

CHAPTER 1

GENERAL CONSIDERATIONS

1-01 Authority

The Engineering Design and Development Standards (EDDS), 2025 Edition, replaces all previous editions or references to any other design standards. Lake Stevens Municipal Code (LSMC) 14.16A.170 authorizes the Lake Stevens City Engineer to amend or revise the EDDS in accordance with that title and sound engineering practices. A copy of any such amendment or revision shall be filed with the City Clerk and shall be subject to a 10-day public comment period. Per LSMC 14.16A.325, the Public Works Director is designated as the administrative head of Public Works and is responsible for the planning, administration, enforcement, and decision making as it pertains to these EDDS.

1-02 Purpose

The purpose of these EDDS is to ensure that transportation, drainage, and utility facilities constructed in the City of Lake Stevens meet appropriate standards for safety, constructability, durability, maintainability, level of service, and water quality. These Standards are established in accordance with the applicable codes and standards, and are intended to:

- Provide clear and consistent design standards for the construction or modification of transportation, drainage and utility facilities by public or private entities.
- Support, implement and administer the general development regulations contained in the City of Lake Stevens Municipal Code.
- Ensure the design and construction of facilities in the City's right-of-way comply with all applicable laws, regulations and standards of good engineering practice, while reflecting the community's vision as established in the Capital Improvement Plan, Comprehensive Plan, Subarea Plans, City Strategic Plan and other relevant engineering and environmental programs or land use studies.
- Ensure that transportation-related projects incorporate non-motorized facilities.

1-03 Applicability

These EDDS shall apply to all construction and reconstruction of transportation, drainage, and utility facilities, both public and private; and other facilities within City rights-of-way. Situations may arise where the application of individual standards from this document will not protect public health, safety and welfare. Accordingly, the Public Works Director or designee may impose additional or more stringent standards than those contained in this document, or require the modification of plans, specifications or operations to achieve the necessary public health, safety and welfare.

In addition, the EDDS applies to modifications of roadway features of existing facilities which are within the scope of reconstruction, required off-site road improvements for land developments, or capital improvement projects when so required by the City, or to the extent they are expressly referred to in project plans and specifications.

These EDDS shall also apply to every new placement, relocation, and every planned, non-emergency replacement of existing utility poles and other utility structures and services within the City's right-of-way.

1-04 Administrative Interpretations and Revisions

Administrative interpretation of these EDDS may be required from time to time. Such interpretations are refinements or explanations of meaning or intent issued by the Public Works Director or designee. Requests for administrative interpretations must be submitted in writing to the Public Works Director or designee.

Revisions to the EDDS will be issued at regular intervals to keep the document current and reduce the scope of subsequent changes. Each EDDS revision will incorporate the administrative interpretations that have been issued since the last revision. Suggestions for future revisions may be submitted in writing to the Public Works Director or designee.

1-05 Deviations from Standards

A. General

1. These EDDS represent appropriate practices under most conditions and are intended to provide facilities that are safe and appropriate for use within the City for current and future generations.
2. Engineering design is an endeavor that examines alternative solutions to real world situations. These Standards are not intended to limit the introduction of new ideas. Situations will arise where alternatives to these EDDS may better accommodate existing conditions, overcome adverse topography, are more sustainable and have less impact on the watershed or environment, or allow for more cost-effective solutions without adversely affecting safety, operations, maintenance or aesthetics.
3. Accordingly, requests for deviations from these EDDS will be considered by the Public Works Director or designee. Such requests must be submitted in writing, using the Deviation Request Application, and include supporting information demonstrating compliance with the criteria in LSMC 14.56.135.
4. It is recognized that the need for and timing of a deviation request may not be predictable. Requests should be submitted as soon as the need becomes known. No request will be considered until an application for a permit or other approval has been submitted. Known deviation requests that affect lot yield or scope of development must be decided prior to any public hearing or official decision on the associated application. This is important for public notice and participation in the decision process. Deviations that affect engineering design, to the extent they are known, must be decided prior to submittal of construction plans. This will prevent wasted effort in the preparation of plans with non-standard features that cannot be approved.
5. Any deviation request concerning a provision of the Washington State Fire Code (WSFC) requires concurrence by the Fire Marshal. Documentation of concurrence by the Fire Marshal is acquired during the review process.
6. In the interest of public health, safety and welfare, the Public Works Director or designee reserves the right to direct or deny a deviation from these EDDS at any time. EDDS Deviations are classified as "Associated Land Use Determinations" per LSMC 14.16A.210(e). The process is outlined in LSMC 14.56.135 and the appeal process follows the appeal path for Type I reviews per LSMC 14.16B.710.

B. ADA Structural Impracticability Determination

All pedestrian facilities that are new construction or reconstruction shall comply fully with ADA requirements except in the rare case where a unique physical constraint makes full compliance structurally impracticable. In that case, any feature of the facility that can be constructed to meet ADA

requirements shall be designed and constructed to meet ADA requirements. For pedestrian facilities within the public right-of-way, the Public Works Director or designee considers requests for deviations to ADA requirements due to structural impracticability. The designer must submit a completed Maximum Extent Feasible (MEF) Form with associated documentation.

1-06 Policies

The EDDS are intended to be consistent with the following federal and state laws, city codes, policies and rules:

- A. Americans With Disabilities Act (ADA)**
- B. State and National Environmental Policy Acts (SEPA, NEPA)**
- C. Federal Clean Air and Clean Water Acts**
- D. City of Lake Stevens Municipal Code (LSMC)**
- E. Department of Public Works Policies and Procedures**
- F. City of Lake Stevens Shoreline Master Plan (SMP)**
- G. City of Lake Stevens Comprehensive Plan**
- H. City of Lake Stevens Subarea Plans**

1-07 References

The following are adopted by reference pursuant to LSMC 14.16A.170(d) and shall be applicable when pertinent, when specifically cited in the EDDS, when required by state or federal funding authority, at the discretion of the Public Works Director or designee, or in the event that the EDDS do not provide necessary design information. Versions shall be assumed to be current unless specified otherwise.

- A. Washington State Department of Transportation (WSDOT) Publications**
 - 1. Standard Specifications for Road, Bridge and Municipal Construction ("WSDOT Standard Specifications")
 - 2. Standard Plans for Road, Bridge and Municipal Construction ("WSDOT Standard Plans")
 - 3. Design Manual
 - 4. Traffic Manual
 - 5. Utilities Manual
 - 6. Construction Manual
 - 7. Bridge Design Manual
 - 8. Local Agency Guidelines
 - 9. Hydraulics Manual
 - 10. Roadside Manual
 - 11. Active Transportation Programs Design Guide
- B. General**
 - 1. ADA Standards for Accessible Design (US Department of Justice, 2010)
 - 2. Public Right-of-Way Accessibility Guidelines ("PROWAG", US Access Board, 2023)

3. A Policy on Geometric Design of Highways and Streets, American Association of State Highway and Transportation Officials (AASHTO), or current edition when adopted by WSDOT.
4. Manual on Uniform Traffic Control Devices, "MUTCD", as amended and approved by Washington State Department of Transportation.
5. DOE Stormwater Management Manual for Western Washington (SWMMWW)
6. Washington State Building Code (WSBC)
7. Washington State Residential Code (WSRC)
8. Washington State Fire Code (WSFC)
9. AASHTO Guide for the Development of Bicycle Facilities
10. Illuminating Engineering Society (IES) Design Manual
11. Transportation Improvement Board (TIB) Guidelines
12. AASHTO LRFD Bridge Design Specifications
13. AASHTO Guide Specifications for LRFD Seismic Bridge Design
14. Standard Specifications for Highway Bridges, adopted by AASHTO, current edition.
15. Institute of Traffic Engineers (ITE) Trip Generation Manual

1-08 Permits

Other permits, approvals or agreements may be required by the City or other jurisdictions prior to initiating any activities subject to these EDDS. Questions regarding such permits, approvals or agreements should be directed to the City Departments of Planning and Community Development or Public Works, as appropriate.

1-09 Professional Qualifications

Professionals in the fields of engineering, architecture or surveying who prepare or are responsible for the preparation of plans, drawings, specifications, calculations, technical reports, etc., for the purpose of obtaining City permits or approvals, shall be registered or authorized to practice in the State of Washington in accordance with Title 18 RCW. Professionals shall be competent in the fields of experience they are designing. Registration or authorization to practice shall be in the specific technical area pertinent to the documents being prepared. Exceptions to this requirement are specified in Section 18.43.130 RCW.

These requirements shall apply to public and private developments whether constructed by private party or public agency. Appendix A contains a checklist of construction plan requirements.

1-10 Inspection

The Public Works Director or designee shall have authority to enforce these EDDS as well as other referenced or pertinent specifications. They shall appoint personnel as appropriate to inspect work completed pursuant to these EDDS; they shall exercise such authority as they may delegate.

Work performed within the public right-of-way, or outside the public right-of-way as mandated by City land use codes, shall comply with the approved plans, specifications and these EDDS.

It is the responsibility of the developer, contractor or their agents to have an approved set of plans and permits at the job site wherever work is being performed. It is recommended that a copy of these EDDS be on the job site wherever work is being accomplished.

It is the responsibility of the developer, contractor or their agents to notify the City in advance of the commencement of any authorized work, in accordance with permit requirements. A pre- construction conference and/or field review is required per LSMC 14.16A.130 before the commencement of any work on significant projects.

If requested by the City, the applicant/developer may be required to provide tests to substantiate the adequacy and/or placement of construction materials.

1-11 *Revisions and Field Changes*

The Public Works Director or designee must approve any revision to construction plans before implementation. A revision application is required. Revisions shall be marked up on all applicable plan sheets, with all proposed revisions dated and bubbled, and submitted for review and approval prior to proceeding with the work. Minor field changes may not require a revision application and may instead be indicated on the as-built drawings at the approval of the Public Works Director or designee.

1-12 *Securities*

Securities (bonds or assignment of funds) and insurance may be required in accordance with LSMC 14.16A.180 and/or LSMC 11.06.090. Types of securities include, but are not limited to, assigned savings and bonds. The Public Works Director or designee shall release securities upon satisfactory completion and acceptance of the required work or any previously specified stipulations related to the required work.

1-13 *Errors and Omissions*

At the discretion of the Public Works Director or designee, any significant errors or omissions in the approved plans or information used as a basis for such approvals may constitute grounds for withdrawal of the approvals and/or stoppage of any or all permitted work. It shall be the responsibility of the developer or contractor to show cause why such work should continue, and make such changes in plans that may be required by the Public Works Director or designee before the plans are reapproved.

1-14 *Right-of-Way and Site Maintenance*

The developer or contractor shall schedule and control work so as to comply with all applicable provisions of the City of Lake Stevens land use codes and applicable state and federal codes, to prevent any hazards to public safety, health and welfare.

On existing roads, two-way traffic for vehicles, bicycles and pedestrians shall be maintained at all times unless detour plans or lane closures have been approved in advance by the Public Works Director or designee.

Roads, bridges, bikeways, and pedestrian facilities shall be kept free of dirt, debris or any obstructions. Paved temporary detour(s) shall be provided during the entire time of repair or construction.

Pedestrian and vehicular access to occupied buildings shall be maintained except where written approval from the building owner has been obtained.

On-site grading shall be done in a manner to minimize off-site erosion and siltation in conformance with all statutory requirements, permits and approved plans.

1-15 Penalties and Financial Guarantees

Failure to comply with these EDDS may result in denial of plan or development permit approval, revocation of prior approvals, legal action for forfeiture of financial guarantee, code enforcement, and/or other penalties as provided by law and in LSMC 14.28.

1-16 Severability

If any part of these EDDS as established by ordinance shall be found invalid, all other parts shall remain in effect.

1-17 Definitions

AASHTO	American Association of State Highway and Transportation Officials.
Access Easement	An easement dedicated primarily for ingress/egress to one or more lots.
Access Point	The point of connection of a road network element, excluding a public road, to the road network.
ACP Cl. B	Asphalt Concrete Pavement Class B.
ADA	Americans with Disabilities Act of 1991.
ADT	Average daily traffic. The total two-directional volume of traffic during a given time period (in whole days), greater than one day and less than one year, divided by the number of days in that time period.
ATB	Asphalt treated base.
Alley	A thoroughfare or right-of-way, usually narrower than a street, which provides access to the rear boundary of two or more residential or commercial properties and is not intended for general traffic circulation. Alleys are only permitted for properties fronting a public road.
APWA	American Public Works Association.
As-Built Drawings,	See "Record Drawings."
As-Builts	
ASTM	American Society for Testing and Materials.
Auxiliary Lane	The portion of the roadway adjoining the traveled way for parking, turning or other purposes supplementary to through-traffic movement.
Backfill	Replacement of excavated material with suitable material compacted as specified.
BMP	Best Management Practices. The schedules of activities, prohibitions of practices, maintenance procedures, and structural and/or managerial practices, that when used singly or in combination, prevent or reduce the release of pollutants and other adverse impacts to waters of Washington State.
Bollard	A post, that may or may not be removable, used to prevent vehicular access.
Bulb	Round area for vehicle turn around typically located at the end of a cul-de-sac street.
Catch Basin	A chamber or well, usually installed at the curb line of a road, for the transport of surface water to a sewer or subdrain, having at its base a sediment sump designed to retain grit and detritus below the point of overflow.

CBU	Cluster box unit. A multiple mailbox delivery unit approved by the US Postal Service.
CMP	Corrugated metal pipe.
Conveyance System	Drainage facilities and features, both natural and constructed, that provide for collection and transport of surface water or stormwater runoff.
CSBC	Crushed surfacing base course.
CSTC	Crushed surfacing top course.
Cul-de-sac	Short street having one end open to traffic and the other temporarily or permanently terminated by a vehicle turn around.
Design Speed	A selected speed used to determine the various geometric features of the roadway. The assumed design speed should be a logical one with respect to the topography, anticipated operating speed, adjacent land use, and functional classification of the roadway.
Developer	A person, firm or corporation applying for or receiving a permit or approval for a development.
Driveway	That portion of the vehicle accommodation area that consists of a travel lane bounded on either side by an area that is not part of the vehicle accommodation area.
Easement	Land which has specific air, surface, or subsurface rights conveyed for use by someone other than the owner of the subject property or to benefit some property other than the subject property.
EDDS	The Engineering Design and Development Standards of the City of Lake Stevens.
Eyebrow	A partial bulb located adjacent to the serving road that provides access to lots and serves as a vehicle turn around.
Facility	All or any portion of buildings, roads, structures, improvements, sidewalks, or walkways.
Fixed Object	An object, side slope, or water body or other constructed or natural feature that, when struck, can result in impact forces on a vehicle's occupants that may result in injurt or place the occupants in a situation that has a high likelihood of injury.
GB	Gravel Borrow.
Grade/Grading	The slope or level of the ground surface. Grading involves adjusting the slope to ensure proper drainage and stability.
HMA	Hot Mix Asphalt.
Half-Street	Street constructed along edge of development, utilizing a portion of the regular width of right-of-way and permitted as an interim facility pending construction of the other half of the street by the adjacent owner.
Joint-Use Driveway	A jointly owned and maintained tract or easement serving two properties.
LID	Low-Impact Development or Local Improvement District.
Landing	Road or driveway approach area to any public or private road. Also, the level area adjacent to a pedestrian ramp.

Loop	Road of limited length forming a loop, having no other intersecting road, and functioning mainly as direct access to abutting properties. A loop may be designated for one-way or two-way traffic.
Manhole	Opening in an underground utility system into which workers or others may enter for the purpose of making installations, inspections, repairs, connections, cleaning, and testing.
Median	That portion of a divided roadway separating the traveled ways for traffic in opposite directions.
MS4	Municipal separate storm sewer system.
NPDES Permit	National Pollutant Discharge Elimination System Stormwater Discharge Permit. A permit issued by the Environmental Protection Agency (EPA) (or by the Washington Department of Ecology (DOE) under authority delegated pursuant to 33 USC Section 1342(b)) that authorizes the discharge of pollutants to waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis.
Off-Street Parking Space	An area accessible to vehicles, exclusive of roadways, sidewalks, and other pedestrian facilities, that is improved, maintained and used for the purpose of parking a motor vehicle.
Operating Speed	The speed at which drivers are observed operating their vehicles during free-flow conditions. The 85 th percentile of the distribution of observed speeds is the most frequently used measure of the operating speed associated with a particular location or geometric feature.
PC	Point of curvature. The point of change of back tangent to a circular curve.
PCC	Portland cement concrete.
PI	Point of intersection. The point of intersection of a back tangent and forward tangent.
Posted Speed	Maximum vehicle speed along a roadway.
PRD	Planned residential development.
Pavement Width	Paved area on shoulder-type roads or paved surface between curb, thickened edge or gutter flow line on all other roads as depicted in the Standard Plans.
Pan Handle	A strip of land having a width narrower than that of the lot or parcel to be served and is designed for providing access to that lot or parcel.
Private Access Tract	A privately-owned tract of land primarily for ingress/egress to one or more lots.
Private Road	A privately maintained easement or parcel created to provide vehicle access from a public road to one or more lots or units.
Professional Engineer	A professional engineer licensed to practice in the State of Washington.
Record Drawings	The original construction drawings with revisions indicated to incorporate information pertaining to all right-of-way and utility improvements as they were constructed. Also known as "As-Built Drawings" or "As-Builts."

Right-of-Way	Land dedicated primarily to the movement of vehicles and pedestrians and providing primary access to adjacent parcels. Secondarily, the land provides space for utility lines and appurtenances and similar components.
Road	An open way for vehicles. All public and private ways used to provide motor vehicles access to and from a destination.
Roadway	Pavement width plus any non-paved shoulders.
Shoulder	The paved or unpaved portion of the roadway outside the traveled way that is available for emergency parking, non-motorized use, or as indicated otherwise.
Standard Detail	Pre-approved drawings or diagrams that illustrate standard construction practices and materials for specific infrastructure components.
Stormwater Facility	Structures designed to manage and treat stormwater runoff, including but not limited to, detention ponds, infiltration basins, and bio-retention cells.
Street	A facility providing access, including the roadway and all other improvements.
SWPPP	A Construction Stormwater Pollution Prevention Plan (SWPPP) is a written document (text and drawings) to implement measures to identify, prevent, and control the contamination of stormwater from construction sites. The Construction SWPPP explains and illustrates the measures, usually in the form of best management practices (BMPs), to implement on a construction site to control potential pollution problems.
Traveled Way	The part of the road made for vehicle travel excluding shoulders and auxiliary lanes.
Trench Section	A cross-sectional diagram detailing the construction of a trench, including bedding, pipe placement, and backfill materials.
Utility	Publicly, privately, or cooperatively owned facility that contributes to the provision of utility services, including water, wastewater (sewer), stormwater, electricity, telecommunications, or natural gas. This could also refer to the entity or company that provides the service or owns the facility.
Standard Plan	WSDOT Standard Plans for Road, Bridge and Municipal Construction or Standard Plans included in this document as referenced.

1-18 General Construction Plan Notes

The following notes shall be included in all construction plans.

1. All work and materials shall be in accordance with current City of Lake Stevens Engineering Design and Development Standards (EDDS); the current edition of the Washington State Department of Transportation (WSDOT) Standard Specifications for Road, Bridge, and Municipal Construction; and the current adopted edition of the Washington State Department of Ecology (DOE) Stormwater Management Manual for Western Washington (SWMMWW).
2. All work within the plat and City right-of-way shall be subject to the inspection of the Public Works Director, designee, or designated representative.
3. Prior to any site construction, including clearing/logging or grading, the site clearing limits shall be located and field identified by the project surveyor (or project engineer) as required by these plans.

4. The developer, contractor and project engineer are responsible for water quality as determined by the monitoring program established by the project engineer.
5. Prior to any site work, the contractor shall schedule a preconstruction conference per LSMC 14.16A.130(b)(4).
6. The contractor shall be responsible for obtaining all permits for utility, road, and right-of-way construction, and stormwater. Prior to performing any work within a public right-of-way, the person performing the work shall obtain a right-of-way permit from the Public Works Director, who may condition the permit as necessary to protect the public health, safety and welfare.
7. The Construction Stormwater Pollution Prevention (SWPPP) facilities shall be constructed in accordance with the approved SWPPP prior to any grading or extensive land clearing. These facilities must be satisfactorily maintained until construction and landscaping is completed and the potential for on-site erosion has passed. Sediment laden waters shall not enter the natural drainage system.
8. Non compliance with the requirements for; erosion controls, water quality and clearing limits may result in revocation of project permits, plan approval and bond foreclosures.
9. Trench backfill of new utilities and storm drainage facilities shall be compacted to 95% maximum density (modified proctor) under roadways and 90% maximum density (modified proctor) off roadways. Compaction shall be performed as defined in the current edition of the WSDOT Standard Specifications for Road, Bridge, and Municipal Construction.
10. The owner and contractor shall be responsible for locating and protecting all existing utilities prior to beginning construction. Location of utilities shown on construction plans are based on best records available and are subject to variation. For assistance in utility location, call 811 or 1-800-424-5555.
11. Prior to construction, the owner and/or contractor shall notify the project engineer and the Public Works Director or designee when conflicts exist between the plans and field conditions. Conflicts shall be resolved (including plan and profile revisions) and resubmitted for approval prior to proceeding with construction.
12. A copy of the approved plans must be on the job site at all times for recording as-built information. Final as-builts shall be submitted to the Public Works Director or designee at completion of construction and prior to final acceptance of work.
13. A permit issued pursuant to the Lake Stevens Municipal Code shall be obtained from the Planning and Community Development Department prior to any on-site grading work not expressly exempt by the Lake Stevens Municipal Code.
14. Prior to commencement of framing, final drainage inspection and approval of the roof leader and positive footing systems shall be completed by the Planning and Community Development Department. Inspections can be scheduled online or by calling 425-622-9404.
15. Any roadway signage or striping removed or temporarily moved by the Contractor shall be restored to meet the City of Lake Stevens EDDS.
16. Sidewalk and curb and gutter cannot be poured monolithically. There must be a cold joint or full-depth expansion joint between them.
17. The developer shall coordinate with the Snohomish Public Utility District for the design and installation of street lights on all newly-created and existing roadways.
18. Any existing public improvements damaged during construction shall be replaced prior to final inspection.