2016

ENGINEERING DEVELOPMENT MANUAL

EXCERPTS FOR
SPECIAL USE
PERMIT EXHIBIT

Public Works Department

City of Shoreline

17500 Midvale Avenue North

Shoreline, WA 98133

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Contents highlighted in yellow are included in these excerpts

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2017 COS Std. Plans 300 Series Driveways, Walks, Trails

CHAPTER 4. PERMIT SUBMITTALS

Chapter 4. Permit Submittals

Depending on particular project elements, the City may request submittals in addition to those described. To be considered for continued processing, all applications must be complete. Not all projects are required to submit all of the information listed below. Additional information is available on permits and development on the City's website: http://www.shorelinewa.gov/government/departments/planning-community-development/permit-and-development-information/development-handouts.

4.1. Design Professionals

Engineering State law requires that certain work be performed by or under the direction of a professional licensed to practice in Washington State including engineering and land surveying.

Right-of-way. Nearly all right-of-way design, except simple activities such as installation of a driveway apron, requires design by a Washington State licensed civil engineer.

Stormwater. Design of treatment facilities, flow control facilities (detention ponds or infiltration basins), structural source control BMPs, or drainage conveyance systems shall be prepared by or under the direction of a licensed engineer. Construction Stormwater Pollution Prevention Plans (SWPPPs) that involve engineering calculations must also be prepared by or under the direction of a licensed engineer.

Surveyor. Activities requiring a surveyor include:

Nearly all right-of-way work. The survey work includes setting right-of-way lines, locating conveyance systems and setting elevations, locating curbs and setting curb elevations, locating drainage improvements and recording elevations, and providing as-constructed information on record drawings.

Construction of treatment facilities or flow control facilities (detention ponds or infiltration basins), structural source control Best Management Practices (BMPs), or drainage conveyance systems to set locations and elevations.

Cuts on slopes steeper than 15 percent require a professional surveyor to set the slope stakes to confirm top and toe of cuts.

Survey marks such as property corners, right-of-way lines, subgrade elevations, and slope stakes.

Placement, protection, and replacement of survey monuments.

When no profile has been established for the streets abutting and leading to a development site, the City may require a survey of the street area by a licensed surveyor for the purpose of establishing the proposed centerline profile and the transition between the right-of-way and on-site.

Flood Zone Elevation Certificates require surveyed finished floor elevations to confirm that structures meet the elevations set by the City.

Record drawings with as-constructed (surveyed) information must be provided for private infrastructure that connects to the City's infrastructure, for public facilities, and for right-of-way work.

4.2. Plans and Specifications

The plans must clearly indicate the location, nature, and extent of the proposed work and must provide sufficient detail to show that all provisions of the standards and codes are met. Specifications must accompany the plans whenever the plans and notes do not adequately describe the proposed work and materials.

4.3. Survey

Survey Reference.

Horizontal Datum: All survey work, including but not limited to mapping, platting, planning, design, right-of-way surveys, and construction surveys, shall be in the Washington State Plane Coordinate System, North Zone, using NAD 83(1991) datum.

The plans shall show the horizontal control used to establish ties to the datum, with type, size and location, date visited, and the State Plane coordinates for each monument used.

Vertical Datum: All survey work, including but not limited to mapping, platting, planning, design, right-of-way surveys, and construction surveys, shall be in the North America Vertical Datum of 1998 (NAVD 1988).

The plans shall show the benchmarks used to establish ties to the datum, with reference number, description, location and elevation of each benchmark used, and any project site benchmarks.

For Flood Elevation certificates, a conversion from 1988 NAVD to 1929 NAVD may be provided.

All real properties, including parcels, rights-of-way, and easements must be located or staked on the ground, starting from a monument.

Legal descriptions of the horizontal and vertical locations require the location of a monument as their beginning point of reference.

Refer to Appendix B – Survey Criteria.

4.4. Site Assessment

A site assessment for drainage design is required for medium impact and large impact projects. Refer to Division 3 – Surface Water and the Department of Ecology's Stormwater Management Manual for Western Washington (the Stormwater Manual) for more information.

4.5. Surface Water Report

The scope of drainage review varies with the project complexity and potential surface water impacts. A drainage report may be required. Refer to Division 3 – Surface Water and Appendix C – Surface Water Report Guidelines for design and report requirements.

4.6. Geotechnical Report

A geotechnical report helps determine if the proposal for a site is appropriate. In addition to geotechnical reports required to support building designs a geotechnical report is required for: 1) land fill or excavation over 500 cubic yards, 2) work on sites containing or adjacent to slopes that are 15 percent or steeper and 3) for some storm drainage design. Refer to SMC Chapter 20.80 for critical area information.

Refer to Appendix D – Geotechnical Report Guidelines for the approved report format.

For site development on a site with no steep slopes, erosion hazards, or critical areas, a report previously prepared for that site may be accepted if:

The report is less than five years old and no significant changes have occurred.

The geotechnical engineer/engineering geologist who signed the report provides a letter stating the report is still applicable to the site and currently proposed project.

4.7. Transportation Impact Analysis

A transportation impact analysis is required for each development or redevelopment that would generate 20 or more trips during the PM peak hour (SMC Chapter 20.60) per the most recent edition of the Trip Generation Manual, published by the Institute of Traffic Engineers (ITE).

Refer to Chapter 8, Transportation Impact Analysis and Appendix E – Transportation Impact Analysis Report Guidelines for guidance.

4.8. Traffic Control Plan

Prior to beginning any activity which might affect City right-of-way, the Applicant shall provide the City, for review and approval as part of a right-of-way use permit, a traffic control plan that meets Manual of Uniform Traffic Control Devices (MUTCD) standards.

The traffic control plan must accurately reflect existing right-of-way conditions including accesses, channelization, sidewalks, bike/pedestrian paths, bus stops, hydrants, trees, poles, and pavement edge. The traffic control plan must allow for continued emergency services. For pedestrian and business disruption, the plan shall contain adequate connections and clear signage.

4.9. Declaration of Covenant

The City requires a Declaration of Covenant for all permanent surface water Best Management Practices on all projects, both private and public. The City will supply the Covenant paperwork for completion. Final signature and recording with the King County Recorder's Office will be done by the Applicant. After recording, the applicant shall return a copy to the City.

4.10. Easements

Easements must be provided when facilities on private property will be used by more than one lot or will benefit the public (SMC Chapter 20.70 Easements and Tracts).

Utilities: Each utility (water, sewer, power, etc.) determines the minimum width for an easement. Refer to Division 3 – Surface Water for more information on drainage easements.

Pedestrian/Bicycle: For traffic safety or access to schools, playgrounds, urban trails, shopping facilities, or other community facilities, bikeways or walkways must be a minimum of five feet wide. Additional width may be required.

Nonmotorized: Nonmotorized easements facilitate pedestrian circulation between neighborhoods, schools, shopping centers, and other activity centers. A nonmotorized easement shall be wide enough to include the trail plus at least two feet on each side.

Roadway: Either the street's functional classification or its particular design features may necessitate slope, sight distance, wall, or drainage easements beyond the right-of-way line. Such easements may be required in conjunction with dedication or acquisition of right-of-way pursuant to SMC Chapter 20.70.

4.11. Tracts

Tracts should be used for facilities used by a broader group of individuals than easements, may have some degree of access by the public, and typically require regular maintenance activities. Examples of facilities that may be located in tracts include private streets or drainage facilities serving more than one lot. Tracts are not subject to minimum lot size standards for the zone, although they must be large enough to accommodate the facilities and activities located within them.

A publicly maintained stormwater facility shall be located in the roadway right-of-way or in a tract dedicated to the City. At a minimum, the tract shall include the entire facility, site access area, and at least five feet around the facility. In limited cases, an easement may be permitted. If an easement is permitted, dimensions shall be determined by the City.

4.12. Dedication

Dedication shall occur at the time of recording for subdivision, or prior to permit issuance for construction projects.

The City may require right-of-way dedication to incorporate necessary transportation improvements. Refer to SMC Chapter 20.70 for more information.

The Public Works Director may grant some reduction in the minimum right-of-way requirement where it can be demonstrated that sufficient area has been provided for all frontage improvements, including utilities, within the right-of-way.

Dedications may be required in the following situations:

Accommodation of motorized and nonmotorized transportation, landscaping, utility, street lighting, and traffic control devices, and buffer requirements;

The development project abuts an existing substandard public street and the additional right-of-way is necessary to incorporate future frontage improvements for public safety;

Right-of-way is needed for the extension of existing public street improvements necessary for public safety.

Right-of-way is needed in order to incorporate improvements that are reasonably necessary to mitigate the direct impacts of development.

4.13. Dewatering Plan

Dewatering is defined as the removal and appropriate discharge and release of surface water and subsurface water. Temporary dewatering that occurs during construction must have a Temporary Dewatering Plan reviewed and approved by the City before dewatering begins.

4.14. Maintenance Plan

For commonly-owned improvements on private property, such as access, utilities, or surface water improvements, the Permittee prepares and submits an Operations and Maintenance Plan for City review before recording the plan with King County Recorder's Office. The maintenance plan must spell out agreements between the joint owners regarding maintenance responsibility and maintenance costs.

4.15. Financial Guarantee

The City determines the performance and maintenance financial guarantee amounts. The performance guarantee must be submitted before permit issuance. The maintenance guarantee must be provided before final approval.

Performance.

The City requires a performance guarantee to cover the construction costs of proposed right-of-way improvements.

A performance guarantee may be required for proposed on-site improvements such as landscaping, tree replacement, critical area restoration, storm water facilities installation, and for erosion prevention and sediment control on projects which clear more than 7,000 square feet, or contain or abut critical areas such as steep slopes, wetlands, or streams.

Performance financial guarantees remain in full force and effect until:

The obligations secured are fully performed as determined by the City's inspection program;

A guarantee for maintenance and operation of all improvements for a guarantee period have been submitted to the City; and

The City has released the guarantee in writing.

The guarantee may be released in increments as improvements are completed and have satisfactorily met all inspection requirements of the City.

Maintenance.

A maintenance guarantee will be required to guarantee maintenance and operation of right-of-way improvements for a period of at least two years.

A maintenance guarantee may be required to guarantee maintenance and operation of on-site improvements for a period of at least two years.

For low impact development or for innovative technologies, the maintenance financial guarantee term may be up to three years.

For tree replacement, a maintenance guarantee is required for three years.

For critical area restoration, a maintenance guarantee is required for five years.

4.16. Insurance

As a condition of the City permitting work within the public right-of-way, it is required that a certificate of liability insurance is provided indicating that the permittee and /or contractor are covered by a Commercial General Liability insurance policy.

Additionally, when the City determines that the nature of any work on public or private property is such that it may create a hazard to human life, endanger adjoining property, street, street improvement, or any other public property; the City may require the Permittee to provide a Certificate of Liability Insurance. In this case the City shall determine the amount of insurance based on the nature of the risks involved.

The minimum Commercial General Liability insurance limits are to be no less than $1,000,000 each occurrence, $2,000,000 general aggregate and $2,000,000 products completed operation aggregate limits.

The required liability insurance must be maintained for the duration of construction activities.

The City must be named as an insured under the Commercial General Liability insurance policy using ISO Additional Insured-State or Political Subdivisions-Permits CG 20 12 or a substitute that provides and equivalent endorsement.

CHAPTER 7. GENERAL REQUIREMENTS

Chapter 7. General Requirements

This chapter provides general requirements related to transportation improvements.

7.1. Americans with Disabilities Act

All designs shall meet the current Americans with Disabilities Act (ADA) requirements and standards. In the event field conditions prohibit meeting the ADA requirements, the Engineer must submit documentation that the design meets ADA to the maximum extent feasible. The City standard for ADA requirements is the 2011 PROWAG.

7.2. Low Impact Development

Requirements for low impact development apply to both onsite improvements and improvements in the right-of-way. Refer to the Stormwater Manual as adopted and amended in Chapter 19 to ensure work meets the requirements in this manual.

LID techniques within the right-of-way are at the approval of the Director or designee.

7.3. Maintenance

The City of Shoreline maintains and repairs all of its public streets and sidewalks. SMC Chapter 12 defines the responsibility for maintenance of right-of-way as defined in Table 6, Right-of-way Maintenance Responsibilities. According to SMC Chapter 12, "it shall be the responsibility of the owner of the property abutting upon a public sidewalk to maintain the sidewalk at all times in safe condition, free of any and all obstructions or defects, including but not limited to, ice and snow." The City is responsible for vegetation removal in the right-of-way during emergencies, in order to remove hazards and protect public safety.

Table 6. Right-of-Way-Maintenance Responsibilities

Street Classification	Landscaping	Sidewalk (clear/clean)	Sidewalk (repair)	Trees	Driveway Approach
Principal, Minor, or Collector Arterial Streets	City	Abutting property owner	City	City	Abutting property owner
Local Primary Street	City	Abutting property owner	City	City	Abutting property owner

Local Secondary "Green" Street	Abutting property owner	Abutting property owner	City	City	Abutting property owner

7.4. Tree Removal/Pruning

Tree removal and pruning in the right-of-way is regulated by SMC 12.30.040 and SMC 20.50.360.

7.5. Connectivity

In order to provide connectivity, street layouts shall continue streets in adjoining developments(s) or their anticipated locations where adjoining property is not yet developed.

7.6. Underground Utilities

The following applies to the connection from the distribution lines in the right-of-way to the property it serves (service connection);

If the existing service connections in an area are underground, new service connections must be underground.

Existing overhead facilities, including utility poles will be allowed to remain above ground until one of the following events;

1. The city council designates for undergrounding a capital improvement or public works project;
2. An entity instigates a joint trenching project that could reasonably serve to replace existing overhead facilities;

7.7. Frontage Improvements

Standard frontage improvements consist of right-of-way dedication, curb, gutter, sidewalk, amenity zone and landscaping, drainage improvements, and pavement overlay up to one-half of each right-of-way abutting a property as defined in the Master Street Plan. Additional improvements may be required to ensure safe movement of traffic, pedestrians, bicycles, transit, and nonmotorized vehicles. The improvements can include transit bus shelters, bus pullouts, utility undergrounding, street lighting, signage, and channelization.

When a development proposal triggers frontage improvements, existing frontage improvements shall be upgraded to current standards.

Acknowledging that the City is a built environment, design and installation of new or replaced frontage improvements may be adjusted during design or installation, with approval from the Director, to meet the existing conditions. Approval may require a formal deviation, as determined by the Director.

The Master Street Plan (Appendix F) defines street widths, curb locations, sidewalk widths and other right-of-way requirements for all streets.

The frontage improvements run the full length of the property line/right-of-way line. Transitions to existing conditions occur outside the development frontage.

An amenity zone is required, except where an alternate street design has been approved, or where protection of critical areas requires special consideration.

Required frontage improvements must be installed, inspected and approved by the City prior to final approval of the related building/site development permits and before a Certificate of Occupancy is issued or a permit receives final approval.

7.8. Dedication of Right-of-Way

Dedication shall occur at the time of recording for subdivisions, or prior to permit issuance for construction projects.

The City may require right-of-way dedication to incorporate necessary transportation and frontage improvements. Refer to SMC Chapter 20.70 for more information.

7.9. Illumination

Seattle City Light (SCL) maintains and establishes service connections for street lighting within the City of Shoreline. When new street lighting is required, the Developer works with the Public Works Department and SCL regarding design and installation. The Developer pays the costs associated with the design and installation of the light. These costs may include new electrical service and/or a new pole.

Where a half-street improvement is required in conjunction with a development, the roadway width to be used for illumination design purposes will be the actual width of the roadway at the time of design and not half of the ultimate width. All existing luminaires shall be evaluated for upgrades to present standards. Lighting standards must be approved by Seattle City Light, consistent with Seattle City Lights' Stock Catalog.

All new and retrofitted lighting systems shall be Light Emitting Diode (LED).

All lighting shall conform to NEIS standards. Street lighting system designs shall be stamped by a licensed engineer experienced with lighting design and shall include the following: luminary spacing, illumination level, uniformity ratio, line losses, power source, the electrical and physical layout, installation details, plans and specifications. All designs must be approved by the City Engineer.

For City-owned illumination systems, lighting level requirements for roadways are defined in Appendix J. Other criteria are as follows:

Intersections shall have a minimum light level equal to 1.5 times the average light level requirement of the intersecting street with the highest classification. Intersection uniformity shall be less than or equal to the uniformity of the intersecting street with the highest classification.

All marked crossings shall be illuminated with at least one luminaire oriented parallel to the crossing. Average maintained light levels within pedestrian facilities shall be as follows:

Table 7. Pedestrian Facility Light Levels

Pedestrian Facility Type	Minimum Maintained Avg. (fc)	Uniformity Ratio (Avg/Min)
Marked intersection or mid-block crossing	1.0	3:1
Unmarked crosswalk at intersection	Same as adjacent intersection	
Sidewalk:		
Residential	1.0	4:1
Commercial	.4	4:1

As-constructed street lighting plans for City-owned systems shall be provided to the City on CD-ROM in CAD or Portable Document Format (PDF) and on 22-inch by 34-inch mylars prior to final occupancy or final plat approval.

Street lighting systems shall be designed to be accessible by a wheeled vehicle weighing 30,000 lbs.

Contractor cabinets equipped with electrical meters, time clocks, circuit breakers, and other required components are required on arterial installations of five or more street lights or as required by the Public Works Director.

The exact location of the power source shall be indicated together with the remaining capacity of that circuit. System continuity and extension shall be provided.

Street lighting is encouraged but not required along private streets. Street lighting systems for private streets shall be designed and constructed on a separate power source from the public street lighting system. All street light maintenance, installation, and power costs for private street systems shall be paid by the property owner, homeowner, or homeowners' association.

7.10. Curbing

Curb and gutter shall be Type A on all street classifications; however, 24-inch wide vertical curb may be used for uniformity or replacement.

Rolled curb is not allowed, unless it replaces or matches existing, and it is approved by the Director.

Extruded curb is not allowed in public right-of-way, unless it is temporary and it is approved by the Director.

7.11. Pavement Cut Moratorium

The following applies to a utility doing work such as system repair or expansion within the right-of-way. This moratorium does not apply to utility service installation required for new development or redevelopment.

Any street that has been constructed, reconstructed, resurfaced, overlaid or paved within the past five years cannot be cut for five years unless:
A deviation to the engineering standards and to SMC Chapter 12.15 is approved; or
It is allowed through a valid franchise agreement.

Emergency situations are exempt from the five-year moratorium. A right-of-way permit shall be applied for within one working day following the emergency.

CHAPTER 10. ACCESS MANAGEMENT

Chapter 10. Access Management

Access management recognizes the need to balance the need for access to private properties with the need to maintain safety, capacity and level of service on the streets that provide access. Landowners abutting City rights of way have a right to access, but the particular means of access shall be reviewed and approved by the City.

Safety and the existing and future function of each street are the foremost factors in determining the number, location, and design of street accesses. Roadway design elements such as auxiliary lanes, medians, channelization and safe stopping and turning sight distances are also factors in access management, as are the elements of land development such as internal site circulation and parking layout. Access management is implemented via the Right of Way Use and Site Development permitting processes.

10.1. General

A. l Authority:

1. City of Shoreline Rights of Way: The Director approves the design, number, and location of access points to City of Shoreline rights of way. When changes in land use result in changes ot the type and operation of access, the access location and design will be reviewed with the development plans and shall be construction or modified to meet current standards

2. State Highways: Access to State highways is regulated by the Washington State Department of Transportation (WSDOT) pursuant to 47.50 RCW and 468-51 and 468-52 WAC. Two classifications of State highway exist within Shoreline *Limited Access* and *Managed Access*. Interstate 5 is the only Limited Access Highway within the City of Shoreline. SR 99 (Aurora Avenue N), SR 522 (Bothell Way NE), SR 523 (N/NE 145th Street) and SR 104 (Ballinger Way NE) are Managed access highways within or adjacent to the City of Shoreline. For information on access permitting through WSDOT, please visit the WSDOT Access Management website: http://www.wsdot.wa.gov/Northwest/DevelopmentServices/AccessServices.htm

3. Construction or improvement of an access, approach or driveway, or construction of any classification of street, that will intersect a State highway, shall be designed in accordance with this Engineering Development Manual and WSDOT requirements. Where applicable state or federal standards exceed the requirements of this manual, state or federal standards shall govern.

B. Consolidation of Access. In the interest of safety and efficient traffic operations access to individual and contiguous parcels should be consolidated to the extent practicable. Access will be reviewed and approved to minimize conflicts between vehicles, pedestrian and bicycle traffic, and traffic entering and exiting adjacent driveways.

C. Required Access. All new development shall be served by adequate vehicular access as follows:

1. Every lot upon which one or more building(s) is proposed to be erected, or where a traffic generating use is proposed, shall establish direct access from the street right-of-way, access easement or fire lane, as needed to provide public services such as fire protection, emergency medical service, mail delivery or trash collection.

2. The circulation system of the proposed development shall intersect with existing and planned streets abutting the site at approved locations

3. The circulation system within the proposed development shall provide direct connections to adjacent developments (inter-parcel) where appropriate and/or required; and,

D. Backing into the Right-of-Way. Driveways, parking, or loading areas that require backing maneuvers in a public street shall be approved only for single-family or duplex residential uses abutting a Local Secondary street.

E. Maintenance. Maintenance of driveway approaches shall be the responsibility of the owner whose property they serve.

F. Restriction of Turning Movements. Conflict reduction measures have been provided or may be required to safely manage turning traffic to and from the development site. Median design and driveway channelization are appropriate to reduce conflicts. Traffic control devices

controlling traffic from private property shall be installed and by the property owner at no cost to the City.

G. Abandoned Access. All abandoned accesses on the same frontage shall be removed within 30 days after abandonment and the curbing, sidewalk and amenity zone, or shoulder and ditch section shall be restored to meet current standards.

H. Temporary Access. The City Engineer may grant temporary access to accommodate phased development of a site in accordance with an approved phasing plan. Temporary access shall be removed, relocated, redesigned, or reconstructed after permanent, approved access is constructed.

10.2. Access Provision

A. Consolidate accesses to adjacent or contiguous parcels to the extent practicable. Each parcel shall have access to a public right-of-way by:

1. Direct access to a right-of-way; or,
2. By a recorded easement providing shared access; or,
3. By a recorded tract providing shared access.

B. No more than one access shall be provided to an individual parcel, or to contiguous parcels under the same ownership, or to parcels that are included in the same subdivision or project, unless approved by the City Engineer. Additional access may be granted to contiguous parcels if the meet minimum spacing requirements or if a Traffic Engineering Study acceptable to the City Engineer demonstrates that the additional access will not adversely affect safe operation of the street.

C. Minimum Spacing: The minimum distance between access connections is 50 feet on the same side of the street.

D. Multiple Frontages: Access for projects with multiple frontage will be off the lower classified road except as required by code. Additional access will be allowed provided spacing requirements are met.

E. Circular Driveway: Circular driveways shall meet all of the following criteria:

1. The property frontage must be at least 100 feet.

2. The accesses are onto a Local Secondary street. Circular driveway access shall not be permitted onto Arterial Streets.
3. Safe stopping sight distance is available for both driveways, as demonstrated by a sight distance analysis prepared by a professional engineer licensed in Washington State and acceptable to the City's Traffic Engineer.
4. Circular driveways serving residential parcels shall be separated by a minimum of 40 feet between their closest points. Circular driveways serving commercial or multi-family parcels shall be separated by a minimum of 30 feet.
5. Driveways shall be no closer than 10 feet to the side property line, measured from the point at which the prolongation of the driveway edge intersects the right-of-way line.
6. Driveways shall not exceed 20 feet in width for residential parcels and shall not exceed 30 feet in width for commercial or multi-family parcels.

F. Transition Areas: Properties deemed to be within a Transition Area shall follow requirements in the SMC 20.50.021.C: All vehicular access to proposed development in commercial zones shall be from arterial classified streets, unless determined by the City Engineer to be technically infeasible or in conflict with state law addressing access to state highways.

G. Traffic Impact Analysis: All developments in commercial zones shall conduct a transportation impact analysis per the Engineering Development Manual. Developments that create additional traffic that is projected to use local streets may be required to install appropriate traffic-calming measures. These additional measures will be identified and approved by the City Traffic Engineer.

CHAPTER 12. STREET DESIGN

Chapter 12. Street Design

This chapter sets the minimum standards for the geometric street section.

12.1. Reconstruction

Reconstructed roadways shall be brought up to current standards.

Transitions or tapers necessary to connect with existing roadway of a different width shall meet AASHTO and MUTCD standards.

12.2. Widths

Maximum widths for specific streets are provided in Appendix F – Street Matrix.

Typical Lane widths are defined in Table 9.

Table 10. Typical Lane Widths

LANE TYPE	WIDTH (ft)
Turning Lane	12
Parking	8
Parking: Bus or Truck Route	10
Inside (Through)	11
Outside (Curb)	12
Bus Only	12
Turn Only	12
Bicycle	5
Bicycle/Vehicle	14

Source: Traffic Management Plan, 2011

12.3. Vertical Alignment

Curve length and stopping sight distance shall be designed to ensure proper drainage, clear sight distance, and safety for vehicles and pedestrians.

Maximum profile grade may be exceeded for 300 feet or less, upon showing that no practical alternative exists. Exceptions exceeding 15 percent will require approval by the Fire Marshall.

Grade transitions shall be constructed as smooth vertical curves except in intersections where the difference in grade is one percent or less, and upon approval of the Director.

Table 11. Maximum Profile Grade

Maximum Profile Grade				
Local Secondary	*Local Primary*	*Arterial – Collector*	*Arterial – Minor*	*Arterial – Principal*
15%	*10%*	*10%*	*10%*	*9%*

12.4. Vertical Curve Criteria

The minimum vertical curve for roadways is 75 feet.

The point of vertical curvature shall not encroach into a cross street any further than the center of pavement of the cross street.

Cross Slope: The typical cross slope is two percent crown to provide for adequate drainage to the pavement edge. The maximum cross slope on the tangent sections shall not exceed 4 percent. The minimum cross slope shall be 1 percent.

Stopping Sight Distance (SSD): SSD applies as shown on Table 11 Vertical Curve – Minimum Stopping Sight Distance.

SSD is based on an eye height of 3.5 feet and the height of an object at 0.5 feet.

For downgrades exceeding 3 percent, the SSD shall be increased by the values shown in Table 11.

The Director may approve sag vertical curves on local access streets with stopping sight distance less than that in Table 11, if no practical design exists and if acceptable road lighting is provided throughout the curve.

Table 12. Vertical Curve – Minimum Stopping Sight Distance

Design Speed	*Flat*		*Downgrade*	
	0%	*3%*	*6%*	*9%*
25	*165*	*165*	*175*	*185*
30	*200*	*210*	*220*	*230*
35	*250*	*265*	*280*	*305*
40	*325*	*345*	*365*	*400*
45	*400*	*425*	*455*	*505*

12.5. Horizontal Curve Criteria

Superelevation is not required in the design of horizontal curves of local streets, but may be needed to meet terrain and right-of-way conditions.

Calculate superelevation according to AASHTO “Low Speed Urban Streets” design methodology.

See Table 12. Horizontal Curve Design.

Table 13. Horizontal Curve Design

Min. Design Speed (mph)	*20[1] Grades >10%*	*25[1]*	*30[1]*	*35*	*40*
Center line Radius[2] Minimum (ft)	*100*	*150*	*300*	*470*	*See note[3]*
Horizontal Sight Distance Minimum ft)	*150*	*200*	*200*	*250*	*325*
Min. Reverse Curve Tangent – Minimum (ft)	*0*	*0*	*0*	*200*	*200*
Approach Tangent at Intersections[3, 4] Minimum (ft)	*50*	*75*	*100*	*200*	*300*
Tangent between Curves Minimum (ft)		*50*	*50*		
Minimum Run-Off Length (ft)		*80*	*90*	*100*	*115*
Superelevation		*Not Required AASHTO Low Speed Urban Streets Design manual.*	*Not Required AASHTO Low Speed Urban Streets Design manual.*	*8% Maximum Calculate run-off lengths: AASHTO Low Speed Urban Streets Design Manual*	
6% Superelevation Horizontal Curvature Radius (ft)		*185*	*275*	*380*	*510*
8% Superelevation, Horizontal Curvature for Radius (ft)		*170*	*250*	*350*	*465*

Source: "Low Speed Urban Streets", AASHTO

1 Use these criteria without superelevation

2 Radii based on crown section with 2% slope on each side of crown

3 Where superelevation is used, calculate runoff lengths according the WSDOT Design Manual.

4 Where a curved road approaches an intersection, these tangent sections must be provided on the approach to the intersection to provide for adequate sight distance for traffic control devices at the intersection. The distance shall be measured from the flow line of the through street. Where superelevation is used, calculate runoff lengths according the WSDOT Design Manual intersection. The distance shall be measured from the flow line of the through street. Where superelevation is used, calculate runoff lengths according the WSDOT Design Manual.

12.6. Street End

Streets end in a cul-de-sac, an eyebrow, or a hammerhead – See Standard Plan 209 Street Ends.

Turnaround facilities shall be provided at street ends where the street length from the nearest intersection is more than 150 feet measured from the centerline of intersecting street to end of dead-end street pavement, and shall be constructed as follows:

1. Minimum right-of-way diameter across bulb section: 100 feet in a permanent cul-de-sac; 84 feet in a temporary cul-de-sac, with bulb area lying outside straight-street right-of-way provided as temporary easement pending forward extension of the street
2. Right-of-way may be reduced, provided that utilities and necessary drainage are accommodated on permanent easements within the development.
3. Minimum diameter of surfacing across bulb: 90 feet of paving in curb type road.
4. Cul-de-sac Island: Optional feature for any cul-de-sac. If provided, island shall have full-depth vertical curb. Minimum diameter shall be 20 feet and there shall be at least 30 feet of paved traveled way in a curb type section around the circumference. Island shall be landscaped. The adjoining lot owners shall maintain island through a maintenance agreement.
5. Sidewalks shall be constructed on both sides of the stem and on the bulb

A dead-end local street shall not be longer than 600 feet, measured from centerline of intersecting street to center of cul-de-sac. The maximum length may be extended to 1,000 feet if 50 or fewer potential lots are to be served and there is provision for emergency vehicle turnaround near mid-length

The Director may require an off-street walk or an emergency vehicle access to connect a cul-de-sac at its terminus with other streets, parks, schools, bus stops, or other pedestrian traffic generators, if the need exists. Off-street sidewalks shall be contained in the right-of-way or a sidewalk easement.

If a street temporarily terminated at a property boundary during development serves more than three lots or is longer than 150 feet, a temporary bulb shall be constructed near the plat boundary. The paved bulb shall be 90 feet in diameter with sidewalks terminated at the point where the bulb radius begins. Removal of the temporary cul-de-sac, restoration and

extension of the sidewalk shall be the responsibility of the developer who extends the road.

The maximum cross grade of a street at the street end shall be 8 percent F. Partial bulbs or eyebrows shall have a minimum paved radius and an island configuration. Island shall be offset two feet from edge of traveled way.

A hammerhead per Standard Plan 209 Street Ends may be used to fulfill the requirement to provide a turnaround facility where the street serves (or will serve) four or fewer single-family residential units.

12.7. Utility Locations

Utility structures should be located in the amenity zone, at the back of sidewalk without encroaching onto private property, in the gutter line, or within the roadway as specified below.

New utility structures are not allowed in sidewalks, driveways, driveway approaches, or curb ramps.

Underground systems shall be located at least five feet away from road centerline and where they will not otherwise disturb existing survey monuments.

Table 14. Underground Utility Locations

Utility	*Location From Centerline*	*Cover*	*Notes*
Water Main[1]	*Five to ten feet north and east*	*Minimum 24-inch cover from finished grade, ditch bottom or natural ground.*	
Water Service	*N/A*	*Minimum 24-inch cover from finished grade, ditch bottom or natural ground.*	*For any one connection, not extend more than 60 feet along or through the right-of-way, or the minimum width of the existing right-of-way. Stub out perpendicular*

Utility	*Location From Centerline*	*Cover*	*Notes*
			to water main preferred
Water Meter Box	*In the right-of-way, at right-of-way line/property line in the one-foot setback between the back of sidewalk and right-of-way line. Not to be located within a driveway.*		
Sanitary Main[1, 2]	*Five feet south and west*	*Minimum 96-inch cover from finished grade, ditch bottom or natural ground.*	*Stub out perpendicular to water main preferred*
Force Main Side Sewer	*Within 10 degrees of perpendicular-to-road centerline, and extend to right-of-way line.*	*Minimum 36-inch cover from finished grade, ditch bottom or natural ground,*	*If nonmetallic, install wire or other acceptable proximity detection features; or place in a cast iron or other acceptable metal casing.*
Gas Main	*Five to ten feet south and west*	*Minimum 24-inch cover*	
Power, telephone, fiber-optic cable, cable TV	*Either side*	*Minimum 36-inch cover*	

1 Sanitary sewer and water lines shall be separated by a minimum of 10 feet in accordance with good engineering practice such as the Criteria for Sewage Work Design, Washington Department of Ecology, and latest edition.

2 Gravity systems, whether sanitary or storm drainage, shall have precedence over other systems in planning and installation except where a non-gravity system has already been installed under previous approved permit and subject to applicable provisions of such permits or franchises.

Electric utilities, power, telephone, fiber-optic cable, cable TV:

Utility poles or other appurtenances shall be located as far from the traveled way or auxiliary lane as conditions allow. No pole or appurtenance shall be located so that it poses a hazard to the general public. Utilities shall place and replace poles with primary consideration given to public safety.

Locations of poles shall be compatible with driveways, intersections, and other road features. A pole shall not interfere with sight distances, road signing, traffic signals, culverts, trees, etc.

Utility poles or other appurtenances shall be located back of ditches, unless an alternate location is approved.

Utility poles should not be placed in sidewalks, curb ramps or landing areas. Utility poles should not impede ADA access in any way.

On roadways having vertical curb, poles and obstacles shall be placed clear of sidewalks.

On arterials, poles and obstructions should be placed at least eight and one-half feet from face of curb.

On non-arterial streets, poles and obstructions should be placed at least five and one-half feet from curb face.

Deviations from the pole and obstacle clearance criteria may be requested by utilities when there are no other viable alternatives and must identify adequate protection for motorized and non-motorized users.

12.8. Private Streets

Private street design and installation must meet ADA requirements.

See section 12.9 Dead End Street, and Standard Plan 209 Street End.

An access approach shall connect the private street to the public right-of-way.

The private street must be paved at least 20 feet onto the property.

Pedestrian access at least five feet wide shall be provided on at least one side of the private street. The pedestrian access should be separated by a curb or other acceptable delineation. Parking is not permitted in the pedestrian access. Street lighting systems for private streets shall be designed and constructed on a separate power source from the public street systems and shall be the responsibility of the property owner, homeowner, or homeowner's association.

See Table 14 Private Street Dimensions

Table 15. Private Street Dimensions

Number of single-family lots	*Tract or Easement Width (ft)*	*Pavement/Traveled Way Width (ft)*	*Length (ft)*
4 or fewer	*20*	*20*	*150**
More than 4	*24*	*24*	*150**

* The dimensions may be adjusted by the Fire Department without a deviation.

12.9. Dead End Street

A dead end local street shall not be longer than 600 feet, measured from the centerline of intersecting street to center of cul-de-sac. The maximum length may be extended to 1,000 feet if 50 or fewer potential lots are to be served and there is a provision for emergency vehicle turnaround near mid-length.

Pedestrian access may be required to connect a cul-de-sac to adjacent streets, parks, schools, or other pedestrian facilities. The pedestrian access should be in right-of-way or if approved, may be placed in a sidewalk easement. A turnaround facility shall be provided for a public or private dead end street where the street length is more than 150 feet, measured from the centerline of the intersecting street to the end of the dead-end street pavement.

A dead end street required a cul-de-sac as a turnaround. Cul-de-sacs shall meet the following requirements;

The minimum right-of-way diameter across bulb section is 100 feet for a permanent cul-de-sac or 84 feet for a temporary cul-de-sac.

The minimum diameter of surfacing across the bulb is 90 feet of paving.

CHAPTER 13. INTERSECTION DESIGN

Chapter 13. Intersection Design

The design criteria in this chapter apply to street intersections. Intersections include driveway access as well as an approach to a street.

As much as possible, intersection design shall conform to the guidelines set forth in AASHTO *Policy on Geometric Design*, the ITE *Urban Street Geometric Design Handbook*, and the MUTCD. For state highways, refer to WSDOT design manual(s).

13.1. Alignment

The angle of an intersection of two streets shall be 85° to 95°.

The extension of the centerline of each leg of an intersection shall not be offset by more than two feet into the oncoming lane.

13.2. Spacing

The minimum distance between adjacent parallel private or local streets shall be 150 feet, measured from nearest curb edge to nearest curb edge. For all other intersections, the spacing shall be determined during preliminary design.

13.3. Design Vehicles

Intersections shall be designed to accommodate the design vehicle appropriate for the highest classified street forming the intersection.

The intersection design shall accommodate the use of the roadway as a designated truck route, bus route, or school bus route.

The minimum design vehicle is the SU-30, although use of larger design vehicles may be required depending on roadway classification, transit routes, and adjacent land use.

All elements of the intersection shall be designed so the design vehicle will not encroach onto curbs, sidewalks, traffic control devices, medians, or the travel lanes of opposing travel flow.

13.4. Curb Radii

Curb radii design must balance vehicle turning movements with pedestrian safety. Typically, it is appropriate to use the smallest turn radii possible that still accommodates the design vehicle.

For design, round curb radii to the nearest five foot increment.

Typical curb radii based on street classification are shown in Table 15, Typical Curb Radii Design Values. However, these values may be impacted by site conditions, including width of receiving lanes, on-street parking, and angle of intersecting roadways.

Table 16. Typical Curb Radii Design Values

Street Classification (for highest street classification at intersection)	Radius
Arterial to Arterial	25 feet
Arterial to Local Street	20 feet
Local Street to Local Street	20 feet
Transit/Truck Route	30 feet
Where vehicular turn is prohibited	10 feet
Radii for curb setbacks and bulb-outs	15/15 feet

13.5. Drainage

An intersection shall be laid out and graded so that surface water drains and the intersection is safe and accessible for pedestrians and bicyclists.

Drainage structures shall not be placed in an ADA ramp or landing area.

Ideally, drainage structures should be located outside the corner radii.

Drainage structures should be placed at upstream side to reduce runoff or ponds in ADA ramp area.

13.6. Intersection Grades

Intersections shall be on grades as flat as practical.

At an unsignalized intersection, the maximum allowable grade in the intersection is 4 percent extending a minimum of 50 feet in each direction, measured from the outside edge of the traveled way of the intersecting street.

At signalized intersections, the maximum grade is two percent within the intersection and extends 200 feet in each direction. Grades above four percent will be allowed only in areas with steep topography or other unusual circumstances that prevent a flatter grade.

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 an arterial or 20 feet approaching a local street, measured from future right-of-way line (extended) of intersecting street. See Standard Plan 215 Intersection Landing.

The point of vertical curvature shall not encroach into a cross street any further than the center of pavement of the cross street.

13.7. Pedestrian Treatments

In order to provide pedestrian safety, accommodations for pedestrians shall be designed into all intersections where pedestrians are expected to be present. Pedestrian accommodations include sidewalks, crosswalks, pedestrian refuge islands, and accommodations for disabled pedestrians.

Vaults, covers, castings, or drainage grates shall not be placed within the crosswalk, or within crosswalk curb ramps or landing areas.

Catch basin and j-box solid covers shall have non-slip covers when placed in sidewalks, pathways, crosswalks, or other pedestrian use areas. The non-slip surface shall be a non-grit, metallic allow surface with a hardness of up to 62 on the Rockwell “C” scale, SlipNot or equal. Diamond or checker plate surfaces are not considered equal. Manhole covers shall have non-slip low profile waffle tread when placed in sidewalks, pathways, crosswalks, or other pedestrian use areas.

Crosswalks (RCW 46.04.160) at intersections are delineated as follows:

Projecting the curb and back of sidewalk lines across the street;

A line 10 feet behind the face of the curb or roadway pavement, when there is no sidewalk; or

Crosswalk markings.

Curb Ramps

Consistent with the American with Disabilities Act (ADA), all projects, including alteration or new construction, shall meet ADA requirements and standards.

Curb ramps shall be fully within the crosswalk and shall align with the adjacent crosswalk. No utility boxes, drainage inlets, signs, and other fixed objects shall be located within the ramp.

The landing at the top of the ramp shall be four feet by five feet and shall be clear of all vertical obstructions.

Utility box lids shall not be located in the ramp portion of a curb ramp.

Utility box lids should not be located in the landing area. In situations where there are no other options, a junction box can be allowed if it is made skid resistant per WSDOT specifications.

Two compliant curb ramps with tactile warning strips should be installed at each corner where possible and corresponding compliant companion ramps shall be retrofitted or constructed (RCW 35.68.075).

When street paving impacts an intersection or modification to a curb ramp occurs, the curb ramps must be retrofitted to meet the current standard. Impact to an intersection is defined as:

Nine square feet or more of disturbance to the sidewalk within the area bounded by the curb, the right-of-way or property lines, and the extensions of right-of-way/property lines (across the sidewalk); or

Three lineal feet of disturbance to the curb.

Development projects requiring installation of frontage improvements; or

Roadway resurfacing defined as an alteration by the 2013 ”Department of Justice/ Department of Transportation Joint Technical Assistance on Title II of the Americans with Disabilities Act requirements to provide curb ramps when streets, roads, or highways are altered though resurfacing”. This includes asphalt overlays or addition of new asphalt/concrete roadway surface.

13.8. Clear Sight Triangle

The following applies to:

1. The intersection of two public streets;
2. The intersection of a commercial driveway with a public street;
3. The intersection of a residential driveway with a public street; and
4. The intersection of a private street with a public street.

Obstructions – Not Allowed.

Intersection other than single-family residential. Sight obstruction is not allowed between two and one-half feet above the street surface and seven and one-half feet above the street surface within the sight triangle established by this section. Sight obstructions above a line seven and one-half feet above the street surface are allowed.

Intersection – single-family residential driveways. Sight obstruction is not allowed between two and one-half feet above the street surface and six feet above the street surface.

Sight obstruction: parked vehicle, signage, fencing, landscaping, or other obstruction installed, set out or maintained, which obstructs the view of motor vehicle operators at an intersection within a clear sight triangle area and between the height limits.

Landscaping, street furniture, marquees, awnings, or other such obstructions must not obscure sight lines to traffic control devices, such as signs or signals.

Obstructions – Allowed.

For minor street/through street intersections (major/minor, signalized, and residential driveways), the following obstructions within the established clear sight areas may be allowed:

1. One obstruction within each sight area which presents a maximum of two and one-half feet width when viewed from the applicable angle, which has at least two feet clear view inside the obstruction (on the side away from the intersection). At distances greater than 40 feet from the viewpoint, the obstruction may present a maximum of four feet width.

2. Any number of obstructions one and one-half feet or less in maximum width when viewed from any applicable angle provided there is equal open space on each side of the obstruction for all angles.

For uncontrolled (no signal or stop signs), yield, and T intersections, the following obstructions within the established clear sight areas may be allowed:

1. One obstruction within each sight area which presents a maximum of eight feet width when viewed from any applicable angle, and which has at least four feet clear view inside the obstruction and eight feet clear view between the obstruction and the edge of the traffic lanes; or

2. Two obstructions within each sight area each of which presents a maximum of five feet width when viewed from any applicable angle, and separated by four feet or more open space when viewed from all applicable angles, and which have at least four feet clear view inside the obstructions and eight feet clear view between the obstructions and the edge of the traffic lanes; or

3. Any number of obstructions one foot or less in width; provided they obstruct no more than two feet continuous obstruction width when viewed from any applicable angle; and provided there is equal open space on each side of the obstruction for all angles.

For intersections not clearly included in the above types and for which view problems may exist, the Director will establish setback lines as required.

Where unusual conditions preclude the application of this subchapter in a reasonable manner, the Director may establish minimum sight distances. These minimum sight distances may be more restrictive than provided herein.

Residential Driveway. For the intersection of a residential driveway with a public street, a sight distance triangle for a site access point shall be determined by measuring 15 feet along the street lines and 15 feet along the edges of the driveway beginning at the respective points of intersection. The third side of each triangle shall be a line connecting the end points of the first two sides of each triangle.

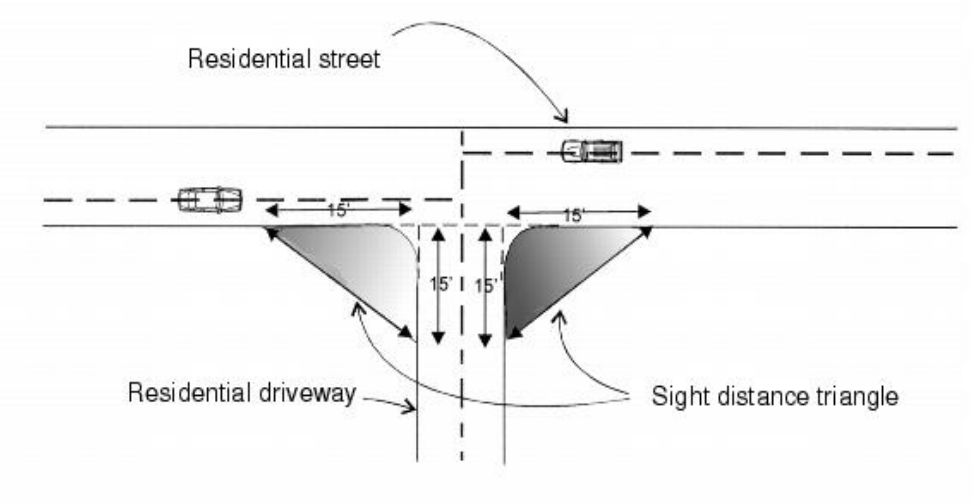

Figure 1. Clear Sight Triangle – Residential Driveway

Uncontrolled Crossing Intersection. For intersections with no traffic control on any approach, the setback lines join a point on the approach located 50 feet back from the center of the intersection with points located 80 feet back from the center of the intersection on the right and left hand streets. All points are on the street centerlines.

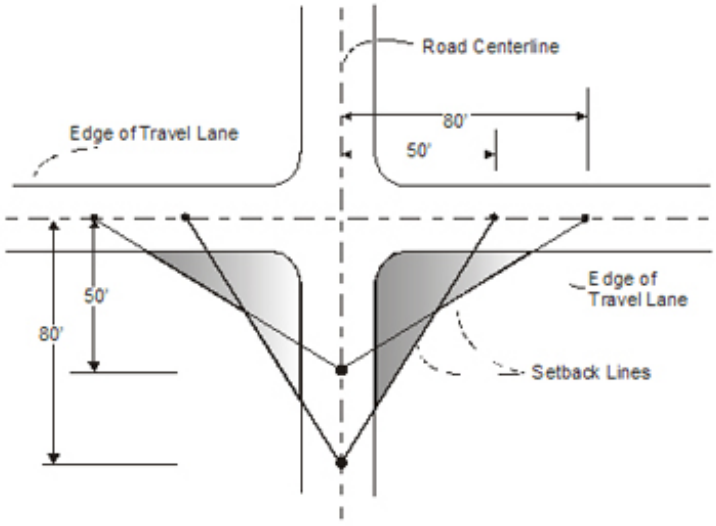

Figure 2. Clear Sight Triangle – Uncontrolled Crossing Intersection

Yield Intersection and T Intersection. Yield intersections have a yield sign on one or both of the minor street approaches, and no control on the major street approaches. The setback lines for yield intersections join a point in the center of the yield approach lane 25 feet back from the edge of the crossing traffic lane with points in the centers of the

crossing approach lanes 100 feet back from the center of the intersection. This setback also applies to a T intersection with no restrictive control; in this case, the 25-foot setback point is on the stem of the T.

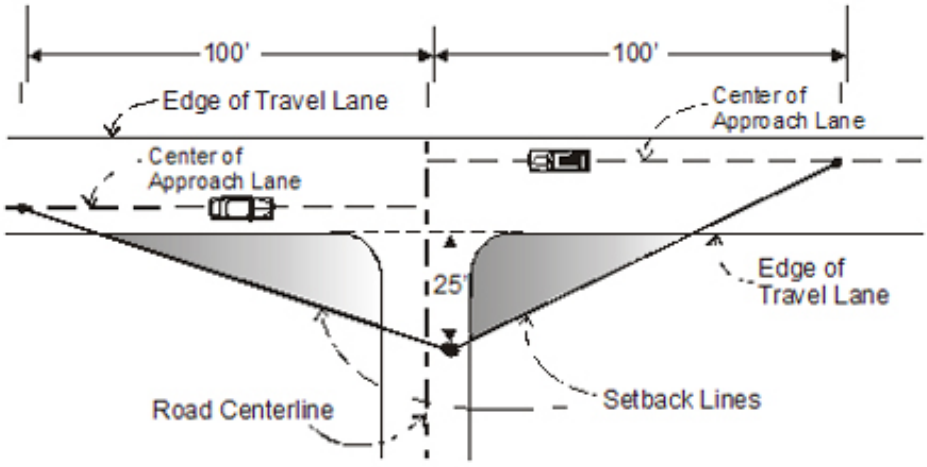

Figure 3. Clear Sight Triangle – Yield and T Intersections

13.9. Pedestrian Sight Distance

The minimum sight distance for pedestrian safety shall be determined as follows: the driver of an existing vehicle shall be able to view a one foot-high object 15 feet from either edge of the exit lane at the driveway throat when the driver's eye is 14 feet behind the back of the pedestrian walkway.

The minimum sight distance shall be maintained at all driveways, buildings, and garage entrances where structures, wing walls, etc., are located adjacent to or in close proximity to a pedestrian walkway.

APPENDIX F - STREET MATRIX

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Master Street Plan

The 2011 Master Street Plan identifies specific roadway cross-sections for all Arterial Streets and Local Primary Streets in the City of Shoreline. It is intended to guide the development of streets throughout the City. The planned cross-sections for these streets establish the location of future curbs so that streets can be constructed in the proper location.

The Master Street Plan also identifies a general cross-section for Local Secondary Streets which provide for travel in each direction, on-street parking and sidewalks on each side of the street. Due to the large number of Local Secondary Streets in the City, a determination of the appropriate cross-section for a given Local Secondary Street will be made at the time modifications to the street are funded or redevelopment occurs. Additionally, because the needs and conditions of the Local Secondary Streets vary greatly throughout the City, the design criteria must be flexible.

The design criteria for Local Secondary Streets may vary in the following ways:

Curb-to-curb widths

- Ditch on one side in the place of amenity zones
- Sidewalk on one side only
- Parking on one side only
- Wider amenity zone
- Meandering sidewalk
- Pervious walkways
- Curb on one side only
- Concrete edge – at grade sidewalk

Many of these features will also be included as part of Green Street projects in the City.

In accordance with the adopted policies and implementation strategies associated with the Master Street Plan, the following principles accompany its implementation:

- Frontage improvements shall support the adjacent land uses and fit the character of the areas in which they are located. Five feet is the standard sidewalk width adjacent to single-family residential land uses, and eight feet is the standard sidewalk width adjacent to all land uses

other than single-family residential. Increased width may be required if determined by a traffic study.

The amenity zone should be developed in a manner that is appropriate and complimentary to the adjacent land uses and use of the street. The minimum width for amenity zones is five feet. Amenity zones should generally be landscaped and, where possible, utilized for stormwater management purposes. Amenity zones adjacent to roadways that do not have off-street parking shall be landscaped as much as possible. In areas where a wide pedestrian walking surface is desired, such as commercial areas, the amenity zone may be a hard surface treatment with trees in pits. Amenity zones that are adjacent to on-street parking areas should be landscaped as much as possible but may include limited hard surface areas for drivers or passengers exiting vehicles.

The identified cross-sections should still allow for flexibility to account for site specific, unique or unforeseen circumstances (such as presence of bus stops), topography, sensitive areas, and presence of significant vegetation (large trees).

The maximum right-of-way needs for street classifications are as follows:

- Principal Arterial – 120 feet
- Minor Arterial – 95 feet
- Collector Arterial – 80 feet
- Local Primary Street – 66 feet
- Local Secondary Street – 90 feet

FUNCTIONAL CLASSIFICATION	STREET NAME	FROM	TO	TOTAL EXISTING RIGHT-OF-WAY	EXISTING CURB TO CURB WIDTH	CROSS-SECTION DIRECTION	BEHIND SIDEWALK	SIDEWALK	AMENITY ZONE	CURB	PARKING	BICYCLE LANE	TRAVEL LANE	CENTER TURN LANE	TRAVEL LANE	BICYCLE LANE	PARKING	CURB	AMENITY ZONE	SIDEWALK	BEHIND SIDEWALK	REQUIRED RIGHT-OF-WAY	PLANNED CURB TO CURB WIDTH	NOTES
ARTERIAL STREETS AND LOCAL PRIMARY STREETS																								
Collector Arterial	1st Ave NE	N 145th St	N 149th St	60	26-37	W-E	1	5	5.5	0.5	8	0	10	0	10	0	8	0.5	5.5	8	1	63	36	East side properties must dedicate 3 feet in conjunction with redevelopment.
Collector Arterial	1st Ave NE	N 149th St	NE 155th St	82-123	30-36	W-E	1	8	5.5	0.5	8	0	10	0	10	0	8	0.5	5.5	5	1	63-66	36	Wider amenity zones where there is extra right-of-way.
Collector Arterial	1st Ave NE	NE 185th St	Approx. 175 feet south of NE 190th St	60	35	W-E	1	5	5.5	0.5	0	5	10	0	10	5	8	0.5	5.5	8	1	65	38	Property on the east will dedicate 5 feet at the time of redevelopment
Collector Arterial	1st Ave NE	Approx. 175 feet south of NE 190th St	Approx. 130 feet north of NE 192nd St	60	47-60	W-E	1	5	5.5	0.5	0	5	10	0	10	5	18					60	48	Utilize the eastern 18' for back in angle parking and sidewalk. A portion of the sidewalk is on City property or will be dedicated.
Collector Arterial	1st Ave NE	Approx. 130 feet north of NE 192nd St	NE 195th St	60	21-29	W-E	1	5	5	0.5	0	5	10.5	0	10.5	5	8	0.5	0	8	1	60	39	Property at the SE corner of 1st and 193rd was required to install parking as part of Conditional Use permit.
Collector Arterial	1st Ave NE	NE 195th St	N 205th St	60	29	W-E	1	8	5	0.5	8	0	10.5	0	10.5	0	0	16.5				60	29	Utilize the eastern 16.5 ' for natural stormwater treatment
Collector Arterial	3rd Ave NW	NW 171st St	NW 175th St	60-90	22-34	W-E	1	8	5	0.5	8	0	10	0	10	0	8	0.5	5	5	1	62	36	On-street parking to be provided where feasible
Local Primary Street	3rd Ave NW	NW 180th St	NW Richmond Beach Rd	60	24-30	W-E	1	5	8.5	0.5	0	0	15	0	15	0	0	0.5	8.5	5	1	60	30	
Collector Arterial	3rd Ave NW	NW Richmond Beach Rd	NW 205th St	60	28-36	W-E	1	5	5.5	0.5	0	0	14	0	14	0	8	0.5	5.5	5	1	60	36	
Minor Arterial	5th Ave NE	NE 145th St	NE 148th St	60	43	To be determined in conjunction with 145th Street Corridor study																		

FUNCTIONAL CLASSIFICATION	STREET NAME	FROM	TO	TOTAL EXISTING RIGHT-OF-WAY	EXISTING CURB TO CURB WIDTH	CROSS-SECTION DIRECTION	BEHIND SIDEWALK	SIDEWALK	AMENITY ZONE	CURB	PARKING	BICYCLE LANE	TRAVEL LANE	CENTER TURN LANE	TRAVEL LANE	BICYCLE LANE	PARKING	CURB	AMENITY ZONE	SIDEWALK	BEHIND SIDEWALK	REQUIRED RIGHT-OF-WAY	PLANNED CURB TO CURB WIDTH	NOTES
Minor Arterial	5th Ave NE	NE 148th St	NE 163rd St	60	43	W-E	0.5	5	5	0.5	12		10	0	10	12		0.5	5	5	0.5	66	44	Combined bicycle and parking lane. Need to acquire 3 feet from each side.
Minor Arterial	5th Ave NE	NE 163rd St	Approx. 300 feet north of NE 165th St	60-90	43-50	W-E	0.5	8	5	0.5	12		10	12	10	12		0.5	5	8	0.5	84	56	Combined bicycle and parking lane. Need to acquire 12 feet from each side. Construct wider amenity zone or sidewalk where ROW exceeds 84 feet.
Minor Arterial	5th Ave NE	Approx. 300 feet north of NE 165th St	NE 174th St	60-72	43	W-E	0.5	5	5	0.5	12		10	0	10	12		0.5	5	5	0.5	66	44	Combined bicycle and parking lane. Need to acquire 3 feet from each side.
Minor Arterial	5th Ave NE	NE 174th St	NE Serpentine Pl	60	24-42	W-E	1	8	5	0.5	0	5	11	12	11	5	0	0.5	5	5	1	70	44	Need to acquire 5 feet from each side.
Minor Arterial	5th Ave NE	NE Serpentine Pl	NE 185th St	52-124	22-36	W-E	0.5	5	5	0.5	12		10	0	10	12		0.5	5	5	0.5	66	44	Combined bicycle and parking lane. Need to acquire 3 feet from each side.
Collector Arterial	5th Ave NE	NE 185th St	NE 195th St	30-116	16-28	W-E	0.5	8	5	0.5	0	5	10	0	10	5	8	0.5	5	8	0.5	66	38	
Collector Arterial	5th Ave NE	NE 195th St	NE 205th St	60	25	W-E	17				0	0	11	0	11	0	21					60	43	Utilize the western 17 feet for natural stormwater treatment; use the eastern 21 ' for a combination of parking, amenity zone, natural stormwater treatment and sidewalk, based upon topography and soils.
Collector Arterial	6th Ave NW	NW 175th St	NW 180th St	60	24	W-E	1	5	5.5	0.5	8	0	11.5	0	11.5	5	0	0.5	5.5	5	1	60	36	This cross-section allows for an uphill climbing lane and downhill shared/signed lane
Collector Arterial	8th Ave NW	NW 180th St	NW 185th St	60	20	W-E	0.5	5	5	0.5	0	5	10	0	10	5	8	0.5	5	5	0.5	60	38	

FUNCTIONAL CLASSIFICATION	STREET NAME	FROM	TO	TOTAL EXISTING RIGHT-OF-WAY	EXISTING CURB TO CURB WIDTH	CROSS-SECTION DIRECTION	BEHIND SIDEWALK	SIDEWALK	AMENITY ZONE	CURB	PARKING	BICYCLE LANE	TRAVEL LANE	CENTER TURN LANE	TRAVEL LANE	BICYCLE LANE	PARKING	CURB	AMENITY ZONE	SIDEWALK	BEHIND SIDEWALK	REQUIRED RIGHT-OF-WAY	PLANNED CURB TO CURB WIDTH	NOTES
Collector Arterial	8th Ave NW	NW 185th St	NW Richmond Beach Rd	60	29-35	W-E	1	5	5	0.5	0	5	10	0	10	5	8	0.5	5	8	1	64	38	Property on the east side will dedicated 8' at the time of redevelopment
Minor Arterial	8th Ave NW	NW Richmond Beach Rd	Approx. 80 feet north of NW 190th St	60	22	W-E	0.5	5	5	0.5	12	10	12	0	11	5	0	0.5	5	8	0.5	75	50	For this cross-section, no parking on either side of the street and no bicycle lane on the west side. Figures include a right turn lane, SB through lane, left turn lane and NB through lane.
Minor Arterial	8th Ave NW	Approx. 80 feet north of NW 190th St	NW 205th St	60-75	20-32	W-E	0.5	5	5	0.5	0	5	10	0	10	5	8	0.5	5	5	0.5	60	38	On-street parking allowed where ROW is wider
Local Primary Street	10th Ave NE	NE 155th St	NE 175th St	70-80	25-36	W-E	1	5	7.5	0.5	0	0	16	0	16	0	0	0.5	7.5	5	1	60	32	
Collector Arterial	10th Ave NE	NE 175th St	NE 185th St	70-80	32	W-E	10.5-20.5	5	5	0.5	8	0	11	0	11	0	8	0.5	5	5	0.5	70-80	38	Utilize the space behind the sidewalk for natural stormwater management
Collector Arterial	10th Ave NE	NE 185th St	NE 190th St	60-160	32	W-E	0.5	5	5	0.5	8	0	11	0	11	0	8	0.5	5	5	0.5	60	38	Would consider vacating and squaring the intersection at 185th and 10th; sharrows in both travel lanes

FUNCTIONAL CLASSIFICATION	STREET NAME	FROM	TO	TOTAL EXISTING RIGHT-OF-WAY	EXISTING CURB TO CURB WIDTH	CROSS-SECTION DIRECTION	BEHIND SIDEWALK	SIDEWALK	AMENITY ZONE	CURB	PARKING	BICYCLE LANE	TRAVEL LANE	CENTER TURN LANE	TRAVEL LANE	BICYCLE LANE	PARKING	CURB	AMENITY ZONE	SIDEWALK	BEHIND SIDEWALK	REQUIRED RIGHT-OF-WAY	PLANNED CURB TO CURB WIDTH	NOTES
Collector Arterial	10th Ave NW	NW Innis Arden Way	NW 175th St	60	20	S-N	0	0	0	0	8	0	12	0	12	0	0	0.5	5	5	17.5	60	32	No sidewalk on the south side. On-street parking on the south side accommodated where possible. Cross-section across the bridge is two 12 foot travel lanes and an 8 foot sidewalk on the north side with no amenity zone.
Local Primary Street	10th Ave NW	NW 175th St	NW 180th St	50-60	20	W-E	1	5	5.5	0.5	8	0	10	0	10	0	8	0.5	5.5	5	1	60	36	
Collector Arterial	14th Ave NW	Springdale Ct NW	NW 175th St	60	20	W-E	1	5	5.5	0.5	8	0	10	0	10	0	8	0.5	5.5	5	1	60	36	
Principal Arterial	15th Ave NE	NE 145th St	NE 150th St	60-77	52-55	W-E	1	8	5.5	0.5	0	0	22	12	22	0	0	0.5	5.5	8	1	86	56	Two travel lanes in each direction
Principal Arterial	15th Ave NE	NE 150th St	NE 152nd St	60-73	44-54	W-E	1	8	5.5	0.5	0	0	24	12	24	0	0	0.5	5.5	8	1	90	60	Two travel lanes in each direction
Principal Arterial	15th Ave NE	NE 152nd St	NE 155th St	60-65	44-50	W-E	1	8	5.5	0.5	0	5	11	12	11	5	0	0.5	5.5	8	1	74	44	
Principal Arterial	15th Ave NE	NE 155th St	NE 165th St	60-65	42-50	W-E	1	5	5	0.5	0	5	11	12	11	5	0	0.5	5	8	1	70	44	
Principal Arterial	15th Ave NE	NE 165th St	NE 169th St	60	44	W-E	1	5	5.5	0.5	0	5	11	12	11	5	0	0.5	5.5	5	1	68	44	
Principal Arterial	15th Ave NE	NE 169th St	NE 172nd St	60	44	W-E	1	5	5	0.5	0	5	11	12	11	5	0	0.5	5	8	1	70	44	
Principal Arterial	15th Ave NE	NE 172nd St	NE 175th St	60-70	52-44	W-E	0	5	2	0.5	0	5	11	12	11	5	0	0.5	2	5	0	59	44	

FUNCTIONAL CLASSIFICATION	STREET NAME	FROM	TO	TOTAL EXISTING RIGHT-OF-WAY	EXISTING CURB TO CURB WIDTH	CROSS-SECTION DIRECTION	BEHIND SIDEWALK	SIDEWALK	AMENITY ZONE	CURB	PARKING	BICYCLE LANE	TRAVEL LANE	CENTER TURN LANE	TRAVEL LANE	BICYCLE LANE	PARKING	CURB	AMENITY ZONE	SIDEWALK	BEHIND SIDEWALK	REQUIRED RIGHT-OF-WAY	PLANNED CURB TO CURB WIDTH	NOTES
Principal Arterial	15th Ave NE	NE 175th St	NE 180th St	70-80	40-54	W-E	0	6	4	0.5	7	0	22	0	22	0	7	0.5	4	6	0	79	58	Sidewalk located on private property in some locations. Two travel lanes in each direction
Principal Arterial	15th Ave NE	NE 180th St	24th Ave NE	42-95	40-44	W-E	1	8	5.5	0.5	0	5	11	12	11	5	0	0.5	5.5	8	1	74	44	Narrower sidewalks and less dedication required in front of SF properties
Principal Arterial	15th Ave NE	24th Ave NE	NE 190th St	57-80	42-44	W-E	1	5	5.5	0.5	0	5	11	12	11	5	0	0.5	5.5	5	1	68	44	
Principal Arterial	15th Ave NE	NE 190th St	Ballinger Way NE	60-90	40-60	W-E	1	8	5.5	0.5	0	5	11	12	11	5	0	0.5	5.5	8	1	74	44	Narrower sidewalks and less dedication required in front of SF properties
Collector Arterial	15th Ave NW	NW 167th St	NW 175th St	60	20	W-E	1	5	5.5	0.5	0	0	13	0	13	0	0	0.5	5.5	5	1	50	26	
Collector Arterial	15th Ave NW	NW 188th St	Approx. 50 feet north of NW 191st St	60	20	W-E	1	5	5.5	0.5	8	0	10	0	10	0	8	0.5	5.5	5	1	60	36	All dedication would come from the west side, as the ROW is offset 10 '
Collector Arterial	15th Ave NW	Approx. 50 feet north of NW 191st St	NW Richmond Beach Rd	50-60	20-37	W-E	1	8	5	0.5	8	0	10	0	10	0	8	0.5	5	8	1	65	36	MF properties will dedicate 7.5 feet on each side.
Collector Arterial	15th Ave NW	NW Richmond Beach Rd	NW 205th St	40-60	24-100	W-E	1	5	5.5	0.5	8	0	10	0	10	0	8	0.5	5.5	5	1	60	36	
Minor Arterial	19th Ave NE	Forest Park Dr NE	NE 199th St	60	36	W-E	1	5	5.5	0.5	8	0	10	0	10	0	8	0.5	5.5	5	1	60	36	
Minor Arterial	19th Ave NE	NE 199th St	NE 205th St	60-70	36-40	W-E	0.5	8	5	0.5	8	0	10	0	10	0	8	0.5	5	8	0.5	64	36	
Local Primary Street	20th Ave NW	Saltwater Park Entrance	NW 195th	60	18	W-E	0.5	8	0	0.5	8	0	11	0	11	0	0	0.5	5	5	0.5	50	30	

FUNCTIONAL CLASSIFICATION	STREET NAME	FROM	TO	TOTAL EXISTING RIGHT-OF-WAY	EXISTING CURB TO CURB WIDTH	CROSS-SECTION DIRECTION	BEHIND SIDEWALK	SIDEWALK	AMENITY ZONE	CURB	PARKING	BICYCLE LANE	TRAVEL LANE	CENTER TURN LANE	TRAVEL LANE	BICYCLE LANE	PARKING	CURB	AMENITY ZONE	SIDEWALK	BEHIND SIDEWALK	REQUIRED RIGHT-OF-WAY	PLANNED CURB TO CURB WIDTH	NOTES
Collector Arterial	20th Ave NW	NW 195th St	NW 205th St	40-50	22-30	W-E	1	5	5.5	0.5	8	0	10	0	10	0	8	0.5	5.5	5	1	60	36	
Collector Arterial	22nd Ave NE	NE 171st St	NE 172nd St	60	24-34	W-E	0.5	5	5	0.5	8	0	11	0	11	0	8	0.5	5	5	0.5	60	38	
Minor Arterial	24th Ave NE	24th Pl NE	15th Ave NE	60-110	26-37	S-N	0.5	5	5	0.5	8	5	10	0	10	5	0	0.5	5	5	0.5	60	38	
Collector Arterial	25th Ave NE	NE 145th St	NE 150th St	30-60	28-38	W-E	0.5	5	5	0.5	0	5	10	0	10	5	8	0.5	5	5	0.5	60	38	
Collector Arterial	25th Ave NE	NE 150th St	NE 153rd St	60	31	W-E	3	5	3	0.5	0	5	10	0	10	5	7.5	0.5	5	5	0.5	60	37.5	
Collector Arterial	25th Ave NE	NE 153rd St	NE 165th St	30	30 - 31	W-E	0	8	5	0.5	0	5	10	0	10	5	7.5	0.5	5	5	0.5	60	37.5	
Collector Arterial	25th Ave NE	NE 165th St	NE 168th St	60	35-43	W-E	0.5	5	5	0.5	0	5	10	0	10	5	8	0.5	5	5	0.5	60	38	
Collector Arterial	25th Ave NE	NE 168th St	NE 175th St	60	24-30	W-E	0.5	5	5	0.5	0	5	10	0	10	5	8	0.5	5	5	0.5	60	38	
Collector Arterial	25th Ave NE	NE 175th St	NE 177th St	60	23-26	W-E					38											60	38	
Collector Arterial	25th Ave NE	NE 177th St	NE 178th St	60-110	27	W-E	0	5	8	0	0	0	12	0	12	0	0	0	8	5	0	45	24	Amenity zone will be the shoulder. Preferred width on the east. No sidewalk is planned for the west side of the street due to topography and surface water management needs.
Collector Arterial	25th Ave NE	NE 178th St	NE 185th St	55-67	26	SW-NE	1	5	5.5	0.5	8	0	10	0	10	0	8	0.5	5.5	5	1	60	36	

FUNCTIONAL CLASSIFICATION	STREET NAME	FROM	TO	TOTAL EXISTING RIGHT-OF-WAY	EXISTING CURB TO CURB WIDTH	CROSS-SECTION DIRECTION	BEHIND SIDEWALK	SIDEWALK	AMENITY ZONE	CURB	PARKING	BICYCLE LANE	TRAVEL LANE	CENTER TURN LANE	TRAVEL LANE	BICYCLE LANE	PARKING	CURB	AMENITY ZONE	SIDEWALK	BEHIND SIDEWALK	REQUIRED RIGHT-OF-WAY	PLANNED CURB TO CURB WIDTH	NOTES
Local Primary Street	25th Ave NE	NE 195th St	NE 200th St	60	23-25	W-E	0.5	8	5	0.5	0	0	13	0	11	0	8	0.5	5	8	0.5	60	32	Sharrows in travel lanes
Local Primary Street	25th Ave NE	NE 200th St	NE 205th St	60	23	W-E	0.5	5	5	0.5	8	0	11	0	11	0	8	0.5	5	5	0.5	60	38	Sharrows in travel lanes
Local Primary Street	Ashworth Ave N	N 155th St	N 175th St	60	24-28	W-E	1	5	7.5	0.5	0	0	16	0	16	0	0	0.5	7.5	5	1	60	32	
Local Primary Street	Ashworth Ave N	N 175th St	N 185th St	60	23-28	W-E	1	5	5.5	0.5	8	0	10	0	10	0	8	0.5	5.5	5	1	60	36	
Collector Arterial	Ashworth Ave N	N 185th St	N 192nd St	60	24-30	W-E	0.5	5	5	0.5	8	0	11	0	10	4	9			6	1	60	42	Shoulder is 4 feet wide.
Collector Arterial	Ashworth Ave N	N 192nd St	N 195th St	60	20-29	W-E	1	5	5.5	0.5	8	0	10	0	10	0	8	0.5	5	8	1	62.5	36	Development on the east must dedicated 2.5 feet
Collector Arterial	Ashworth Ave N	N 195th St	N 199th St	60	23	W-E	1	5	5.5	0.5	8	0	10	0	10	0	8	0.5	5.5	5	1	60	36	
Collector Arterial	Ashworth Ave N	N 199th St	N 200th St	60	27	W-E	1	5	5.5	0.5	8	0	10	0	10	0	8	0.5	5	8	1	62.5	36	Development on the east must dedicated 2.5 feet if developed as something other than single-family; the cross-section on the west will match the park if the City acquires additional property and extends the existing improvements.
Principal Arterial	Ballinger Way NE	15th Ave NE	Approx. 600 feet south east of 19th Ave NE	90-120	62-86	W-E	1	8	21.5	0.5	0	0	24	12	24	0	0	0.5	19.5	8	1	120	60	2 travel lanes in each direction. The amenity zone width to be adjusted for BAT lanes.

FUNCTIONAL CLASSIFICATION	STREET NAME	FROM	TO	TOTAL EXISTING RIGHT-OF-WAY	EXISTING CURB TO CURB WIDTH	CROSS-SECTION DIRECTION	BEHIND SIDEWALK	SIDEWALK	AMENITY ZONE	CURB	PARKING	BICYCLE LANE	TRAVEL LANE	CENTER TURN LANE	TRAVEL LANE	BICYCLE LANE	PARKING	CURB	AMENITY ZONE	SIDEWALK	BEHIND SIDEWALK	REQUIRED RIGHT-OF-WAY	PLANNED CURB TO CURB WIDTH	NOTES
Principal Arterial	Ballinger Way NE	Approx. 600 feet south east of 19th Ave NE	22nd Ave NE	100	48-56	W-E	1	8	15.5	0.5	0	0	14	12	14	0	0	0.5	15.5	8	1	90	40	The amenity zone width to be adjusted for BAT lanes.
Principal Arterial	Ballinger Way NE	22nd Ave NE	25th Ave NE	80-90	42-58	W-E	1	8	5.5	0.5	0	0	14	0	14	0	0	0.5	15.5	8	1	68	28	All widening to occur on the east/northeast, the amenity zone width to be adjusted for topography or for BAT lanes.
Collector Arterial	Carlyle Hall Rd N	NW 171st St	Dayton Ave N	60-90	22-34	W-E	1	8	5	0.5	8	0	10	0	10	0	8	0.5	5	5	1	62	36	On-street parking to be provided where feasible
Collector Arterial	Carlyle Hall Road N	Evanston Place N	Dayton Ave N	60+	30+	N-S	0.5	5	5	0.5	0	5	10	0	10	5	8	0.5	5	5	0.5	60	38	
Minor Arterial	Dayton Ave N	Westminster Way N	N 160th St	90-111	38-54	W-E	0.5	5	5	0.5	12		10	0	10	12		0.5	5	5	0.5	66	44	
Minor Arterial	Dayton Ave N	N 160th St	Carlyle Hall Road N	95-108	30-38	W-E	0.5	5	5	0.5	8	5	10	0	10	5	0	0.5	5	5	0.5	60	38	
Minor Arterial	Dayton Ave N	Carlyle Hall Road N	N 172nd St	60	22-30	W-E	0.5	5	5	0.5	8	0	11	0	11	0	8	0.5	5	5	0.5	60	38	
Minor Arterial	Dayton Ave N	N 172nd St	St. Luke Pl N	60	22-30	W-E	1	6	4	0.5	0	0	12	0	12	0	8	0.5	0	8	1	52	32	
Minor Arterial	Dayton Ave N	St. Luke Pl N	N Richmond Beach RD	60-75	22-28	W-E	0.5	5	5	0.5	8	0	11	0	11	0	8	0.5	5	5	0.5	60	38	
Collector Arterial	Fremont Ave N	N 165th St	N 205th St	60-72	28-39	W-E	0.5	5	5	0.5	8	5	10	0	10	5	8	0.5	5	5	0.5	68	46	
Collector Arterial	Forest Park Dr	15th Ave NE	NE 196th St	60	21-23	SW-NE	1	5	5.5	0.5	8	0	10	0	10	0	8	0.5	5.5	5	1	60	36	
Principal Arterial	Greenwood Ave N	N 145th St	Westminster Way N	80+	62+	To be determined in conjunction with 145th Street Corridor study																		

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Collector Arterial	Greenwood Ave N	Westminster Way N	N 155th St	60	22-39	W-E	5	3	2.5	0	0	5	10	0	10	5	8	0.5	5	5	1	60	38	West side pedestrian improvements are trail-like due to topographic separation
Collector Arterial	Greenwood Ave N	N 155th St	N 160th St	60	22-32	W-E	0.5	5	5	0.5	0	5	10	0	10	5	8	0.5	5	5	0.5	60	38	
Collector Arterial	Greenwood Ave N	N Innis Arden Way	Carlyle Hall Rd N	60	22	W-E	0	8	5	0.5	8	0	10	0	10	0	8	0.5	5	5	0	60	36	
Local Primary Street	Innis Arden Drive	Ridgefield Rd NW	NW Richmond Beach Rd	60-120	20	SE-NW	1	5	5.5	0.5	0	0	13	0	13	0	8	0.5	5.5	5	1	58	34	Sidewalk with no amenity zone across culvert/bridge
Collector Arterial	Linden Ave N	N 175th St	N 185th St	60	20-26	W-E	1	5	5	0.5	8	0	11	0	11	0	8	0.5	5	8	1	64	38	This is a Green Link Street per the Town Center Code
Collector Arterial	Midvale Ave N	N 175th St	N 185th St	20-60	22-37	W-E	0	0	0	0.5	0	0	12	0	10	0	8	0.5	5	10	0.5	46.5	30	17 feet on SCL property for back in angle parking; This is a Storefront Street per the Town Center Code
Minor Arterial	Meridian Ave N	N 205th St	N 145th St	60-105	38-55	W-E	1	5	5.5	0.5	0	5	11	12	11	5	0	0.5	5.5	5	1	68	44	
Collector Arterial	Perkins Pl NE	NE 185th St	Perkins Way NE	60	20	SW-NE	1	5	5.5	0.5	8	0	10	0	10	0	8	0.5	5.5	5	1	60	36	
Collector Arterial	Richmond Beach Dr NW	NW 195th	NW 196th	60	20	W-E	0.5	5	5	0.5	8	0	12	0	10	0	8	0.5	5	5	0.5	60	38	
Collector Arterial	Richmond Beach Dr NW	NW 196th St	NW 199th St	60	20	W-E	1	5	5.5	0.5	8	0	10	0	10	0	8	0.5	5.5	5	1	60	36	
Local Primary Street	Ridgefield Rd NW	NW Innis Arden Dr	Springdale Ct NW	60	20	S-N	0.5	8	0	0.5	0	0	13	0	13	0	8	0.5	5	5	0.5	54	34	Add amenity zone to sidewalk on the south side where possible
Collector Arterial	Springdale Ct NW	14th Ave NW	NW 188th St	60	20	W-E	1	5	5.5	0.5	8	0	10	0	10	0	8	0.5	5.5	5	1	60	36	

FUNCTIONAL CLASSIFICATION	STREET NAME	FROM	TO	TOTAL EXISTING RIGHT-OF-WAY	EXISTING CURB TO CURB WIDTH	CROSS-SECTION DIRECTION	BEHIND SIDEWALK	SIDEWALK	AMENITY ZONE	CURB	PARKING	BICYCLE LANE	TRAVEL LANE	CENTER TURN LANE	TRAVEL LANE	BICYCLE LANE	PARKING	CURB	AMENITY ZONE	SIDEWALK	BEHIND SIDEWALK	REQUIRED RIGHT-OF-WAY	PLANNED CURB TO CURB WIDTH	NOTES
Collector Arterial	St. Luke Pl	NW 175th St	Dayton Ave N	60	37	W-E	0	5	2	0.5	8	0	10	0	10	0	8	0.5	5	5	0	54	36	
Principal Arterial	Westminster Way N	Greenwood Ave N	N 155th St	90-125	60-78	W-E	1	8	5.5	0.5	0	0	24	12	24	0	0	0.5	5.5	8	1	90	60	Two travel lanes in each direction. Study needed to determine appropriate cross-section in response to redevelopment at Aurora Square.
Minor Arterial	Westminster Way N	N 155th St	Aurora Ave N	100	60	Cross-section to be determined in conjunction with future redevelopment																		
Local Primary Street	N 152nd St	Aurora Ave N	Approx. 375 feet west of Ashworth Ave N	50-60	20-34	N-S	1	8	5.5	0.5	0	0	12	12	12	0	0	0.5	5.5	8	1	66	36	Each side of the street must dedicate 3 feet; begin on-street parking at Scottish Rite center
Principal Arterial	N 155th St	Westminster Way N	Aurora Ave N	115-220	70-80	Cross-section to be determined in conjunction with future redevelopment																		
Minor Arterial	N 155th St	Aurora Ave N	Midvale Ave N	74-88	47-70	N-S	0	7	4	.5	0	0	12-34	10	20-23	0	0	.5	0	6	0-3	75-88	48-69	
Minor Arterial	N 155th St	Midvale Ave N	Stone Ave N	74	42	N-S	1	8	5.5	0.5	0	5	11	10	11	5	0	0.5	5.5	8	1	72	42	
Minor Arterial	N 155th St	Stone Ave N	I-5	72	42	N-S	1	5	5	0.5	0	5	11	10	11	5	0	0.5	5	8	1	68	42	
Minor Arterial	N 160th St	Greenwood Ave N	Aurora Ave N	50-72	40-43	N-S	1	8	5	0.5	0	5	10	13	10	5	0	0.5	5	8	1	72	43	

FUNCTIONAL CLASSIFICATION	STREET NAME	FROM	TO	TOTAL EXISTING RIGHT-OF-WAY	EXISTING CURB TO CURB WIDTH	CROSS-SECTION DIRECTION	BEHIND SIDEWALK	SIDEWALK	AMENITY ZONE	CURB	PARKING	BICYCLE LANE	TRAVEL LANE	CENTER TURN LANE	TRAVEL LANE	BICYCLE LANE	PARKING	CURB	AMENITY ZONE	SIDEWALK	BEHIND SIDEWALK	REQUIRED RIGHT-OF-WAY	PLANNED CURB TO CURB WIDTH	NOTES
Local Primary Street	N 165th St	Aurora Ave N	Interurban Trail	60	27-36	N-S	1	8	4	0.5	0	0	12	0	12	12	0	0.5	4	8	1	63	36	The cross-section does not have bicycle lanes, it has a 12 foot left turn pocket; redevelopment must dedicate 1.5 feet on both sides and expand the sidewalk width to 8 feet.
Local Primary Street	N 165th St	Interurban Trail	Ashworth Ave N	60	27-36	N-S	1	5	8.5	0.5	0	0	15	0	15	0	0	0.5	8.5	5	1	60	30	
Collector Arterial	N 165th St	Evanston Place N	Aurora Ave N	60	26	N-S	0.5	5	5	0.5	0	5	10	0	10	5	8	0.5	5	5	0.5	60	38	
Local Primary Street	N 167th St	Ashworth Ave N	Meridian Ave N	60	22	N-S	1	5	8.5	0.5	0	0	15	0	15	0	0	0.5	8.5	5	1	60	30	
Collector Arterial	N 172nd St	Fremont Ave N	Dayton Ave N	60	36	N-S	0	5	4	0.5	8	0	10	0	10	0	8	0.5	8	5	1	60	36	
Collector Arterial	N 175th St	Fremont Ave N	Fire Dept	73	42	S-N	1	8	5	0.5	0	5	11	12	11	5	0	0.5	5	5-8	1	70-73	44	
Collector Arterial	N 175th St	Fire Dept	Aurora Ave N	66-71	43-52	N-S	.5	7	4	.5	0	0	22-28	0-10	28	0	0	.5	4	7	.5	82-90	50-66	
Principal Arterial	N 175th St	Aurora Ave N	Midvale Ave N	62	54-55	N-S	1	7	4	.5	0	0	.7-38	12-22	25-29	0	0	.5	4	7	1	112	78-88	
Principal Arterial	N 175th St	Midvale Ave N	Meridian Ave N	70-100	44-60	N-S	1	13	5	0.5	0	0	22	11	22	0	0	0.5	5	13	1	94	55	2 travel lanes in each direction. Wider sidewalks to accommodate bicycles.
Principal Arterial	N 175th St	Meridian Ave N	1st Ave NE	90-159	50-75	N-S	1	13	5	0.5	0	0	33	11	22	0	0	0.5	5	13	1	105	66	Includes a right turn lane at on ramps. Wider sidewalks to accommodate bicycles

FUNCTIONAL CLASSIFICATION	STREET NAME	FROM	TO	TOTAL EXISTING RIGHT-OF-WAY	EXISTING CURB TO CURB WIDTH	CROSS-SECTION DIRECTION	BEHIND SIDEWALK	SIDEWALK	AMENITY ZONE	CURB	PARKING	BICYCLE LANE	TRAVEL LANE	CENTER TURN LANE	TRAVEL LANE	BICYCLE LANE	PARKING	CURB	AMENITY ZONE	SIDEWALK	BEHIND SIDEWALK	REQUIRED RIGHT-OF-WAY	PLANNED CURB TO CURB WIDTH	NOTES
Minor Arterial	N 185th St	Fremont Ave N	Approx. 140 feet west of Aurora Ave N	70-80	56	N-S	1	5 to 8	5	0.5	0	0	22	11	22	0	0	0.5	5	5 to 8	1	67	55	
Minor Arterial	N 185th St	Approx. 140 feet west of Aurora Ave N	Aurora Ave N	60	44	N-S	0	7	0	.5	0	0	22-30	12	32	0	0	.5	4	7	0	83-90	66-74	
Minor Arterial	N 185th St	Aurora Ave N	Midvale Ave N	60	42	N-S	0-8	7	0-4	.5	0	0	22-29	0-12	22-24	0	0	.5	4	12	0	78-92	53-56	
Minor Arterial	N 185th St	Midvale Ave N	Ashworth Ave N	60-72	41-42	N-S	1	8	5.5	0.5	0	5	11	10	11	5	0	0.5	5.5	8	1	72	42	
Minor Arterial	N 185th St	Ashworth Ave N	1st Ave NE	60-70	42	N-S	1	5	5.5	0.5	0	5	11	10	11	5	0	0.5	5.5	5	1	66	42	
Collector Arterial	N 192nd St	Aurora Avenue N	Interurban Trail	60	22-34	N-S	2	13	5	.5	0	0	11	12	11	0	0	.5	0	5	0	60	22-34	
Collector Arterial	N 192nd St	Interurban Trail	Ashworth Avenue N	60	22-26	N-S	11.5	6	3.5	.5	0	0	12	0	18	0	0	.5	0	8	0	60	30	
Collector Arterial	N 195th St	Greenwood Ave N	Fremont Ave N	60-88	22-28	N-S	1	8	5.5	0.5	0	0	13	10	13	0	0	0.5	5.5	8	1	66	36	
Collector Arterial	N 195th St	Fremont Ave N	Linden Ave N	60	30	N-S	1	5	5.5	0.5	8	0	10	0	10	0	8	0.5	5.5	5	1	60	36	
Collector Arterial	N 200th St	1st Ave NW	Whitman Ave N	58-60	32-36	N-S	0.5	5	5	0.5	12		10	0	10	12		0.5	5	5	0.5	66	44	
Collector Arterial	N 200th St	Whitman Ave N	Aurora Ave N	60	37-40	N-S	1-2	7-8	4.5	.5	0	0	11	12	11	0	0	.5	4.5	7-8	1-2	62-64	34	
Collector Arterial	N 200th St	Aurora Ave N	Approx. 720 feet east of Aurora Ave N	60	40	N-S	0	10	0	.5	0	0	12	12-16	12	0	0	.5	4	7-8	0-1	60-64	36-40	

FUNCTIONAL CLASSIFICATION	STREET NAME	FROM	TO	TOTAL EXISTING RIGHT-OF-WAY	EXISTING CURB TO CURB WIDTH	CROSS-SECTION DIRECTION	BEHIND SIDEWALK	SIDEWALK	AMENITY ZONE	CURB	PARKING	BICYCLE LANE	TRAVEL LANE	CENTER TURN LANE	TRAVEL LANE	BICYCLE LANE	PARKING	CURB	AMENITY ZONE	SIDEWALK	BEHIND SIDEWALK	REQUIRED RIGHT-OF-WAY	PLANNED CURB TO CURB WIDTH	NOTES
Collector Arterial	N 200th St	Approx. 720 feet east of Aurora Ave N	Ashworth Ave N	60	50	N-S	0.5	8	5	0.5	0	5	11	10	11	5	0	0.5	5	8	0.5	70	42	All widening to the north
Collector Arterial	N 200th St	Ashworth Ave N	Meridian Ave N	60	40		0	5	5	0.5	7	5	11	0	11	5	0	0.5	5	5	0	60	39	
Collector Arterial	NE 150th St	15th Ave NE	20th Ave NE	60	30-36	N-S	1	8	5	0.5	0	5	10	0	10	5	8	0.5	5	5	1	64	38	
Collector Arterial	NE 150th St	20th Ave NE	25th Ave NE	60	39	N-S	5	2-10	0	0	0	5	10	0	10	5	8	0.5	5	5	1	62	38	City has constructed meandering path on the north side, resulting in a varying sidewalk/amenity zone width
Minor Arterial	NE 155th St	I-5	15th Ave NE	60-72	41	N-S	1	5	5	0.5	0	5	11	10	11	5	0	0.5	5	8	1	68	42	
Collector Arterial	NE 165th St	5th Ave NE	10th Ave NE	60	30-45	N-S	1	5	5.5	0.5	8	0	10	0	10	0	8	0.5	5.5	5	1	60-65	36	
Collector Arterial	NE 165th St	10th Ave NE	15th Ave NE	60	44	N-S	1	8	5.5	0.5	8	0	10	0	10	0	8	0.5	5.5	5	1	63	36	
Collector Arterial	NE 168th St	15th Ave NE	25th Ave NE	60-64	22-29	N-S	1	5	5.5	0.5	8	0	10	0	10	0	8	0.5	5.5	5	1	60	36	
Collector Arterial	NE 168th St	25th Ave NE	25th Ave NE	64	27	W-E/ S-N	0.5	5	5	0.5	0	5	10	0	10	5	8	0.5	5	5	0.5	60	38	
Collector Arterial	NE 171st St	22nd Ave NE	25th Ave NE	60	20	W-E/ S-N	0.5	5	5	0.5	8	0	11	0	11	0	8	0.5	5	5	0.5	60	38	
Principal Arterial	NE 175th St	1st Ave NE	Approx. 120 feet west of 3rd Ave NE	90-159	50-75	N-S	1	13	5	0.5	0	0	33	11	22	0	0	0.5	5	13	1	105	66	Includes a right turn lane at on ramps. Wider sidewalks to accommodate bicycles
Principal Arterial	NE 175th St	Approx. 120 feet west of 3rd Ave NE	15th Ave NE	60-100	26-56	N-S	1	13	5	0.5	0	0	22	11	22	0	0	0.5	5	13	1	94	55	2 travel lanes in each direction. Wider sidewalks to accommodate bicycles.

FUNCTIONAL CLASSIFICATION	STREET NAME	FROM	TO	TOTAL EXISTING RIGHT-OF-WAY	EXISTING CURB TO CURB WIDTH	CROSS-SECTION DIRECTION	BEHIND SIDEWALK	SIDEWALK	AMENITY ZONE	CURB	PARKING	BICYCLE LANE	TRAVEL LANE	CENTER TURN LANE	TRAVEL LANE	BICYCLE LANE	PARKING	CURB	AMENITY ZONE	SIDEWALK	BEHIND SIDEWALK	REQUIRED RIGHT-OF-WAY	PLANNED CURB TO CURB WIDTH	NOTES
Collector Arterial	NE 175th St	15th Ave NE	Approx. 300 feet east of 15th Ave NE	60-81	40	S-N	0	10			0	0	22	0	22	0	0	10			0	60	44	Two travel lanes in each direction, 8 feet of north sidewalk in ROW, 2 feet on private property
Collector Arterial	NE 175th St	Approx. 300 feet east of 15th Ave NE	NE 172nd St	60	24-33	W-E/ S-N	0.5	5	5	0.5	8	0	11	0	11	0	8	0.5	5	5	0.5	60	38	
Minor Arterial	NE 178th St	24th Pl NE	25th Ave NE	60	30	W-E	0.5	5	5	0.5	8	5	10	0	10	5	0	0.5	5	5	0.5	60	38	
Collector Arterial	NE 180th St	10th Ave NE	14th Ave NE	60	32	N-S	0.5	8	0	0.5	8	0	10	0	13	0	8	0.5	4	7.5	0	60	39	
Collector Arterial	NE 180th St	14th Ave NE	15th Ave NE	60	35	N-S	0.5	8	4.5	0.5	0	0	13	0	13	0	8	0.5	4	8	0	60	34	
Minor Arterial	NE 185th St	1st Ave NE	10th Ave NE	60-260 +	42	N-S	1	5	5.5	0.5	0	5	11	10	11	5	0	0.5	5.5	5	1	66	42	No amenity zones required across the bridge over I-5.
Minor Arterial	NE 196th St	15th Ave NE	Forest Park Dr NE	60-80	36-39	N/ W-S/ E	1	5	5	0.5	0	0	12	0	12	0	10-15	0	0	0	0	45.5-49.5	24	Parking to be accommodated on SE side where possible
Minor Arterial	NE 196th St	Bridge		60-80	36-39	N-S	11 (curb, walkway and railing)				0	0	12	0	12	0	0	0.5	2.5 (guardrail)			38	24	
Collector Arterial	NE Perkins Way	10th Ave NE	15th Ave NE	60	26-36						27											40	27	Cross section will be no less than 40 feet. It will consist of 27 feet of asphalt to accommodate two 12 foot travel lanes and one 5 foot bicycle lane in each uphill direction, a pedestrian walkway on the north side of the roadway and widened shoulder and parking where possible.

FUNCTIONAL CLASSIFICATION	STREET NAME	FROM	TO	TOTAL EXISTING RIGHT-OF-WAY	EXISTING CURB TO CURB WIDTH	CROSS-SECTION DIRECTION	BEHIND SIDEWALK	SIDEWALK	AMENITY ZONE	CURB	PARKING	BICYCLE LANE	TRAVEL LANE	CENTER TURN LANE	TRAVEL LANE	BICYCLE LANE	PARKING	CURB	AMENITY ZONE	SIDEWALK	BEHIND SIDEWALK	REQUIRED RIGHT-OF-WAY	PLANNED CURB TO CURB WIDTH	NOTES
Collector Arterial	NE Perkins Way	15th Ave NE	18th Ave NE	60	25-41	W-E/ S-N	0.5	5	5	0.5	8	5	10	0	10	5	0	0.5	5	5	0.5	60	38	
Minor Arterial	NE 205th Street	19th Ave NE	30th Ave NE	N/A	N/A	CL-S	In Mountlake Terrace							0	10	12		0.5	0	7.5	0	30	22	
Collector Arterial	NW 167th St	10th Ave NW	15th Ave NW	60	20	N-S	1	5	5.5	0.5	8	0	10	0	10	0	8	0.5	5.5	5	1	60	36	
Collector Arterial	NW 175th St	St. Luke's Pl	3rd Ave NW	60	28	S-N	1	5	5.5	0.5	8	0	10	0	10	0	8	0.5	5.5	5	1	60	36	Provide amenity zone on the south where feasible and allow the sidewalk to meander due to topography.
Collector Arterial	NW 175th St	3rd Ave NW	6th Ave NW	60	28-34	S-N	0	5	3.5	0.5	8	0	10	0	10	0	8	0.5	4	5	0	54.5	36	
Collector Arterial	NW 175th St	6th Ave NW	10th Ave NW (s leg)	60	28	S-N	0	8	0	0.5	0	0	12	0	13	0	8	0.5	0	8	0	50	33	Parking on the north side to consist of parking pullouts where feasible
Local Primary Street	NW 175th St	10th Ave NW (s leg)	10th Ave NW (n leg)	60	20	S-N	0	8	0	0.5	0	0	13	0	13	0	0	0.5	5	8	0	48	26	
Local Primary Street	NW 175th St	10th Ave NW (n leg)	14th Ave NW	60	20	S-N	1	5	7.5	0.5	0	0	16	0	16	0	0	0.5	7.5	5	1	60	32	
Local Primary Street	NW 180th St	3rd Ave NW	6th Ave NW	60	32	N-S	1	5	8.5	0.5	0	0	15	0	15	0	0	0.5	8.5	5	1	60	30	
Collector Arterial	NW 180th St	6th Ave NW	8th Ave NW	50-60	20-35	S-N	1	5	5.5	0.5	0	0	14	0	14	0	8	0.5	5.5	5	1	60	36	
Local Primary Street	NW 180th St	8th Ave NW	10th Ave NW	60	20	N-S	1	5	5.5	0.5	8	0	10	0	10	0	8	0.5	5.5	5	1	60	36	

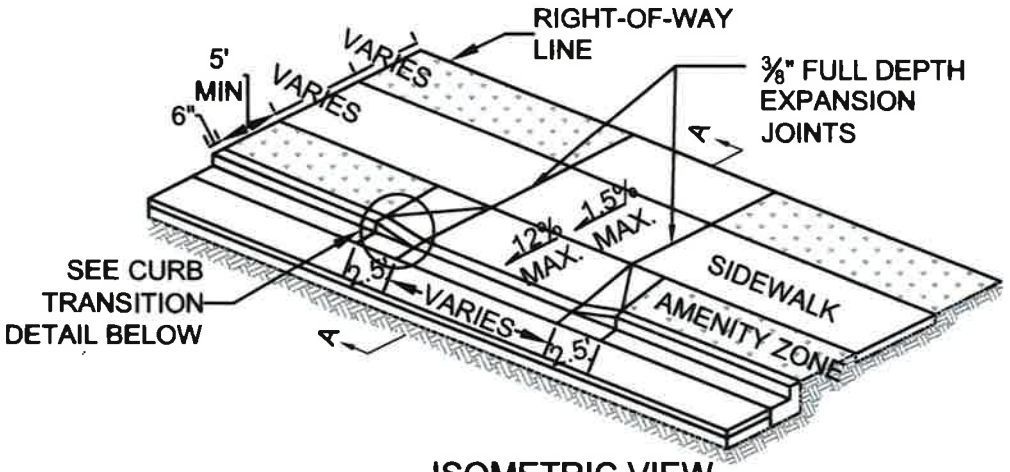
FUNCTIONAL CLASSIFICATION	STREET NAME	FROM	TO	TOTAL EXISTING RIGHT-OF-WAY	EXISTING CURB TO CURB WIDTH	CROSS-SECTION DIRECTION	BEHIND SIDEWALK	SIDEWALK	AMENITY ZONE	CURB	PARKING	BICYCLE LANE	TRAVEL LANE	CENTER TURN LANE	TRAVEL LANE	BICYCLE LANE	PARKING	CURB	AMENITY ZONE	SIDEWALK	BEHIND SIDEWALK	REQUIRED RIGHT-OF-WAY	PLANNED CURB TO CURB WIDTH	NOTES
Collector Arterial	NW 188th St	15th Ave NW	Springdale Ct NW	60	20	N-S	1	5	5.5	0.5	8	0	10	0	14	0	0	0.5	9.5	5	1	60	32	
Collector Arterial	NW 195th St	8th Ave NW	Greenwood Ave N	50-60	28-32	N-S	1	8	5.5	0.5	0	0	13	10	13	0	0	0.5	5.5	8	1	66	36	
Minor Arterial	NW 195th St	15th Ave NW	20th Ave NW	60-85	44	Curb to curb cross-section to remain the same until corridor study is complete.																		
Local Primary Street	NW 195th St	Richmond Beach Dr NW	NW 196th	60	27	NW-SE	0.5	5	5	0.5	8	0	10	0	12	0	8	0.5	5	5	0.5	60	38	
Collector Arterial	NW 196th St	20th Ave NW	24th Ave NW	64-74	42-44	Curb to curb cross-section to remain the same until corridor study is complete.																		
Collector Arterial	NW 196th St	Richmond Beach Dr NW	24th Ave NW	60	26-32	N-S	0.5	5	5	0.5	8	5	10	0	10	5	8	0.5	5	5	0.5	68	46	
Collector Arterial	NW 200th St	1st Ave NW	3rd Ave NW	60	30	N-S	0.5	5	5	0.5	12		10	0	10	12		0.5	5	5	0.5	66	44	
Collector Arterial	NW 205th Street	3rd Ave NW	8th Ave NW	40-50	19-20	N-S	0.5	8	0	0.5	0	0	11	0	11	0	8	0.5	5	5	0.5	50	30	
Collector Arterial	NW Innis Arden	Greenwood Ave N	Approx. 450 feet east of 6th Ave NW	80	22	To Be Determined in conjunction with Shoreline Community College Master Development Permit application																		
Collector Arterial	NW Innis Arden	Approx. 450 feet east of 6th Ave NW	6th Ave NW	80	22	W-E	0.5	8	5	0.5	8	0	10	0	14	0	0	0.5	5	8	0.5	60	32	8 foot width on south/west side is shoulder
Collector Arterial	NW Innis Arden	6th Ave NW	10th Ave NW	60-81	21-24	W-E	0	0	0	0	8	0	10	0	14	0	0	0.5	5	8	0.5	46	32	
Minor Arterial	NW Richmond Beach Rd	Fremont Ave N	2nd Ave NW	80-110	44	Curb to curb cross-section to remain the same until corridor study is complete.																		

FUNCTIONAL CLASSIFICATION	STREET NAME	FROM	TO	TOTAL EXISTING RIGHT-OF-WAY	EXISTING CURB TO CURB WIDTH	CROSS-SECTION DIRECTION	BEHIND SIDEWALK	SIDEWALK	AMENITY ZONE	CURB	PARKING	BICYCLE LANE	TRAVEL LANE	CENTER TURN LANE	TRAVEL LANE	BICYCLE LANE	PARKING	CURB	AMENITY ZONE	SIDEWALK	BEHIND SIDEWALK	REQUIRED RIGHT-OF-WAY	PLANNED CURB TO CURB WIDTH	NOTES
Minor Arterial	NW Richmond Beach Rd	2nd Ave NW	8th Ave NW	60-80	44-54	N-S	1	5 to 8	5	0.5	0	5	22	12	22	5	0	0.5	5	5 to 8	1	89-95	66	
Minor Arterial	NW Richmond Beach Rd	8th Ave NW	15th Ave NW	60-83	44	Curb to curb cross-section to remain the same until corridor study is complete.																		

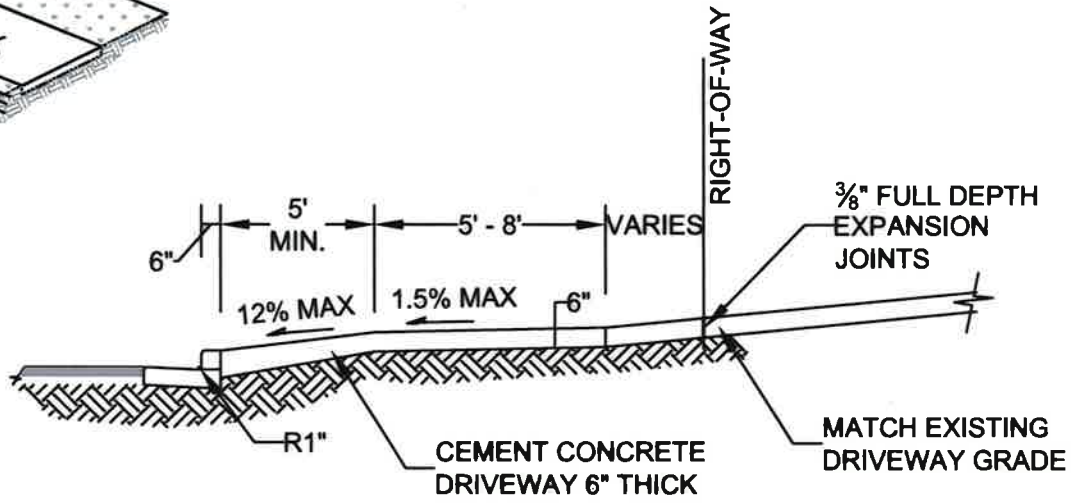
FUNCTIONAL CLASSIFICATION	STREET NAME	FROM	TO	TOTAL EXISTING RIGHT-OF-WAY	EXISTING CURB TO CURB WIDTH	CROSS-SECTION DIRECTION	BEHIND SIDEWALK	SIDEWALK	AMENITY ZONE	CURB	PARKING	BICYCLE LANE	TRAVEL LANE	CENTER TURN LANE	TRAVEL LANE	BICYCLE LANE	PARKING	CURB	AMENITY ZONE	SIDEWALK	BEHIND SIDEWALK	REQUIRED RIGHT-OF-WAY	PLANNED CURB TO CURB WIDTH	NOTES
LOCAL SECONDARY STREETS																								
Local Secondary Street	Generic Cross-Section			Varies	Varies		1	5	7.5	0.5	0	0	16	0	16	0	0	0.5	7.5	5	1	60	32	Five feet is the standard sidewalk width adjacent to single family residential land uses and eight feet is the standard sidewalk width adjacent to all land uses other than single family residential. Increased width may be required if determined by a traffic study.
Local Street - Storefront Street	N 178th St, N 180th St, N 183rd St	Town Center Boundaries				N-S	0.5	8	5	0.5	8	0	10	0	10	0	8	0.5	5	8	0.5	64	36	
Local Street - Greenlink Street	Stone Ave N	Town Center Boundaries				W-E	0.5	8	5	0.5	0	0	16	0	16	0	0	0.5	5	8	0.5	60	32	Combined travel lanes/on-street parking
Local Street	NW 200th Ave	3rd Ave NW	8th Ave NW			N-S	1	5	5.5	0.5	0	0	16	0	16	0	0	0.5	5.5	5	1	56	32	Combined travel lanes/on-street parking

FUNCTIONAL CLASSIFICATION	STREET NAME	FROM	TO	TOTAL EXISTING RIGHT-OF-WAY	EXISTING CURB TO CURB WIDTH	CROSS-SECTION DIRECTION	BEHIND SIDEWALK	SIDEWALK	AMENITY ZONE	CURB	PARKING	BICYCLE LANE	TRAVEL LANE	CENTER TURN LANE	TRAVEL LANE	BICYCLE LANE	PARKING	CURB	AMENITY ZONE	SIDEWALK	BEHIND SIDEWALK	REQUIRED RIGHT-OF-WAY	PLANNED CURB TO CURB WIDTH	NOTES
Local Secondary Street	Firlands Way N	N 185th St	N 188th St	92	25	SW-NE	0.5	10	5	0.5	17	0	12	0	12	0	17	0.5	5	10	0.5	90	58	This is a Storefront Street per the Town Center Code; redesign the intersection at Firlands & Linden
Local Secondary Street	N 152nd St	Approx. 375 feet west of Ashworth Ave N	Ashworth Ave N	60	30	N-S	1	5	11.5	0.5	0	0	12	0	12	0	0	0.5	11.5	5	1	60	24	Amenity zone width needs to be flexible to accommodate topography.
Local Secondary Street	N 195th St	Ashworth Ave N	Wallingford Ave N	60	40	N-S	1	5	5	0.5	8	0	10	0	10	0	17	0.5	5	8	1	71	45	The south side must dedicate 11 feet. Less ROW is needed if parallel parking is installed on-street instead of angle-in parking.
Local Secondary Street	N 195th St	Wallingford Ave N	Meridian Ave N	60	30	N-S	1	5	7	0.5	0	0	15	0	15	0	0	0.5	7	8	1	60	30	

2017 COS STD. PLANS 300 SERIES
DRIVEWAYS, WALKS, TRAILS



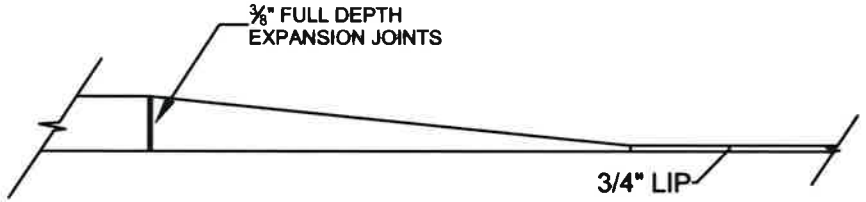
ISOMETRIC VIEW



SECTION A-A

NOTES:

1. ALL COMMERCIAL/INDUSTRIAL DRIVEWAYS SHALL HAVE AN EXPANSION JOINT LOCATED MID-WIDTH.
2. MATERIAL - WSDOT CONCRETE CLASS 4000psi.
3. FULL DEPTH EXPANSION JOINT SHALL BE INSTALLED IF DRIVEWAY WIDTH IS 10' OR GREATER.
4. CURB SHALL BE IN COMPLIANCE WITH STND DWG 312.
5. NO REBAR SHALL BE PLACED IN CURB, GUTTER, DRIVEWAY, OR SIDEWALK.



CURB TRANSITION DETAIL

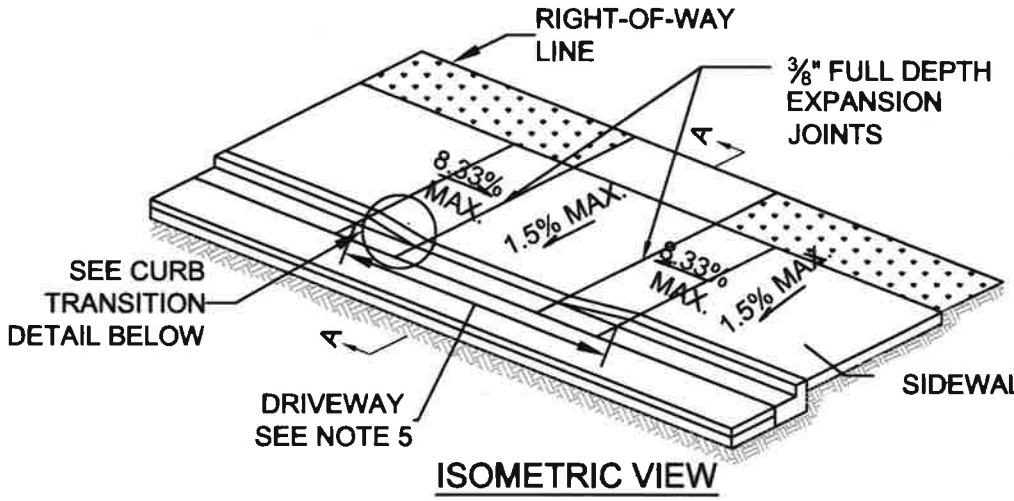
301

Curb & Gutter Section Driveway Approach

CITY OF SHORELINE
Public Works

NOT TO SCALE

Revision Date
April 2017



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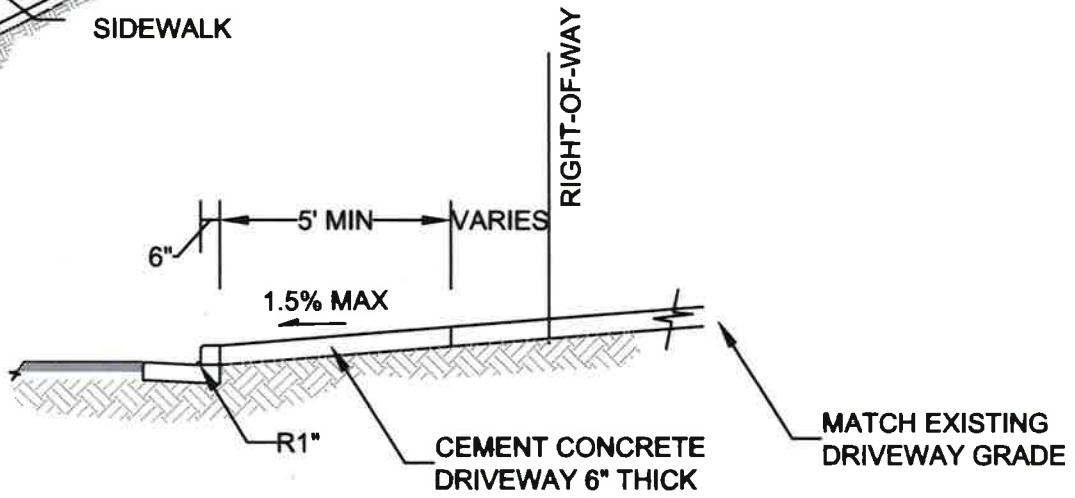
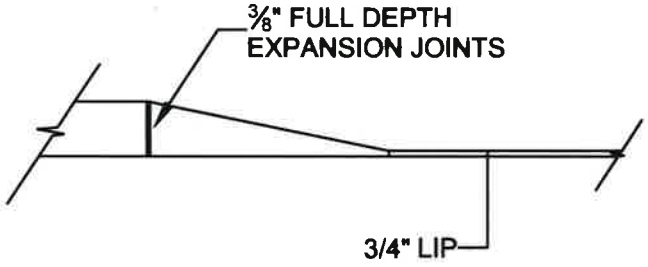


SECTION A-A

NOTES:

1. MATERIAL - WSDOT CONCRETE CLASS 4000psi.
2. FULL DEPTH EXPANSION JOINT SHALL BE INSTALLED IF DRIVEWAY WIDTH IS 10' OR GREATER.
3. CURB SHALL BE IN COMPLIANCE WITH STND DWG 312.
4. NO REBAR SHALL BE PLACED IN CURB, GUTTER, DRIVEWAY, OR SIDEWALK.
5. DRIVEWAY HAS TO BE DESIGNED TO MEET ADA.



CURB TRANSITION DETAIL

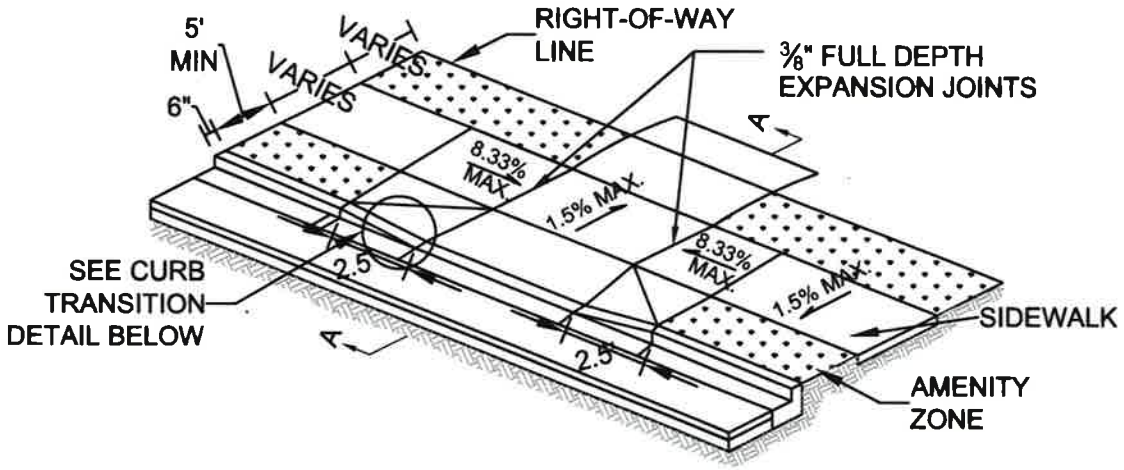
302

Driveway Approach without Amenity Zone (5' Sidewalk Width)

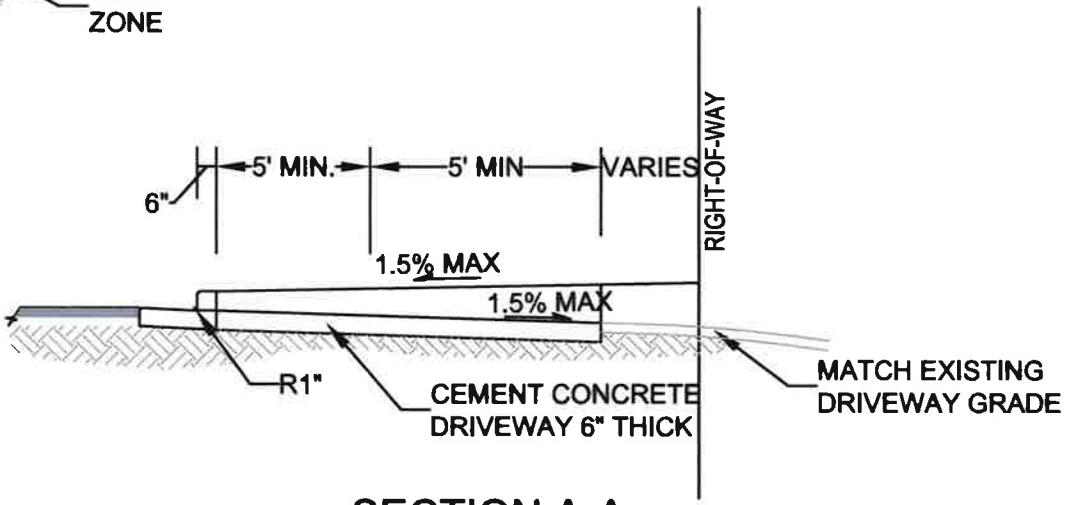
CITY OF SHORELINE
Public Works

NOT TO SCALE

Revision Date
April 2017



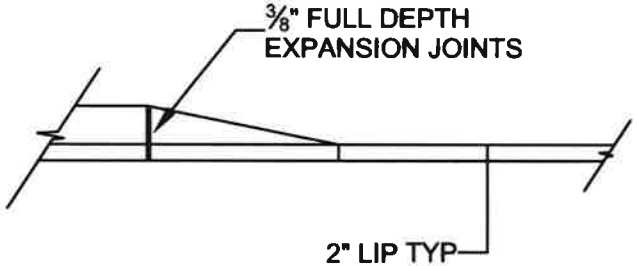
ISOMETRIC VIEW



SECTION A-A

NOTES:

1. MATERIAL - WSDOT CONCRETE CLASS 4000psi.
2. FULL DEPTH EXPANSION JOINT SHALL BE INSTALLED IF DRIVEWAY WIDTH IS 10' OR GREATER.
3. CURB SHALL BE IN COMPLIANCE WITH STND DWG 312.
4. NO REBAR SHALL BE PLACED IN CURB, GUTTER, DRIVEWAY, OR SIDEWALK.



CURB TRANSITION DETAIL

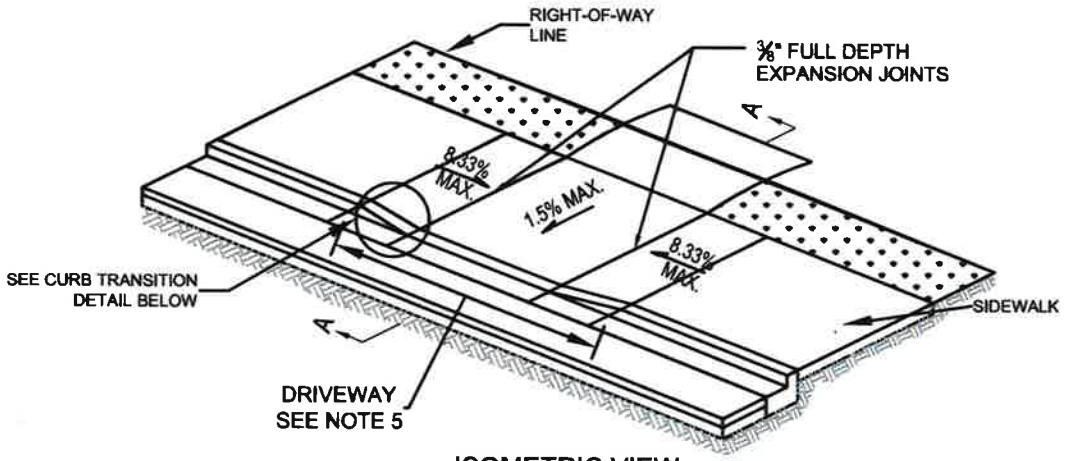
303
Driveway Approach: Reverse Slope

CITY OF SHORELINE
Public Works

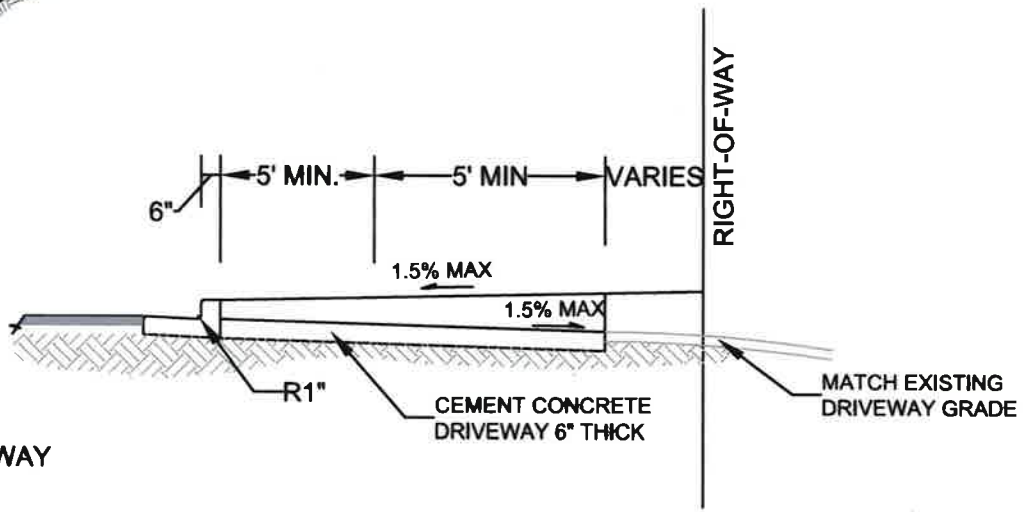
PATRICIA JUBNER
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER

NOT TO SCALE

Revision Date
April 2017



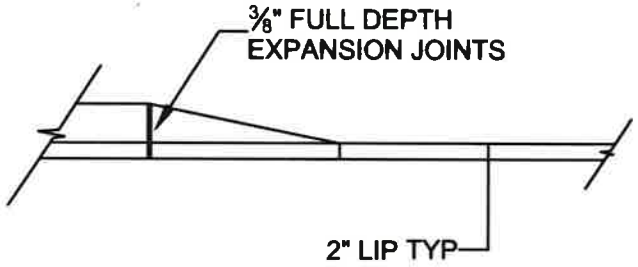
ISOMETRIC VIEW



SECTION A-A

NOTES:

1. MATERIAL - WSDOT CONCRETE CLASS 4000psi.
2. FULL DEPTH EXPANSION JOINT SHALL BE INSTALLED IF DRIVEWAY WIDTH IS 10' OR GREATER.
3. CURB SHALL BE IN COMPLIANCE WITH STND DWG 312.
4. NO REBAR SHALL BE PLACED IN CURB, GUTTER, DRIVEWAY, OR SIDEWALK.
5. DRIVEWAY HAS TO BE DESIGNED TO MEET ADA.



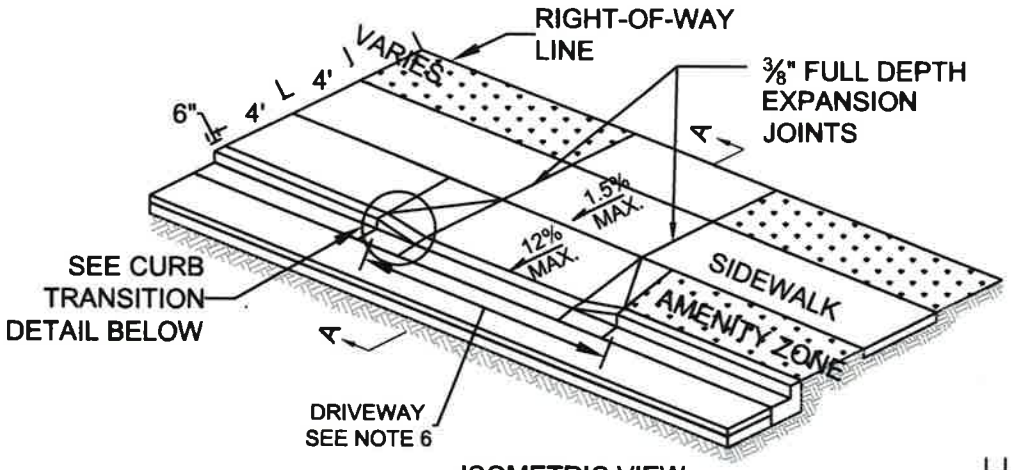
CURB TRANSITION DETAIL

304
Driveway Approach: Reverse Slope without Amenity Zone

CITY OF SHORELINE
Public Works

NOT TO SCALE

Revision Date
April 2017



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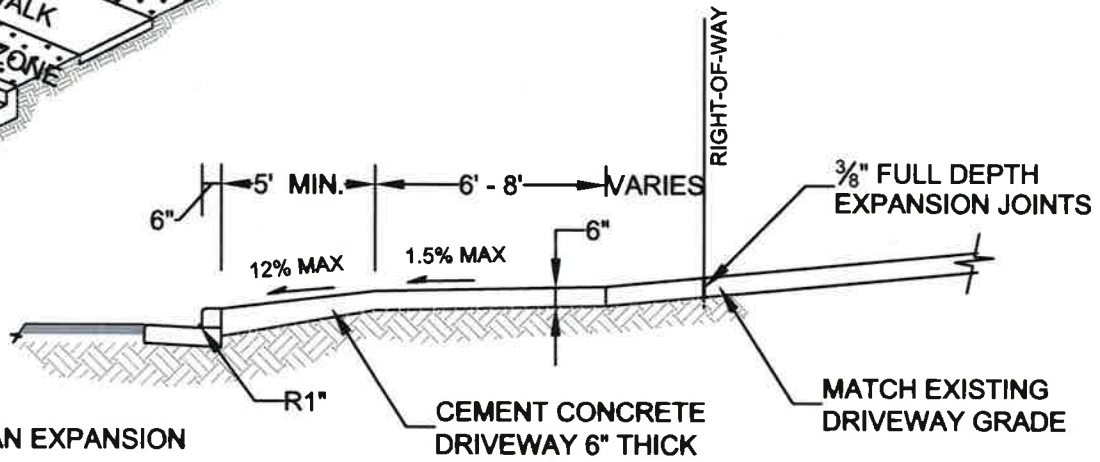
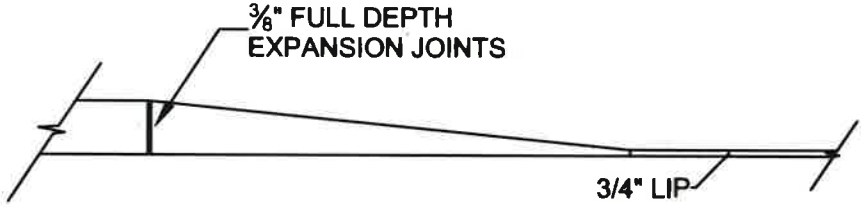


SECTION A-A

NOTES:

1. ALL COMMERCIAL/INDUSTRIAL DRIVEWAYS SHALL HAVE AN EXPANSION JOINT LOCATED MID-WIDTH.
2. MATERIAL - WSDOT CONCRETE CLASS 4000psi.
3. FULL DEPTH EXPANSION JOINT SHALL BE INSTALLED IF DRIVEWAY WIDTH IS 10' OR GREATER.
4. CURB SHALL BE IN COMPLIANCE WITH STND DWG 312.
5. NO REBAR SHALL BE PLACED IN CURB, GUTTER, DRIVEWAY, OR SIDEWALK.
6. DRIVEWAY HAS TO BE DESIGNED TO MEET ADA.

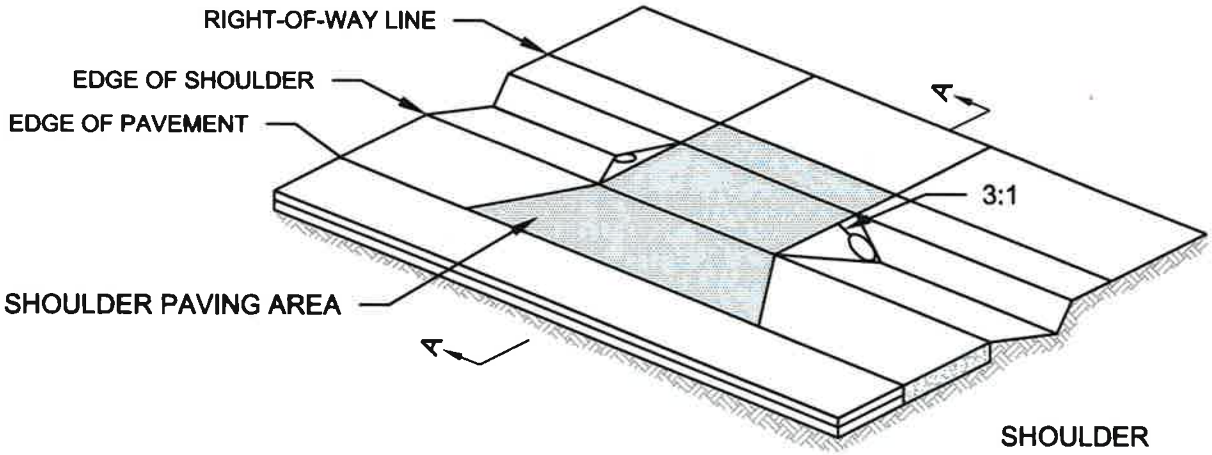


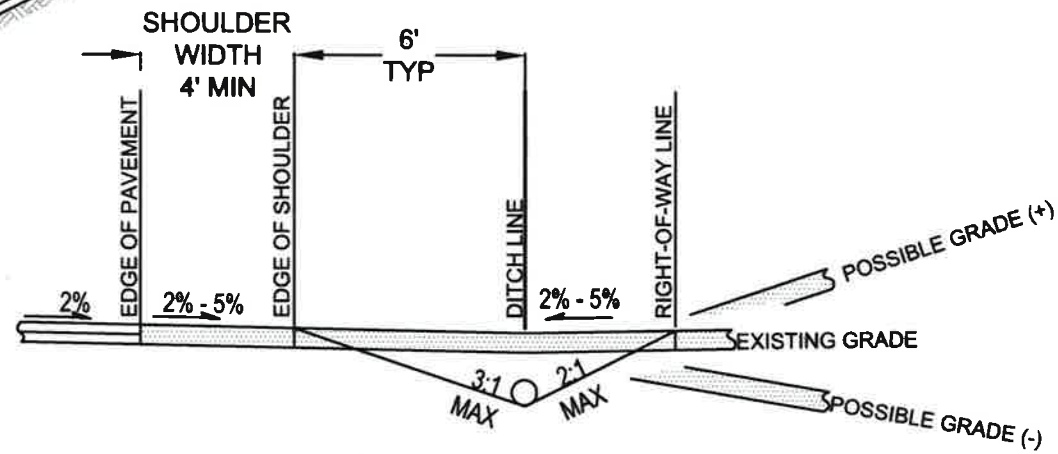
CURB TRANSITION DETAIL

305
Driveway Approach without Amenity Zone (8' Sidewalk Width)

CITY OF SHORELINE
Public Works

NOT TO SCALE	Revision Date April 2017





SECTION A - A

NOTES:

1. ALL COMMERCIAL/INDUSTRIAL DRIVEWAYS SHALL HAVE AN EXPANSION JOINT LOCATED MID-WIDTH.

2. PIPE SHALL BE:
   A. SIZED TO CONVEY COMPUTED STORM WATER RUNOFF, AND
   B. MIN. 12" DIAM., AND
   C. EQUAL TO OR LARGER THAN EXISTING PIPES WITHIN 500' UPSTREAM.

3. EXPOSED PIPE ENDS SHALL BE BEVELED TO MATCH THE SLOPE FACE AND PROJECT NO MORE THAN 2" BEYOND SLOPE SURFACE. PROJECTING HEADWALLS ARE NOT ACCEPTABLE.

4. PIPE COVER SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

5. PIPE SHALL BE INSTALLED IN A STRAIGHT UNIFORM ALIGNMENT AT A MIN. 0.5% SLOPE (0.5 FT. PER 100 FT.)

6. DRIVEWAYS SHALL BE PAVED FROM THE EDGE OF PAVEMENT TO THE PROPERTY LINE.

306
Shoulder & Ditch Section Driveway

CITY OF SHORELINE
Public Works

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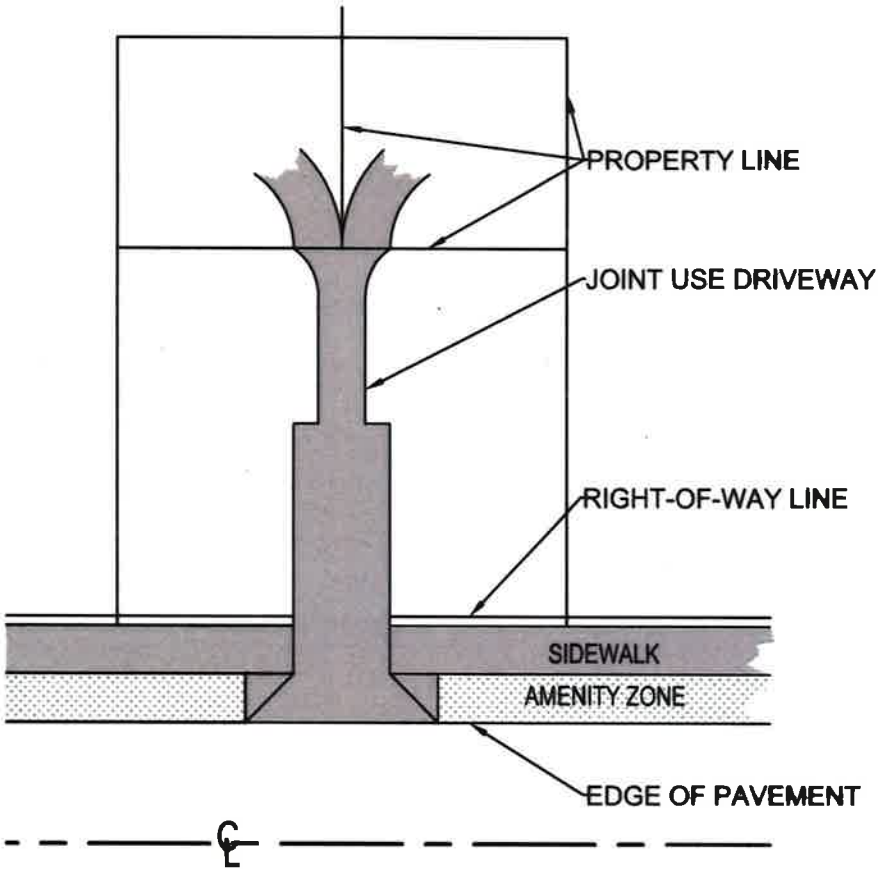
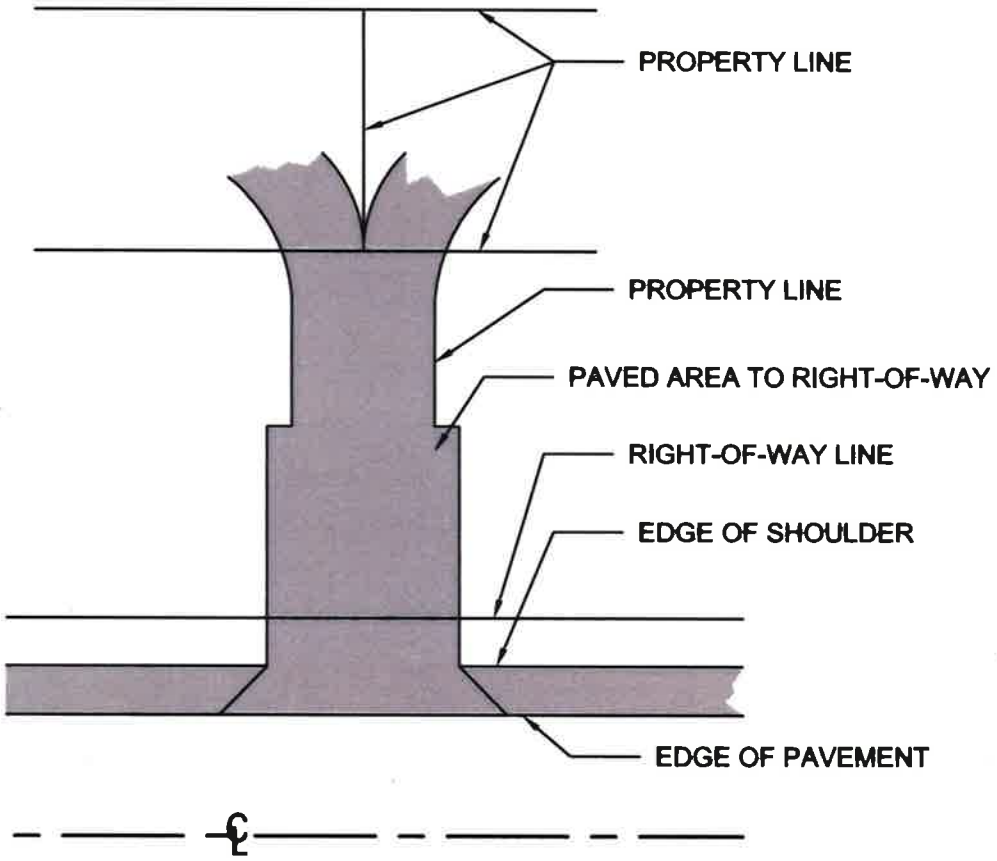


WITH CURB



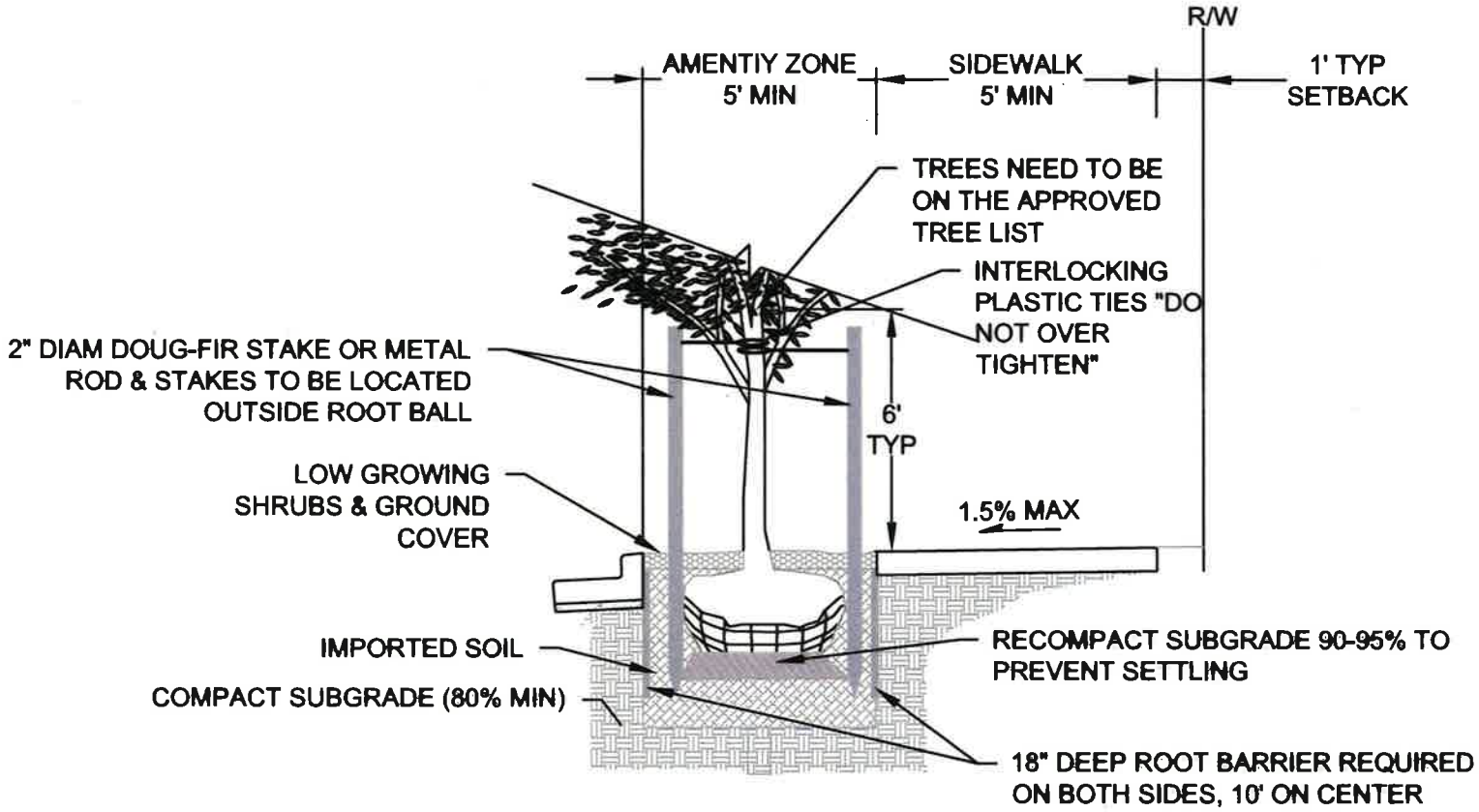
WITH NO CURB

307
Joint Use Driveway

CITY OF SHORELINE
Public Works

NOT TO SCALE

Revision Date
April 2017



NOTES:

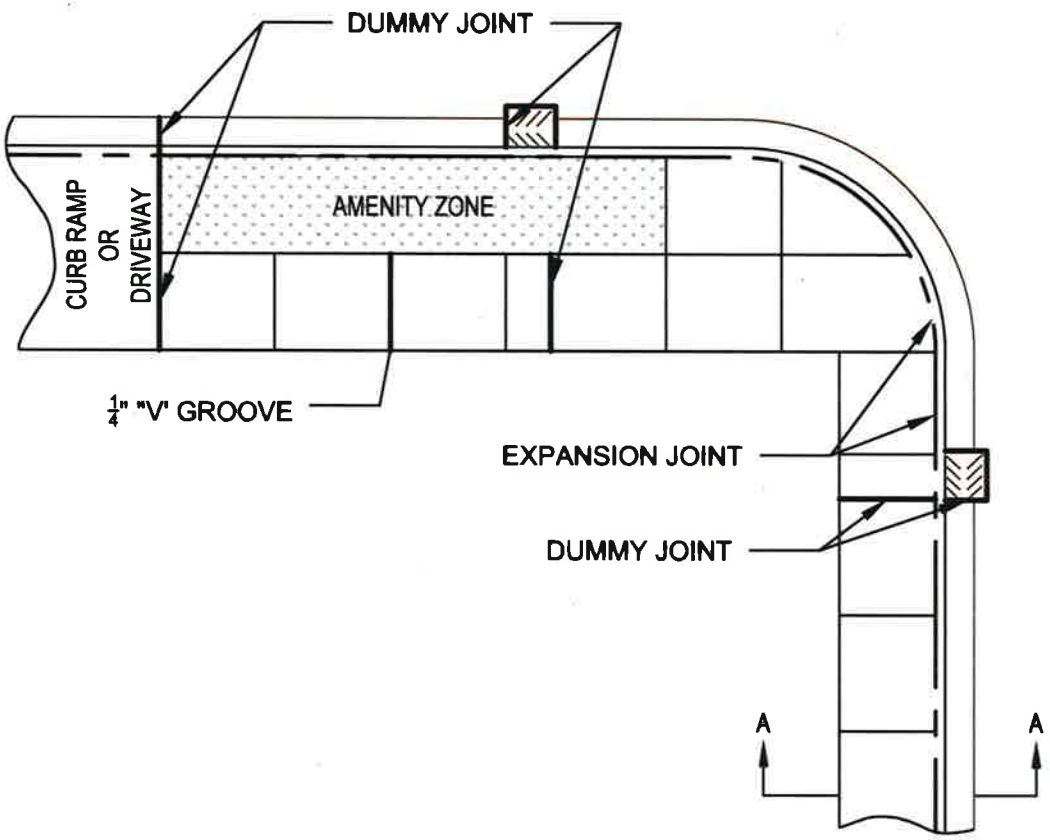
1. TREE PIT SHALL NOT BE LESS THAN 2 TIMES ROOT BALL DIAM.
2. CUT ALL TIES & FOLD BACK BURLAP FROM UPPER ⅓ OF ROOT BALL.
3. WATER DAILY UNTIL ESTABLISHED, FERTILIZE & USE GROWTH HORMONE.
4. WHERE A CONTINUOUS PLANTING STRIP IS ALLOWED, WIDEN TREE PIT TO SIDEWALK.
5. IF TREE IS REMOVED FOR RIGHT-OF-WAY, A TREE NEED TO BE PLANTED.
6. TREE SPACING PER PLAN & FILED APPROVAL BY THE ENGINEER (CITY OF SEATTLE, 100c).

308
Street Tree

CITY OF SHORELINE
Public Works

NOT TO SCALE

Revision Date
April 2017



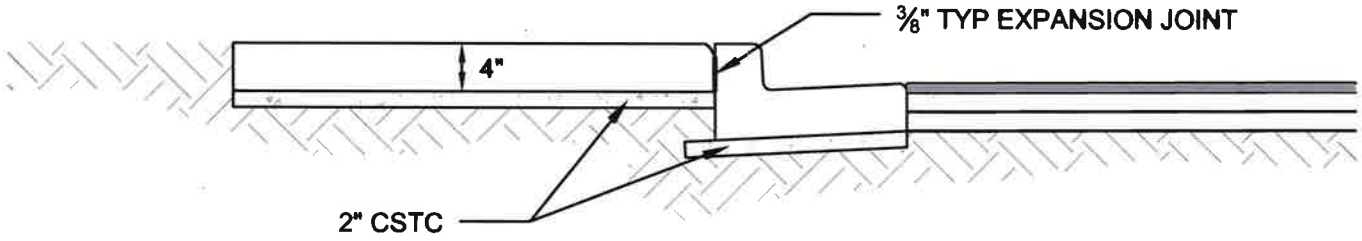
VERTICAL CURB & SIDEWALK

DUMMY JOINT @ MAX. 15' C-C, 10' TYP, 15' MAX

EXPANSION JOINT ALONG CURB

1/4" "V" GROOVE @ MAX. 5' C-C

NOTES:
1. CONCRETE SHALL HAVE 4" PERIMETER EDGING.
2. SIDEWALK JOINTS SHOULD MATCH EXPANSION JOINTS.



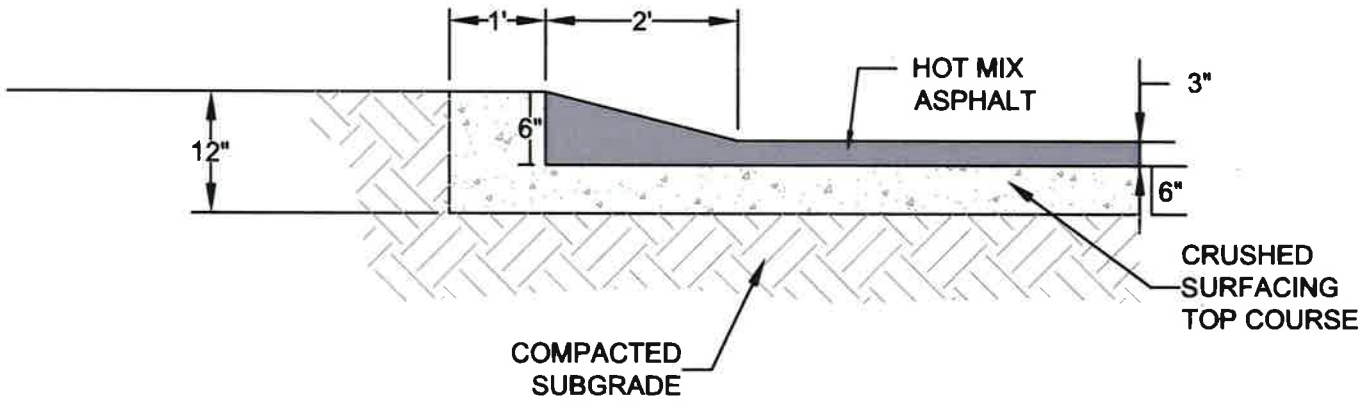
SECTION A-A

309
Curb & Sidewalk Joints

CITY OF SHORELINE
Public Works

NOT TO SCALE

Revision Date
April 2017

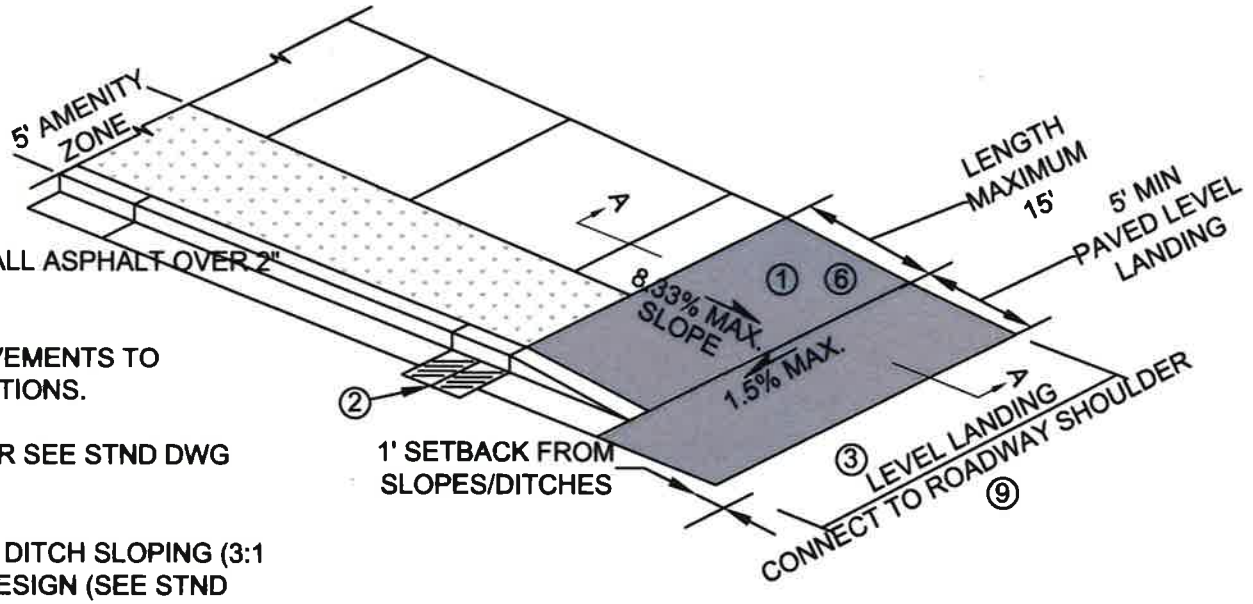


310
Asphalt Thickened Edge

CITY OF SHORELINE
Public Works

NOT TO SCALE

Revision Date
April 2017



NOTES:

(1.) RAMP, CURB TAPER, AND LEVEL LANDING ALL ASPHALT OVER 2" CSTC.

(2.) CATCH BASINS LOCATE AT END OF IMPROVEMENTS TO FACILITATE FUTURE EXTENSIONS/CONNECTIONS.

(3.) FOR WIDTHS OF PAVEMENT AND SHOULDER SEE STND DWG 201, 204 & 205.

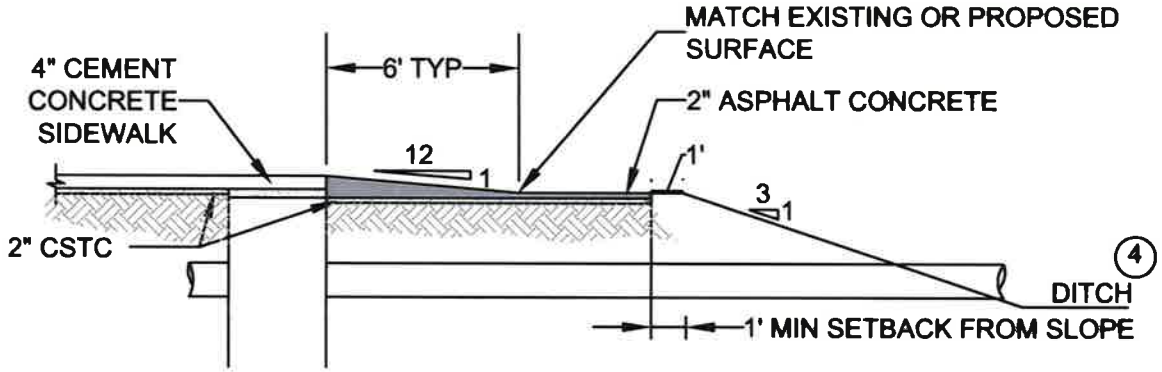
(4.) FOR TRANSITIONS ADJACENT TO DITCHES, DITCH SLOPING (3:1 TYPICAL), 1' SETBACK & PIPE BEVEL END DESIGN (SEE STND DWG 701) MAY BE REQUIRED.

5. FOR CURB AND SIDEWALK JOINTS SEE STND DWG 309.

(6.) DETECTABLE WARNING PATTERN (TRUNCATED DOMES) MAY BE REQUIRED IF RAMP CROSSES TRAVEL LANE OF PUBLIC STREET OR AS SPECIFIED BY THE CITY TRAFFIC ENGINEER (SEE STND DWG 318).

7. CURB RADIUS REQUIRED AT INTERSECTIONS.

(8.) EXISTING SHOULDER MAY REQUIRE RESTORATION WITH CSTC.



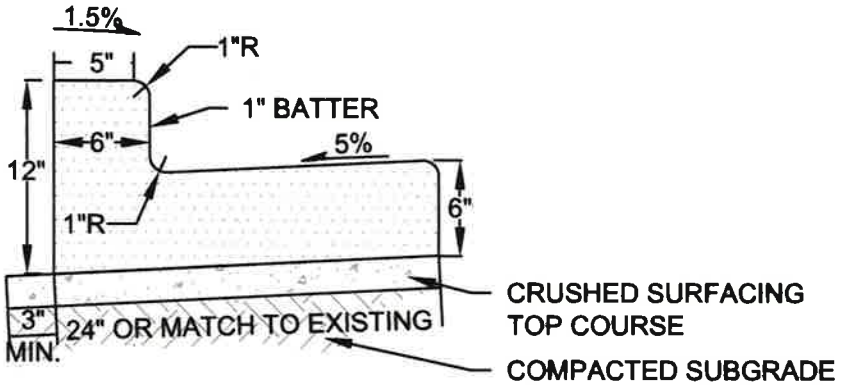
SECTION A-A

311
Asphalt Transition Ramp to Shoulder

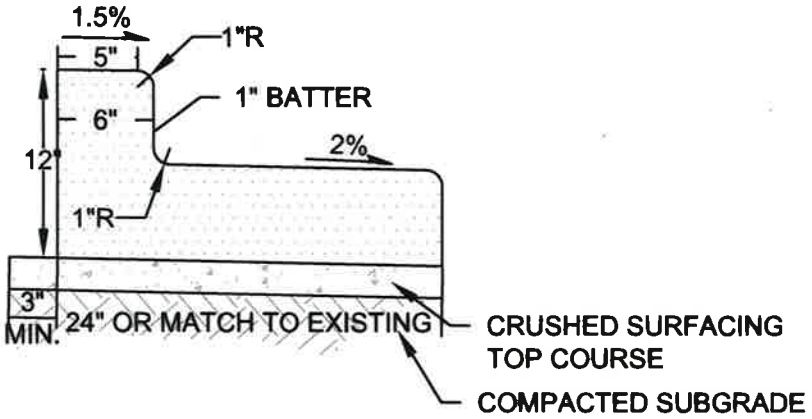
CITY OF SHORELINE
Public Works

NOT TO SCALE

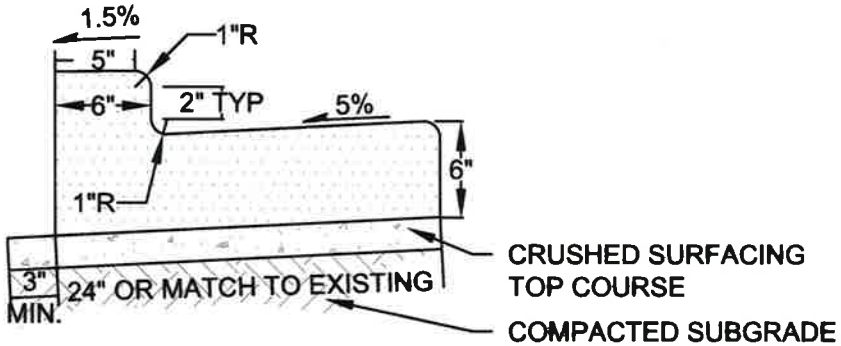
Revision Date
April 2017



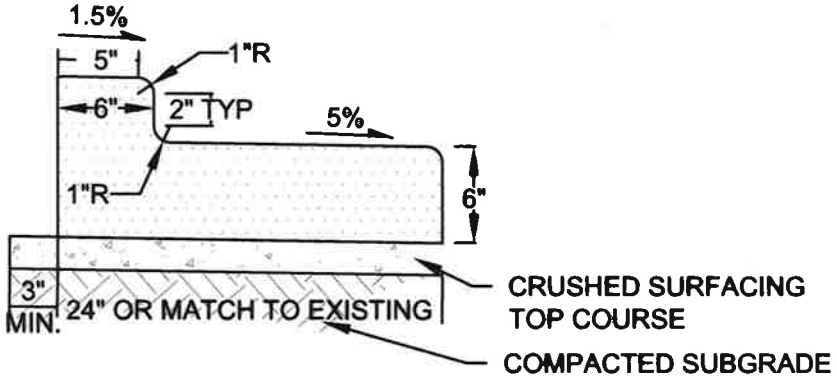
TYPE A CURB AND GUTTER



MEDIAN CURB AND GUTTER



REVERSE DRIVEWAY CURB AND GUTTER (A)



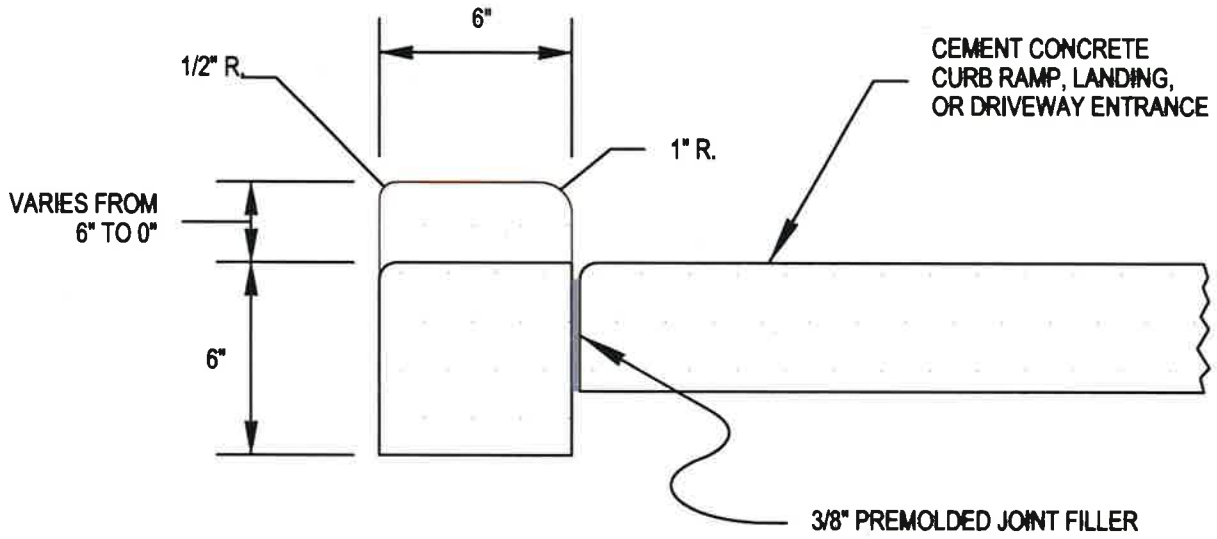
REVERSE DRIVEWAY CURB AND GUTTER (B)

312
Curbs

CITY OF SHORELINE
Public Works

NOT TO SCALE

Revision Date
April 2017

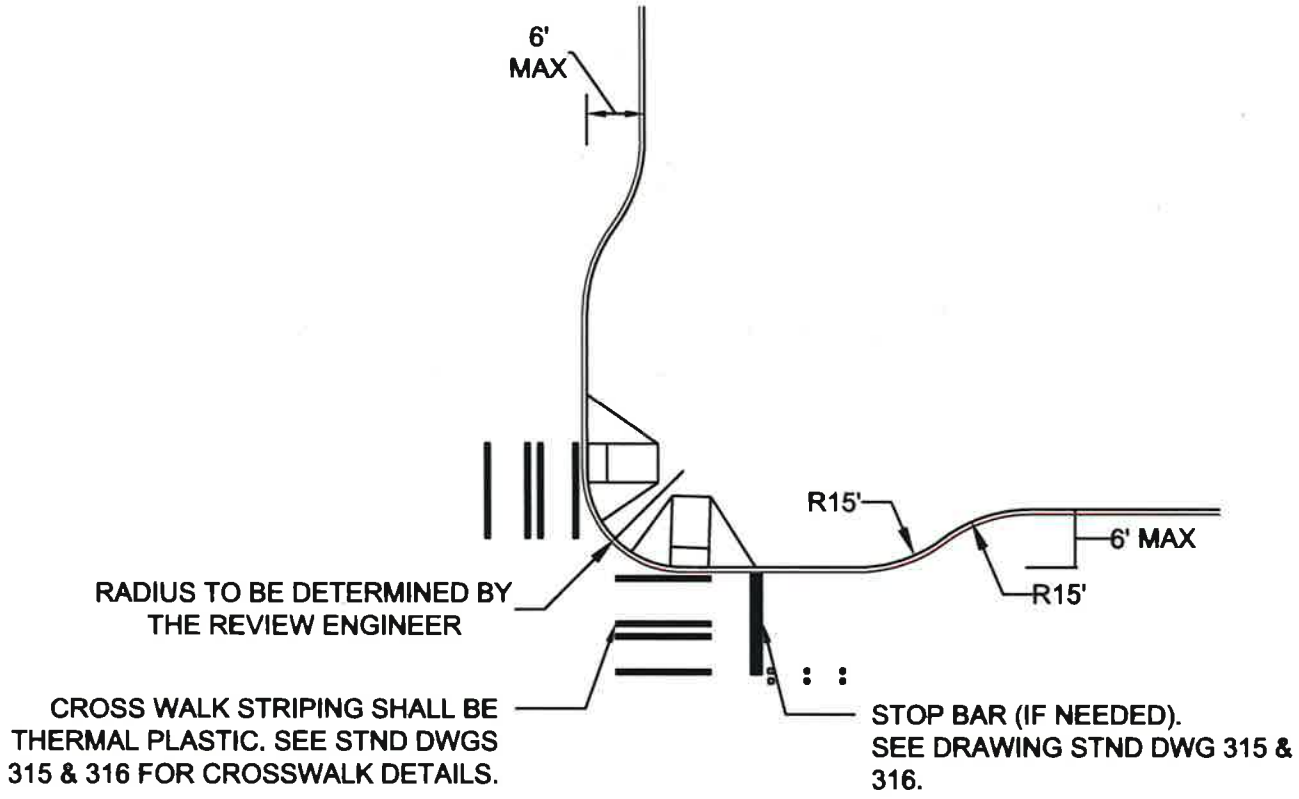


313
Pedestrian Curb

CITY OF SHORELINE
Public Works

NOT TO SCALE

Revision Date
April 2017



NOTES:

1. INTERSECTION RADII SHALL ACCOMMODATE DESIGN VEHICLES APPLICABLE TO STREET.

2. LENGTH OF CURB EXTENSIONS MUST RECOGNIZE SITE CONDITIONS, E.G. DRIVEWAY LOCATIONS.

314
Curb Extension

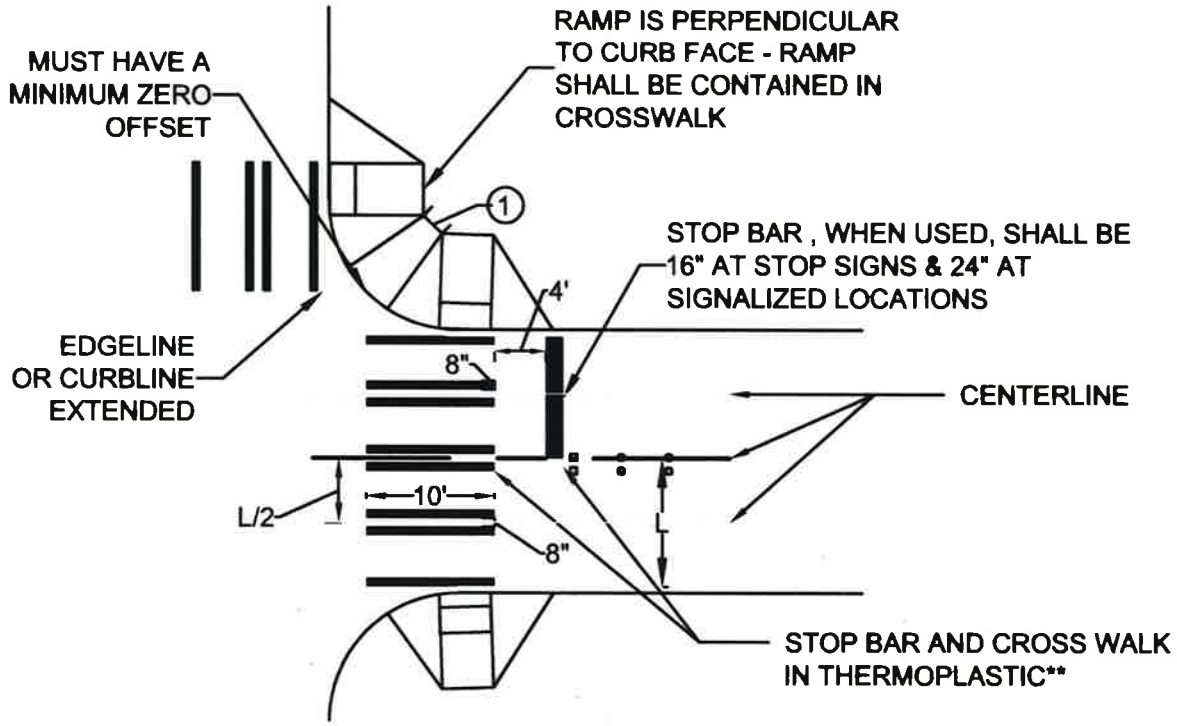
CITY OF SHORELINE
Public Works

PATRICIA JULIUS
STATE OF WASHINGTON
20767
REGISTERED PROFESSIONAL ENGINEER

4/19/17

NOT TO SCALE

Revision Date
April 2017



* USE 5' TYPICAL SPACING IF LANES LINES ARE NOT MARKED

** STOP BAR ONLY TO BE USED AT STOP SIGNS & SIGNALS

NOTES:

(1.) CURB RAMPS SHALL BE A MINIMUM OF 2' APART 2.

2. IN ORDER TO PROVIDE SAFE STREETS FOR PEDESTRIANS, DRAINAGE STRUCTURES WILL BE REQUIRED TO MANAGE SURFACE WATER AT MARKED CROSSWALKS WHERE AFFECTED BY RUNOFF. SHEET FLOW IS ACCEPTABLE AT UNMARKED CROSSWALKS.

315

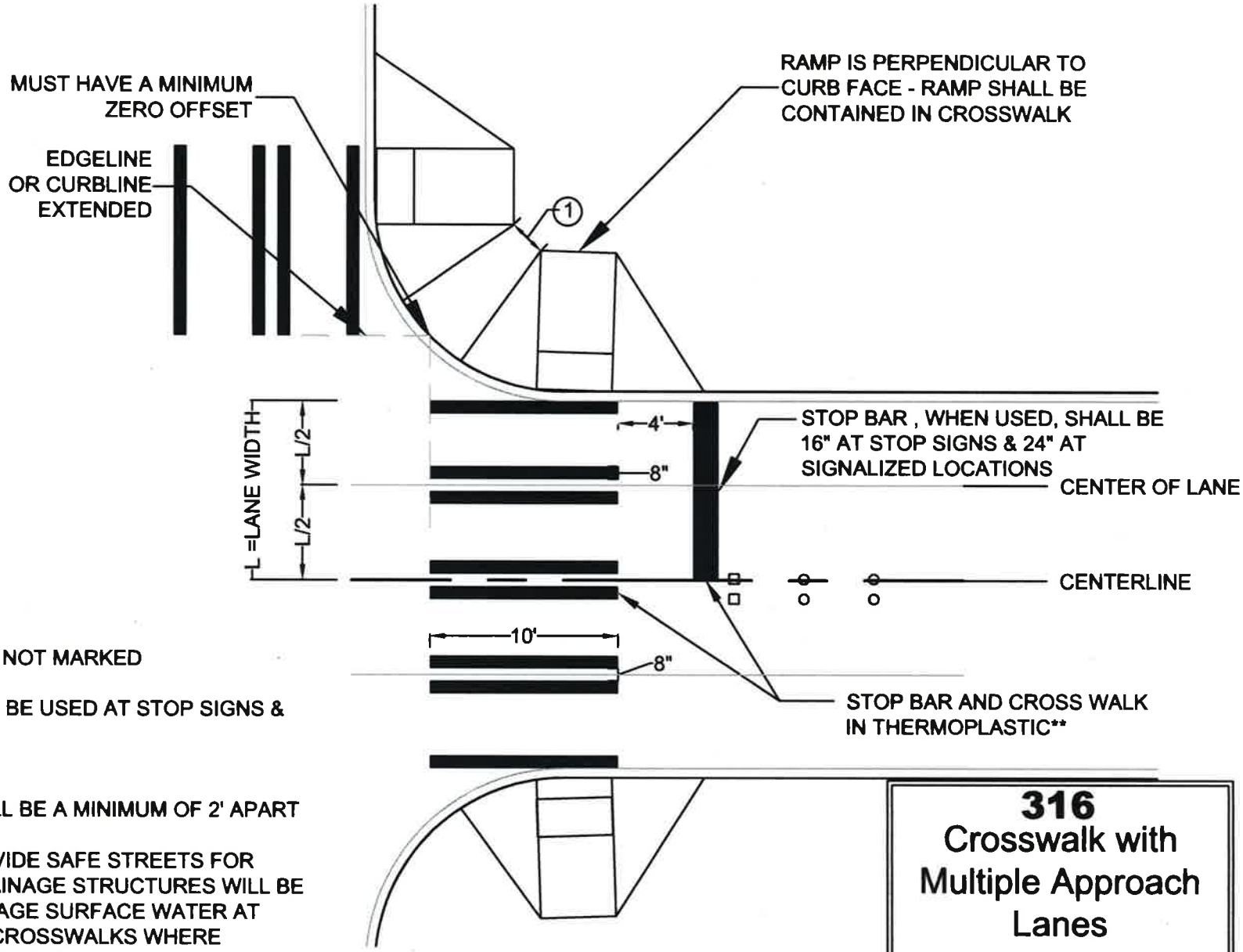
Crosswalk with Single Approach Lane

CITY OF SHORELINE

Public Works

NOT TO SCALE

Revision Date April 2017



* IF LANES LINES ARE NOT MARKED

** STOP BAR ONLY TO BE USED AT STOP SIGNS & SIGNALS

NOTES:

(1) CURB RAMPS SHALL BE A MINIMUM OF 2' APART

2. IN ORDER TO PROVIDE SAFE STREETS FOR PEDESTRIANS, DRAINAGE STRUCTURES WILL BE REQUIRED TO MANAGE SURFACE WATER AT PAINTED/MARKED CROSSWALKS WHERE AFFECTED BY RUNOFF. SHEET FLOW IS ACCEPTABLE AT UNMARKED CROSSWALKS.

316
Crosswalk with Multiple Approach Lanes

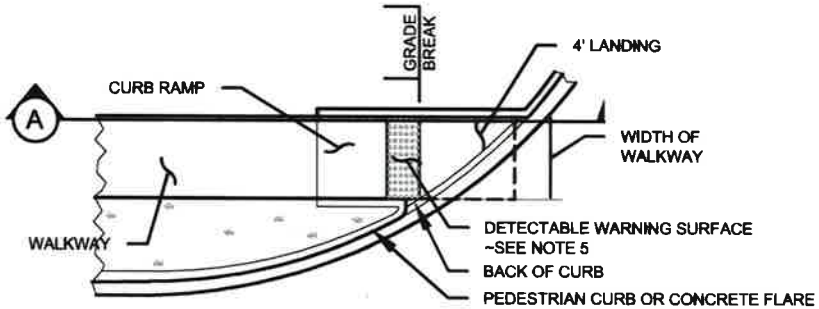
CITY OF SHORELINE
Public Works

PATRICIA JUBINSKI STATE OF WASHINGTON 37940 REGISTERED PROFESSIONAL ENGINEER

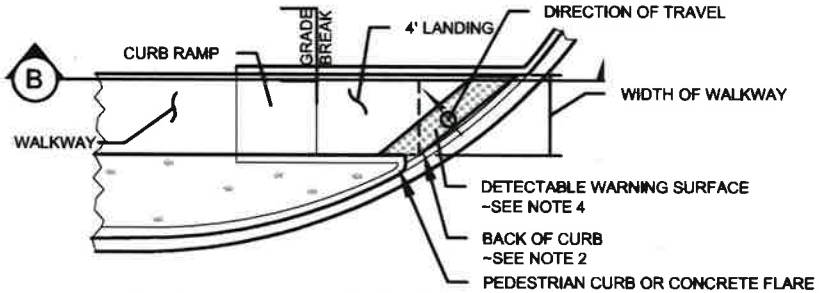
4/19/17

NOT TO SCALE

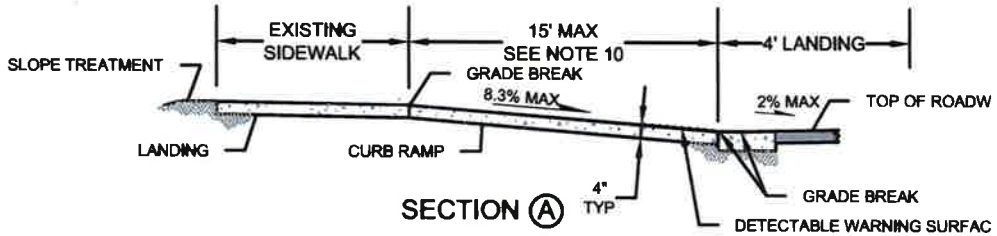
Revision Date April 2017



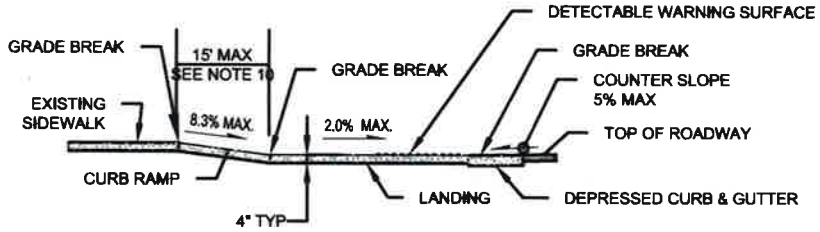
LANDING ≤ 5 FT. FROM BACK OF CURB)
(SEE NOTE 7)



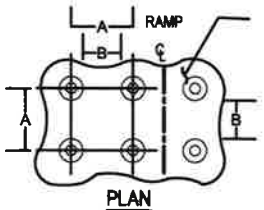
LANDING > 5 FT. FROM BACK OF CURB)
(SEE NOTE 7)



SECTION (A)

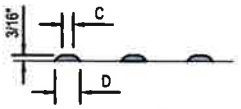


SECTION (B)



PLAN

DETECTABLE WARNING PATTERN (TRUNCATED DOMES) SHALL BE YELLOW UNLESS APPROVED BY THE DIRECTOR OR DESIGNEE



ELEVATION

	MIN.	MAX.
A	1 5/8"	2 3/8"
B	5/8"	1 1/2"
C	7/16"	3/4"
D	7/8"	1 7/16"

NOTES:

1. THE DETECTABLE WARNING SURFACE (DWS) SHALL EXTEND THE FULL WIDTH OF THE CURB RAMP (EXCLUSIVE OF FLARES) OR THE LANDING.
2. THE DETECTABLE WARNING SURFACE SHALL BE PLACED AT THE BACK OF CURB, AND NEED NOT FOLLOW THE RADIUS.
3. DETECTABLE WARNING PATTERN (TRUNCATED DOMES) SHALL BE FLUSH WITH RAMP TEXTURE +/- NO GREATER THAN ¼".
4. THE ROWS OF TRUNCATED DOMES SHALL BE ALIGNED TO BE PERPENDICULAR TO THE GRADE BREAK AT THE BACK OF CURB.
5. THE ROWS OF TRUNCATED DOMES SHALL BE ALIGNED TO BE PARALLEL TO THE DIRECTION OF TRAVEL.
6. IF CURB AND GUTTER ARE NOT PRESENT, SUCH AS A SHARED-USE PATH CONNECTION, THE DETECTABLE WARNING SURFACE SHALL BE PLACED AT THE PAVEMENT EDGE.
7. SEE STANDARD PLANS FOR SIDEWALK AND CURB RAMP DETAILS.
8. IF A CURB RAMP IS REQUIRED, THE LOCATION OF THE DETECTABLE WARNING SURFACE MUST BE AT THE BOTTOM OF THE RAMP AND WITHIN THE REQUIRED DISTANCE FROM THE RAIL.
9. WHEN THE GRADE BREAK BETWEEN THE CURB RAMP AND THE LANDING IS LESS THAN OR EQUAL TO 5 FT. FROM THE BACK OF CURB AT ALL POINTS, PLACE THE DETECTABLE WARNING SURFACE ON THE BOTTOM OF THE CURB RAMP.
10. THE CURB RAMP MAXIMUM RUNNING SLOPE SHALL NOT REQUIRE THE RAMP LENGTH TO EXCEED 15 FEET TO AVOID CHASING THE SLOPE INDEFINITELY WHEN CONNECTING TO STEEP GRADES. WHEN APPLYING THE 15 FOOT MAXIMUM LENGTH, THE RUNNING SLOPE OF THE CURB RAMP SHALL BE AS FLAT AS FEASIBLE.
11. WHERE "GRAD BREAK" IS CALLED OUT, THE ENTIRE LENGTH OF THE GRADE BREAK BETWEEN THE TWO ADJACENT SURFACE PLANES SHALL BE FLUSH.
12. DO NOT PLACE GRATINGS, JUNCTION BOXES, ACCESS COVERS, OR OTHER APPURTENANCES INFRONT OF THE CURB RAMP OR ANY PART OF THE CURB RAMP OR LANDING.
13. CURB RAMP, LANDING, AND FLARES SHALL RECEIVE BROOM FINISH.

DETECTABLE WARNING PATTERN DETAIL
TRUNCATED DOMES
(SEE NOTE 3)

317
Single Direction Curb Ramp

CITY OF SHORELINE
Public Works

PATRICIA JUHNKE
STATE OF WASHINGTON
21940
REGISTERED PROFESSIONAL ENGINEER
4/19/17

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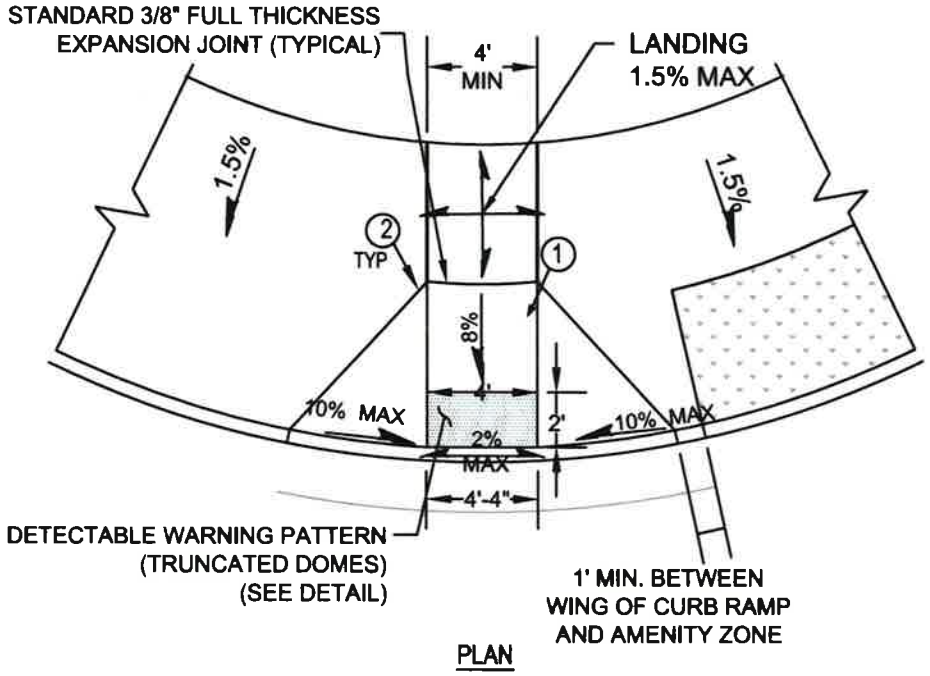
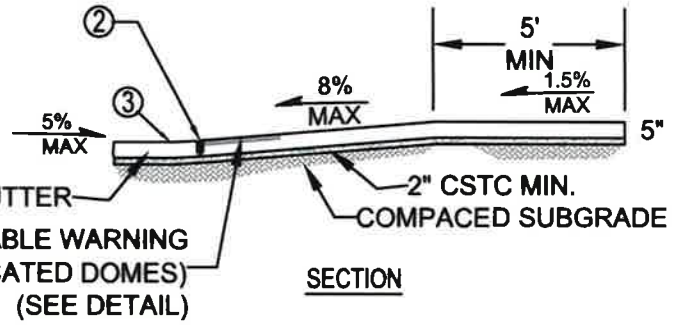
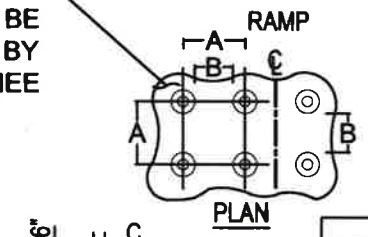
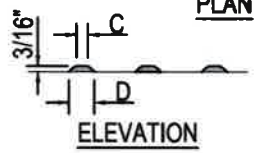
Revision Date
April 2017





DETECTABLE WARNING PATTERN (TRUNCATED DOMES) SHALL BE YELLOW UNLESS APPROVED BY THE DIRECTOR OR DESIGNEE





	MIN.	MAX.
A	1 5/8"	2 3/8"
B	5/8"	1 1/2"
C	7/16"	3/4"
D	7/8"	1 7/16"

DETECTABLE WARNING PATTERN DETAIL
TRUNCATED DOMES
(SEE NOTE 6)

NOTES:

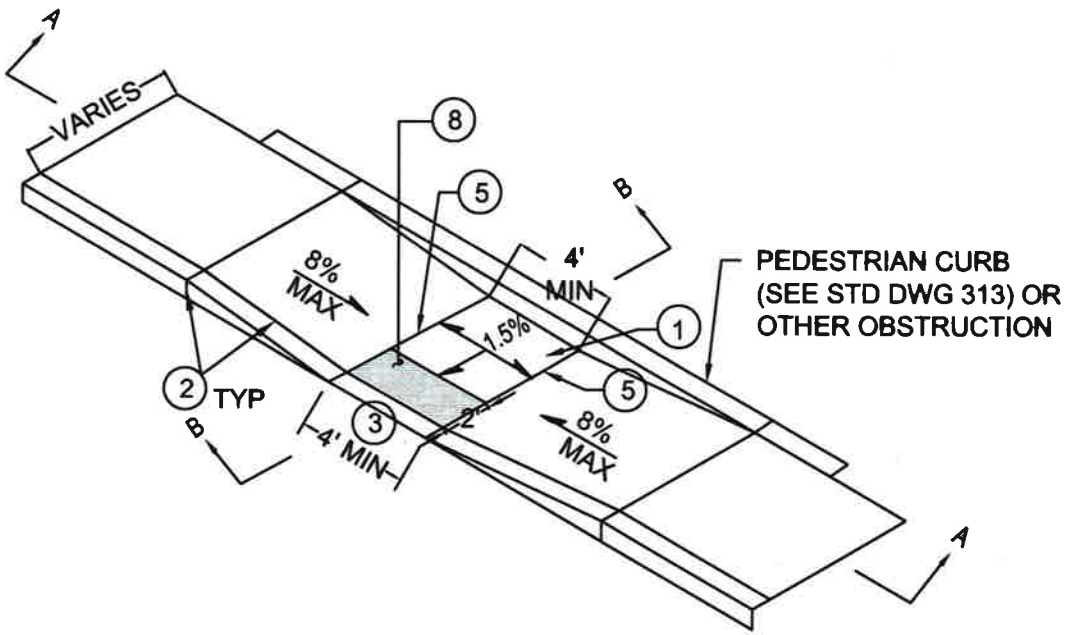
1. BROOM FINISH PERPENDICULAR TO THE DIRECTION OF PEDESTRIAN TRAVEL
2. STANDARD 3/8" FULL THICKNESS EXPANSION JOINT (TYPICAL).FULL DEPTH EXPANSION JOINT
3. NO LIP AT GUTTER LINE. CURB SHALL BE FLUSH AT GUTTER LINE.
4. CURB RAMPS WILL BE POURED INTEGRAL WITH SIDEWALK AND SHALL BE ISOLATED BY EXPANSION JOINT MATERIAL ON ALL SIDES, BUT NOT AT END OF RAMP ADJACENT TO THE ROADWAY.
5. CATCH BASINS & INLETS SHALL BE INSTALLED A MINIMUM OF 12" FROM THE BASE OF CURB RAMP.
6. DETECTABLE WARNING PATTERN (TRUNCATED DOMES) SHALL BE FLUSH WITH RAMP TEXTURE +/- NO GREATER THAN 1/4".
7. CONCRETE SHALL BE A MINIMUM OF 5" THICK .
8. CURB RAMPS MUST MEET CURRENT ADA REQUIREMENTS.
9. MINIMUM OF 2' WITH ADJACENT RAMPS.
10. RAMP AND LANDING WIDTHS SHALL NOT INCLUDE EXPANSION JOINTS.

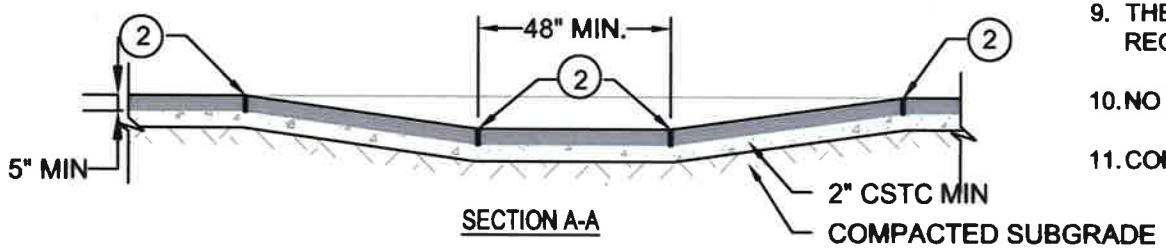
318
Curb Ramp: Type Perpendicular

CITY OF SHORELINE
Public Works

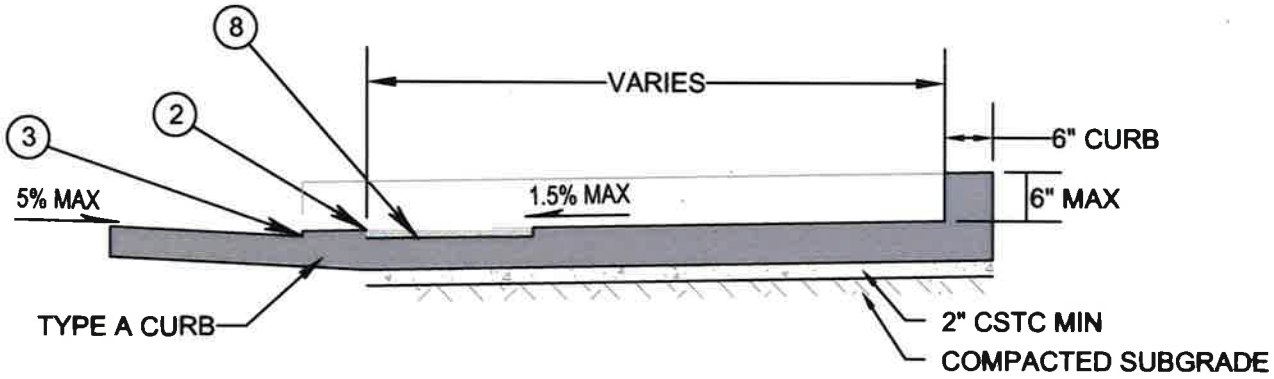
NOT TO SCALE

Revision Date
April 2017





SECTION A-A



SECTION B-B

NOTES:

1. BROOM FINISH PERPENDICULAR TO THE DIRECTION OF PEDESTRIAN TRAVEL
2. ⅜" EXPANSION JOINT (TYP). FULL DEPTH EXPANSION JOINT.
3. NO LIP AT GUTTER LINE. CURB SHALL BE FLUSH AT GUTTER LINE.
4. CURB RAMPS SHALL BE ISOLATED BY EXPANSION JOINT MATERIAL ON ALL SIDES
5. 3/4" RADIUS DUMMY JOINT
6. CATCH BASINS & INLETS SHALL BE INSTALLED A MINIMUM OF 12" FROM THE BASE OF CURB RAMP LANDING.
7. DETECTABLE WARNING PATTERN (TRUNCATED DOMES) SHALL BE FLUSH WITH RAMP TEXTURE +/- NO GREATER THAN ¼".
8. SEE STND DWG 318 FOR DETECTABLE WARNING PATTERN (TRUNCATED DOMES)
9. THE CURB RAMP MUST MEET CURRENT ADA REQUIREMENTS.
10. NO LAMPBLACK SHALL BE PLACED IN CURB RAMPS.
11. CONCRETE SHALL BE A MINIMUM OF 5" THICK.

320
Curb Ramp: Type Parallel

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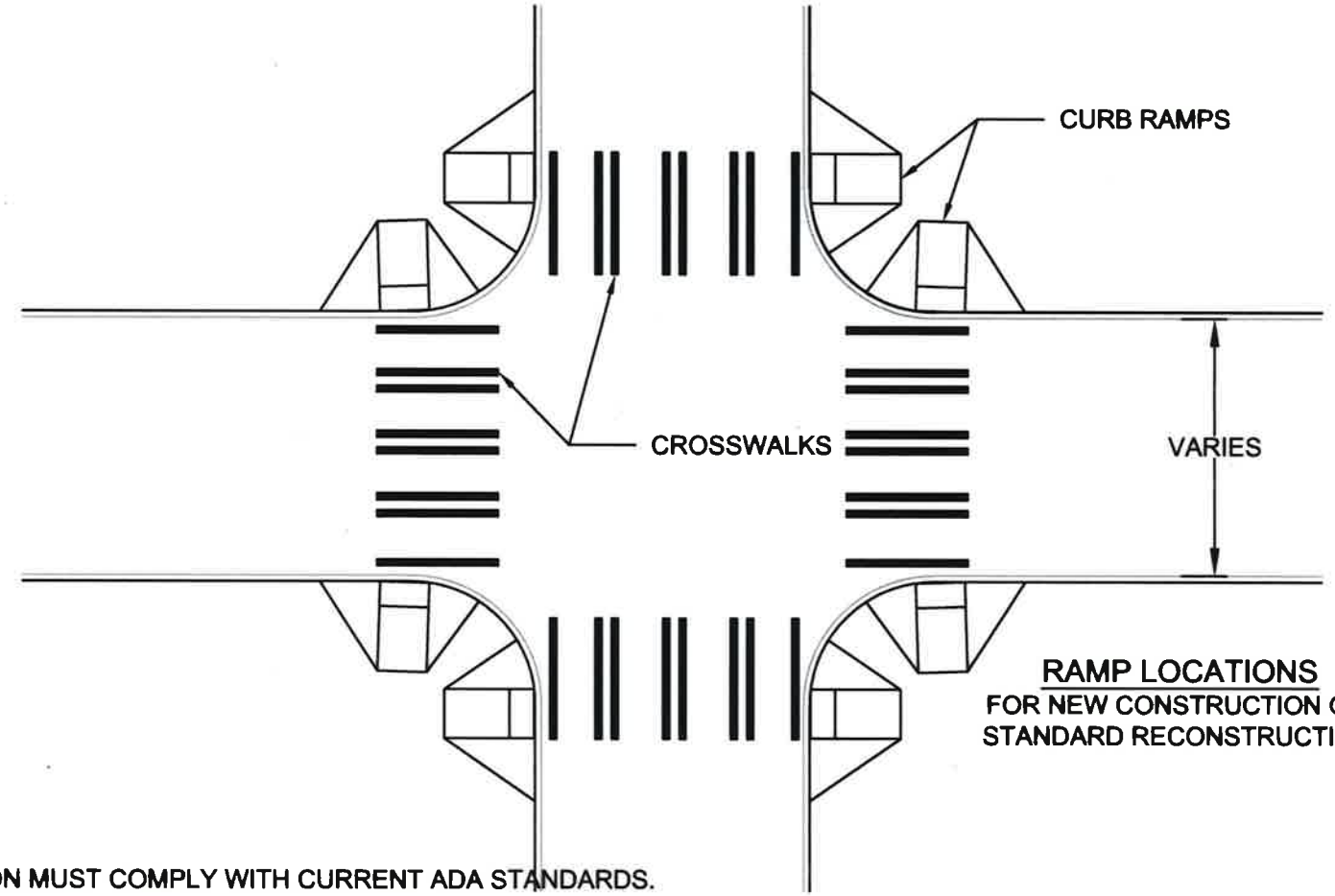

RAMP LOCATIONS
FOR NEW CONSTRUCTION OR
STANDARD RECONSTRUCTION

NOTES:

1. CURB RAMP CONSTRUCTION MUST COMPLY WITH CURRENT ADA STANDARDS.
2. CONSTRUCT RAMP WITH A MINIMUM 1' CLEARANCE FROM FIXED OBJECTS SUCH AS HYDRANTS, POLES, INLETS, AND OTHER UTILITIES.
3. CONSTRUCT RAMP IN ACCORDANCE WITH STND DWGS 318 & 320.
4. CROSSWALKS ARE NOT ALWAYS MARKED.
5. WHEN RAMPS ARE CONSTRUCTED ON ONE SIDE OF STREET, RAMPS SHALL BE CONSTRUCTED AT CORRESPONDING LOCATIONS ON OPPOSITE SIDE OF STREET.
6. CROSSWALK SHALL INTERSECT AT THE CURB OR BEYOND - NOT IN THE STREET AREA.
7. IN ORDER TO PROVIDE SAFE STREETS FOR PEDESTRIANS, DRAINAGE STRUCTURES WILL BE REQUIRED TO MANAGE SURFACE WATER AT PAINTED/MARKED CROSSWALKS WHERE AFFECTED BY RUNOFF. SHEET FLOW IS ACCEPTABLE AT UNMARKED CROSSWALKS.

321
Curb Ramp Locations

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Public Works

TRICIA JUHNKE
STATE OF WASHINGTON
20740
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PROFESSIONAL ENGINEER
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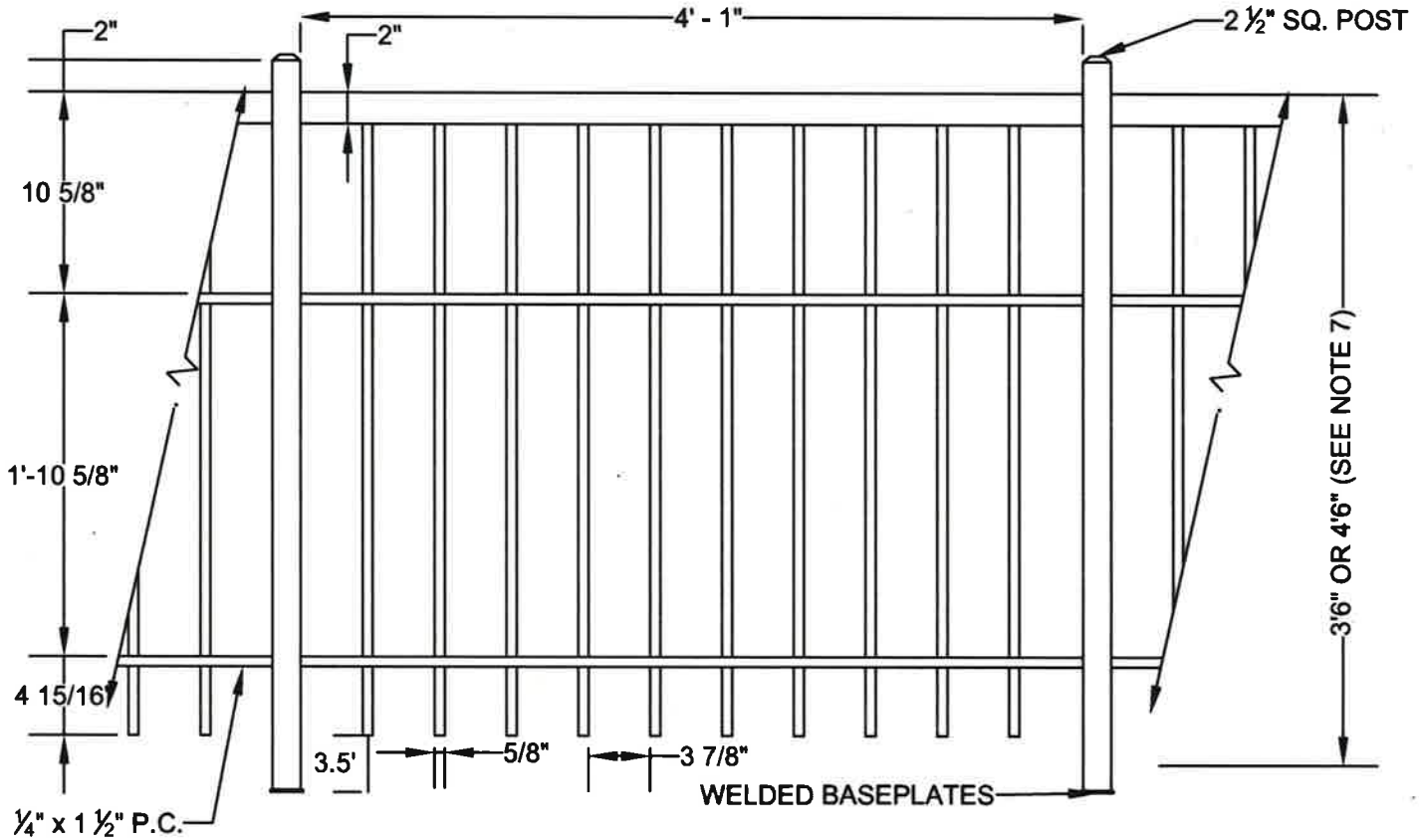

NOTES:

1. SHOP DRAWINGS OF RAILING SHALL BE SUBMITTED FOR APPROVAL SHOWING COMPLETE DIMENSIONS AND DETAILS OF FABRICATION AND INCLUDING AN ERECTION DIAGRAM. MATERIALS BEING USED SHALL BE SPECIFIED IN THE SHOP DRAWINGS.
2. ALL ALUMINUM PARTS SHALL BE GIVEN A CLEAR ANODIC COATING AT LEAST 0.0006 INCH THICK AND BE HOT WATER SEALED AND SHALL HAVE A UNIFORM FINISH.
3. CUTTING SHALL BE DONE BY SAWING OR MILLING AND ALL CUTS SHALL BE TRUE AND SMOOTH. FLAME CUTTING WILL NOT BE PERMITTED.
4. PIPE RAILING, PIPE BALUSTERS AND PIPE RAILING SPLICES SHALL BE ADEQUATELY WRAPPED TO ENSURE SURFACE PROTECTION DURING HANDLING AND TRANSPORTATION TO THE JOB SITE.
5. WELDING OF ALUMINUM SHALL BE IN ACCORDANCE WITH THE LATEST AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS.
6. ALLOW FOR EXPANSION AT APPROXIMATELY EVERY FOURTH POST.
7. TOP OF RAIL:
   3 FEET 6 INCHES FOR PEDESTRIAN USES
   4 FEET 6 INCHES FOR COMBINED BICYCLE AND PEDESTRIAN USES
8. 50LB RAIL LOADING PER IBC, CURRENT EDITION.
9. ALL CONCEALED FASTENERS THROUGHOUT.
10. MILD STEEL.
11. BLACK POWDER COATED.

324
Pedestrian Railing

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Public Works

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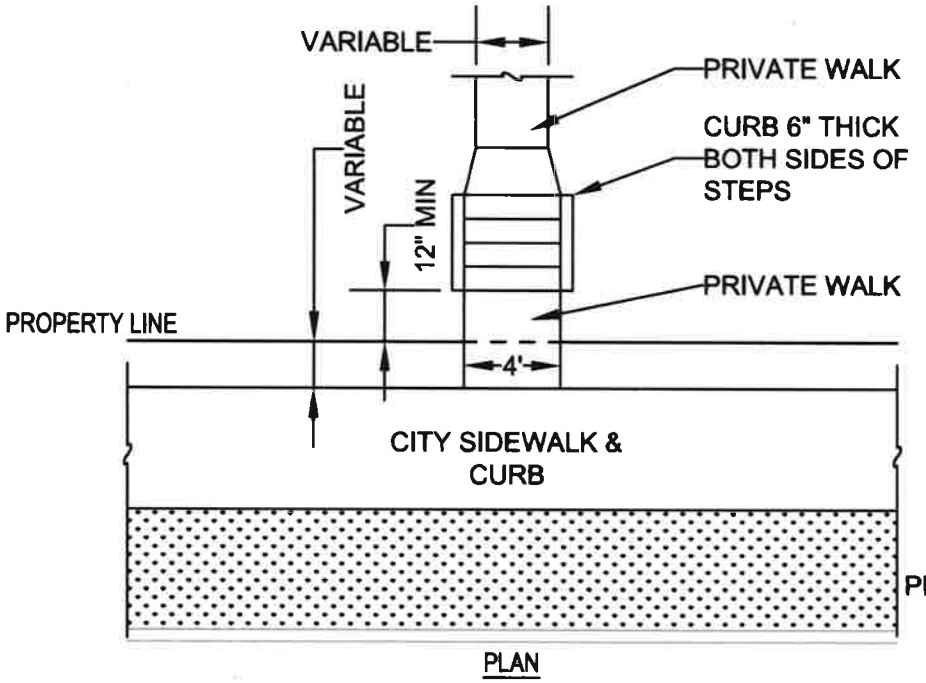

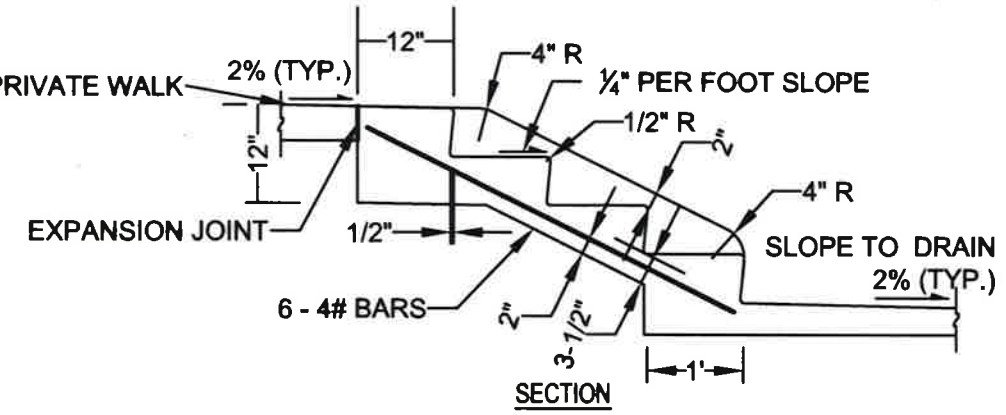

NOTES:

1. STEPS SHALL BE A MINIMUM OF 4'-0" WIDE, CURB TO CURB, PLUS 6" CURBS ON EACH SIDE.
2. CEMENT CONCRETE SHALL BE CLASS 4000psi TROWEL FINISH.
3. NUMBER OF STEPS SHALL SUIT INDIVIDUAL CONDITIONS, WITH TREAD AND RISER DIMENSIONS TO SUIT THE GRADE.
4. RISERS SHALL BE 5" MINIMUM, 7" MAXIMUM: TREAD SHALL BE 11" MINIMUM, 12" MAXIMUM.
5. HANDRAIL REQUIRED ON BOTH SIDES PER IBC.

325
Stairs

CITY OF SHORELINE
Public Works

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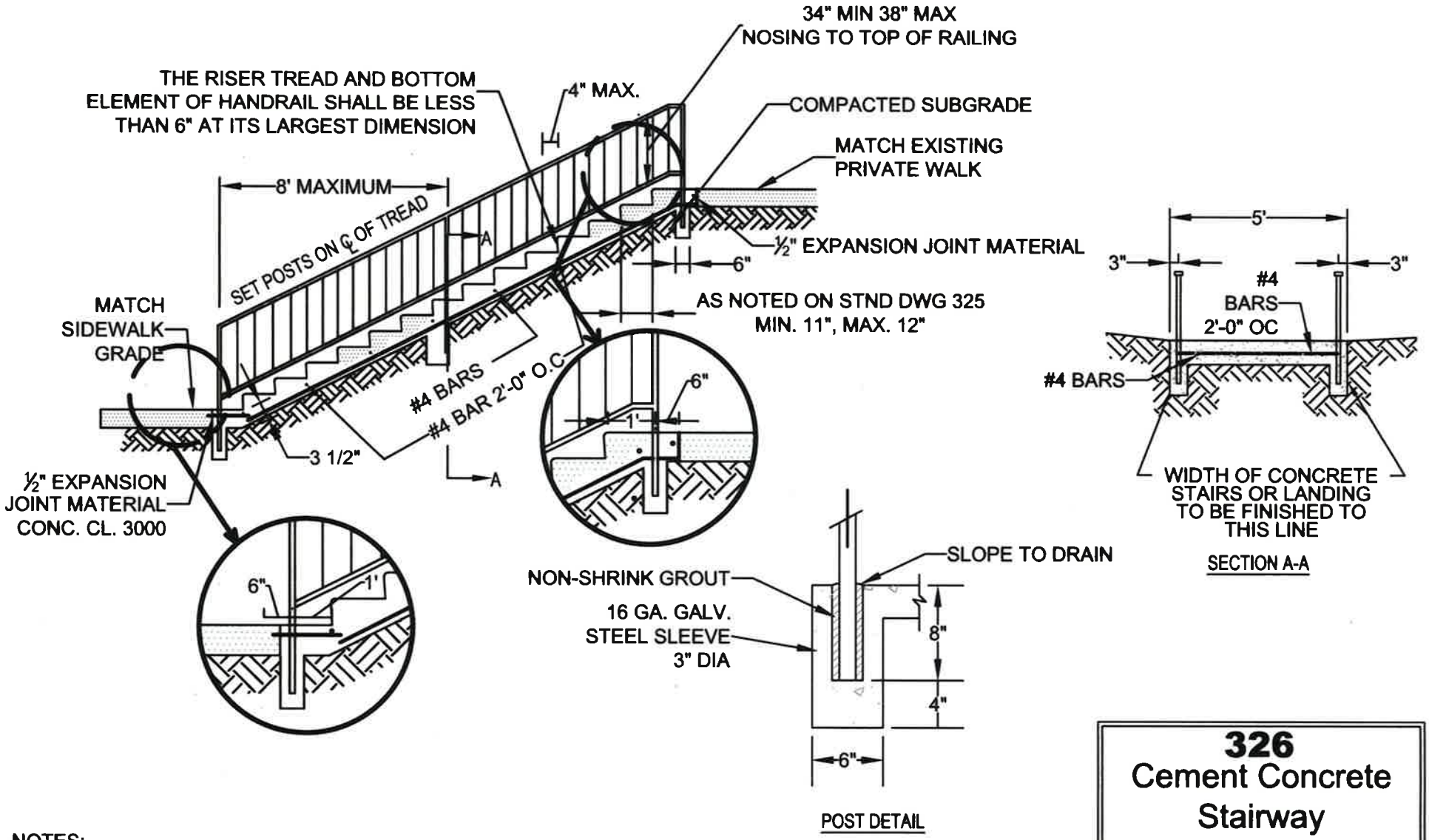

NOTES:

1. CEMENT CONCRETE STEPS AND CURBS SHALL BE CONSTRUCTED AS SHOWN ON STND DWG 325.
2. HEIGHT OF RAILING SHALL BE 36" MINIMUM, 38" MAXIMUM TOP OF NOSING TO TOP OF RAILING.
3. PEDESTRIAN RAILING SHALL BE CONSTRUCTED AS SHOWN ON STND DWG 324.
4. CLEAR SPACE BETWEEN BALUSTERS SHALL BE A MAXIMUM OF 4".
5. ALL STEPS SHALL HAVE HANDRAIL ON BOTH SIDES 5.

326
Cement Concrete Stairway

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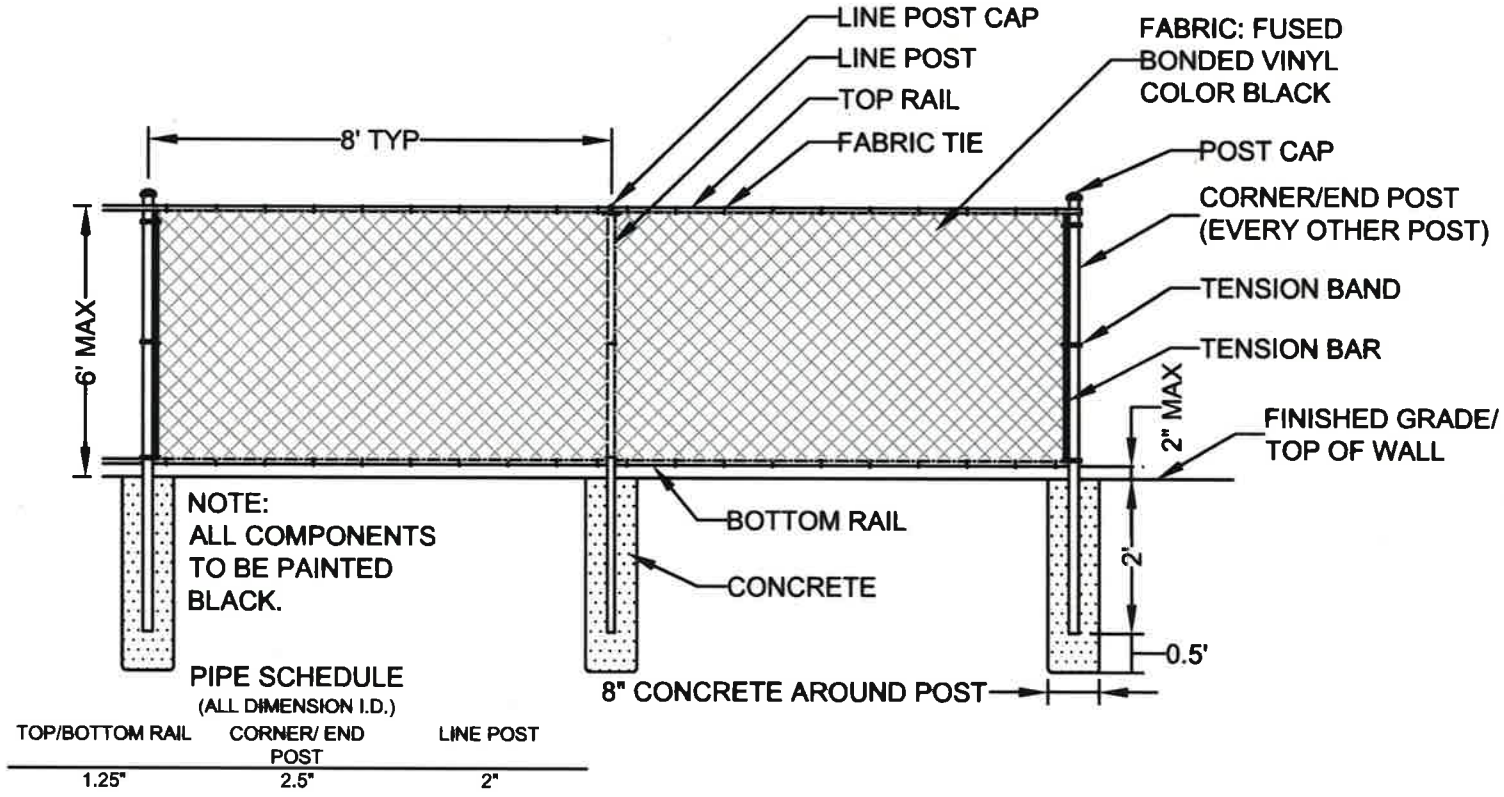

NOTES:

1. RAILING SHALL BE ALUMINUM PIPE RAIL OR APPROVED EQUIVALENT. INSTALLATION PER MANUFACTURER'S RECOMMENDATIONS.
2. SHOP DRAWINGS OF RAILING SHALL BE SUBMITTED FOR APPROVAL SHOWING COMPLETE DIMENSIONS AND DETAILS OF FABRICATION AND INCLUDING AN ERECTION DIAGRAM. MATERIALS BEING USED SHALL BE SPECIFIED IN THE SHOP DRAWINGS.
3. ALL ALUMINUM PARTS SHALL BE GIVEN A BLACK ANODIC COATING AT LEAST 0.0006 INCH THICK AND BE HOT WATER SEALED AND SHALL HAVE A UNIFORM FINISH.
4. WIRE FABRIC SHALL BE GIVEN A BLACK FUSED BONDED VINYL COATING TO MATCH FINISHED POSTS.
5. CUTTING SHALL BE DONE BY SAWING OR MILLING AND ALL CUTS SHALL BE TRUE AND SMOOTH. FLAME CUTTING WILL NOT BE PERMITTED.
6. ALL MATERIALS SHALL BE ADEQUATELY WRAPPED TO ENSURE SURFACE PROTECTION DURING HANDLING AND TRANSPORTATION TO THE JOB SITE.
7. ANY WELDING OF ALUMINUM SHALL BE IN ACCORDANCE WITH THE LATEST AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS.
8. RAILS, POSTS AND FORMED ELBOWS SHALL BE A.S.T.M B-241 OR B-429 ALLOY, 6063-T6 SCHEDULE 40 (STD. PIPE). BRACKETS, ENDCAPS AND OTHER FITTINGS SHALL BE A.S.T.M. 6063-T5. SPLICES AND REINFORCING SLEEVES SHALL BE DRAWN ALUMINUM TUBING 6063-T832.
9. TOP OF RAIL: 3 FEET 6 INCHES MIN FOR PEDESTRIAN USES
   4 FEET 6 INCHES MIN FOR COMBINED BICYCLE AND PEDESTRIAN USES

327

Chain Link Fencing

CITY OF SHORELINE
Public Works

PATRICIA JURINCE
STATE OF WASHINGTON
20767
REGISTERED
PROFESSIONAL ENGINEER
4/19/17

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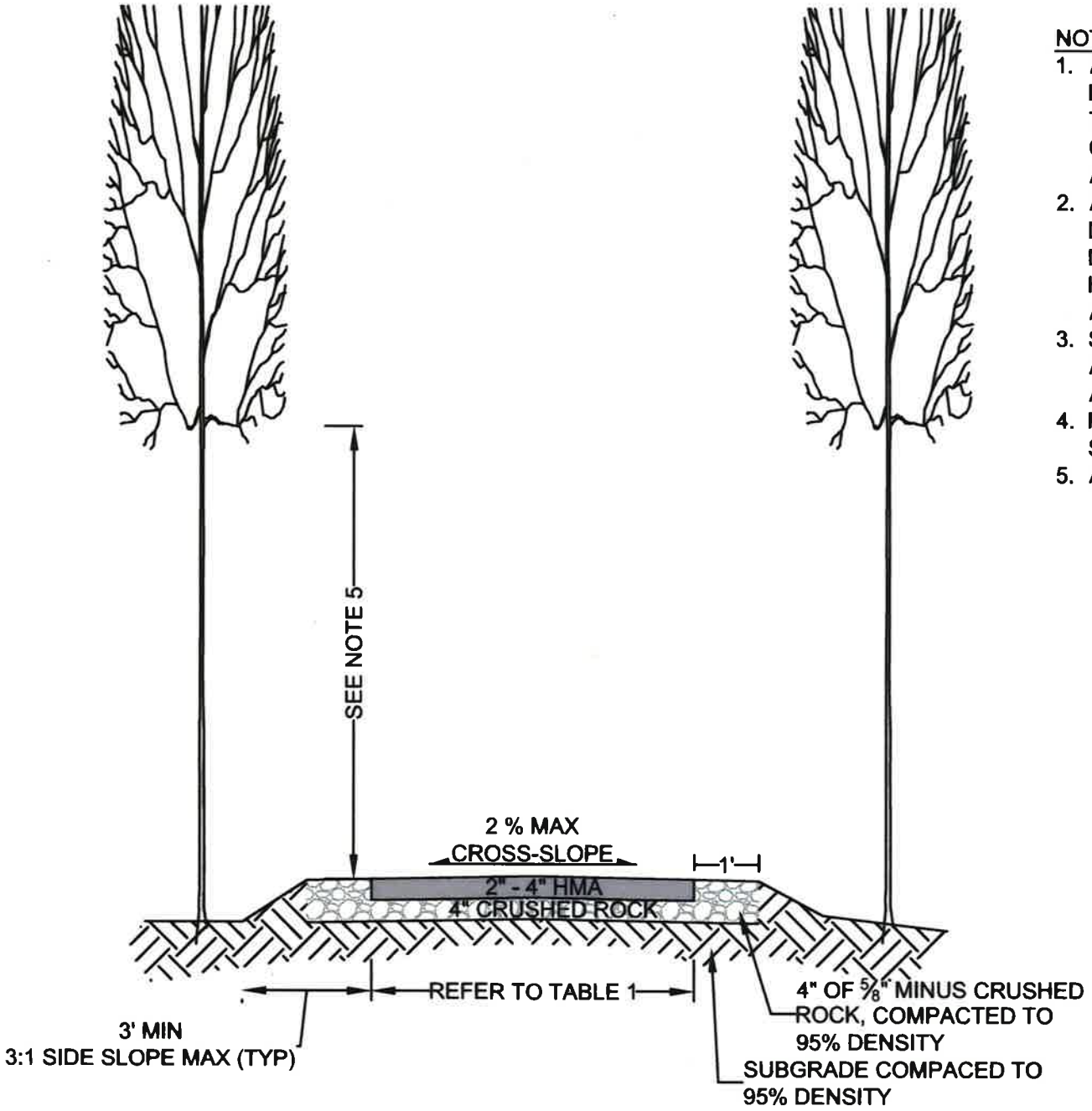

NOTES:

1. ALL PLANS MUST BE APPROVED BY THE CITY PRIOR TO CONSTRUCTION OF THE TRAIL. TRAIL CENTERLINE TO BE STAKED IN FIELD BY CONTRACTOR AND APPROVED BY THE APPROPRIATE CITY INSPECTOR.
2. ALL HAZARD TREES AND TREE LIMBS, AS DEFINED BY THE WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES HAZARD TREE BULLETIN, SHALL BE FELLED AND REMOVED FROM THE SITE.
3. SUBGRADE TO BE TREATED WITH AN APPROVED HERBICIDE PRIOR TO PLACING ASPHALT.
4. MINIMUM BRANCH CLEARANCE ABOVE TRAIL SURFACE = 7'-0" (TYPICAL).
5. ANY TRAILS USED FOR MAINTENANCE, 8' MIN.

TABLE 1	
USE	WIDTH
FOOT PATH	5'
BIKE PATH (ONE WAY)	8'
BIKE PATH (TWO WAY)	12'

329
Typical Sections for Trails

CITY OF SHORELINE
Public Works

TRICIA JUHNKE
STATE OF WASHINGTON
20760
REGISTERED PROFESSIONAL ENGINEER
4/19/17

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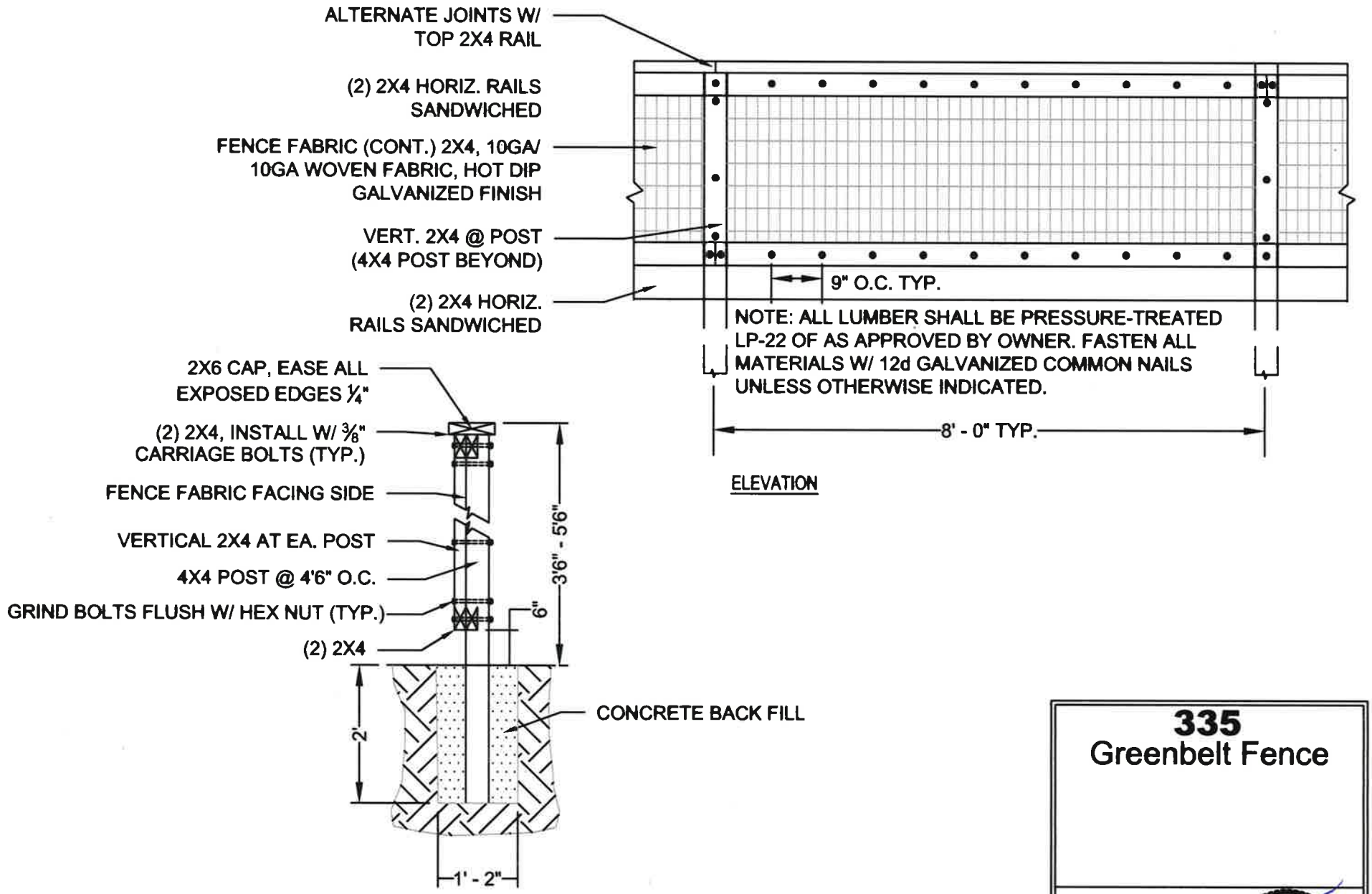

NOTE: DIAGONAL BRACE RAILS (4x4) TO BE INSTALLED AT ALL END SECTIONS, TOP OF BRACE AT TOP OF END SECTION/CORNER.

335
Greenbelt Fence

CITY OF SHORELINE
Public Works

TRICIA JUHNKE
STATE OF WASHINGTON
EXPIRES
PROFESSIONAL ENGINEER

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