HydInfra Requirements for Design Build Projects

9/19/2012

Overview

The goal for collecting and submitting HydInfra data for this construction project is to have the HydInfra database current for the completed Project conditions. The consultant is responsible for collecting, formatting and submitting the information. This includes:

- Upload as-built information for newly built drainage system components.

- Upload information on modified and abandoned in-place drainage system features if they are already in the HydInfra database using the existing HydInfra ID.

- Provide a list of HydInfra ID's for any drainage system features that are in HydInfra at the start of the project that are no longer inplace after completion of the Project within the construction limits.

- Upload information for any existing drainage system features within the project limits that are kept-in place but are not in the HydInfra database at the start of the project.

General information on the HydInfra application is available on the Mn/DOT Bridge Office website under Hydraulics > HydInfra at: http://www.dot.state.mn.us/bridge/

New Drainage Features

Information on storm drain pipes and culverts; catch basins, manholes and drop-structures; aprons and other end structures, ponds, infiltration basins, filtration basins, structural pollution control devices (SPCDs), and other drainage features. Data for new features will be submitted to the database via the web site by the contractor. If any errors occur during the submittal, the contractor will be responsible to modify and resubmit the data.

The data is to be submitted in the published format, information on the published format is available n the Mn/DOT Bridge Office website under Hydraulics > HydInfra > HydInfra Data Formatting > Alternative: Published Format page: http://www.dot.state.mn.us/bridge/

Minimum Data Requirements

The minimum required data for each feature/record type is noted in the HYIHELP and template files that are available on the above web site. The table below lists the record type to use for each new feature type, as well as data that is required in addition the required data as shown in the help file. If additional data that is known that is included in the format, it may be submitted.

Location accuracy is within 1 foot in the horizontal direction and within 0.5 foot for elevations.

New Drainage Features – Published Format Record Types, Additional Data Requirements and Comments		
Feature Type	**Record type**	**Additional required data**
Pipe – storm drains and culverts	TPF_Pipe	**Flowline Elevation** **Date Built** - can use a date in the month when construction was completed for all new features **S.P. Number** **Station** **Flowline Elevation 2** **Pipe Northing 2** **Pipe Easting 2** Pipe Northing 2 and Pipe Easting 2 are the location for the downstream end of the pipe at the location of the structure or special structure. UTM X and UTM Y are the upstream end of the pipe at the location of the structure or special structure. **Cover** **Local Name -** use pipe ID from design plan or IDs of upstream/downstream nodes **Data Collection Org –** contact HydInfra coordinator to add name for company responsible for submitting HydInfra data
Hydraulic Structure – Catch Basin, Manhole, or Drop-Inlet	TPF_Struc	**Date Built** – end of the month when construction was completed for all new features **S.P. Number** **Station** **Structure Height** **Structure Design** **Ring Material** **Local Name -**use structure ID from design plan **Data Collection Org**
Special Structure – aprons, headwalls, energy dissipaters, slotted drain, pond outlet structures	TPF_SpStruc	**Date Built** – end of the month when construction was completed for all new features **S.P. Number** **Station** **Local Name -**use structure ID from design plan **Data Collection Org** Pond Outlet structures that include a weir should be input as special structures, Special Struc Type = Weir, and Top of weir elevation should be input as the Flowline Elevation. Pipes into and out of the pond outlet should be input as HydInfra pipes.

New Drainage Features – Published Format Record Types, Additional Data Requirements and Comments		
Feature Type	**Record type**	**Additional required data**
Pond and Infiltration/Filtration Areas	TPF_Pond	**Date Built** – end of the month when construction was completed for all new features **S.P. Number** **Station** **Pond Lining Type** **Local Name -**use pond name from design plan **Data Collection Org** **Outlet Design** **Number of Cells** **Forebay** **Berm** **Pipes In** **Pipes Out** **Emergency Overflow** **Normal Water Elevation** **Design Bottom Elevation** **Design Highwater Elevation**
SPCD – Grit Chamber, Sump MH, Floatable Skimmer, Separator, Filter or Other Structural Pollution Control Device	TPF_SPCD	**Date Built** – end of the month when construction was completed for all new features **S.P. Number** **Station** **Type** **Make** **Local Name -**use structure ID from design plan **Data Collection Org** **Access Points** **Number Cells/Chambers**

Notes:

- Some required data must be included twice in the record because it populates different fields in the database.

- Allowable values are available in the hyd-csv.xls spreadsheet available at the above web site.

- The GEOPAK Drainage to HydInfra process is acceptable to create the input files if the as-built pipe, structure and special structure data is in GEOPAK Drainage files. Instructions and resource files are included on the same web page as the Published Format information.

- For all records, when the features location has been verified in the field, the Lat/Long Coordinate Method, UTM Coordinate Method, and Location Accuracy should be the value that best reflects the method used to verify the

location. The status for all new features created by the project and verified in the field should be Inplace. This will require updates to the .csv file prior to input when the GEOPAK Drainage to HydInfra process is used.

Existing Drainage Features

ESRI GIS shapefiles or a personal geodatabase of the existing HydInfra features in the project area will be available to the consultant. Details of the record formats to use for updating HydInfra for existing drainage features are included in the table at the end of this section. The data to be submitted is the minimum required data with an additional data noted.

Used In-place

The HydInfra database should be updated as necessary for any existing drainage features within the construction limits that are left inplace with no changes.

Existing HydInfra Inventory Data

The existing inventory data must be verified, and if correct and no changes are made to the feature, then no further action needed. If the existing inventory data is not correct, corrections should be made using the published format and the existing HydInfra ID.

No Existing HydInfra Inventory Data

Any inplace drainage system features in the construction project limits that are to remain inplace, but for which no HydInfra inventory data currently exists, will be inventoried as part of the project and the data submitted to the HydInfra database.

Modified

Existing HydInfra Inventory Data

The changes to the feature must be submitted to the HydInfra database.

No Existing HydInfra Inventory Data

Any inplace drainage system features in the construction project limits that are to remain inplace, but for which no HydInfra inventory data currently exists, will be inventoried as part of the project and the data about the feature including the modifications submitted to the HydInfra database.

Removed

Existing HydInfra Inventory Data

A list of HydInfra ID's for features in the construction limits that are removed as part of the project or otherwise no longer inplace at the end of the project will be submitted to Mn/DOT in an ASCII or Microsoft Excel file.

No Existing HydInfra Inventory Data

No action needed.

Abandoned In Place

Existing HydInfra Inventory Data

A list of HydInfra ID's for features in the construction limits that are abandoned as part of the project or otherwise no longer inplace at the end of the project will be submitted to Mn/DOT in an ASCII or Microsoft Excel file.

No Existing HydInfra Inventory Data

These features should be created as new HydInfra features with the status = Abandoned. Pipes must be created with locations for both ends.

Location

For projects where the project requires that the location of inplace and abandoned features be verified, an electronic Excel file with the HydInfra ID and the corrected location (x, y, z) with x and y in UTM coordinates shall be submitted to the oversight personnel or as specified in the Project Requirements.

Feature	Used In-Place or Modified		Comments/Additional Required Data
	Existing Data (where updates needed)	No Existing Data	(all data records must include Data Collection Organization)
Pipe	PF_ExPipeAct	TPF_Pipe	TPF_Pipe data should include Pipe Northing 2 and Pipe Easting 2 if they can be determined.
Hydraulic Structure	PF_ExStrucAct	TPF_Struc	Structure Height, Ring Material
Special Structure	PF_ExSpStrucAct	TPF_SpStruc	No additional data beyond required
Pond	PF_ExPondAct	TPF_Pond	Additional Required Data: Local Name (if known), Outlet Design, Number of Cells, Forebay, Berm, Pipes In, Pipes Out, Emergency Overflow
SPCD	PF_ExSPCDAct	TPF_SPCD	Additional Required Data: Type. Access Points, Number Cells/Chambers

*All data should include data collection organization in addition to required data and specifically noted data.

Qualifications

The company responsible for collecting and submitting HydInfra data must be qualified, or meet the required qualifications for Mn/DOT Work Type 13.1 Detailed Inspection and Location of Stormwater System Features (Level 1) as detailed for the Mn/DOT Pre-Qualification Program. Information available at:

http://www.dot.state.mn.us/consult/prequal.html

Loading/Reviewing Data

The contractor is responsible for successfully submitting the data files to the HydInfra database through the Upload Data website at http://dotapp7.dot.state.mn.us/HydInfra/. The contractor should send a request to bonnie.peterson@state.mn.us for Name and Password information when they are ready to upload the data.

Instructions for loading the data are available in the resource document in steps 3 and 4 of the document: "Summary of Steps to Collect and Load HydInfra Data" available on the Mn/DOT Bridge Office website under Documents > HydInfra main page at: http://www.dot.state.mn.us/bridge/.