

## CAD to GIS Data Transfer Process for Stormwater Assets

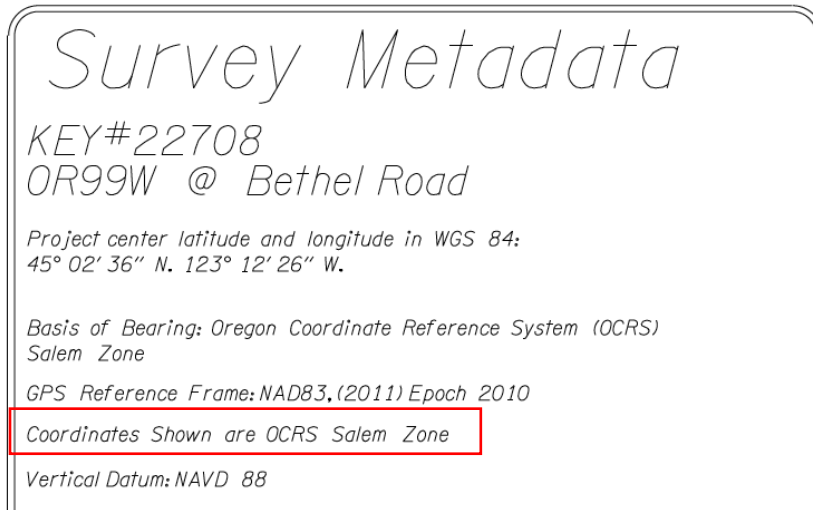
**Description:** How to coordinate correct a design file for import of stormwater assets to GIS.

**Purpose:** For projects with stormwater assets, as defined below, during the PS&E phase of a project, electronic files shall be provided to the Stormwater Asset Management Program Coordinator in the Hydraulic Engineering Section (HES). This procedure outlines the steps to create a design file that is referenced to the originally surveyed project coordinate system for import to GIS. For most ODOT projects, this will be an Oregon Coordinate Reference System (OCRS).

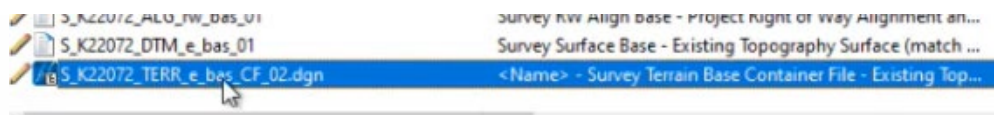
**Time required:** 10 minutes.

### Steps at PS&E:

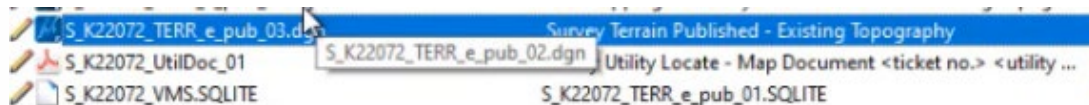
- 1) Create a copy of the design file and save it in the Project Wise project folder  
1\_Design>Hydraulics discipline subfolder.
- 2) Name the file H\_K#####\_std\_ccGIS\_##, per the Project Wise ODOT document naming tool.
- 3) Delete all non-stormwater design models and linework.
- 4) Name the model "Stormwater\_for\_GIS"
- 5) The design file should include all of the following that are part of the project:
  - a) Stormwater conveyance: ditches, pipes, culverts
  - b) Stormwater manholes
  - c) Stormwater inlets: curb inlets, area drains, type D inlets, etc.
  - d) Stormwater outfalls
  - e) Stormwater control measures for quality and quantity: point and external footprint
  - f) Stormwater CIA boundary for each stormwater control measure
- 6) Determine the project coordinate system that was set by the surveyor through one of the following ways:
  - a) The project survey coordinate system can be read in the "Survey Metadata" in the project survey base file dgn, as shown below.



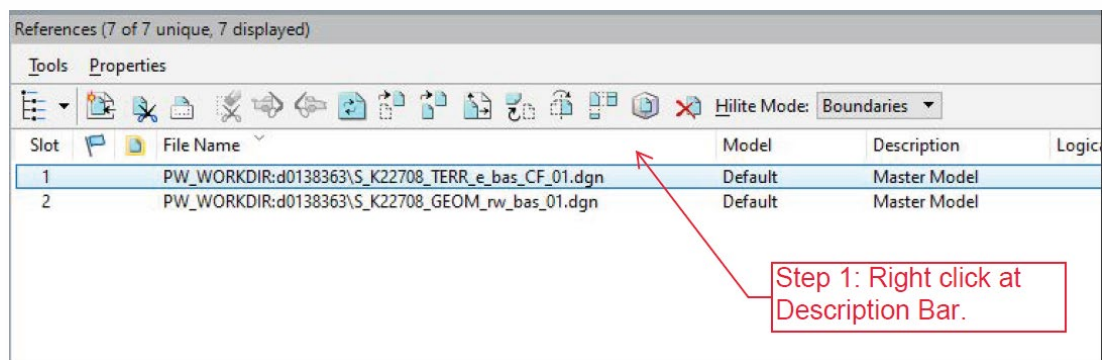
- b) Alternatively, the project coordinate system should be specified in the survey base file or survey container file. For most projects this file will be in the “6\_Civil Data” folder.

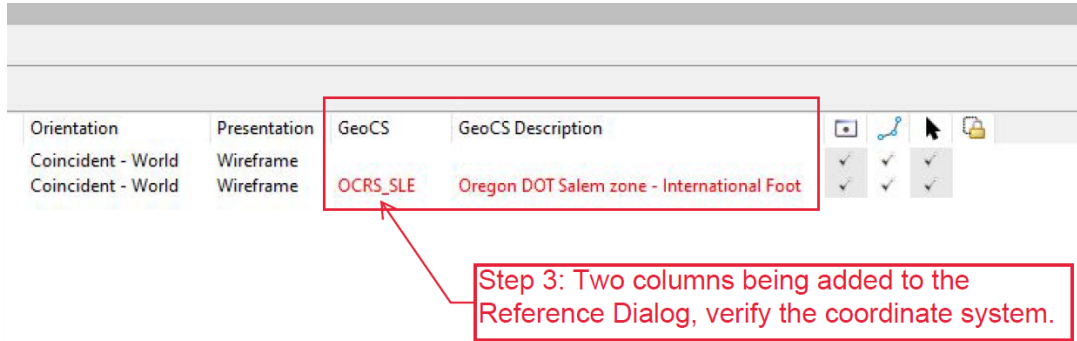
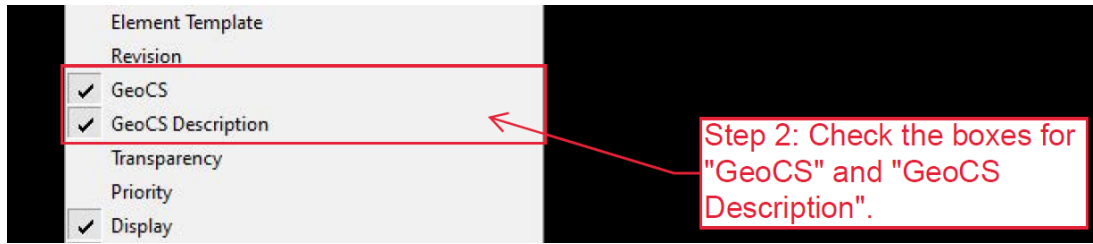


- c) If the survey container file is not set to a coordinate system, go to “Survey” folder. Then go to one of the survey terrain published files, “...\_Terr\_e\_pub\_...dgn” and open the file as read only to verify the coordinate system.

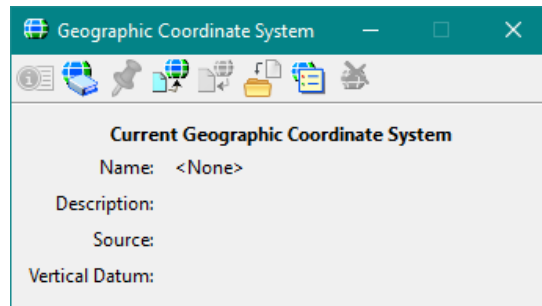
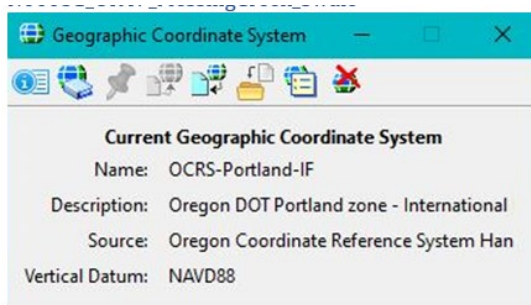


- d) The survey base file coordinate system can also be verified by going to the MicroStation reference dialog and following the steps below to turn on the “GeoCS” and “Geo Description” to verify the project coordinate system.




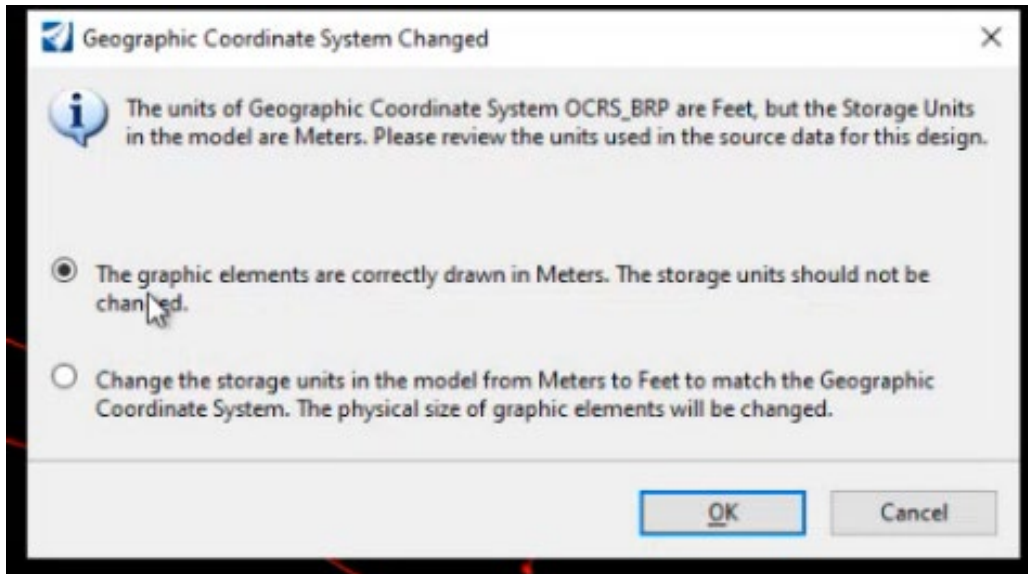


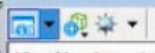
- 7) Open the geographic coordinate system selection tool. In the search bar at the top right of the OpenRoads screen type “coordinate system” and then select it from the drop-down list. The pop-up window will show the current geographic coordinate system if one has been assigned to the file.

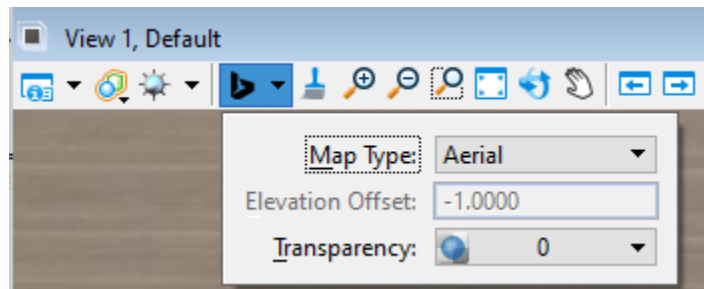


- 8) If you need to assign a coordinate system, or if the one assigned is incorrect/doesn't match the one from Survey;

- a) In the pop-up window, click the “From library” icon .
- b) In the pop-up window, click “ODOT favorites” and select the appropriate OCRS. Do not change the units, leave them as shown in the pop-up window.



- 9) To verify that the model is correctly spatially referenced, click the view attributes icon  at the upper left, scroll down to Background map, select any background map type. Verify that the project is projected in the correct location.
- 10) In the MicroStation 2023 version, click the select background map tool (or type Bing into the search ribbon) to turn on the background image as shown below and confirm that the stormwater elements are displaying in the correct location.



- 11) Compress the file and create an email to the Stormwater Asset Management Program Coordinator, [Jennie Morgan](#). In the body of the email state the OCRS for the project dgn file. Attach the following documents or provide links to the files in Project Wise:
- a) dgn file
  - b) Final Stormwater Report