

CHAPTER 4

GENERAL REQUIREMENTS

This Chapter presents information that is generally applicable to all work within the existing right-of-way or new development.

4.1 SURVEY STAKING

All surveying and staking shall be performed by an engineering or surveying firm employed by the Developer and capable of performing such work. The engineer or surveyor directing and/or performing such work shall be currently licensed by the State of Washington to perform said tasks. The survey work shall be referenced to NAVD 88 vertical datum and NAD 83/91 horizontal datum.

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

The minimum staking of utility systems shall be as follows:

- A. Stake centerline alignment every 25 feet with cuts and/or fills to bottom of trench.
- B. Stake location of all catch basins/manholes and other fixtures for grade and alignment.
- C. Stake location, size and depth of retention/detention facility.
- D. Stake finished grade of catch basin/manhole rim elevation and invert elevations of all pipes in catch basins, manholes, and those that daylight.
- E. Stake locations of all proposed fire hydrant, blow-off, air-vac, valves, meters, etc.

The minimum staking of streets shall be as follows:

- F. Stake centerline alignment every 25 feet (50 feet in tangent sections) with cuts and/or fills to subgrade.
- G. Stake top of ballast and top of crushed surfacing at centerline and edge of pavement every 25 feet.
- H. Stake top back of curb at a consistent offset for vertical and horizontal alignment.

The minimum staking of water systems shall be as follows:

- A. Provide staking sufficient to satisfy City Manager.

4.2 EASEMENTS

All public utilities not within the right-of-way shall be located within an easement dedicated to the City. Easements for utilities shall be a minimum of 15-feet wide. Utility easements shall be graded and surfaced sufficient for maintenance access vehicles. Easements for access, as well as utilities, shall be a minimum of 25-feet wide with a minimum of 20-foot paved surface.

4.3 UTILITY TRENCH EXCAVATION

- A. Clearing and grubbing where required shall be performed within the easement or public right-of-way as permitted by the City and/or governing agencies. Debris resulting from the clearing and grubbing shall be disposed of by the owner or contractor in accordance with the terms of all applicable permits.
- B. Trenches shall be excavated to the line and depth designated by the City to provide a minimum of 36 inches of cover over a water pipe and 48 inches over sanitary sewer pipe. Except for unusual circumstances where approved by the City, the trench sides shall be excavated vertically and the trench width shall be excavated only to such widths as are necessary for adequate working space and in compliance with all safety requirements of the prevailing agencies. The trench shall be kept free from water until joining is complete. Surface water shall be diverted so as not to enter the trench. The Contractor shall maintain sufficient pumping equipment on the job to ensure that these provisions are carried out.
- C. The contractor shall perform all excavation of every description and whatever substance encountered and boulders, rocks, roots and other obstructions shall be entirely removed or cut out to the width of the trench and to a depth 6 inches below storm line grade. Where materials are removed from below the pipeline grade, the trench shall be backfilled to grade with material satisfactory to the City and thoroughly compacted.
- D. Trenching and shoring operations shall not proceed more than 100 feet in advance of pipe laying without specific written approval of the City, and shall be in conformance with Washington Industrial Safety and Health Administration (WISHA) and Office of Safety and Health Administration (OSHA) Safety Standard.

- E. The bedding course shall be finished to grade with hand tools in such a manner that the pipe will have bearing along the entire length of the barrel. The bell holes shall be excavated with hand tools to sufficient size to facilitate the construction of pipe joints.

4.4 PIPE BEDDING

All utility pipes shall be bedded in conformance with the details in these Standards.

4.5 BACKFILLING

Backfilling and surface restoration shall closely follow installation of pipe so that not more than 100 feet is left exposed during construction hours without approval of the City. Selected material shall be placed and compacted around and under the utility pipe by hand tools. Special precautions should be provided to protect the pipe to a point 12 inches above the crown of the pipe. The remaining backfill shall be compacted to 95 percent of the maximum density in traveled areas, 90 percent outside driveway, roadways, road prism, shoulders, parking or other traveled areas. Where governmental agencies other than the City have jurisdiction over roadways, the backfill and compaction shall be done to the satisfaction of the agency having jurisdiction. Typically, trench sections crossing existing roadways, in roadway “prisms” or beneath traffic bearing areas shall be backfilled and compacted with crushed rock. Due to localized conditions, the City may allow/permit the backfill of the trench section with suitable excavated material, as determined by the City. The City may require CDF backfill for utility trenches crossing under roads based upon localized conditions and traffic loading. All excess material shall be loaded and hauled to waste.

4.6 INSPECTION

A. General

The City shall exercise full right of inspection of all excavating, construction, and other invasions of City right-of-way or public easements. The City Manager shall be notified two working days prior to commencing any work in the City’s right-of-way or public easements. The City Manager is authorized to and may issue immediate Stop Work Orders in the event of noncompliance with this chapter and/or any of the terms and provisions of the permit or permits issued here under.

Timely notification by the developer as noted herein is essential for the City to verify through inspection that the work meets the standard. Failure to notify in time may oblige the City to arrange appropriate sampling and testing after-the-fact, with certification, by a professional engineer. Costs

of such testing and certification shall be borne by the developer. At the time that such action is directed by the City Manager, the Manager may prohibit or limit further work on the development until all directed tests have been completed and corrections made to the satisfaction of the Engineer. The City reserves the right to reject infrastructure that in its opinion does not meet City standards.

B. Requirements for subdivision, binding site plan, commercial and right-of-way land use inspection.

Inspection of all development will be done by the City Manager. Unless otherwise instructed by the City Manager, construction events, which require monitoring or inspection, are identified as follows:

1. Preconstruction Conference. Three working days' prior notice. Conference must precede the beginning of construction and include owner, contractor, designing engineer, geotechnical engineer, utilities, and other parties affected. Plan approvals and permits must be in hand prior to the conference.
2. Clearing and Temporary Erosion/Sedimentation Control. One working day's notice prior to initial site work involving drainage and installation of temporary water retention/detention and siltation control or the protection of proposed low impact development facilities. Such work to be in accordance with the Stormwater Management Manual and the approved plans.
3. Utility Installation. One working day's notice prior to trenching and underground utility installation such as sanitary sewer, storm sewer, water, gas, power, telephone, and TV lines.
4. Utility Backfill and Compaction. One working day's notice before backfill and compaction of underground utility trenches.
5. Utility testing such as pressure tests. One days' notice before acceptance testing.
6. Subgrade Completion. One working day's notice at stage that underground utilities and roadway grading are complete, to include placement of gravel base if required. Inspection to include compaction tests and certifications.
7. Curb and Sidewalk Forming. One working day's notice to verify proper forming and preparation prior to pouring concrete.

8. Curb and Sidewalk Placement. One working day's notice to check placement of concrete.
9. Crushed Surfacing Placement. One working day's notice to check placement and compaction of crushed surfacing base course and top course.
10. Paving. Three working days notice in advance of paving with asphalt or Portland cement concrete.
11. Structural. Three working days notice prior to each critical stage such as placing foundation piling or footings, placement and assembly of major components, and completion of structure and approaches. Tests and certification requirements will be as directed by the City Engineer.

C. Final Inspection

Prior to final approval of construction, a visual inspection of the job site will be made by the City. Restoration of the area shall be complete with all improvements being restored to their original or superior condition.

4.7 RECORD DRAWINGS

Permittees or their representatives who install systems within, on, or below the City's public rights-of-way or public easements shall furnish the City with accurate drawings, plans and profiles, showing the location and curvature of all underground structures installed, including existing facilities where encountered and abandoned installations. Horizontal locations of utilities are to be referenced to street centerlines, as marked by survey monuments, and shall be accurate to a tolerance of plus or minus 1/2 foot. The depth of such structure may be referenced to the elevation of the finished street above said utility, with depths to the nearest 1/10 foot being shown at a minimum 50-foot interval along the location of said utility.

Such record drawings shall be submitted to the City within 30 calendar days after completion of the work or prior to final project approval (e.g., final plat or occupancy) whichever comes first. Record drawings shall be stamped, signed and dated by an engineer currently licensed in the State of Washington.

In the event that the permittee or his/her representatives does not have qualified personnel to furnish the record drawings required by this section, he shall advise the City Manager in order that necessary field measurement may be taken during construction for the preparation of record drawings. All costs of such field

inspection and measurement, to include the preparation of the record drawings, shall be at the sole expense of the permittee.

Drawing Standards:

Minimum scale - 1"=50' horizontal; 1"=5' vertical
Detail scale - Larger as necessary
Topographic contours – 2 feet

Record drawings shall be submitted on full size plan sheets (22" x 34") with a signature and data, which verifies the “finished” condition of the project. Electronic files in the most recent version of AutoCAD, and in PDF format, shall be provided to the City.

The drawings shall be referenced to NAVD 1988 and NAD 83/91 and shall include at a minimum two existing City utility features such as sanitary or storm sewer, manholes, water valves or fire hydrants. Referencing to electrical features such as street lights, telephones or power poles is not acceptable.

4.8 DEVELOPER AGREEMENT REQUIREMENTS

All Contractors, land developers, or others, whether persons or entities, constructing curbs, gutters, storm-drainage systems, streets, water or sewer systems, or additions thereto, to be connected to the right-of-way, storm sewers, sanitary sewer lines and/or water lines of the City of Granite Falls, shall, as a prerequisite to securing approval for the construction of such system, execute a Developer Agreement in the form set forth in the attached documents.

4.9 ACCEPTANCE OF IMPROVEMENTS

The City shall not accept developer constructed improvements incrementally. All aspects of the grading, road, and utility improvements must be complete, clean, inspected, and as-built drawings submitted, prior to City acceptance of improvements and release of performance sureties. Prior to acceptance, all improvements shall be in good working order, clean, and free of defects including removal of debris, vegetation, and sediment from new utilities. All dedications, easements, or other legal documentation shall be complete and recorded prior to final acceptance of the project improvements.

4.10 FINISHING AND CLEANUP

Before acceptance of utility system construction, all pipes, open ditches, manholes, catch basins, and other appurtenances shall be cleaned of all debris and foreign material. After all other work on this project is completed and before final acceptance, the entire roadway, including the roadbed, planting, sidewalk

areas, shoulders, driveways, alley and side street approaches, slopes, ditches, utility trenches, and construction areas shall be neatly finished to the lines, grades and cross sections of a new roadway consistent with the original section, and as hereinafter specified.

Where all or portions of the utility is in undeveloped areas, the entire area which has been disturbed by the construction shall be shaped so that upon completion the area will present a uniform appearance, blending into the contour of the adjacent properties. All other requirements outlined previously shall be met.

Slopes, sidewalk areas, planting areas and roadway shall be smoothed and finished to the required cross section and grade by means of a grading machine insofar as it is possible to do so without damaging existing improvements, trees, shrubs or low impact development (LID) facility locations. Machine dressing shall be supplemented by hand work to meet requirements outlined herein, to the satisfaction of the City Inspector and/or the City Engineer.

Upon completion of the cleaning and dressing, the project shall appear uniform in all respects. All graded areas shall be true to line and grade. Where the existing surface is below sidewalk and curb, the area shall be filled and dressed out to the walk. Wherever fill material is required in the planting area, the finished grade shall be elevated to allow for final settlement, but nevertheless, the raised surface shall present a uniform appearance.

All rocks in excess of 1-inch diameter shall be removed from the entire construction area and shall be disposed of the same as required for other waste material. In no instance shall the rock be thrown onto private property. Overhang on slopes shall be removed and slopes dressed neatly so as to present a uniform, natural, well-sloped surface.

All excavated material at the outer lateral limits of the project shall be removed entirely. Trash of all kinds resulting from clearing and grubbing or grading operations shall be removed and not placed in areas adjacent to the project. Where machine operations have broken down brush and trees beyond the lateral limits of the project, the Developer and/or Contractor shall remove and dispose of same and restore said disturbed areas at his own expense.

All pavements and oil mat surfaces, whether new or old, shall be thoroughly cleaned. Existing improvements such as Portland cement concrete curbs, curb and gutters, walls, sidewalks, and other facilities, shall be cleaned to the satisfaction of the City Manager.

Castings for manholes, valves, lamp holes, vaults and other similar installations, which have been covered with the asphalt material, shall be cleaned to the satisfaction of the City.

4.11 FINAL ACCEPTANCE

Prior to final inspection, all pipelines shall be flushed and cleaned and all debris removed. A pipeline “cleaning ball” of the proper diameter for each size of pipe shall be flushed through all storm and sanitary sewer pipelines prior to final inspection. Sanitary and storm sewer lines shall be “videotaped” in their entirety using a remote controlled camera. All water mains shall have passed pressure and bacteriological testing.