

Geopak Drainage Data to HydInfra

Overall Procedure:

1. Edit Geopak Drainage file (gdf) so represents as-built condition
2. Export node and link csv files from gdf files using drf file templates
3. Load MnCON if not already loaded on computer
4. Set-up Excel and Add-in files
5. Run add-In
6. Edit Data
7. Create HydInfra input file
8. Upload data to HydInfra

1. Edit GDF file

A design GDF file may need editing before it is exported to a HydInfra input file. The design GDF file may contain alternatives that were not incorporated into the design, temporary drainage features, features that belong to a local agency, and/or existing features that already exist in HydInfra.

2. Export Node and Link csv files from Geopak Drainage

1. Load MicroStation and edited Geopak Drainage design files from Projectwise
2. Select from Drainage menu: Reports > Generate
3. Select the Drainage Report file for nodes: Hydinfra_Node.drf in Projectwise from:
CADDStandards > MnDOTStandards > DOT-Geopak > dlb > Reports
4. For the output file, navigate to your project folder in ProjectWise and name the file, include "Node" in the file name and set the extension to .csv
5. Select Generate to create the node data file
6. Run again using the HydInfra_Link.drf Drainage Report file and name the output file to include "Link"
7. Export the Node and Link csv files to a project directory on the network, or the c:\hyihelp\spreadsheets directory (created in section 4 below)

3. Load MnCON 2.5.1 or older (if not already loaded)

The current version of MnCON (3.0.1) from Land Management does not work with excel spreadsheet. If you already have MnCON loaded, check that the version is from prior to 2010 (2.5.1 or prior). See the Help > About in MnCON or the history.txt file in C:\Program Files\MnCON to determine which version you have.

Version 2.5.1 of MnCON is available on the external HydInfra webpage – under Data Formatting > Alternative Published Format as the **Coordinate Projection Application**.
<http://www.dot.state.mn.us/bridge/hydraulics/hydraulics/hydinfra/dataformatting/geopakalternatedata.html>

If you need to load MnCON, you will need administrative privileges on the computer. If you have a more recent version of MnCON loaded, you will need to uninstall, and then install

version 2.5.1. Once you are done with formatting the HydInfra data, you should uninstall version 2.5.1 and install the most current version from MnDOT Land Management.


4. Set-up Excel and Add-In Files

Set up Directory Structure (if not already set-up)

- Create C:\HYITEMP
- Create C:\HYIHELP
- Create C:\HYIHELP\Spreadsheets

Check Excel Security

On the **Developer** tab, in the **Code** group, click **Macro Security**.

TIP If the **Developer** tab is not displayed, click the **Microsoft Office Button** , click **Excel Options**, and then in the **Popular** category, under **Top options for working with Excel**, click **Show Developer tab in the Ribbon**.

In the **Macro Settings** category, under **Macro Settings**, click either Enable all macros or Disable all macros with notification. (If select disable all macros with notification, then be sure to Enable the Macro when you open the spreadsheet).

Get Excel and Add-in File

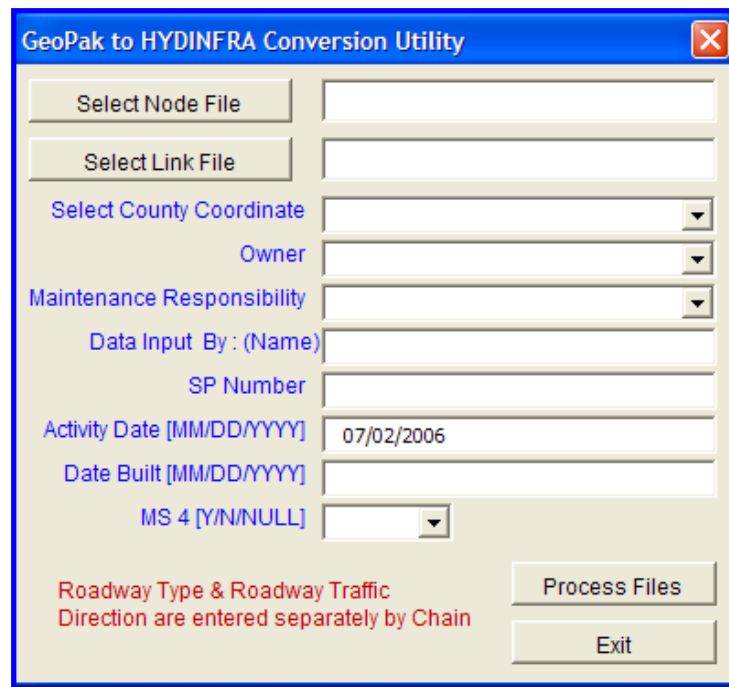
1. Navigate in ProjectWise to CADDStandards > MnDOTStandards > DOT-Geopak > dlb > Reports
2. Select [GP2HYI.xla](#) and hyd_csv.xls and export. Save an unmanaged copy in c:\hyihelp\spreadsheets
3. Open hyd_csv.xls from d:\hyihelp\spreadsheets
4. Click on Office Button and select Excel Options
5. Select Add-Ins
6. Near the bottom of the dialog – for Manage, select Excel Add-Ins and then click on Go button
7. Browse to c:\hyihelp\spreadsheets and select GP2HYI.xla, make sure it is toggled on in the list and select OK. You should get a message that a new menu item has been added.

5. Run Add-In

In hyd_csv.xls, select Add-Ins tab
Click on GeoPak Conversion button.

GeoPak to HYDINFRA Conversion Utility

The GeoPak to HYDINFRA Conversion Utility form appears.



The screenshot shows a Windows-style dialog box titled "GeoPak to HYDINFRA Conversion Utility". The dialog has a blue title bar with a close button (X) in the top right corner. The main area is light beige and contains several input fields and buttons. At the top, there are two buttons: "Select Node File" and "Select Link File", each followed by an empty text box. Below these are three dropdown menus: "Select County Coordinate", "Owner", and "Maintenance Responsibility". Following the dropdowns are three more text boxes: "Data Input By : (Name)", "SP Number", and "Activity Date [MM/DD/YYYY]" (which contains the date "07/02/2006"). Below the activity date is another text box for "Date Built [MM/DD/YYYY]" and a dropdown menu for "MS 4 [Y/N/NULL]". At the bottom left, there is a red text label: "Roadway Type & Roadway Traffic Direction are entered separately by Chain". At the bottom right, there are two buttons: "Process Files" and "Exit".

GeoPak to HYDINFRA Conversion Utility Form and Required Fields

Fill in all known data. There are four required fields on this form:

- Select Node File – Navigate and select a Node File created in Section 2
- Select Link File – Navigate and select a Link File created in Section 2
- Select County Coordinate – Select a county
- Activity Date [MM/DD/YYYY] -- Today's date is automatically entered as a default.
- The Date Built is not required, but is highly recommended to enter 12/31/xxxx where xxxx is the year the project was completed.

The screenshot shows the 'GeoPak to HYDINFRA Conversion Utility' window. It has a blue title bar with a close button. The form is organized into several sections. The top section has two buttons: 'Select Node File' and 'Select Link File'. Below these are two text boxes containing file paths: 'C:\temp\GP2HYI\GPData\NodeSM.csv' and 'C:\temp\GP2HYI\GPData\PipeSM.csv'. The next section has three dropdown menus: 'Select County Coordinate' (Anoka), 'Owner' (Metro), and 'Maintenance Responsibility' (Metro). Below these are three text boxes: 'Data Input By : (Name)' (test user), 'SP Number' (1234-56), and 'Activity Date [MM/DD/YYYY]' (07/02/2006). The next section has two text boxes: 'Date Built [MM/DD/YYYY]' (07/02/2006) and 'MS 4 [Y/N/NULL]' (N). At the bottom, there is a red text label: 'Roadway Type & Roadway Traffic Direction are entered separately by Chain'. To the right of this label are two buttons: 'Process Files' and 'Exit', which are enclosed in a red rectangular box.

Select Node File	C:\temp\GP2HYI\GPData\NodeSM.csv
Select Link File	C:\temp\GP2HYI\GPData\PipeSM.csv
Select County Coordinate	Anoka
Owner	Metro
Maintenance Responsibility	Metro
Data Input By : (Name)	test user
SP Number	1234-56
Activity Date [MM/DD/YYYY]	07/02/2006
Date Built [MM/DD/YYYY]	07/02/2006
MS 4 [Y/N/NULL]	N

Roadway Type & Roadway Traffic Direction are entered separately by Chain

Process Files
Exit

Next, select the "Process Files" button or "Exit" button.

Chain Based Attributes Form and Required Fields

Each GeoPak Chain has a Roadway Type, which is a required field in HYDINFRA. The user must associate a Roadway Type to each chain. Traffic Direction is not a required field.

Step 1 – Select a Chain

Select a chain. In this example, a chain called, “INP64NB” was selected.

Chain Based Attributes

1

INP63NB
COMMDRN
36TH
18TH
40THBL
WINDSORC
11TH
40THWB
40THEB
WILLOWHTS
WILLOWRDG
RAMPC
LOOPF

Selected Chain: None

Roadway Type (Required) Entrance 2

Traffic Direction NB 3

Please Select a Chain and enter the appropriate data. Click Add to add the data to each Chain

Add to Chain Data 4

Done

Step 2 – Select a Roadway Type

Click on the “Roadway Type” Pull-down. In this example, “Entrance” was selected.

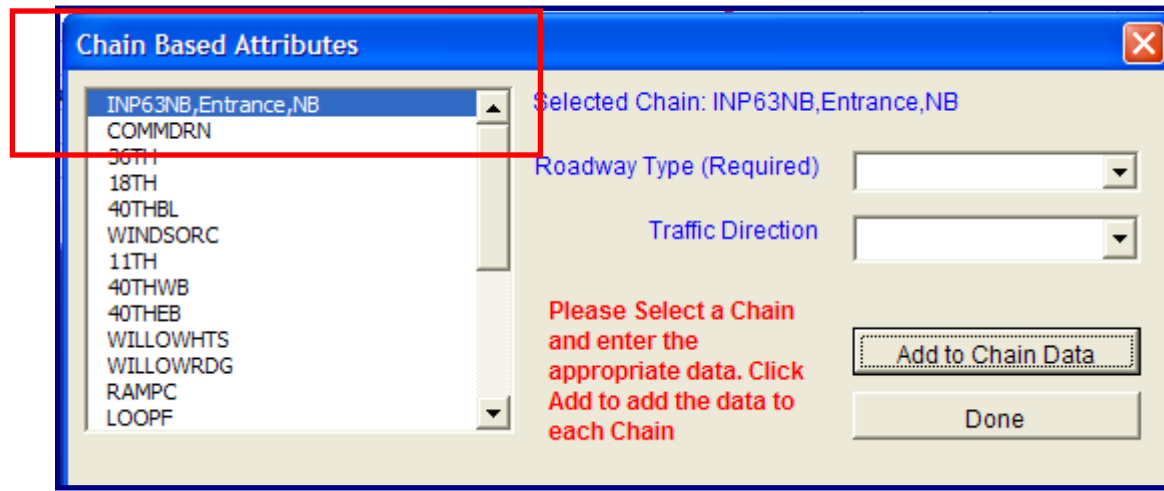
Step 3 – Select a Traffic Direction

This is not a required field. Enter a value if known.

Step 4 – Click on the “Add to Chain Data” button

The Roadway Type and Traffic Direction data are appended to the Chain. See screen print on next page.

The Roadway Type and Traffic Direction have been appended to the Chain.



Step 5 – Repeat process for all chains

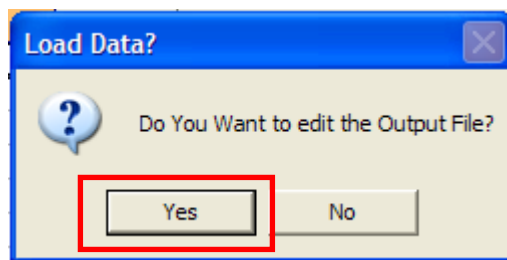
Every chain must have a Roadway Type associated with the record because it is a required field in the HYDINFRA database.

Step 6 – Click on the “Done” button

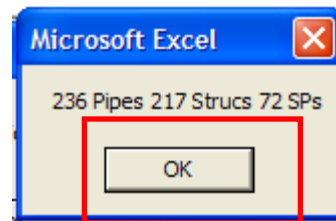
GeoPak to HYDINFRA Conversion Utility Processing Options

Edit Output File

If the user would like to edit the output files, click the “Yes” button.



The program will count and provide a total of each record type to the user.



Click "OK" to continue.

Field	Required						
[1] Record Number	Yes	290	291	292	293	294	
[2] Record Type	Yes	TPF_Pipe	TPF_Pipe	TPF_Pipe	TPF_Pipe	TPF_Pipe	
[3] Longitude	Yes	924817.0128	924946.4057	924946.1957	924946.1927	924945.6624	
[4] Latitude	Yes	451020.0876	450958.3108	450957.8172	450955.7242	450955.7246	
[5] UTM X	Yes	515344.41	513394.61	513399.23	513399.43	513411.01	
[6] UTM Y	Yes	5002103.64	5001427.23	5001412.01	5001347.42	5001347.45	
[7] Lat/Long Coordinate Method	Yes	Plan Sheet	Plan Sheet	Plan Sheet	Plan Sheet	Plan Sheet	
[8] UTM Coordinate Method	No	Plan Sheet	Plan Sheet	Plan Sheet	Plan Sheet	Plan Sheet	
[9] Location Accuracy	Yes	< 0.5 meter	< 0.5 meter	< 0.5 meter	< 0.5 meter	< 0.5 meter	
[10] Status	Yes	Proposed	Proposed	Proposed	Proposed	Proposed	
[11] Flowline Elevation	No	1050.486	1232.470	1230.946	1220.034	1219.578	

The data is loaded into the spreadsheet and placed into the appropriate Record Type worksheet tabs. The user can edit data in any four record types.

6. Edit Output Data

Recommended items to edit:

Special Structure – look for safety apron or grates in plan and edit appropriate record

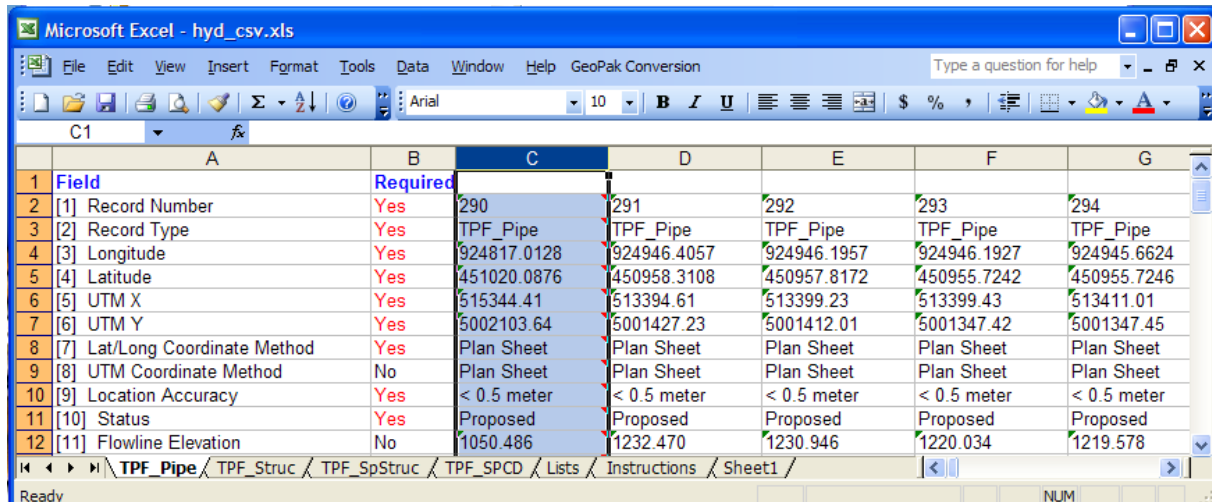
Pipes – put in comments for anything unusual, if Design 3006, put in comment, add design flow frequency if known.

7. Create HydInfra Input File

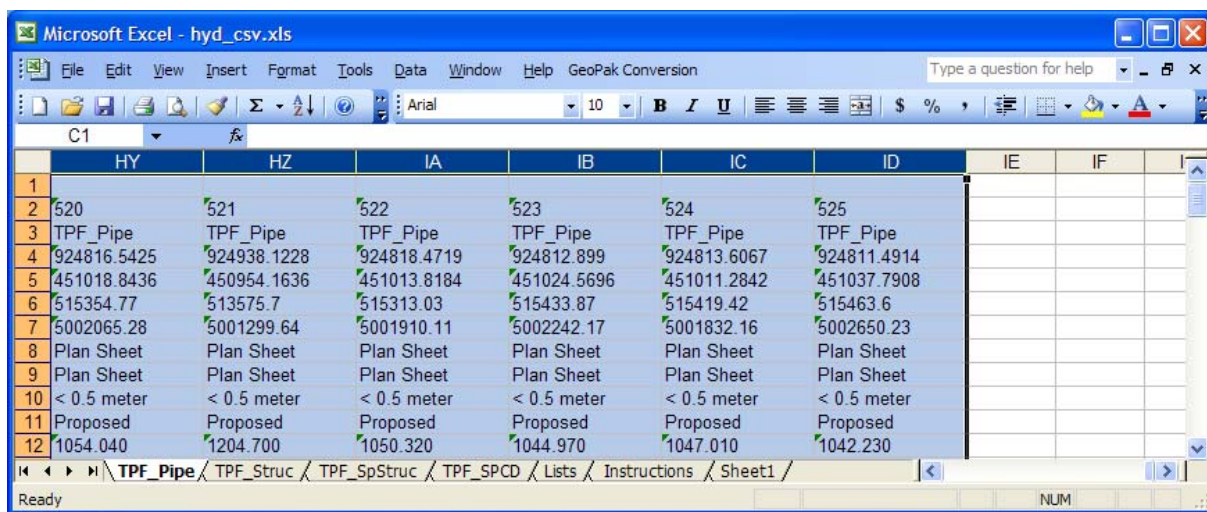
Process Output File

After the user is finished editing data in the four Record Types in the spreadsheet, the data must be transformed into a cvs format that is ready for HYDINFRA. This process must be performed on each of the four Record Types.

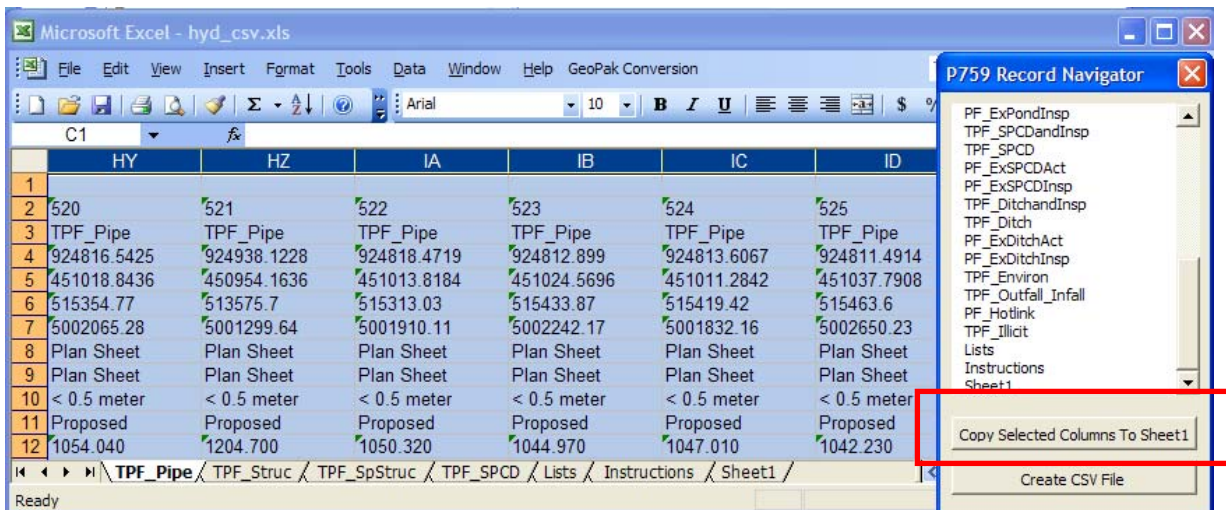
Step 1 – Click on Column “C” and highlight the entire column



Step 2 – Continue to highlight all columns by holding shift key and pressing right arrow button until the end. In the example below, we had to scroll 236 columns to Column “ID”.

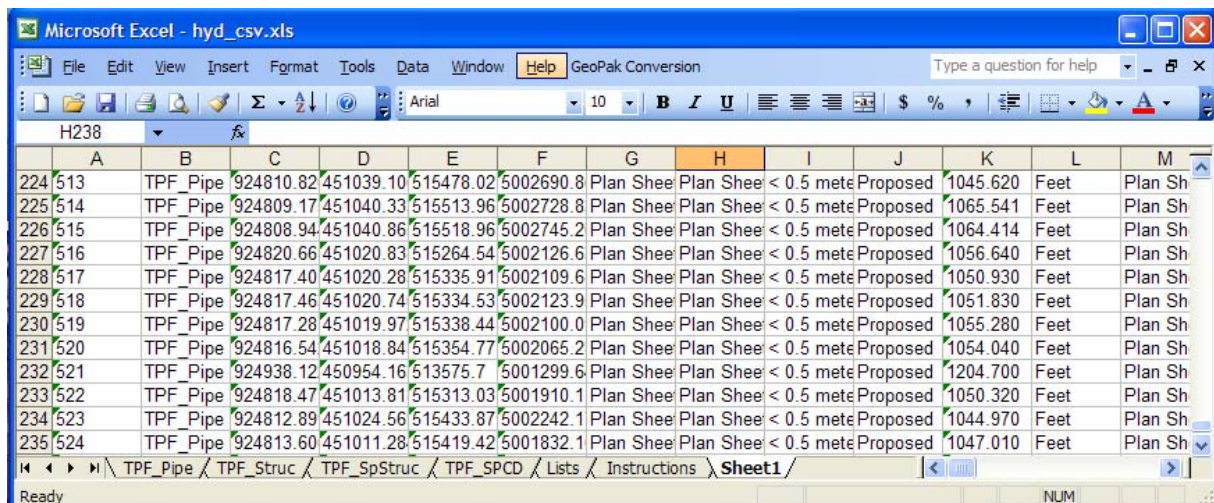


Step 3 – On the P759 Record Navigator, click the “Copy Selected Columns To Sheet1” button.

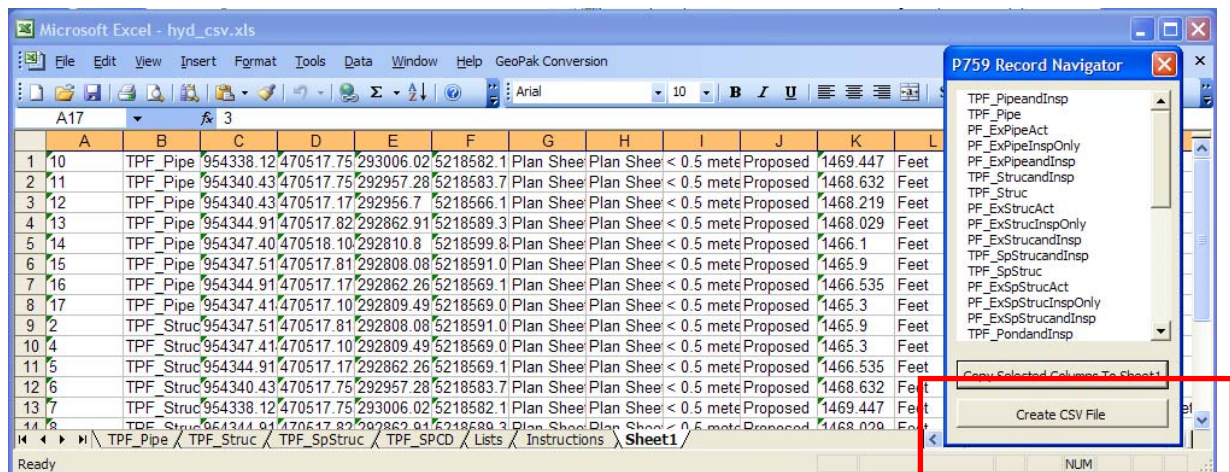


Step 4 – Perform steps 1 - 3 for the other three Record Types.

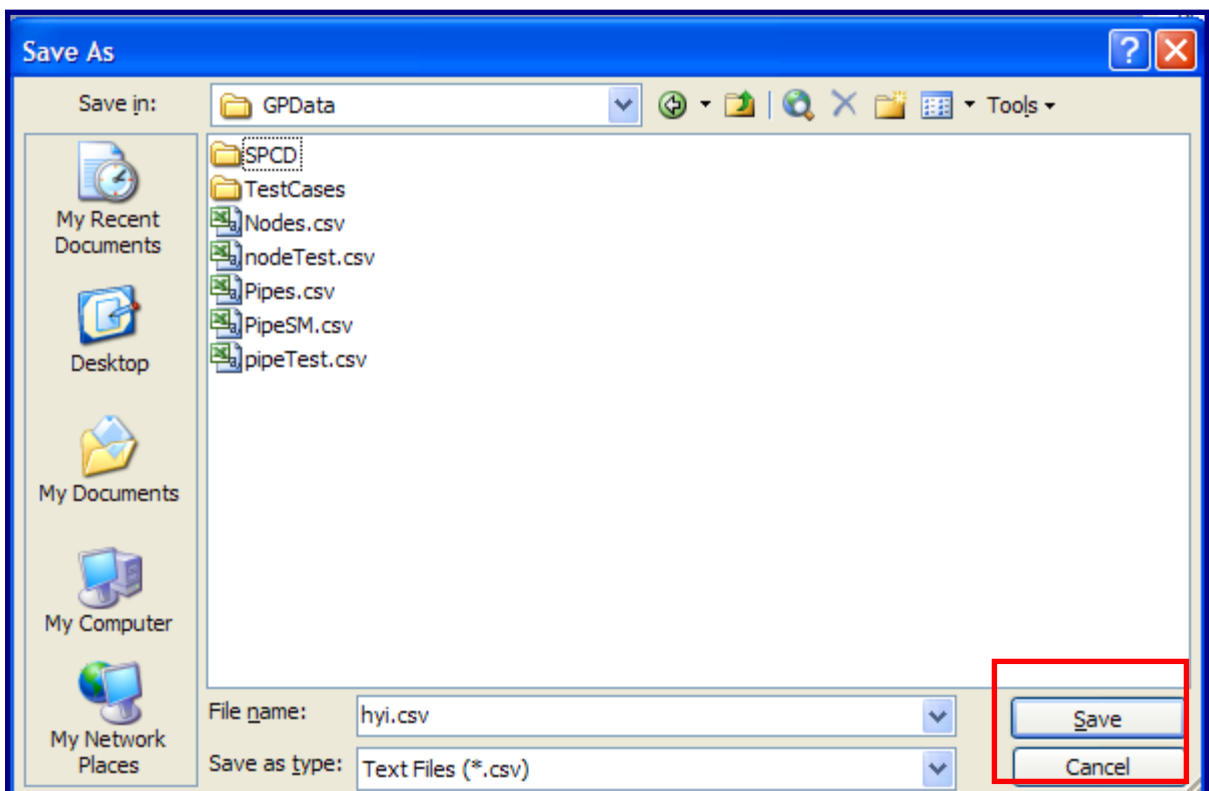
Step 5 – Select Sheet1 and validate that the data has been transformed and placed into Sheet 1.



Step 6 – Create CSV File



On the P759 Record Navigator, Select the “Create CSV File” button.



Save the file.

8. Load Input File

- Go to the HydInfra web site
- Enter the user name and password
- Select MnDOT as the company name, select your district as the work location and enter your email address
- Browse to the input file that you created, then Submit.

Contact Lisa Sayler via email at lisa.sayler@state.mn.us or at 651-366-4468 with any questions.