

Feature Definitions for Proposed Work

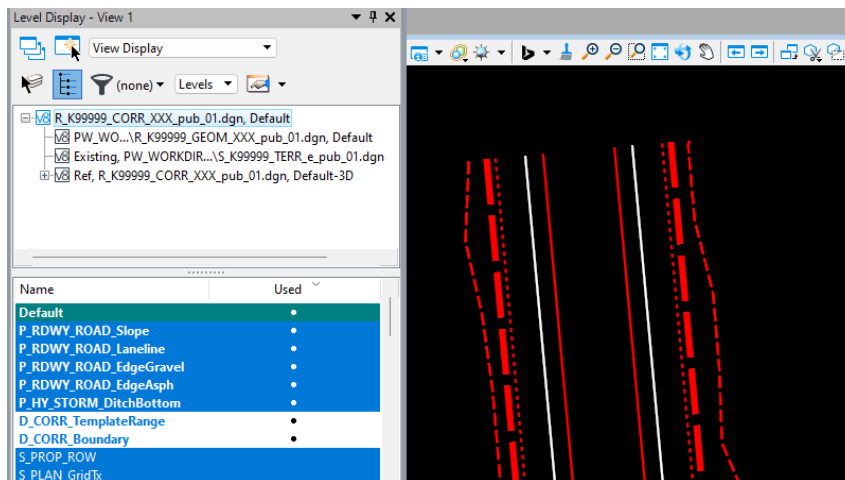
Corridor Feature Definitions

OpenX will create a 3D model for a corridor and will display the 3D model using the assigned Corridor feature definition. Throughout the design process, the feature definition assigned to a corridor should be changed depending upon the phase of the design process and deliverables. The display of the graphics for plans production can be easily provided by setting the corridor feature definition to Final Breaklines, which displays the 3D linear features, but not the components or meshes. Corridor properties should be verified by the designer at all phases.

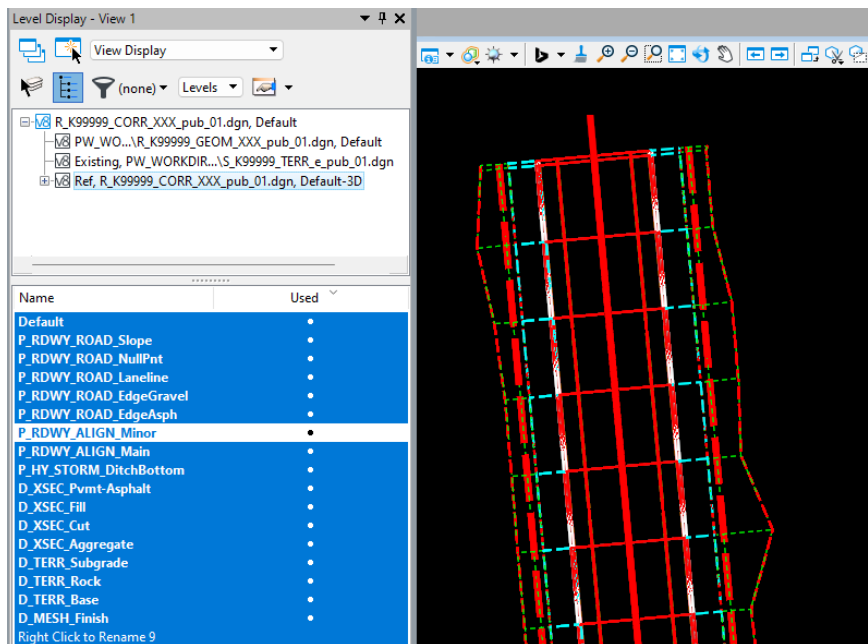
Corridor Feature Definition	Properties	When Used
Design	Component & Linear Feature display; 2X the Template Drop Interval; no Vertical Densifying	Early on in design. Interval multiplier and densifying affects quantities.
Final	Component & Linear Feature display; Template Drops as defined; Hz & Vt Densifying	Later in design when not so many changes. Any “Final” is best for accurate quantities.
Final Bottom Mesh	Bottom Mesh display only; Template Drops as defined; Hz & Vt Densifying	Visualize the final subgrade which lies along the bottom of all template components.
Final Breaklines	Linear Feature display only; Template Drops as defined; Hz & Vt Densifying	Visualize the final proposed features on all component layers. Level separation provided to isolate one material layer.
Final Top Mesh	Top Mesh display only; Template Drops as defined; Hz & Vt Densifying	Visualize the final finish grade which lies along the top of all template components.
Final w/ Contours	Component, Linear Feature & Top Mesh Contours display; Template Drops as defined; Hz & Vt Densifying	Visualize the final finish grade contours.

Linear Feature Definitions from Template Points

When a template is applied to an alignment, longitudinal feature definitions are created from the template points according to their settings and assigned element templates. Template points that should be seen in plans will create both 2D and 3D graphics, with the 2D graphics drawn according to the standards for contract plans. Other template points create only 3D graphics, including all template points that are below the finish grade and the CL point. The CL point doesn't draw any graphics into the 2D Default model for the centerline. For plans, the centerline graphics are provided from a reference to the geometry. The picture below shows the intentional gap between the left-side and right-side graphics in a corridor file when the levels from the self-reference to the Default-3D model are toggled off.



When creating the 3D model using corridor modeling, civil graphics are drawn in 3D, and they are attached as a reference into the 2D and automatically displayed. The next picture is the same corridor, with the levels from the self-reference to the Default-3D model toggled on.



The linear features use element templates from the **Linear\\Roadway** folder. These element templates set level, color, weight and line style for proposed features that apply ODOT standard Symbolologies. The symbolologies have been established by the CAD Standards Committee and the Senior Standards Engineer for display in contract plans.

In corridor modeling, points in a template create features as they are pushed along an alignment. *The resulting linear feature display in both 2D and 3D depends upon the feature definition that is applied to the template point.* Sample templates and beginning components have been set up in the ODOT_ORD_seed.itl. Please see the [Standard Point Names](#) drawing which explains the naming convention and usage.

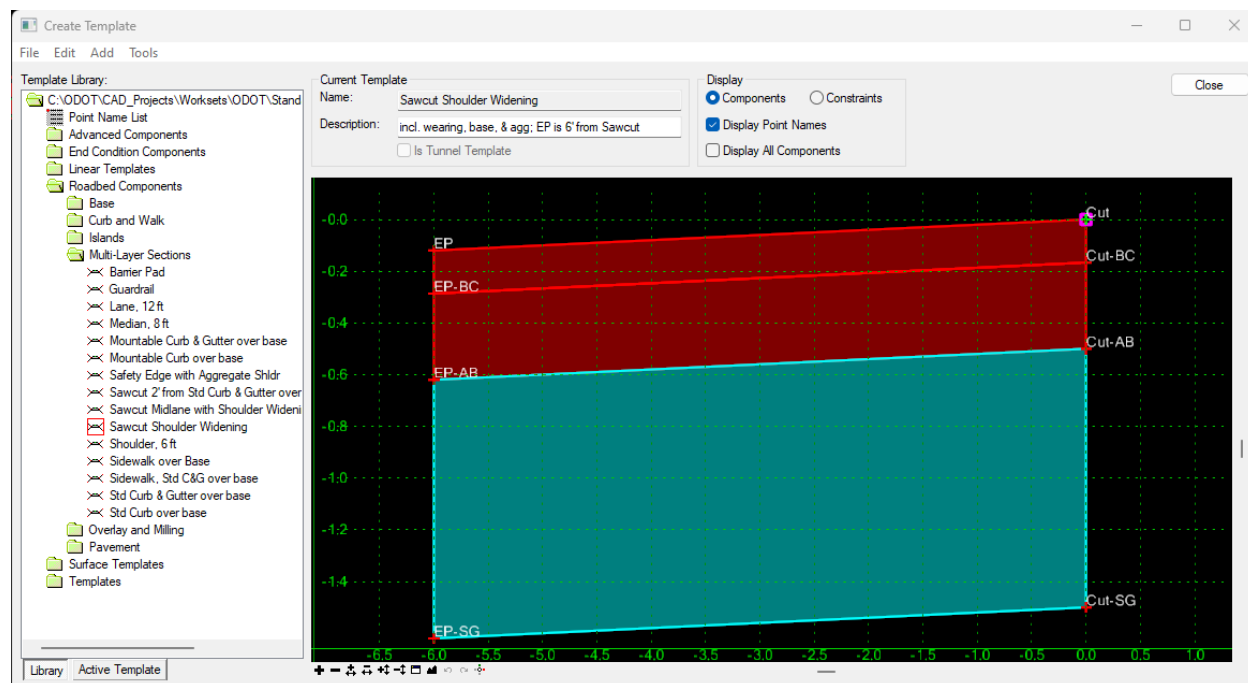
Point names in the ODOT seed template library have been assigned the appropriate feature definition to produce line work that uses the standard symbology for contract plans. Be aware that there is not always a one-to-one correlation between point name and level.

The gutter line is often misunderstood because the level name does not match the feature definition name. The template point for the gutter location, Gtr_L or Gtr_R, is assigned a feature definition of Rdwy_**Gutter**_Ln_P. However, the element template for the gutter line uses the level, P_RDWY_ROAD_**Curb**. A curb level was chosen by CAD Standards for use in displaying the gutter line where there is new curb. Other longitudinal points on a curb have been assigned to separate CurbTopBack and CurbTopFace levels. There is no level with the name “gutter” in it. These specific level names allow people using only MicroStation to identify the proposed object by the level name.

Slope catch lines and sawcut lines in asphalt or concrete are distinctly different because of their location in a corridor. Sawcut lines are usually within the existing roadbed, while slope catch lines always delineate the limit of construction and are never within the roadbed. The level names discussed below were specifically chosen so that people who use only MicroStation could select a graphical element in a referenced DGN file and identify it by the name of the level.

Template points for slope stake catches (SSF and SSC) are assigned the feature definitions Rdwy_SlopeLn_Fill (the catch when in fill) and Rdwy_SlopeLn_Cut (the catch when in cut). The element templates for the slope catch lines use one level, P_RDWY_ROAD_Slope, but different line styles: fill is a short dash, while cut is a long dash.

Cut lines within the roadbed are often referred to as sawcut lines. The Cut template point is assigned the feature definition Rdwy_Cut_P. The element template of the same name uses a level named P_RDWY_ROAD_Sawcut. The picture below shows the Sawcut Shoulder Widening component and the proper use of the Cut template point which can be point controlled to follow a sawcut line.



Designers should always begin each new project with a new template library from the seed – ODOT_ORD_seed.itl. Read more about it in the [OpenX Template Library](#).

Terrain Feature Definitions

When creating terrains from proposed work, you will have access to terrain feature definitions which will use element templates to set not only level, color, line style, and weight, but will also make civil settings. The symbology of the source and calculated features are entirely set in the element template. The feature definition itself will set the seed name and volume option when using the terrain in analysis.

Terrain Feature Definition	Properties	Description
Delta_Half-Foot_Major_Contours	Volume Option: Design Display: Contours, 6":1"	6" Major Contours for Delta Terrains
Delta_Half-Inch_Major_Contours	Volume Option: Design Display: Contours, 0.5":0.01'	1/2" Major Contours for Delta Terrains
Design_1_Triangles-Contours	Volume Option: Design Display: Triangles+Contours, 5':1'	Design Triangles Color 1
Design_2_Triangles-Contours	Volume Option: Design Display: Triangles+Contours, 5':1'	Design Triangles Color 2
Design_3_Triangles-Contours	Volume Option: Design Display: Triangles+Contours, 5':1'	Design Triangles Color 3
Design_4_Triangles-TenthContours	Volume Option: Design Disp: Triangles+Contours, 1':0.1'	Design Triangles Color 4
Design_5_Triangles-TenthContours	Volume Option: Design Disp: Triangles+Contours, 1':0.1'	Design Triangles Color 5
Design_6_Triangles-TenthContours	Volume Option: Design Disp: Triangles+Contours, 1':0.1'	Design Triangles Color 6
Design_7_Triangles-TenthContours	Volume Option: Design Disp: Triangles+Contours, 1':0.1'	Design Triangles Color 7
Design_Boundary	Volume Option: Design Display: Boundary only	Design_Boundary
Design_Contours	Volume Option: Design Disp: Boundary+Contours, 5':1'	Design_Contours
Design_Triangles	Volume Option: Design Display: Boundary+Triangles	Design Triangles Color 3
Existing_Boundary	Volume Option: Existing Display: Boundary only	Existing_Boundary
Existing_Contours	Volume Option: Existing Disp: Boundary+Contours, 5':1'	Existing_Contours
Existing_Features	Volume Option: Existing Display: All source features	Existing_Features
Existing_Triangles	Volume Option: Existing Display: Boundary+Triangles	Existing_Triangles
Survey_Contours-Triangles	Volume Option: Existing Display: Triangles+Contours, 5':1'	Survey_Contours-Triangles
Survey_Contours-Triangles-Oversampling	Volume Option: Existing Disp: Triangles+Contours, 1':0.2'	Survey_Contours-Triangles-Oversampling

Usage Notes: All calculated elements are displayed on separate levels to provide level control in the display. Use the Level Display dialog to toggle off anything that you don't wish to view and save the settings.