

# STANWOOD STREET AND UTILITY STANDARDS

## CHAPTER 2

### 2.000 TRANSPORTATION AND STREETS

#### 2A GENERAL CONSIDERATIONS

##### 2A.010 General

The overall goal of this chapter is to 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.

This chapter provides minimum development standards supplementing the applicable standards as set forth in Chapter 1.

#### 2B STREETS

##### 2B.010 General

Street design must provide for the maximum loading conditions anticipated. The width and grade of the pavement must conform to specific standards set forth herein for safety and uniformity.

##### 2B.020 Design Standards

The design of streets and roads shall depend upon their type and usage. Standard design structures are shown in the City's Standard Details.

The layout of streets shall provide for the continuation of existing principal streets in adjoining subdivisions or of their proper projection when adjoining property is not subdivided. Minor streets, which serve primarily to provide access to abutting property, shall be designed to discourage through traffic (see the table of the Minimum Street Design Standards).

- A. Alignment. Alignment of arterials, major collectors and minor collectors shall conform with that shown in the Comprehensive Plan.
- B. Grade. Street grade should conform closely to the natural contour of the land. The minimum allowable grade shall be 0.5 percent. The maximum allowable grade shall be 14 percent, depending upon the street classifications.
- C. Width. The pavement and right-of-way width depend upon the street classification. The table of Minimum Street Design Standards show the minimum widths allowed.  
  
Street widths shall be measured from face of curb to face of curb on streets with cement concrete curb and gutter.
- D. The General Notes that follow this page shall be included on any plans dealing with street design.

# STANWOOD STREET AND UTILITY STANDARDS

## MINIMUM STREET DESIGN STANDARDS

Design Standard	Arterial	Commercial/Neighborhood Major Collector	Neighborhood Minor Collector	Local Access/Cul-De-Sac
Transportation Standard Detail #	T-2	T-3	T-4	T-5/T-6
ROW Width (minimum)	86-98 ft.	57 ft.	49 ft.	49 ft.
Street Width (minimum)	48-60 ft. plus two 5 ft. bike lanes	36 ft.	28 ft.	28 ft.
Curb Requirements	Cement concrete curb (6") & gutter, both sides	Cement concrete curb (6") & gutter, both sides	Cement concrete curb (6") & gutter, both sides	Cement concrete curb (6") & gutter, both sides
Planter Width (minimum)	8.5 ft. wide both sides	5 ft. wide both sides	5 ft. wide both sides	5 ft. wide both sides
Sidewalk Requirements (minimum)	5 ft. wide both sides			
Utility Easements	10 ft. both sides			
Minimum-Maximum Grade	.50% to 7%	.50% to 12%	.50% to 12%	.50% to 14%
Intersection Curb Radius	30 ft.	30 ft.	30 ft.	25 ft.
Design Speed (MPH)	45	35	35	25
Stopping Sight Distance	360 ft.	250 ft.	250 ft.	155 ft.
Intersection (Entering) Sight Distance	500 ft., driver's eye 15 ft. back from edge of traveled way and 3.5 ft. above pavement	390 ft., driver's eye 15 ft. back from edge of traveled way and 3.5 ft. above pavement	390 ft., driver's eye 15 ft. back from edge of traveled way and 3.5 ft. above pavement	280 ft., driver's eye 15 ft. back from edge of traveled way and 3.5 ft. above pavement
Utility Easements	10' each side of street			
Parking	none	8' each side	8' one side	8' one side
Daily Traffic Volume	> 3000 ADT	1001-3000 ADT	250-1000 ADT	< 250 ADT

### 2B.030 Street Construction General Notes

1. All workmanship and materials shall comply with the Stanwood Street and Utility Standards and Standard Details and the most current copy 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 City for approval. No work shall commence until all approved traffic control is in place.
3. A licensed engineering or surveying firm shall stake all curb and gutter, street grades, sidewalk grades and any other vertical and/or horizontal alignment.

# STANWOOD STREET AND UTILITY STANDARDS

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 Standard Specifications.
6. Form and subgrade inspection by the City is required before pouring concrete. Twenty-four hours notice is required for form inspection.
7. See the Stanwood Street and Utility Standards Chapter 2 for testing and sampling frequencies.
8. Prior to issuance of a Certificate of Occupancy, the Developer shall provide and install all street name, regulatory, warning and guide signs.

## **2B.040 Functional Classifications**

City streets are divided into arterials, major collectors, minor collectors, and local access streets in accordance with regional transportation needs and the functional use each serves. Function is the controlling element for classification and shall govern right-of-way, road width and road geometrics. The City of Stanwood Comprehensive Plan provides street category definitions and street classifications. Streets not included in the Comprehensive Plan will be classified by the Public Works Director.

## **2B.050 Street Naming/Addressing**

Streets and roads shall be named according to specific criteria. All streets lying in Stanwood are designated northwest (NW). “Avenues” run north – south and are numbered with the exception of certain long-standing historical names. “Streets” run east – west and are also numbered except for certain historical names. “Drives” are irregular or diagonal streets over two grid blocks in length not conforming to the grid pattern. “Places” shall be east - west streets, parallel to but between “Streets”. “Ways” shall be north - south streets parallel to but between “Avenues”. “Courts” shall be cul-de-sacs which cannot be extended. Courts are to be named or numbered and carry the number of the preceding street or avenue. “Loops” shall be small loop-type streets to carry the name of the street from which they originate. “Lanes” shall be private streets.

Note that a few exceptions to the “Place” rule exist within the City. “Manor Place”, “Village Place” and “Country Place” function like “Ways”. They are addressed as such.

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 house numbers are placed clearly and visibly at the main entrance to the property or at the principal place of egress.

The developer must check with the Community Development Director regarding the naming of streets and assigning house numbers. This should be done at the time the preliminary plat is submitted and again upon approval of the final plat. The Community

# STANWOOD STREET AND UTILITY STANDARDS

Development Department will insure that the name assigned to a new street is consistent with policies of the City.

## **2B.060 Signing**

The developer is responsible for providing all traffic control signs. Traffic control signing shall comply with the provisions as established by the US Department of Transportation Manual on Uniform Traffic Control Devices (MUTCD).

Street signs for any private street shall have a white background with green lettering.

## **2B.070 Right of Way**

Right of way widths shall be per the minimum Street Design Standards Table and Transportation Standard Details.

Right-of-way requirements may be increased if additional lanes; pockets; transit lanes; bus loading zones; operational speed; bike lanes; utilities; schools or other factors are required as determined by the Public Works Director.

Right-of-way shall be conveyed to the City on a recorded plat or by right-of-way dedication deed.

## **2B.080 Private Streets**

See definition of private streets in Chapter 1.

Private streets may be allowed under the following conditions:

1. Permanently established by tract providing legal access to serve no more than four dwelling units, and have a minimum 24-foot paved surface with curb and gutter, and have a sidewalk, on one side of the private street 5 feet in width of such a design that prevents parking upon the sidewalk. All sidewalks will meet ADA requirements.
2. Accessible at all times for emergency and public service vehicle use.
3. Will not result in land locking of present or future parcels nor obstruct public street circulation.
4. Covenants have been approved, recorded and verified with the City which provide for maintenance of the private streets and associated parking areas by the owner or homeowners association or other legal entity.
5. A private street shall have a minimum length of 50 feet and a maximum length of 400 feet.
6. Multi-family and mixed use complexes may have private streets that serve up to 4 units as ingress/egress and parking.

## **2B.090 Street Frontage Improvements**

- A. All commercial and residential (including multi-family) developments, plats, and short plats shall install street frontage improvements at the time of

# STANWOOD STREET AND UTILITY STANDARDS

construction. Such improvements shall include curb and gutter; sidewalk; street storm drainage; street lighting system; traffic signal modification, relocation or installation; utility relocation; landscaping and irrigation and street widening all per these Standards. Plans shall be prepared and signed by a licensed civil engineer registered in the State of Washington.

- B. All frontage improvements shall be made across full frontage of property, including curb, gutter and sidewalk fronting the property and half street improvements. These improvements shall include a half-street overlay of an existing frontage road and repairing existing damaged pavement and/or subgrade.
- C. Frontage improvements include installation of street illumination in accordance with the requirements of these Standards. Street lighting may be installed on existing utility poles should they exist, otherwise new street lighting poles shall be provided.
- D. Deferral of improvements If the Public Works Director and Community Development Director deem that the above such improvements cannot be accomplished at the time of building construction, a recorded agreement on forms approved by the City Attorney shall be completed which provide for these improvements to be installed at a specific date by the applicant. Financial hardship shall not be considered as a reason for delaying improvements.

## **2B.100 Cul-de-sac**

Streets designed to have one end permanently closed shall have a minimum length of 50 feet and a maximum length of 400 feet. At the closed end, there shall be a widened “bulb” having a minimum paved traveled radius as shown in the Standard Detail. Cul-de-sac length shall be measured along the centerline of the cul-de-sac road from the extension of the intersecting right-of-way line extended to the center of the cul-de-sac bulb. Hammerhead turnarounds may be considered through the modification process in Section 1.055.

## **2B.110 Temporary Dead Ends**

Where a street is temporarily dead ended, turn around provisions must be provided where the road serves more than one lot.

## **2B.120 Half Street**

A half street may be permitted subject to approval by the Public Works Director when:

- A. The half street will be located near the edge of a development and there is a reasonable assurance of obtaining the prescribed additional right-of-way from the adjoining property suitable for completion of a full-section roadway, and
- B. Such alignment is consistent with or will establish a reasonable circulation pattern, and

# STANWOOD STREET AND UTILITY STANDARDS

- C. The right-of-way width shall be half of the required right-of-way width per these Standards plus sufficient right-of-way to install a 12-foot lane for two-way traffic and appurtenant drainage components, and
- D. A minimum 12-foot paved lane is constructed adjacent to the half street improvements consistent with these Standards for two-way traffic. The edge of said lane shall be finished with permanent curb and gutter to insure proper drainage, bank stability and traffic safety.

## 2B.130 Medians

A median shall be in addition to, not part of, the specified roadway. Medians shall be designed so as not to limit turning radius or sight distance at intersections.

## 2B.140 Intersections

- A. Traffic control will be as specified in the Manual on Uniform Traffic Control Devices (MUTCD) or as modified by the City Engineer as a result of appropriate traffic engineering studies. Modification to this standard may be considered pursuant to Section 1.055.
- B. 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 (three-legged) is preferable to the crossroad (four-legged) intersection for local access streets. For safe design, the following types of intersection features should be avoided:
  - 1. Intersections with more than four intersecting legs;
  - 2. “Y” type intersections where streets meet at acute angles;
  - 3. Intersections adjacent to bridges and other sight obstructions.
- C. Spacing between adjacent intersecting streets, whether crossing or “T” should be as follows:

Arterial	300 feet
Major Collector	200 feet
Minor Collector	200 feet
Local Access Street	150 feet

When different class streets intersect, the higher standard shall apply on curb radii and intersection spacing. Modification to this standard may be considered pursuant to Section 1.055.

- D. 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 collector or local access street, measured from nearest right-of-way line (extended) of intersecting street.

# STANWOOD STREET AND UTILITY STANDARDS

- E. Intersection improvements that occur on State Route 532 shall also be reviewed and approved by the Washington State Department of Transportation.

## 2B.150 Driveways

### A. General

1. 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.
2. All driveways shall be constructed of portland cement concrete (PCC) or of hot mix asphalt (HMA) and shall be subject to the same testing and inspection requirements as curb, gutter, and sidewalk construction. PCC driveways for uses other than single-family residential shall have a compressive strength of not less than 4,000 pounds per square inch (PSI).
3. 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 City. The agreement shall be a recorded easement for both parcels of land specifying joint usage.
4. 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.
5. No commercial driveway shall be approved where backing onto the sidewalk or street will occur.
6. Driveway access shall not be allowed within 100 feet of a collector intersection or within 50 feet of a local access intersection. This distance shall be measured from nearest edge of proposed driveway access to edge of intersecting road pavement or to the point at which the sidewalk curves at the intersection.
7. Driveways shall be aligned with existing driveways on the opposite side of the street on two or three lane streets. Where the driveways cannot be aligned, the driveways shall be separated in accordance with the Standard Detail.
8. Driveways shall be offset a minimum of 100 feet from existing driveways on the opposite side of streets with four or more lanes.
9. Driveways constructed in areas where vertical curb and gutter frontage improvements are required shall be constructed as drop curb driveways.
10. Residential driveways shall have a minimum separation of ten feet between the nearest edges of the access points.

### B. Width

# STANWOOD STREET AND UTILITY STANDARDS

1. Residential driveways for single-family dwellings or duplexes shall have a minimum width of 10 feet and a maximum width of 30 feet.
  2. One-way commercial driveways accessing the public right-of-way shall have a minimum width of 15 feet and maximum width of 30 feet. See Stanwood Municipal Code Section 17.105.120 (6) for parking aisle widths requirements from the driveway.
  3. Two-way commercial driveways shall have a minimum width of 25 feet and a maximum width of 40 feet. See Stanwood Municipal Code Section 17.105.120 (6) for parking aisle widths requirements from the driveway.
  4. A road approach or wider driveway width may be approved by the City Engineer where a substantial percentage of oversized vehicle traffic exists, where divisional islands are desired, or where multiple exit or entrance lanes are needed.
  5. Parking lot circulation and signing needs shall be met on site. The public right-of-way shall not be utilized as part of a one way parking lot flow.
  6. Road approaches and/or ingress and egress tapers may be required in industrial and commercially zoned areas as part of the sign development review process. Tapers shall be designed per Institute of Transportation Engineers specifications.
- C. Access to State Route 532 and Adjoining Streets

Access to State Route 532 and adjoining City Streets shall comply with Washington Administrative Code Sections 468-51 and 468-52. Fees for processing, review and inspection of projects in areas where Stanwood controls access management shall be in accordance with City of Stanwood City Code in lieu of those listed in the Washington Administrative Code.

## **2B.160 Sight Obstruction**

The following sight clearance requirements take into account the proportional relationship between speed and stopping distance.

The sight distance area is a clear view triangle formed on all intersections by extending two lines of specified length (A) and (B) as shown below 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 said restrictions to maintain a clear view on the intersection approaches. Refer to Standard Detail T-1 for additional information.

# STANWOOD STREET AND UTILITY STANDARDS

Sight Distance Triangle:

A. Stop or Yield Controlled Intersection

Speed Limit	Sight Distance (Feet)	
	(A)	(B)
	Major Street	Minor Street
20 mph	200	*
25 mph	250	*
30 mph	300	*
35 mph	350	*
40 mph	400	*

\*Sight distance measured from a point on the minor road 15 feet from the edge (extended) of the major road pavement and measured from a height of eye at 3.50 feet on the minor road to height of object at 4.25 feet on the major road.

B. Uncontrolled Intersection

Speed Limit	Sight Distance (Feet)	
	(A)	(B)
	Major Street	Minor Street
20 mph	90	90
25 mph	110	110
30 mph	130	130
35 mph	155	155
40 mph	180	180

- C. 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.
- D. Exclusions. Sight obstructions that may be excluded from these requirements include: fences in conformance with this chapter; 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.

# STANWOOD STREET AND UTILITY STANDARDS

## 2B.170 Surfacing Requirements

Surfacing requirements shall be determined by a geotechnical investigation of the existing soils and pavement design by a licensed engineer. The pavement cross-section shall meet the following minimum requirements.

### A. Collector Streets

Surfacing: 4" Hot Mix Asphalt, PG 64-22  
Top course: 2" crushed surfacing top course  
Base: 16" ballast

#### Alternate-

Surfacing: 4" Hot Mix Asphalt, PG 64-22  
Top course: 4" asphalt treated base  
Base- 2" crushed surfacing base course

### B. Local Access Street

Surfacing: 3" Hot Mix Asphalt, PG 64-22  
Top course: 2" crushed surfacing top course  
Base: 8" ballast

#### Alternate:

Surfacing: 3" Hot Mix Asphalt, PG 64-22  
Top course 3" asphalt treated base  
Base: 2" crushed surfacing base course

### C. City-Owned Parking Lot

Surfacing: 3" Hot Mix Asphalt, PG 64-22  
Top course: 2" crushed surfacing top course  
Base: 8" ballast

#### Alternate-

Surfacing: 3" Hot Mix Asphalt, PG 64-22  
Top course 2" asphalt treated base  
Base: 2" crushed surfacing base course

### D. Sidewalks

Surfacing: 4" commercial concrete  
Base: 4" crushed surfacing top course

Asphalt sidewalks will not be permitted unless otherwise approved by the Public Works Director.

# STANWOOD STREET AND UTILITY STANDARDS

- E. Class I Bikeway
  - Surfacing: Commercial concrete
  - Base: 2" crushed surfacing top course
  - Alternate-
    - Surfacing: 2" Hot Mix Asphalt, PG 64-22
    - Base: 4" ballast

## **2B.175 Prohibition on Cuts for Newly Paved Streets**

The City does not allow street cuts on streets that have been newly paved or resurfaced for a period of three (3) years unless an emergency to public health and safety exists. If a newly paved street is cut for any reason, the required asphalt repairs will be per the Public Works Director or City Engineer. In most cases, the street will need to be entirely resurfaced with a minimum two (2) inch overlay from curb to curb in the area of work., The Public Works Director or City Engineer may allow tunneling as an alternative to street cuts as long as there is enough space outside the paved surface to accommodate the tunneling operation. Tunneling will not be allowed if the asphalt pavement surface will be impacted. All damage caused during the work shall be repaired in kind within five (5) working days from the completion of the work.

## **2B.180 Temporary Street Patching**

Temporary restoration of trenches shall be accomplished by using 0.17 feet Hot Mix Asphalt, PG 64-22 when available or 0.17 feet medium curing (MC-250) Liquid Asphalt (cold mix), 0.17 feet Asphalt Treated Base (ATB), or steel plates.

ATB used for temporary restoration may be dumped directly into the trench, bladed and rolled. After rolling, the trench must be filled flush with asphalt to provide a smooth riding surface.

All temporary patches shall be maintained by the contractor until such time as the permanent pavement patch is in place.

Temporary patches will be completed within the same day as opened unless the Public Works Director has approved other arrangements.

If the contractor is unable to maintain a patch for whatever reason, the City will patch it at actual cost plus overhead and materials.

## **2B.190 Trench Backfill and Restoration**

Trench restoration shall be patch plus half-street overlay meeting the following requirements:

- A. All trench and pavement cuts shall be made by spade bladed jackhammer or sawcuts. The cuts shall be a minimum of 1 foot outside the trench width.
- B. All trenching shall be backfilled with bank run gravel for trench backfill conforming to the WSDOT/APWA Standards. The trench bedding and

# STANWOOD STREET AND UTILITY STANDARDS

backfill shall be compacted to 95 percent maximum density, as determined by ASTM D1557.

Existing material may be used for backfill only outside of the roadway section if it is determined by the City to be suitable for backfill. The contractor may use the native material except that the top 8 inches of trench shall be 2-1/2 inches minus ballast. All trench backfill materials shall be compacted to 95 percent density as determined by ASTM D1557.

Backfill compaction shall be performed in 6 inch lifts.

Replacement of the asphalt pavement or Portland Concrete Cement shall be of existing depth plus 1 inch or 3 inches total, whichever is greater.

- C. Tack shall be applied to the existing pavement and edge of cut and shall be emulsified asphalt grade CSS-1 as specified in the WSDOT/APWA Standards. Tack coat shall be applied as specified in the WSDOT/APWA Standards.
- D. Hot Mix Asphalt, PG 64-22 shall be placed on the prepared surface by an approved paving machine whenever available or as directed by the DPW and shall be in accordance with the applicable requirements of the WSDOT/APWA Standards, except that longitudinal joints between successive layers of asphalt shall be displaced laterally a minimum of 12 inches unless approved as a modification pursuant to Section 1.055. Fine and coarse aggregate shall be in accordance with WSDOT/APWA Standards. Asphalt over 2 inches thick shall be placed in equal lifts not to exceed 2 inches each.

All street surfaces, walks or driveways within the street trenching areas affected by the trenching shall be feathered and shimmed to an extent that provides a smooth-riding connection and expeditious drainage flow for the newly paved surface. Shimming and feathering as required by the City Engineer shall be accomplished by raking out the oversized aggregates from the PG 64-22 mix as appropriate or by using a finer mix.

Surface smoothness shall be per the WSDOT/APWA Standards. The paving shall be corrected by removal and repaving of the trench only.

- E. All joints shall be sealed using paving asphalt AR4000W.
- F. When trenching within the roadway shoulder(s), the shoulder shall be restored to its original or better condition.
- G. The final patch shall be completed as soon as possible however no longer than 30 days after first opening the trench. This time frame may be adjusted if delays are due to inclement paving weather, or other adverse conditions that may exist. However, delaying of final patch or overlay work is allowable only subject to the City Engineer's approval. The City Engineer may deem it necessary to complete the work within the 30 days time frame and not allow any time extension. If this occurs, the Contractor shall perform the necessary work as directed by the City Engineer.

# STANWOOD STREET AND UTILITY STANDARDS

- H. A half-street overlay shall be provided for all travel lanes affected by utility installation when the utility is installed in any manner that is not perpendicular to the road centerline. Existing road edges to remain shall be ground down to accept the asphalt overlay and provide an appropriate centerline and road edge.

## **2B.200 Staking**

- A. All surveying and staking shall be performed by an engineering or surveying firm capable of performing such work. The engineer or surveyor directing such work shall be licensed as a Professional Engineer or Professional Land Surveyor by the State of Washington. A pre-construction meeting shall be held with the City prior to commencing staking. All construction staking shall be inspected by the City prior to construction.
- B. The minimum staking of streets shall be as follows: Stake top back of curb every 50 feet in tangent sections and 25 feet in curved sections plus grade breaks, PVCs, PVTs, high point and low points, with cut or fill to finished grade.

## **2B.210 Testing**

Testing shall be required at the developer's or contractor's expense on all materials and construction as specified in the WSDOT/APWA Standards.

At a minimum, one slump test and two test cylinders shall be taken once per day for concrete construction. Asphalt compaction tests are required as follows:

Under 50 square feet = one

50 - 100 square feet = two

100 - 300 square feet = three

Over 300 square feet = one every 200 sq feet or every 100 lineal feet of trench if applicable

## **2C SIDEWALKS, CURBS AND GUTTERS**

### **2C.010 General**

All properties within commercial zones of the City, properties abutting arterial streets or collector streets and properties upon which there are to be buildings open to the public (e.g. stores), shall, in conjunction with new construction on such properties or alterations or improvements which constitute 25 percent or more of the assessed value of the existing structures on the property, have sidewalks constructed along abutting streets. Curbs and gutters must also be constructed along the abutting street when the conditions of drainage require curbs and gutters.

# STANWOOD STREET AND UTILITY STANDARDS

## 2C.020 Design Standards

Plans for the construction of sidewalks, curbs and gutters are to be submitted as part of the street plans when applicable.

The following minimum standards must be met in the design and construction of sidewalks, curbs and gutters. These standards may be modified pursuant to Section 1.055.

## 2C.030 Sidewalks

Sidewalks shall be constructed of commercial concrete four inches thick. When the sidewalk, curb and gutter are contiguous, the width of the sidewalks shall be measured from back of curb and gutter to back of sidewalk. Concrete mix for sidewalks, curb and gutters shall be no less than Class 3000 as outlined in WSDOT/APWA Standards.

A. Arterial Streets. Sidewalks, curbs and gutters shall be required on both sides of all arterial streets interior to the development. Sidewalks, curbs and gutters shall also be required on both sides of streets contiguous to said development, with provisions made for latecomer agreements. Arterial streets for purposes of this subsection shall include major arterials, secondary arterials and collector streets and defined in the SMC.

B. Local Access Streets. Sidewalks shall be required on both sides of local access streets interior to the development and on the development side of local access streets abutting the exterior of said development including cul-de-sacs.

C. The design and construction of all sidewalks, curbs, gutters and walkways shall meet the following minimum standards:

The width of sidewalks shall be as shown in the street design illustrations. Those walkway and bike trails designated in the bike plan of the City as bike paths shall, in addition, meet the minimum width requirements established for said bike paths. The design of all sidewalks shall provide for a gradual rather than an abrupt transition between sidewalks of different widths or alignments.

D. Form and subgrade inspection by the City are required before sidewalk is poured.

E. Monolithic pour of curb, gutter and sidewalk will not be allowed, except in pedestrian curb ramp areas.

## 2C.040 Curb and Gutter

Cement concrete curb and gutter shall be used for all street edges unless otherwise approved by the Public Works Director based on the modification criteria in Section 1.055. All curbs and gutters shall be constructed of Class 3000 Concrete as shown in the Standard Details. No rolled curb will be allowed.

Concrete extruded curb and gutter per WSDOT/APWA Standards is allowed.

Form and subgrade inspection by the City are required before curb and gutter are poured.

# STANWOOD STREET AND UTILITY STANDARDS

## **2C.050 Handicap Ramps**

All sidewalks must be constructed to provide for handicap ramps in accordance with the Federal American Disability Act Requirements.

Handicap ramps shall be constructed of Class 3000 Concrete. Form and subgrade inspection by the City are required before handicap ramp is poured.

## **2C.060 Staking**

All surveying and staking shall be performed by an engineering or surveying firm capable of performing such work. The engineer or surveyor directing such work shall be licensed as a Professional Engineer or Professional Land Surveyor by the State of Washington.

A preconstruction meeting shall be held with the City prior to commencing staking. All construction staking shall be inspected by the City prior to construction.

The minimum staking of curb, gutter and sidewalk shall be as directed by the City Engineer or as follows:

Stake top back of curb every 50 feet in tangent sections and 25 feet in curved sections plus grade breaks, PVCs, PVTs, high point and low points, with cut or fill to finished grade.

## **2C.070 Testing**

Testing shall be required at the developer's or contractor's expense on all materials and construction as specified in the WSDOT/APWA Standards.

At a minimum, one slump test and two test cylinders shall be taken once per day.

In addition, the City shall be notified before each phase of sidewalk, curb and gutter construction commences.

## **2D BIKEWAYS**

### **2D.010 Urban Trail**

Bikeway or Urban Trail construction is required in conjunction with any new development or redevelopment where the estimated cost of improvements on such properties exceeds 25 percent of the value of the existing structures, or plat or short plat approval, when the need for such a bikeway is indicated in the Stanwood Comprehensive Plan and/or the Snohomish County Area Bicycle Plan.

### **2D.020 Design Standards**

The design of bicycle paths shall depend upon their type and usage.

Normally, bikeways are shared with other transportation modes, although they may be provided exclusively for bicycle use. Bikeways are categorized as follows:

# STANWOOD STREET AND UTILITY STANDARDS

- A. Class I Bike Path. A separate trail for use principally by bicyclists, but may be shared with pedestrians. These facilities are separated from motor vehicle roadways.
- B. Class II Bike Lane. A portion of a road that is designated by signs and/or pavement markings for bicycle use. These facilities are usually adjacent to the motor vehicle roadway.
- C. Class III Bike Route. A road that is designated with signs as a bicycle route, where bicycle usage is shared with motor vehicles on the street or, less desirable, with pedestrians on a sidewalk or walkway.
- D. Class IV Shared Roadway. A facility within commercial and high-density urban centers where sidewalk bicycling is not permitted. No special designations or design criteria are directed toward bicycle use. A 14-foot outside travel lane is required when a roadway is designated a shared bikeway.
- E. Class I, II, III, or IV Bikeways, as appropriate, shall be provided when traffic analysis or traffic planning indicates substantial bicycle usage which would benefit from a designated bicycle facility as determined by the City except where noted herein.

## **2D.030 Staking and Testing**

Staking and testing shall be done in accordance with street staking and testing requirements.

## **2E ILLUMINATION**

### **2E.010 General**

All new commercial or residential subdivisions, short plats or property development shall provide street lights for public streets in accordance with the Standards for such improvements of the City and they shall be owned and operated by the City. Illumination is required on frontage streets as well as within developments.

### **2E.020 Design Standards**

A street lighting plan shall be required for all street light installations. Type of installation shall be as set forth in WSDOT/APWA Standards and WSDOT Standard Plans and as directed by the City except where noted herein. Period lighting is required and must be approved by the City.

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. All developments shall submit the lighting plan on a separate sheet. After system is completed and approved, a set of "as built" mylars or reproducibles shall be submitted to the City as a permanent record.

Calculations should include illuminaire spacing; illumination level; uniformity ratio; line losses; power source; and other necessary details for the electrical and physical

# STANWOOD STREET AND UTILITY STANDARDS

installation of the street lighting system. The lighting engineer shall use the WSDOT/APWA Standards and the following table regarding Illumination Levels.

## Illumination Levels

Street Classification	Horizontal Foot Candles	Uniformity Ratio (average to minimum)
Arterials	1.5 FC	3:1
Commercial/Industrial Collectors	1.0 FC	3:1
Residential Collectors	0.7 FC	3:1
Local Access Residential Streets	0.3 FC	None; 300-foot maximum spacing

All street lights shall be on two hundred forty volt (240v), single phase systems. The exact location of the power source should be indicated together with the remaining capacity of that circuit. System continuity and extension should be considered.

Contractor cabinets equipped with electrical meters, time clocks, circuit breakers, and other required components are required on commercial installations of five or more street lights.

All street lighting, wiring and service connectors shall be located underground except in residential areas where power distribution poles exist.

Particular attention shall be given to locating luminaries near intersections, at all street ends and at pedestrian, bicycle, and/or equestrian crossings.

Period lighting shall be required by the Public Works Director consistent with the Comprehensive Plan.

The following General Notes shall be included on any plans dealing with street design in addition to all applicable requirements as set forth in Chapter 1.

### 2E.030 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 Street and Utility Association Standard Specifications for Road, Bridge, and Municipal Construction, National Electrical Code and Street and Utility Construction Standards unless otherwise specified below. In cases of conflict, the most stringent guideline shall apply. When the most stringent guideline is not clear, the City Engineer will make the determination. The Electrical Contractor shall be familiar with all above stated publications and guidelines as they will be strictly enforced by the City.

# STANWOOD STREET AND UTILITY STANDARDS

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 City for approval (See WSDOT/APWA Standards Plans K2-K21). No work shall commence until all approved traffic control is in place.
4. A pre-construction meeting shall be held with the City of Stanwood construction inspectors and the utility provider prior to the start of construction.
5. All approvals and permits required by the City of Stanwood 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. All surveying and staking shall be done by a surveying or engineering firm licensed in the State of Washington.
8. Temporary erosion control/water pollution measures shall be required in accordance with the WSDOT/APWA Standards and the Stormwater Management Manual for Western Washington. At no time will silts and debris be allowed to drain into an existing or newly installed facility.
9. If construction is to take place in the County right-of-way, the contractor shall notify the County and obtain all the required approvals and permits.
10. 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, at 1-800-424-5555, a minimum of 48 hours prior to any excavation. The contractor will also be responsible for maintaining all locate marks on the utilities lines that have been located.
11. Electrical permits and inspections are required for all street lighting installations within the City. The contractor is responsible for obtaining said permits prior to any type of actual construction. These permits are available from the Department of Labor and Industry which is also responsible for inspection.
12. Prior to installation of any materials, the Electrical Contractor shall submit for approval by the City, two copies of material catalog cuts, specifications, shop drawings and/or wiring diagrams. Any materials purchased or labor performed prior to such approval shall be at the contractor's risk.
13. Any modification to approved lighting plans shall be reviewed and approved by the City prior to installation. Any approved modifications shall be shown on a mylar as-built supplied to the City after the lighting installation is completed and before final acceptance. It shall be the

# STANWOOD STREET AND UTILITY STANDARDS

responsibility of the Electrical Contractor to ensure these as-builts are provided to the City.

## **2E.040 Staking**

An engineering or surveying firm capable of performing such work shall perform all surveying and staking. The engineer or surveyor directing such work shall be licensed by the State of Washington.

A preconstruction meeting shall be held with the City prior to commencing staking. All construction staking shall be inspected by the City prior to construction.

The minimum staking of luminaries shall be as follows:

- A. Location and elevation to the center of every pole base.
- B. Location and elevation of each service disconnect.

## **2E.050 Testing**

All illumination systems shall be subject to an electrical inspection which shall include megger testing and functional test. Lamp, photocell and fixture shall be under warranty for a period of one year.

## **2F SIGNALS**

### **2F.010 General**

Signals shall be installed per the requirements set forth herein. This work shall consist of furnishing and installing a complete and functional traffic control system of controllers, signals and appurtenances as required by the City.

### **2F.020 Design Standards**

Signal systems shall be designed in accordance with the specifications as set forth in the WSDOT/APWA Standards and WSDOT Design Manual unless otherwise authorized by the City.

All public signal designs shall be prepared by an engineering firm capable of performing such work. The Engineer shall be licensed by the State of Washington. All applicable requirements shall be set forth in the Standards.

### **2F.030 Induction Loops**

Induction loops shall be constructed per WSDOT/APWA Standards Specifications and the following:

- A. Loops shall not be cut into final lift of new asphalt.
- B. Loops shall be preformed in crushed surfacing top course (CSTC) before paving or shall be cut in existing asphalt or leveling course to subbase before intersection is overlaid.

# STANWOOD STREET AND UTILITY STANDARDS

## 2F.040 Staking

An engineering or surveying firm capable of performing such work shall perform all surveying and staking. The State of Washington shall license the engineer or surveyor directing such work.

A preconstruction meeting shall be held with the City prior to commencing staking. All construction staking shall be inspected by the City prior to construction.

A minimum staking of signals shall be as follows:

- A. Location, with cut or fill to center of all pole bases.
- B. Location of junction box.
- C. Location of all corners of controller base.
- D. Location of service disconnect.

## 2F.050 Testing

All signals shall be subject to any necessary electrical inspections as well as requirements as set forth in the WSDOT/APWA Standards and WSDOT Design Manual.

A signal system shall not be approved or accepted by the City until the signal has performed correctly to the City's satisfaction for a 30-day "check out" period as outlined below.

WSDOT District 1 laboratory and/or the City of Stanwood may require controller and cabinet testing. All specifications and material samples shall be submitted to the City for review and approval prior to installation.

## 2F.060 Check-Out Procedure

The contractor shall call for an intersection check-out after completing the controller cabinet installation along with all other signal equipment, complete with wiring connections. All parts and workmanship shall be warranted for one year from the date of acceptance.

New signals shall operate without any type of failure for a period of 90 days. The contractor shall have a person available to respond to system failure within 24 hours during the 30-day check-out period.

Failure of any control equipment or hardware within the checkout period shall restart the 30-day check-out period.

## 2G ROADSIDE FEATURES

### 2G.010 General

Miscellaneous features included herein shall be developed and constructed to encourage the uniform development and use of roadside features wherever possible.

# STANWOOD STREET AND UTILITY STANDARDS

## 2G.020 Design Standards

The design and placement of roadside features included herein shall adhere to the specific requirements as listed for each feature, and when applicable, to the appropriate standards as set forth in Chapter 1.

## 2G.030 Staking

All surveying and staking shall be performed by an engineering or surveying firm capable of performing such work. The engineer or surveyor directing such work shall be licensed as a Professional Engineer or Professional Land Surveyor by the State of Washington.

A preconstruction meeting shall be held with the City prior to commencing staking. All construction shall be inspected by the City prior to construction.

## 2G.040 Testing

Testing shall be required at the developer's or contractor's expense on all materials and construction as specified in the WSDOT/APWA Standards and with a frequency as specified in the WSDOT Construction Manual.

## 2G.050 Survey Monuments

- A. All existing survey control monuments which will be disturbed or destroyed during construction shall be referenced prior to construction and replaced after construction by a professional land surveyor licensed by the State of Washington. All applicable RCWs and WACs will be complied with. The monuments shall be replaced with the proper type; as outlined in B, or C, below, at the expense of the responsible builder or developer.
- B. Street type: arterial, bus routes and truck routes.  
A pre-cast concrete monument with cast iron monument case and cover, installed per Standards, is required.
- C. Street type: commercial collector, neighborhood collector and local.  
A poured-in-place concrete surface monument, per Standards, is required.
- D. Monument Locations.

Appropriate inner visible monuments as outlined in B or C above shall be placed:

1. At all street intersections.
2. At the PC and PT's of all horizontal curves or at the PI if it lies in the traveled roadway.
3. At all DLC corners, section corners, quarter corners and sixteenth corners that fall within the subdivision. Where these points fall outside of the pavement or sidewalks, a poured-in-place monument per Standards shall

# STANWOOD STREET AND UTILITY STANDARDS

be set so that the top of the monument is one foot below the surface of the ground.

- E. The monument case shall be installed after the final course of surfacing has been placed.

## **2G.060 Bus Shelter and Amenities**

For all new developments, the developer shall coordinate with the City, the Stanwood School District and Community Transit, regarding locations of new bus stops and bus shelters.

## **2G.070 Mailboxes**

- A. 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 US 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 US Postal Service.
- B. Location
  1. The bottom or base of the box shall be 36 to 42 inches above the road surface.
  2. The front of the mailbox shall be 6 inches behind the vertical curb face or the outside edge of shoulder.
  3. New developments. Clustered mailboxes are required. Contact the US Postal Service for details. Mailboxes in the public right of way require an encroachment permit.
- C. Mailboxes shall be set on posts strong enough to give firm support, but not to exceed 4 x 4-inch wood or one 1 ½-inch diameter pipe, or material and design with comparable breakaway characteristics.

## **2G.080 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” as may be amended or revised.

## **2G.090 Retaining Walls**

- A. Walls over four feet high or walls to be constructed in unstable soil conditions require a structural wall designed and stamped by a professional engineer qualified in retaining wall design. Structural walls require issuance of a building permit prior to construction. The City Building Official may require review of the retaining wall design by the City Engineer.

# STANWOOD STREET AND UTILITY STANDARDS

- B. Rock walls may be used for erosion protection of cut or fill embankments up to a maximum height of eight feet in stable soil conditions which will result in no significant foundation settlement or outward thrust upon the walls.
- C. Any rock wall over 30 inches high in a fill section shall require an engineered design by a geotechnical engineer. The geotechnical engineer shall continuously inspect the installation of the wall as it progresses.

## **2G.100 Street Trees**

Street trees shall be planted in accordance with the Stanwood Municipal Code.