicant; and
- (6) Easement dedication for traffic control devices.

D. Width and Number of Access Points for all driveways

- (1) Driveway width shall not exceed the maximum widths indicated in Table 4B-3.
- (2) A wider driveway width may be approved by the Town as a result of a traffic engineering study.

**TABLE 4B-3  
DRIVEWAY NUMBERS & WIDTHS**

<u>Property Frontage</u>	<u>Maximum # of Driveways</u>	<u>Maximum Driveway Width</u>
<b>RESIDENTIAL USE</b>		
less than 120'	1	12'
equal or greater than 120'	2	12'
<b>NON-RESIDENTIAL USE</b>		
less than 60'	1	24'
equal or greater than 60' and less than 120'	1	30'
equal or greater than 120'	2	24'
<b>ABOVE SUBJECT TO FHMC 17.68:</b>		
Parking lots fewer than 10 parking spaces	1	12'
Parking lots with separate ingress/egress	2	12'

## **4C           SIDEWALKS, CURBS AND GUTTERS**

### 4C.01 General

Sidewalks, curbs and gutters shall be required as indicated on Table 4B-1, Minimum Street Design Standards. In the event the Town has raised or lowered an existing street so that the sidewalk does not match the new proposed sidewalk level, the Town shall be responsible for the costs associated with reconstruction of the new sidewalk.

### 4C.02 Design Standards

Plans for the construction of sidewalks, curbs and gutters are to be submitted as part of the street plans when applicable. Design and construction of sidewalks, curbs and gutters shall be in accordance with Section 7 of these Standards. Because these are minimum standards, they may be modified by the Town should the Town determine circumstances require increased or decreased widths.

### 4C.03 Vaults in Sidewalks

All utility vaults placed within the sidewalk shall be approved by the Town. The lids shall have a diamond pattern and be non-skid.

### 4C.04 Testing

Testing shall be required at the developer/contractor's expense on all materials and construction as specified in the Standard Specifications. As required by the Town, testing frequencies shall be as specified in the Testing and Sampling Frequency Table in Section 6.

## 4D ILLUMINATION

### 4D.01 General

All new residential and non-residential subdivisions shall provide street lights in accordance with these Standards.

### 4D.02 Design Standards

#### A. General

A street lighting plan submitted by the applicant and approved by the Town shall be required for all street light installations. All public street light designs shall be prepared by an engineering firm capable of performing such work. The engineer shall be licensed by the State of Washington.

#### B. Location

Street lights shall be spaced approximately 140 feet apart on one side of the street and shall be placed as near as possible to street intersections. The poles shall be located 12 inches, maximum, from the face of the curb. All street light electrical installations including wiring conduit, and power connections shall be located underground.

#### C. Standards

Light standards in non-residential areas shall be HAPCO, Series 20, Model #21-295. The bulb shall be 175 watts and be high pressure sodium. Light standards in residential areas, shall be approved by the Town.

#### D. General Notes

The Street Light Construction General Notes, shown on Table 4D-1 shall be included on any street lighting plans.

**TABLE 4D-1****STREET LIGHT CONSTRUCTION  
GENERAL NOTES**

1. All workmanship, materials and testing shall be in accordance with the most current Washington State Department of Transportation/American Public Work Association Standard Specifications for Road, Bridge and Municipal Construction, National Electrical Code and Town of Friday Harbor Street and Storm Drainage Standards unless otherwise specified below. In cases of conflict the most stringent guideline shall apply. When the most stringent guideline is not clear, the Town shall make the determination. The Electrical Contractor shall be familiar with all above stated publications and guidelines.
2. All safety standards and requirements shall be complied with as set forth by the State of Washington, Department of Labor and Industries.
3. The contractor shall be responsible for all traffic control in accordance with the Manual on Uniform Traffic Control Devices. Prior to disruption of any traffic, traffic control plans shall be prepared and submitted to the Town for approval.
4. The Contractor shall arrange for a pre-construction meeting with the Town and Orcas Power and Light Company (OPALCO) prior to the start of construction.
5. All approvals and permits required by the Town shall be obtained by the contractor prior to the start of construction.
6. It shall be the responsibility of the contractor to have a copy of an approved set of plans on the construction site at all times.
7. The contractor shall be fully responsible for the location and protection of all existing utilities. The contractor shall verify all utility locations prior to construction by calling the Underground Locate Line a minimum of 48 hours prior to any excavation. The contractor will also be responsible for maintaining all locate marks once the utilities have been located.
8. The contractor shall provide and install the pole foundations. OPALCO will place the light standards.
9. The contractor shall coordinate the installation of the bases and the delivery of the light standards with OPALCO.
10. OPALCO will provide the luminaire and light bulbs. OPALCO will assemble the components and will install the wiring in the standards.
11. The contractor shall provide and install the conduit and OPALCO will provide and install wiring in the conduit.

12. Any modification to approved lighting plans shall be reviewed and approved by the Town prior to installation.

## **4E SIGNALS**

(SECTION RESERVED)

## **4F ROADSIDE FEATURES**

### 4F.01 General

Miscellaneous features included in this section shall be developed and constructed to encourage the uniform development and use of roadside features wherever possible. The design and placement of roadside features shall adhere to the specific requirements as listed for each feature.

### 4F.02 Survey Monuments

#### A. General

All existing survey control monuments which are disturbed, lost, or destroyed during surveying or construction shall be replaced with the proper monument as outlined in Item B below by a land surveyor registered in the State of Washington at the expense of the responsible developer/contractor.

#### B. Monument Type

##### (1) Major Arterial or Minor Arterial

A pre-cast concrete monument with cast iron monument case and cover installed per Town standards is required per Standard Detail, Section 7. The monument case shall be installed after the final course of surfacing has been placed.

If the monument case and cover are placed in cement concrete pavement, the pre-cast base will not be necessary.

##### (2) Local Access

A cast-in-place concrete surface monument with sufficient ferrous metal embedded to allow for detection by a magnetic detection device per Town standards is required per Standard Detail, Section 7.

#### C. Monument Locations

Appropriate monuments shall be placed:

##### (1) At all street intersections, and

- (2) At the PC and PT's of all horizontal curves, and
- (3) At PI of all horizontal curves of streets where the PI lies within the limits of the travelled roadway; and
- (4) At all corners, control points and angle points around the perimeter of subdivisions as determined by the Town, and
- (5) At all section corners, quarter corners, and sixteenth corners that fall within the right-of-way.

#### 4F.03 Mailboxes

##### A. General

During construction, existing mailboxes shall be accessible for the delivery of mail or, if necessary, moved to a temporary location. Temporary relocation shall be coordinated with the U.S. Postal Service. The mailboxes shall be reinstalled at the original location or, if construction has made it impossible, to a location as outlined below and approved by the U.S. Postal Service.

##### B. Location

- (1) Mailbox shall be located in accordance with the Standard Detail in Section 7.
- (2) Mailboxes shall be set on posts strong enough to give firm support but not to exceed 4 x 4 inch wood or one 1-1/2 inch diameter pipe, or material and design with comparable breakaway characteristics.
- (3) Bottom or base of box shall be 36" to 42" above the road surface.
- (4) Front of mailbox shall be 18 inches behind the vertical curb face or outside edge of shoulder.

#### 4F.04 Guard Rails

For purposes of design and location, all guard rails along roadways shall conform to the criteria of the "Washington State Department of Transportation Design Manual", latest edition.

#### 4F.05 Retaining Walls

Rock walls may be used for erosion protection of cut or fill embankments up to a maximum height of 8 feet in stable soil conditions which will result in no significant foundation settlement or outward thrust upon the walls. For heights over 4 feet or when soil is unstable, rock wall designs shall be designed and stamped by a structural engineer licensed in the State of Washington. Rock walls over 4 feet high shall be subject to inspection by a geotechnical engineer. The geotechnical engineer shall

continuously inspect the installation of the wall as it progresses and shall submit to the Town inspection reports, including compaction test results and photographs taken during the construction, documenting the techniques used and the degree of conformance to the geotechnical engineer's design.

Concrete retaining walls may be used in lieu of rock walls. The design of structural walls shall be by a professional engineer licensed in the State of Washington qualified in retaining wall design. Design calculations shall be submitted to the Town.

#### 4F.06 Street Trees

(SECTION RESERVED)

## 4G. UTILITIES

#### 4G.01 General

Utilities within the existing or proposed right-of-way on shall be installed in the following location.

<u>Utility</u>	<u>Location</u>
Sanitary Sewer	5 ft. south or west of centerline of street
Water	5 feet north or east of centerline of street

Where existing utilities or storm drains are in place, new utilities shall conform to these Standards as nearly as practical and yet be compatible with the existing installations. Gravity systems, whether sanitary or storm drainage, shall have precedence over other systems in planning and installation. Exceptions may be approved by the Town when necessary to meet special requirements only if the public's best interest is served.

#### 4G.02 Water Lines

Water lines shall be designed and constructed in accordance with Town's Water System Extension Requirements.

#### 4G.03 Sanitary Sewers

Sanitary sewers shall be designed and constructed in accordance with the Town's Sewer System Extension Requirements.

#### 4G.04 Other Utilities

Other utilities (power, telephone, and cable TV) shall be located as follows:

Underground, either side of road, at plan location and depth compatible with other utilities and storm drains or in a common trench as specified in the Standard Detail in Section 7.

Notwithstanding other provisions, underground systems shall be located at least 5 feet away from road centerline and where they will not otherwise disturb existing survey monumentation.

#### 4G.05 Utility Crossings in Existing Streets

Crossings shall be made by surface cut of the traveled portion where the street is constructed of asphalt concrete or better.

Utility crossings shall be as near right angles to the street as practicable.

All utilities crossing the street shall be installed with PVC Schedule 40 plastic or equivalent conduit.

The streets and shoulders affected by the crossing shall be restored to a neat and orderly condition.