919 Lateral Ditches

919.1 General

Lateral ditches are sometimes needed to convey stormwater runoff to retention areas, detention areas, or convey the discharge to an outfall point. This information may be placed on the Network Plan, Profile, or Stormwater Management Facilities sheet when space is available.

A Lateral Ditch sheet or Outfall sheet consists of a plan view and a profile view but may also include typical sections and cross sections.

The standard horizontal scale for the plan and profile views is 1” = 100’. However, if storm drain construction is proposed for a portion of the ditch, a scale of 1” = 40’ or 1” = 50’ may be used. The vertical scale for the profile view is typically 10% of the horizontal scale (e.g., 1” = 100’ horizontal scale would use a 1” = 10’ vertical scale).

919.2 Plan View

Display a north arrow and scale within each plan view, typically in the upper right portion.

Display the lateral ditch plan view such that the centerline or baseline of construction stationing is increasing from left to right. Display bearings for tangent sections (in the direction of stationing) below the centerline or baseline. Display station numbers close to station ticks. Display station equations along centerline or baseline.

Show R/W (or easement), alignment data, and topography. Tie the alignment of the lateral ditch to the centerline of construction.

919.2.1 Required Information

Include labeling and dimensions only to the extent necessary to convey the design intent. Provide the following labeling and dimensions as appropriate:

- Flag and station the begin and end lateral ditch or outfall construction limits.
- Display planned improvements.
- Label and dimension lateral ditch or outfall, and tie to the baseline alignment of construction.
- Display drainage pipes, inlets, manholes, box culverts, and outfall features.

- Display and label R/W lines, and construction easements or license agreements.
- Display and label the limits of wetlands based on permit or regulatory requirements.

919.3 Profile View

Each profile must include a background grid at the appropriate scale. Align the begin lateral ditch profile stationing with the begin lateral ditch plan view stationing. Display stationing along the bottom of the grid. Display the vertical elevation along both sides of the grid.

Display the following information:

- Existing ground line profiles
- High water elevations
- Transverse underground utilities
- Benchmark information
- Elevation datum

If storm drain construction is proposed along a lateral ditch or at an outfall, plot the proposed structures on the lateral ditch profile. Include the following information for the structures shown in the profile:

- Flow line elevations
- Structure numbers
- Pipe or culvert sizes
- Utilities (if applicable)
- Label the normal water elevation of the receiving system.

919.3.1 Required Labeling and Information

Required labeling and dimensions necessary to convey the design intent, include the following:

- Flag and station the begin and end lateral ditch.
- Label percent grade for each tangent section. When two tangent grades intersect and no vertical curve is required, label the PI station and elevation.
- Label transverse underground utilities.

919.4 Cross Sections

Lateral ditch cross section sheets are included in the plans. These sheets include the following:

- R/W lines
- Limits of clearing and grubbing
- Earthwork quantity

Cross sections often use a horizontal scale of 1” = 20’ and a vertical scale of 1" = 10', and display the same elements listed for the typical section.

919.5 Typical Section

A typical section is required when the lateral ditch cross sections do not represent the typical features of the lateral ditch. Display a lateral ditch typical section on the Lateral Ditch sheet showing the following:

- Limits of clearing and grubbing
- R/W or easement limits
- Ditch bottom width
- Side slopes or berms

The typical section does not need to be to scale but must be dimensionally proportionate. If the width of proposed clearing and grubbing is variable, note the various widths and their respective station limits below the typical section.