Workflow OP 1 - Linking Word Documents to MicroStation

This document guides you through the creation of CDOT Notes sheets. This includes general notes for each of the specialty groups, SWMP notes for Landscape and Environmental, as well as any other sheets with notes. The Design general notes will be illustrated in this workflow, but the process is the same for each type of notes sheet.

Workflow Outline

Updating Links to the Word Doc - The existing link in the notes file points to the seed Word document. This needs to be changed to point to the Word document in the project folder.

- Commands Used: **Edit > Links > Change Source** - Used to change the directory path to the linked Word document.

Editing the Notes - How the notes are edited will depend on the extent of the editing. If the edits do not change the line count of the document, the current link can be edited. If the edits will change the line count then the notes should be opened through Word and edited. After editing, the existing links in MicroStation must be deleted and re-created.

- Commands Used: **Double Click on Link** - Used to open Word from MicroStation so that the existing link can be edited.

Setting Up a Word Document for Linking - If you are building a notes file from scratch, the page layout must be set up.

- Commands Used: **Word > Page Layout** - Used set up the page formatting.
  - **Margins** - Used to set the margins.
  - **Size** - Used to define the paper size.
  - **Columns** - Used to format to two columns.
  - **Indents** - Used to set the indents.

Creating a New Link - If a new notes file was created or if extensive edits were done on an existing file, a new link will need to be made.

  - Commands Used: **MicroStation > Delete** - Used to remove the old link.
  - **Word > Copy** - Used to identify the text to be linked.
  - **MicroStation > Paste Special** - Used to create the new link in MicroStation.

Updating Links to the Word Doc

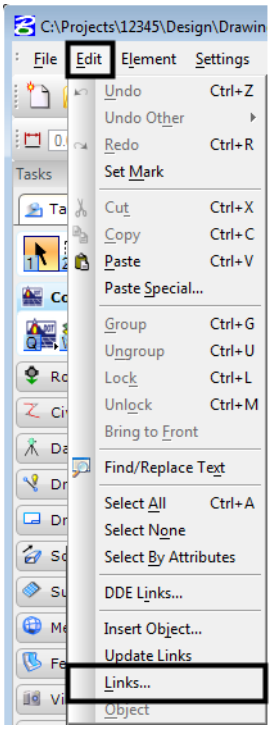
The JPC#DES_GenlNote##.dgn is created in **...\Design\Drawings** project folder when the Create Project Utility is run. This file is linked to a Word document that contains generic notes. The links are pointing to the JPC#DES_GenNote.doc that resides in the Project Template and must be redirected to the file in the specific folder.

Note:

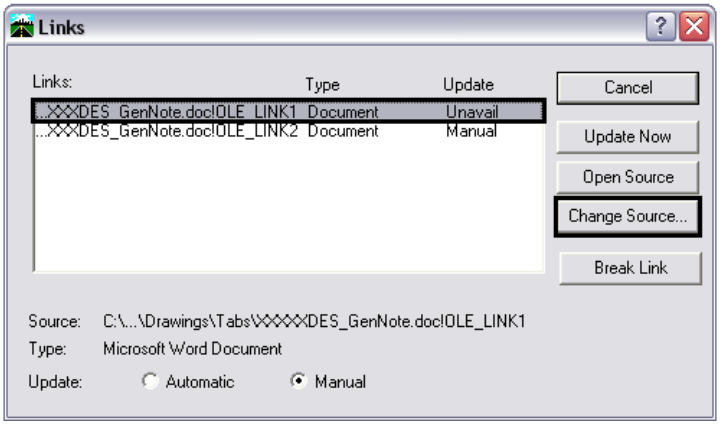
- A Word 2007 document has a maximum viewable width of 13” when linked to MicroStation.

- A Word 2010 document has a maximum viewable width equal to the paper size when linked to MicroStation.
- When changing the source of a linked Word document in MicroStation, the viewable area of the document will match the version of Word installed on the computer.
  - ♦ If a link containing a Word 2010 document has the source changed on a computer with Word 2007 installed, the reduction of the viewable area will result in approximately 3" of data on the right side of the document being hidden. It may also affect fonts used in the Word document.
  - ♦ If a link containing a Word 2007 document has the source changed on a computer with Word 2010 installed, the image of the document is reduced in size to fit the entire paper area into the area of the existing link. It may also affect fonts used in the Word document.

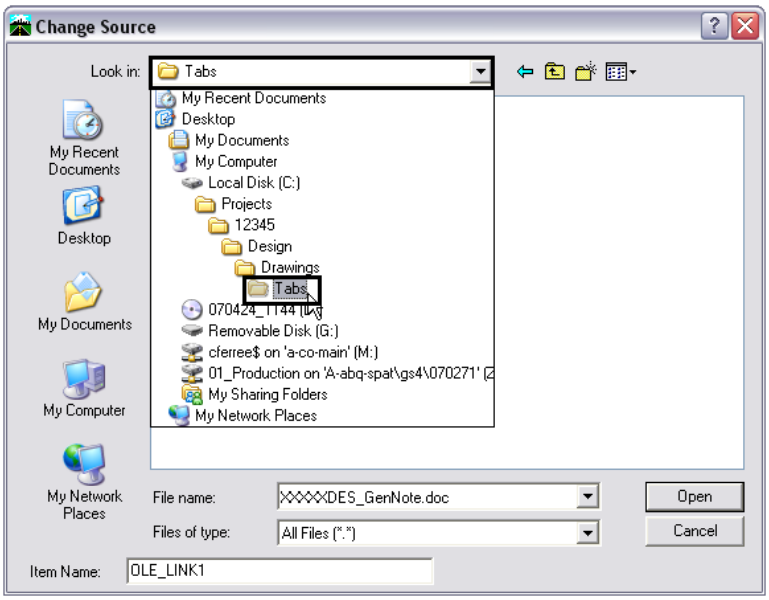
1. Open the **JPC#DES_GenlNote##.dgn** located in ProjectWise or, for locally stored projects, **C:\Projects\JPC#\Design\Drawings** directory.
2. Select **Edit > Links** from the MicroStation Main Menu.



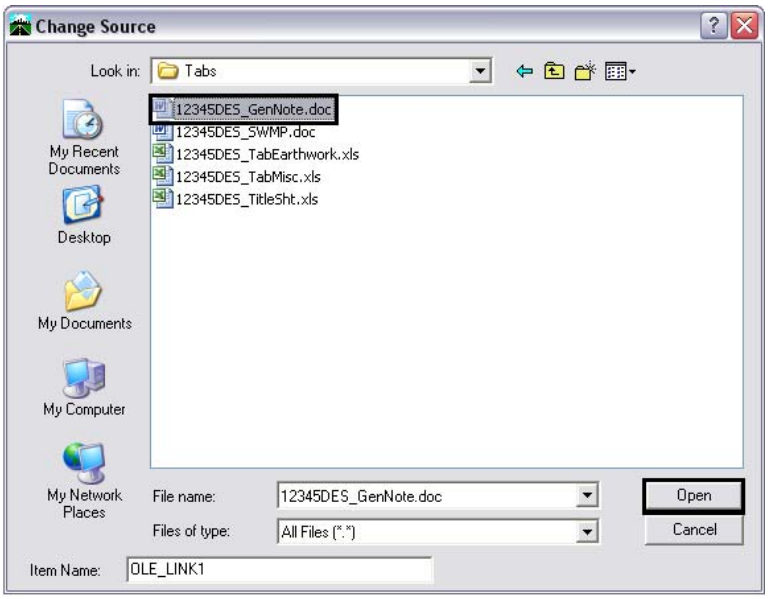
3. In the **Links** dialog box, highlight one of the documents shown, then **<D> Change Source.**



4. In the **Change Source** dialog box, use the drop-down list next to the **Look In** field to select the desired directory.



5. Highlight the **JPC#DES_GenNote.doc** file and **<D> Open.**



6. Repeat this process for the other link.

7. **<D> Cancel** to dismiss the ***Change Source*** dialog box.

   Note: both links use the same **JPC#DES_GenNote.doc**.

Editing the Notes

1. The General Note text document is located in the project directory under:

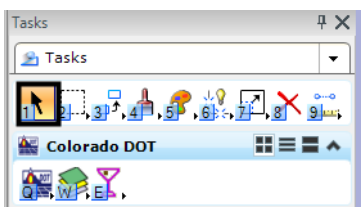
   C:\Projects\JPC#\Design\Drawings\Tabs\JPC#DES_GenNote.doc

2. This file is then linked twice to the **JPC#DES_GenlNote##.dgn** sheet files, once for each sheet border in the file. These links act independently of each other, however. Adding or deleting text from one link will not scroll text to the other link.

3. Editing that will not change the number of lines in the Word document can be done through the existing link in the **JPC#DES_GenlNote##.dgn** file. For editing that will change the line count, open the **JPC#DES_GenNote.doc** and make the desired changes. After changes are made, delete the existing links in the **JPC#DES_GenlNote##.dgn** file and create new ones from the edited Word document.

Editing an Existing Link

1. Select the **Element Selector** tool from the **MicroStation Main** toolbar.



2. Move the cursor on to the edge of the linked text (the edge will highlight) and double click (**<D> <D>**). This will open the **JPC#DES_GenNote.doc** file in a session of Word.
3. Make the desired changes in the text, **Save**, and **Close** the Word document. The changes will be automatically displayed in the **JPC#DES_GenlNote##.dgn** file.
4. Select **Edit > Update Links** so that the change will show in document.

Setting Up a Word Document for Linking

The following section contains guidelines for setting up a Word document for linking to MicroStation. Please be aware that MicroStation interprets Word 2007 documents and Word 2010 documents differently. Because of this, the setting for both Word 2007 and Word 2010 are given below. Other information, detailed below the page set-up section, pertains equally to both versions of Word.

Page Set-up for Word Documents

Settings for Word 2007

The following settings are used when creating a new Word 2007 document for General Notes or SWMP Plans.

Page Size	11x17 (11” x 17”)
Orientation	Landscape
Top Margin	1.00”
Bottom Margin	1.40”
Left Margin	1.00”
Right Margin	3.00”
Columns	Two
Column 1 Width	6.25”
Column 2 Width	8.85”
Column Spacing	0.00”
Column 1 Left Indent	0.13”
Column 1 Right Indent	0.15”
Column 2 Left Indent	0.50” for General Notes 0.13” for SWMP Plans
Column 2 Right Indent	2.35” for General Notes 2.22” for SWMP Plans
Font	Arial Monospaced for SAP
Font Size	10

Note: Due to the column with limitations with Word 2007, use an 8 point font size for Word 2007 General Notes and SWMP sheets.

Note: The Arial font should be used in documents where items are not put into columns. The Arial Monospaced for SAP font is required for columns of data to line up correctly

Settings for Word 2010

The following settings are used when creating a new Word 2010 document for General Notes or SWMP Plans.

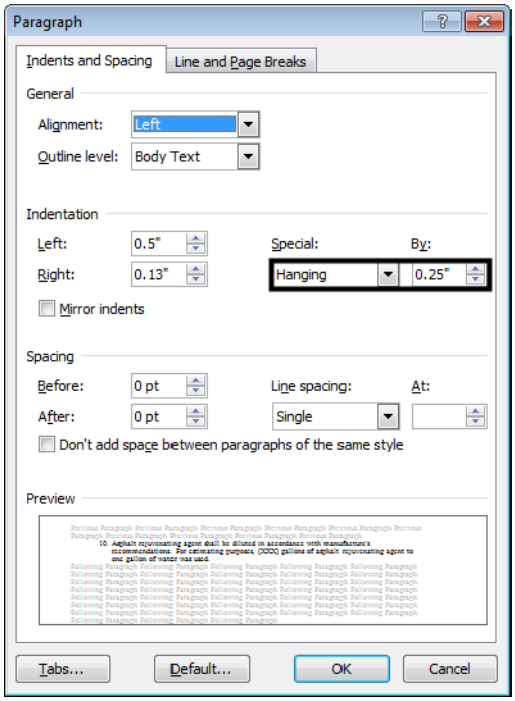
Page Size	11x17 (11” x 17”)
Orientation	Landscape
Top Margin	0.50”
Bottom Margin	0.50”
Left Margin	0.25”
Right Margin	0.25”
Columns	Two
Column 1 Width	8.00”
Column 2 Width	8.00”
Column Spacing	0.50”
Column 1 Left Indent	0.00”
Column 1 Right Indent	0.00”
Column 2 Left Indent	0.00”
Column 2 Right Indent	0.00”
Font	Arial Monospaced for SAP
Font Size	10

Note: The Arial font should be used in documents where items are not put into columns. The Arial Monospaced for SAP font is required for columns of data to line up correctly.

General Information for Creating Word Documents

- The Auto-numbering function in Word will not function properly. Once the copied text is pasted into MicroStation, the first item of the copied text is renumbered starting at 1. This occurs even if the auto-numbering is set to start with a number other than 1.

- If you wish to number the items, set the ***Indentation Special*** to **Hanging** with a ***By*** value of **0.25”**, then physically type in the numbers. Also, clear any tabs set, as these may cause problems with the formatting.



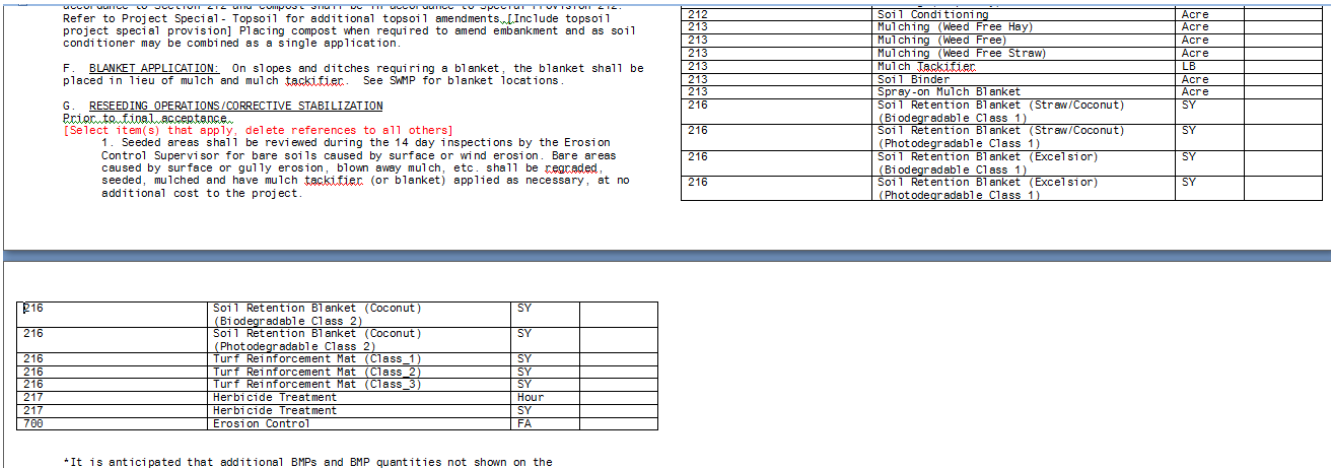
Note: The image above shows the indents for a 2007 Word document. The Left and Right Indentation settings are 0.00 for a 2010 Word document.

- Use a “hard” return (by pressing the Enter key) at the end of each page. This will ensure that there is no text wrapping between pages.
- A Word 2007 document has a maximum viewable width of 13” when linked to MicroStation.
- A Word 2010 document has a maximum viewable width equal to the paper size when linked to MicroStation.
- When changing the source of a a linked Word document in MicroStation, the viewable area of the document will match the version of Word installed on the computer.
  - ♦ If a link containing a Word 2010 document has the source changed on a computer with Word 2007 installed, the reduction of the viewable area will result in approximately 3” of data on the right side of the document being hidden. It may also affect fonts used in the Word document.
  - ♦ If a link containing a Word 2007 document has the source changed on a computer with Word 2010 installed, the image of the document is reduced in size to fit the entire paper area into the area of the existing link. It may also affect fonts used in the Word document.

Preparing Word Documents that Contain a Table

Some Word documents, like the SWMP plan sheets contain tables. If the table does not fit into a single column it may not display correctly when pasted into MicroStation. One method of correcting this problem is explained below.

The illustration below shows a table running on to two pages.



Refer to Project Special- Topsoil for additional topsoil amendments.[Include topsoil project special provision] Placing compost when required to amend embankment and as soil conditioner may be combined as a single application.

F. BLANKET APPLICATION: On slopes and ditches requiring a blanket, the blanket shall be placed in lieu of mulch and mulch tackifier. See SWMP for blanket locations.

G. RESEEDING OPERATIONS/CORRECTIVE STABILIZATION

Prior to final acceptance.

[Select item(s) that apply, delete references to all others]

1. Seeded areas shall be reviewed during the 14 day inspections by the Erosion Control Supervisor for bare soils caused by surface or wind erosion. Bare areas caused by surface or gully erosion, blown away mulch, etc. shall be regraded, seeded, mulched and have mulch tackifier (or blanket) applied as necessary, at no additional cost to the project.

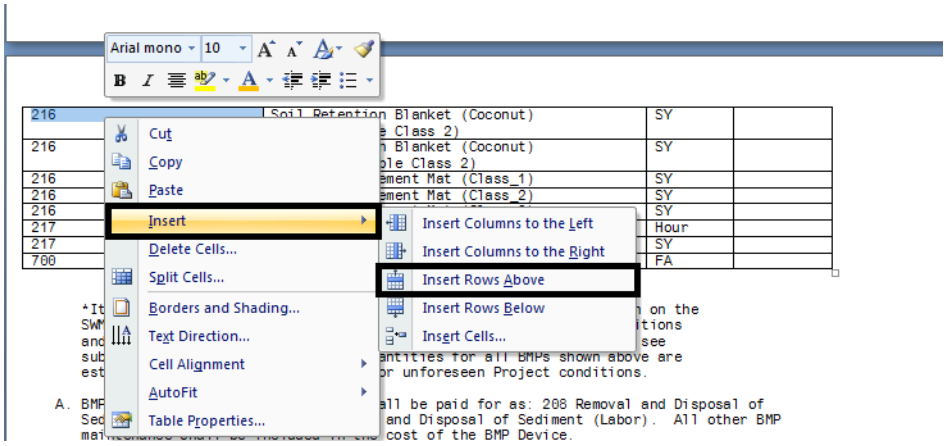
212	Soil Conditioning	Acre	
213	Mulching (Weed Free Hay)	Acre	
213	Mulching (Weed Free)	Acre	
213	Mulching (Weed Free Straw)	Acre	
213	Mulch Tackifier	LB	
213	Soil Binder	Acre	
213	Spray-on Mulch Blanket	Acre	
216	Soil Retention Blanket (Straw/Coconut) (Biodegradable Class 1)	SY	
216	Soil Retention Blanket (Straw/Coconut) (Photodegradable Class 1)	SY	
216	Soil Retention Blanket (Excelsior) (Biodegradable Class 1)	SY	
216	Soil Retention Blanket (Excelsior) (Photodegradable Class 1)	SY	

216	Soil Retention Blanket (Coconut) (Biodegradable Class 2)	SY	
216	Soil Retention Blanket (Coconut) (Photodegradable Class 2)	SY	
216	Turf Reinforcement Mat (Class_1)	SY	
216	Turf Reinforcement Mat (Class_2)	SY	
216	Turf Reinforcement Mat (Class_3)	SY	
217	Herbicide Treatment	Hour	
217	Herbicide Treatment	SY	
700	Erosion Control	FA	

*It is anticipated that additional BMPs and BMP quantities not shown on the

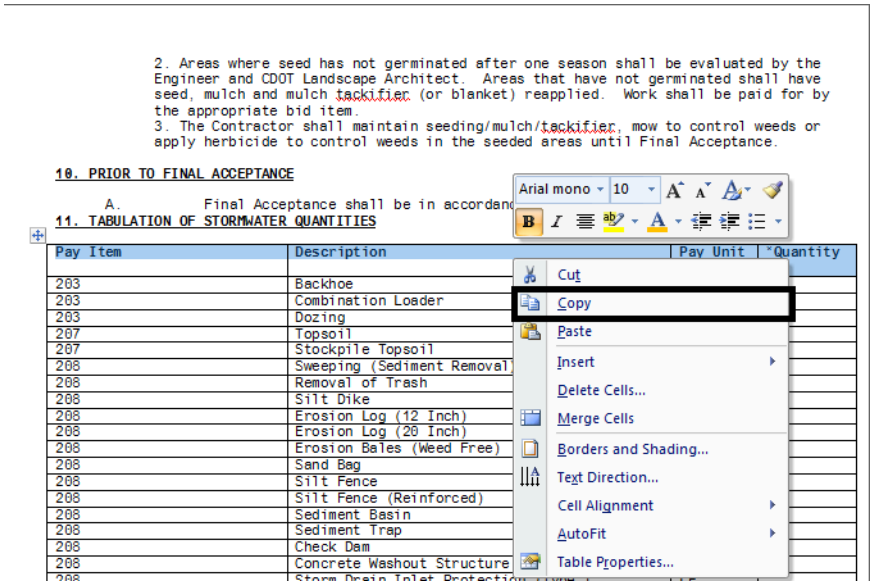
1. **<R>** in the first cell of the first row of the table that is on the second page.

2. From the right click menu, select **Insert > Insert Rows Above**. This adds a blank row of cells at the top of the second sheet.

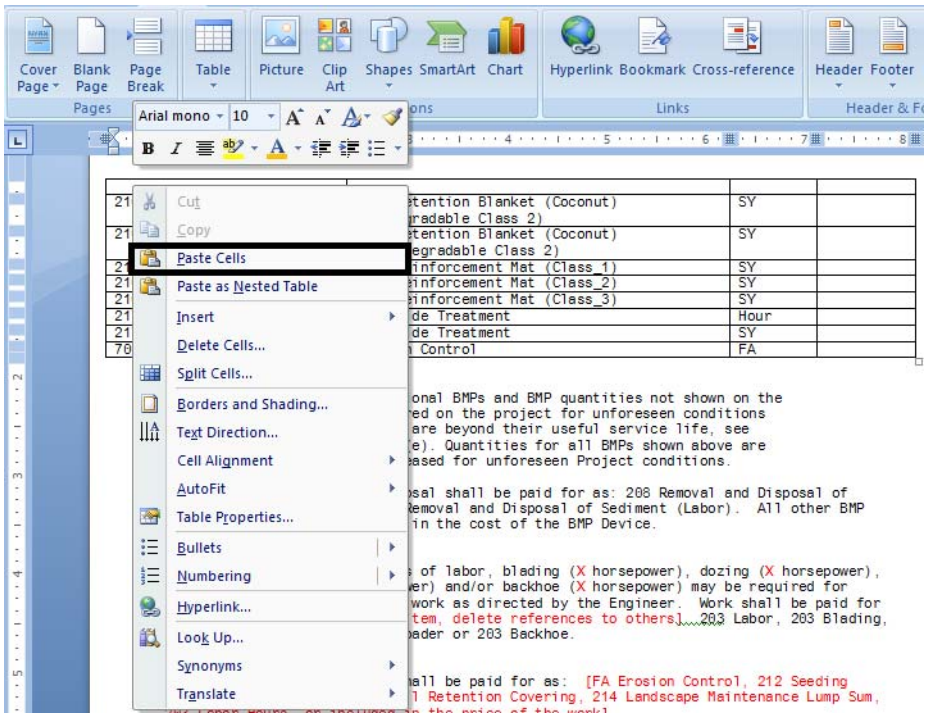


3. Next, highlight the heading row of the table.

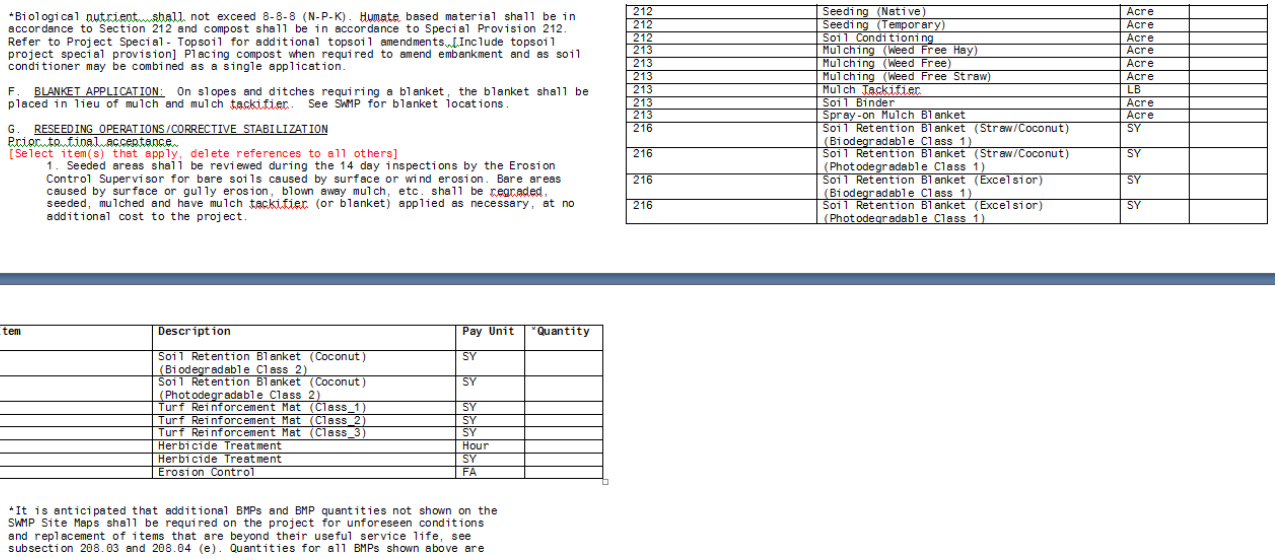
4. **<R>** in any cell in the heading row and select **Copy** from the right click menu.



5. **<R>** in the first cell of the blank row added above and select **Paste** from the right click menu.



Now both pages of the table will have the proper header and can be linked to MicroStation.



*Biological nutrient ...shall not exceed 8-8-8 (N-P-K). Humate based material shall be in accordance to Section 212 and compost shall be in accordance to Special Provision 212. Refer to Project Special- Topsoil for additional topsoil amendments.[Include topsoil project special provision] Placing compost when required to amend embankment and as soil conditioner may be combined as a single application.

F. BLANKET APPLICATION: On slopes and ditches requiring a blanket, the blanket shall be placed in lieu of mulch and mulch tackifier. See SWMP for blanket locations.

G. RESEEDING OPERATIONS/CORRECTIVE STABILIZATION
Prior to final acceptance.
[Select item(s) that apply, delete references to all others]
1. Seeded areas shall be reviewed during the 14 day inspections by the Erosion Control Supervisor for bare soils caused by surface or wind erosion. Bare areas caused by surface or gully erosion, blown away mulch, etc. shall be regraded, seeded, mulched and have mulch tackifier (or blanket) applied as necessary, at no additional cost to the project.

212	Seeding (Native)	Acre	
212	Seeding (Temporary)	Acre	
212	Soil Conditioning	Acre	
213	Mulching (Weed Free Hay)	Acre	
213	Mulching (Weed Free)	Acre	
213	Mulching (Weed Free Straw)	Acre	
213	Mulch Tackifier	LB	
213	Soil Binder	Acre	
213	Spray-on Mulch Blanket	Acre	
216	Soil Retention Blanket (Straw/Coconut) (Biodegradable Class 1)	SY	
216	Soil Retention Blanket (Straw/Coconut) (Photodegradable Class 1)	SY	
216	Soil Retention Blanket (Excelsior) (Biodegradable Class 1)	SY	
216	Soil Retention Blanket (Excelsior) (Photodegradable Class 1)	SY	

Pay Item	Description	Pay Unit	*Quantity
216	Soil Retention Blanket (Coconut) (Biodegradable Class 2)	SY	
216	Soil Retention Blanket (Coconut) (Photodegradable Class 2)	SY	
216	Turf Reinforcement Mat (Class_1)	SY	
216	Turf Reinforcement Mat (Class_2)	SY	
216	Turf Reinforcement Mat (Class_3)	SY	
217	Herbicide Treatment	Hour	
217	Herbicide Treatment	SY	
700	Erosion Control	FA	

*It is anticipated that additional BMPs and BMP quantities not shown on the SWMP Site Maps shall be required on the project for unforeseen conditions and replacement of items that are beyond their useful service life, see subsection 208.03 and 208.04 (e). Quantities for all BMPs shown above are

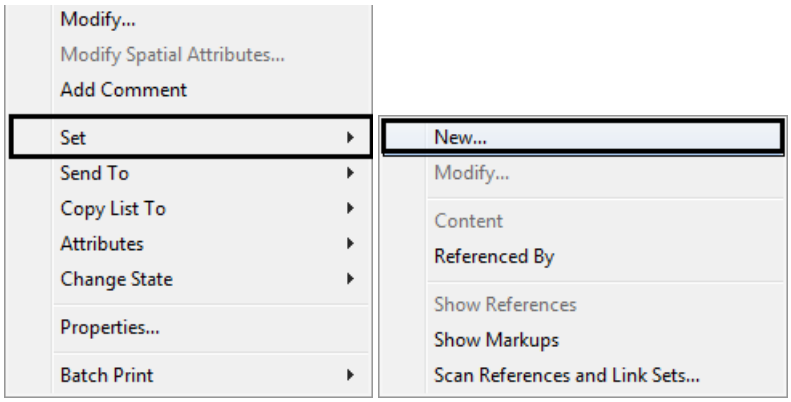
Note: On tables such as the one shown above, if the table is divided at a location where a cell contains two lines of text, make sure that both lines of text are visible in the row at the end of the first page and the beginning of the second page. If a line of text is "lost" between the pages, the table will not copy properly. Adding a blank row above the row with the missing line will correct this problem.

Preparing the Documents in ProjectWise

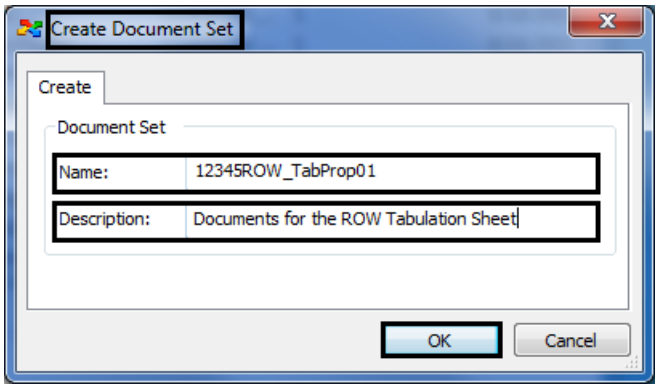
Linking a ProjectWise document to a MicroStation drawing allows you to change the document and have those changes automatically reflected in the MicroStation drawing. This is a two stage process. The first step is to create a logical set of documents called a ***Document Set***. The second step is to use the set to link the documents with the MicroStation drawing.

Creating a Document Set

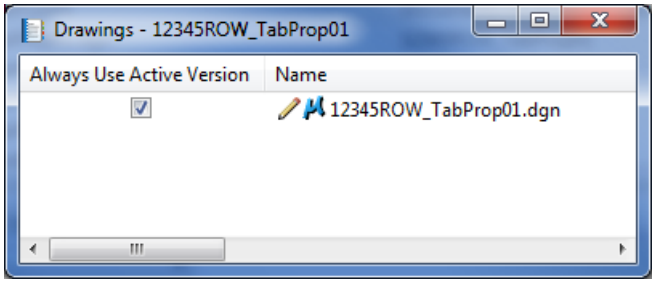
1. In the ProjectWise Explorer select the folder where the parent drawing is located. This will usually be the ***\Drawings*** folder of the specialty group.
2. **Right-click** on the parent drawing file and select **Set > New** from the right click menu. This will display the ***Create Document Set*** dialog box.



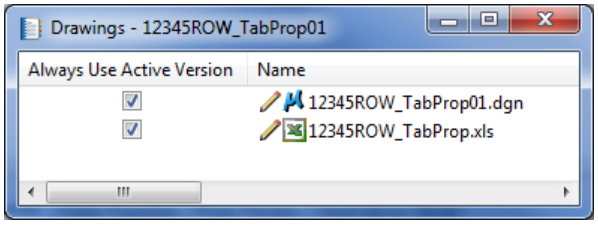
3. Enter a ***Name:*** and ***Description:*** for the new document set. Consider using the name of the MicroStation file as the ***Name:*** of the new document set. This will help with knowing which document set is associated with a drawing. Click **OK**.



The ***Document Set*** window will appear with the parent drawing listed in the window.

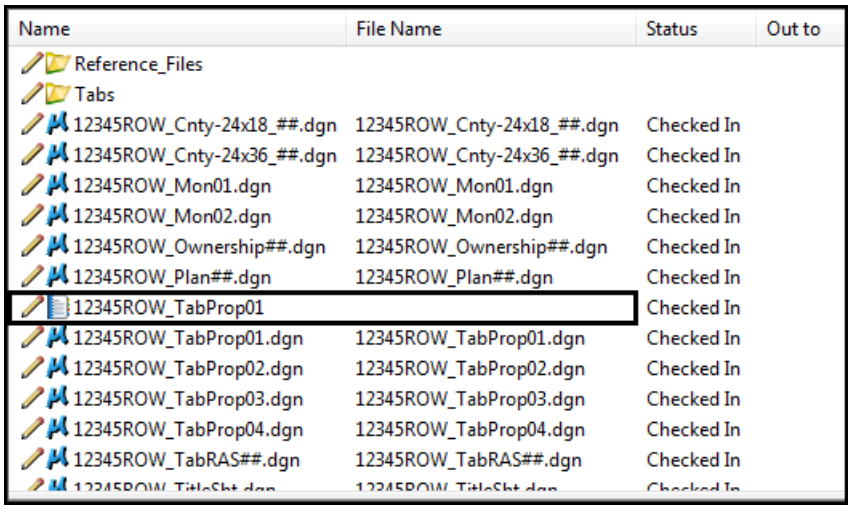


4. Next, **Drag and drop** any Excel or Word documents that will be referenced to the parent drawing into the document set window.



Note: Although documents can be added to the Document Set from any folder within the active ProjectWise datasource, ideally they would be added from folders within the same project.

5. Once all of the desired documents are added to the document set, close the document set window. The Document Set will appear in the ProjectWise Explorer window as indicated by the icon. Notice how the document set has a Name but no FileName as shown below.



Note: A document set is not a file and therefore cannot exist outside of ProjectWise.

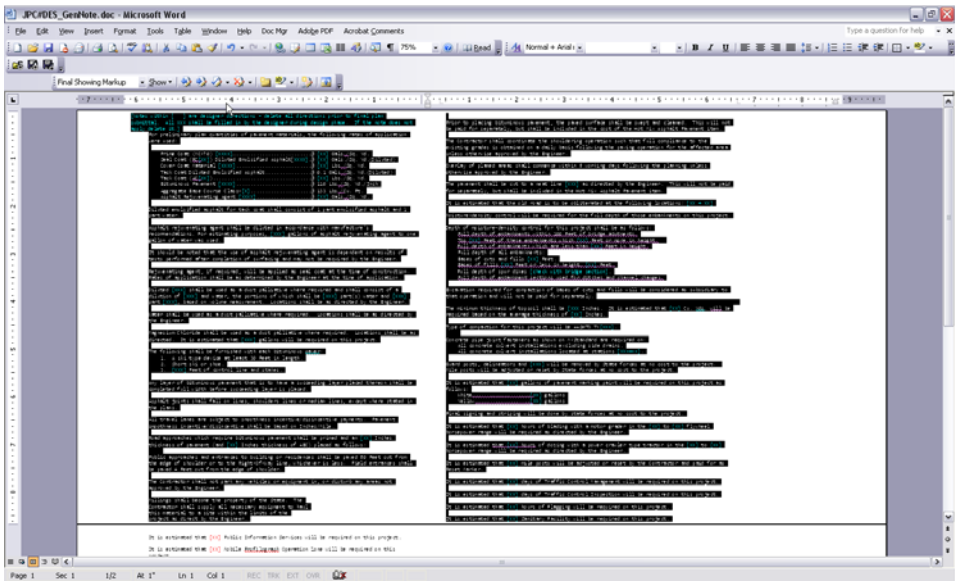
Using the document set, all files associated with the drawing file can be checked in/out together. It ensures that the correct files are being used in the linked document and are available to other team members when changes are made to the base files.

Creating a New Link

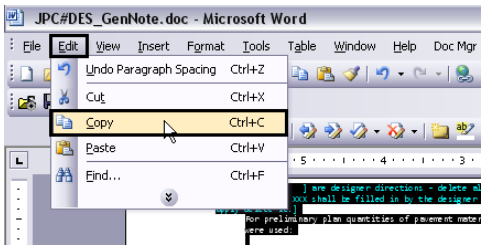
Use the following procedure when changes to the **JPC#DES_GenNote.doc** will increase or decrease the original number of lines in the document.

1. Select **Delete** from the **MicroStation Main** toolbar.
2. **<D>** on the linked text. **<D>** again to accept the command and delete the link.

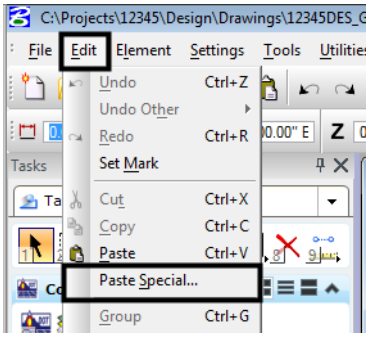
3. Open the edited **JPC#DES_GenNote.doc** and highlight the entire page of text that is to be linked.



4. Select **Edit** > **Copy** from the menu (or press **CTRL** + **C**) to copy the text to the clipboard.

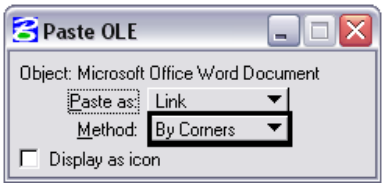


5. Go to the MicroStation session with the **JPC#DES_GenlNote##.dgn** file open and select **Edit** > **Paste Special**.



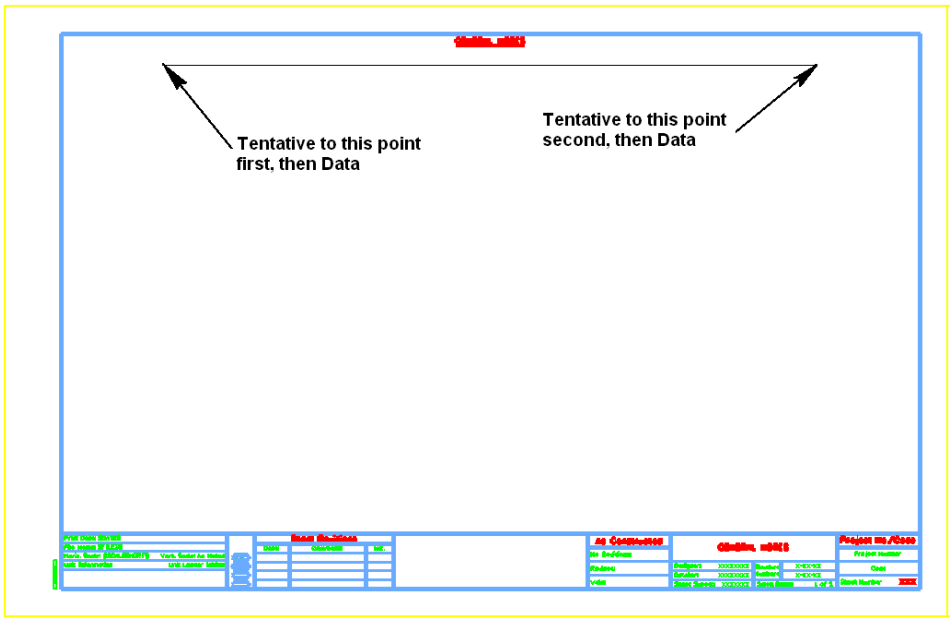
6. From the **Paste Special** window, select ***Linked Microsoft Office Word Document,*** then **<D> Paste**.

7. In the Paste OLE tool dialog box, set the **Method** to ***By Corners***.



8. **<T>** to the left end of the guide line and **<D>**.

9. **<T>** to the right end of the guide line and **<D>** to complete the link.

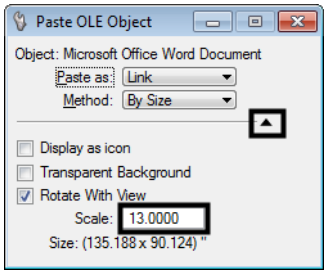


An alternative method when attaching the linked document is to use the size option in the Paste OLE dialog box.

1. Follow steps 1 through 6 described above.

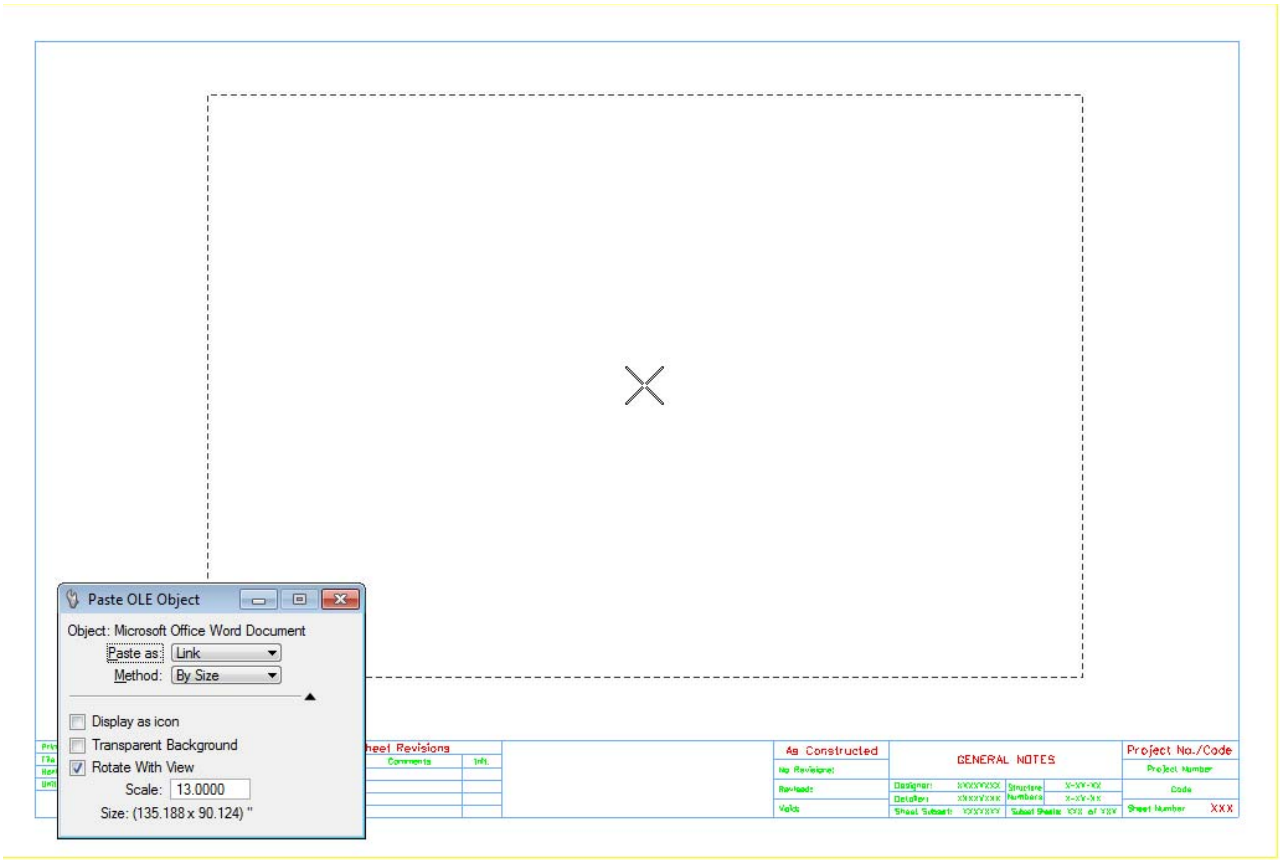
2. In the Paste OLE tool dialog box, set the **Method** to ***By Size***.

3. Expand the dialog box and set the ***Scale*** to ***13.00***.



Note: Using the 13 scale factor will produce a text height of approximately.07", which is the CDOT standard for a 1"=1' annotation scale. This number can be adjusted if larger text is required.

4. Center the outline of the link in the sheet border and **<D>** to place it.



Once the linked document has been placed, it can be repositioned using the MicroStation **Move** command.

Notes Placed From a PDF

A PDF file of the notes can be displayed within the MicroStation file to create General Notes and SWMP plan sheets. As with the other options, using a PDF file has advantages and disadvantages. Some of the advantages to using a PDF file are:

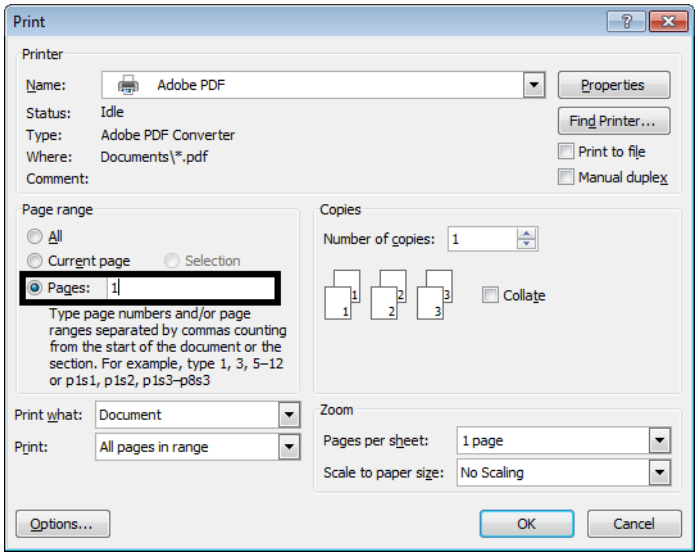
- The Word 2010 formatting can be used even on computers with Word 2007
- The autonumbering functions in Word can be used
- If the PDF is recreated, the new PDF in MicroStation is updated as well

Some of the disadvantages to using a PDF are:

- The Word file can be different from the PDF file. You will need to create a new PDF each time the document is edited
- A separate PDF is required for each page in the document
- A PDF that is attached in MicroStation cannot be overwritten while the DGN file is open.
  - Close MicroStation.
  - Create a new pdf. Give it the same name to overwrite the existing one.
  - Open up MicroStation and PDF will be updated

To link a PDF to MicroStation, follow the steps below:

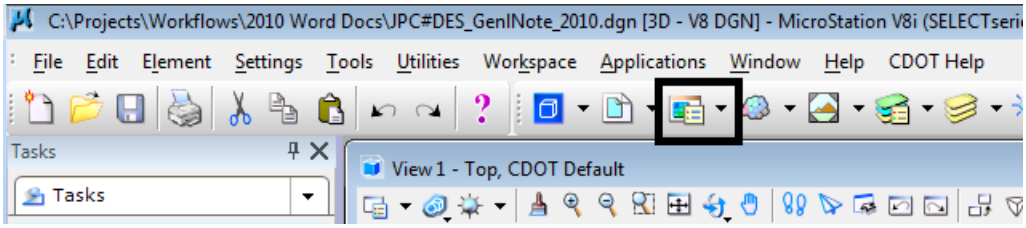
1. Open the Word document (the JPC#DES_GenNote_2010.doc is used in this example) and create a separate PDF print of each sheet to be linked.



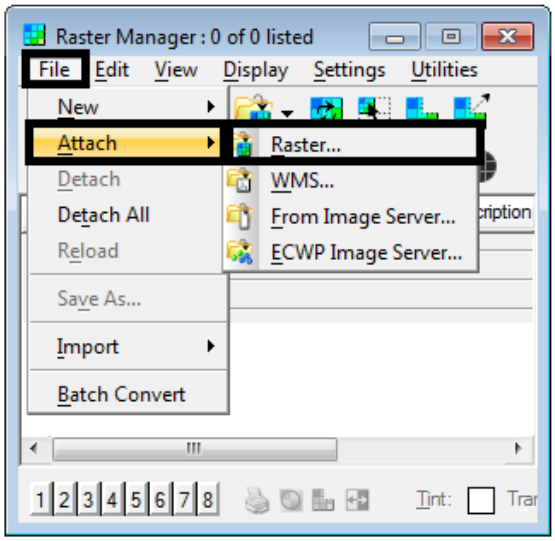
Note: Be sure to name the PDF something meaningful for the print (in this example the PDF was named ***JPC#DES_GenNote_2010-pg1.pdf***).

2.).Open MicroStation using the drawing that will contain the PDF (in this example ***JPC#DES_GenNote_2010.dgn*** is used).

3. Open the MicroStation **Raster Manager**.

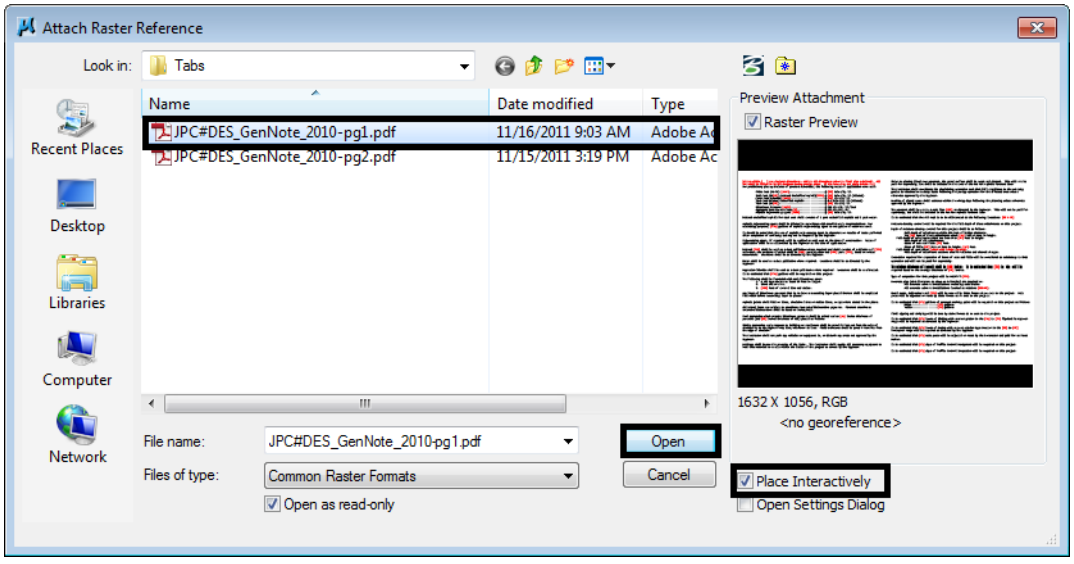


4. In the Raster Manager dialog box, select **File > Attach > Raster**. This displays the ***Attach Raster Reference*** dialog box.

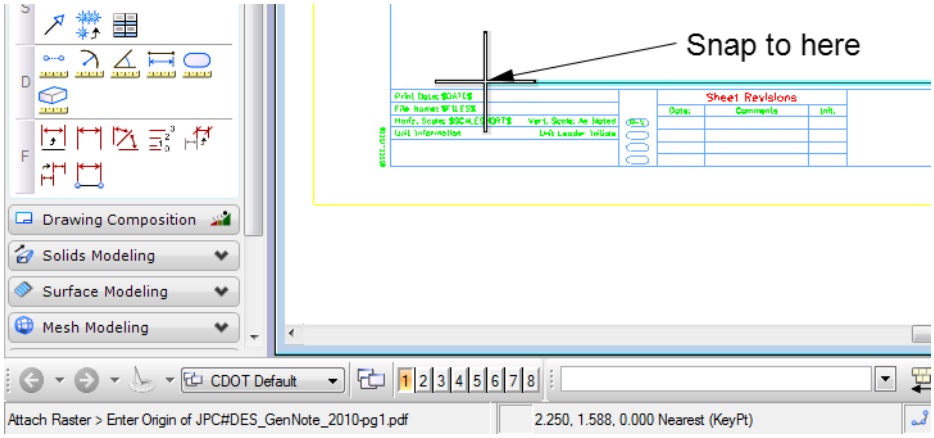


5. In the ***Attach Raster Reference*** dialog box, navigate to the desired location, highlight the desired file, and toggle on **Place Interactively**.

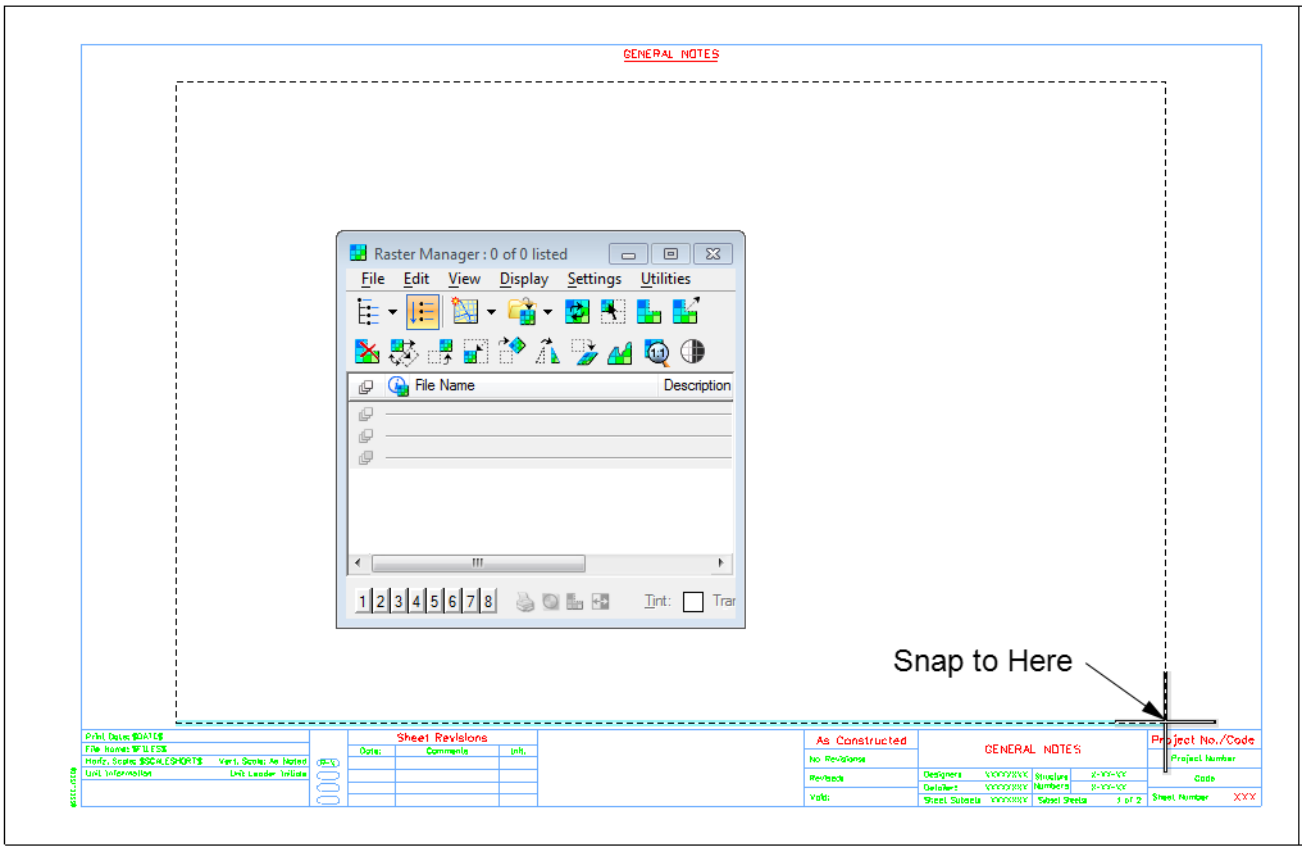
6. **<D>** the **Open** button.



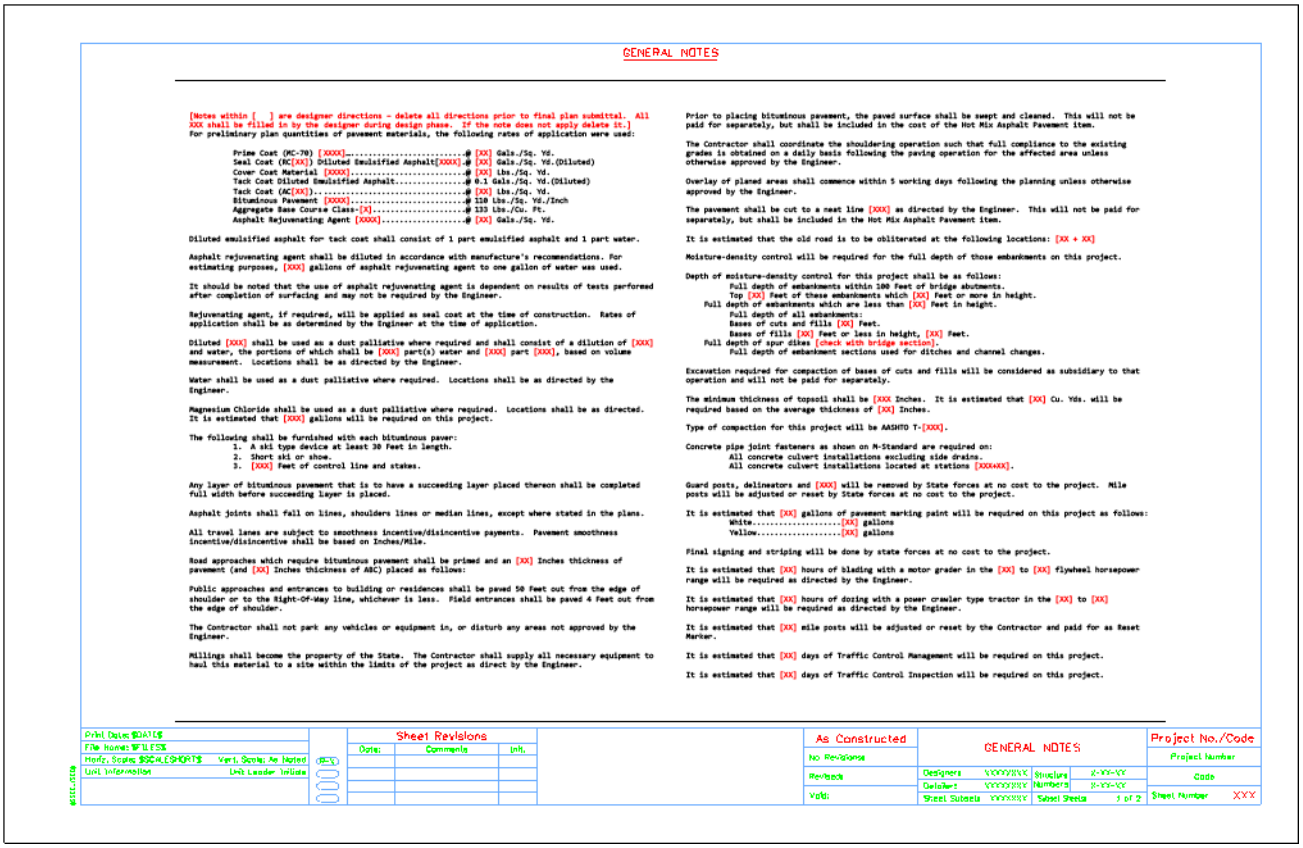
7. **<T>** to the left end of the bottom snap line within the sheet border then **<D>**.



8. **<T>** to the right end of the bottom snap line within the sheet border then **<D>**.



This completes the attachment of the PDF file. Below is an example of a completed sheet.



GENERAL NOTES

[Notes within [ ] are designer directions - delete all directions prior to final plan submittal. All XXX shall be filled in by the designer during design phase. If the note does not apply delete it.]
For preliminary plan quantities of pavement materials, the following rates of application were used:

Prime Coat (MC-70) [XXXX].....@ [XX] Gals./Sq. Yd.
Seal Coat (RC[XX]) Diluted Emulsified Asphalt[XXXX].@ [XX] Gals./Sq. Yd.(Diluted)
Cover Coat Material [XXXX].....@ [XX] Lbs./Sq. Yd.
Tack Coat Diluted Emulsified Asphalt.....@ 0.1 Gals./Sq. Yd.(Diluted)
Tack Coat (AC[XX]).....@ [XX] Lbs./Sq. Yd.
Bituminous Pavement [XXXX].....@ 110 Lbs./Sq. Yd./Inch
Aggregate Base Course Class-[X].....@ 133 Lbs./Cu. Ft.
Asphalt Rejuvenating Agent [XXXX].....@ [XX] Gals./Sq. Yd.

Diluted emulsified asphalt for tack coat shall consist of 1 part emulsified asphalt and 1 part water.

Asphalt rejuvenating agent shall be diluted in accordance with manufacture's recommendations. For estimating purposes, [XXX] gallons of asphalt rejuvenating agent to one gallon of water was used.

It should be noted that the use of asphalt rejuvenating agent is dependent on results of tests performed after completion of surfacing and may not be required by the Engineer.

Rejuvenating agent, if required, will be applied as seal coat at the time of construction. Rates of application shall be as determined by the Engineer at the time of application.

Diluted [XXX] shall be used as a dust palliative where required and shall consist of a dilution of [XXX] and water, the portions of which shall be [XXX] part(s) water and [XXX] part [XXX], based on volume measurement. Locations shall be as directed by the Engineer.

Water shall be used as a dust palliative where required. Locations shall be as directed by the Engineer.

Magnesium Chloride shall be used as a dust palliative where required. Locations shall be as directed. It is estimated that [XXX] gallons will be required on this project.

The following shall be furnished with each bituminous paver:
1. A ski type device at least 30 Feet in length.
2. Short ski or shoe.
3. [XXX] Feet of control line and stakes.

Any layer of bituminous pavement that is to have a succeeding layer placed thereon shall be completed full width before succeeding layer is placed.

Asphalt joints shall fall on lines, shoulders lines or median lines, except where stated in the plans.

All travel lanes are subject to smoothness incentive/disincentive payments. Pavement smoothness incentive/disincentive shall be based on Inches/Mile.

Road approaches which require bituminous pavement shall be primed and an [XX] Inches thickness of pavement (and [XX] Inches thickness of ABC) placed as follows:

Public approaches and entrances to building or residences shall be paved 50 Feet out from the edge of shoulder or to the Right-Of-Way line, whichever is less. Field entrances shall be paved 4 Feet out from the edge of shoulder.

The Contractor shall not park any vehicles or equipment in, or disturb any areas not approved by the Engineer.

Millings shall become the property of the State. The Contractor shall supply all necessary equipment to haul this material to a site within the limits of the project as direct by the Engineer.

Prior to placing bituminous pavement, the paved surface shall be swept and cleaned. This will not be paid for separately, but shall be included in the cost of the Hot Mix Asphalt Pavement item.

The Contractor shall coordinate the shouldering operation such that full compliance to the existing grades is obtained on a daily basis following the paving operation for the affected area unless otherwise approved by the Engineer.

Overlay of planed areas shall commence within 5 working days following the planning unless otherwise approved by the Engineer.

The pavement shall be cut to a neat line [XXX] as directed by the Engineer. This will not be paid for separately, but shall be included in the Hot Mix Asphalt Pavement item.

It is estimated that the old road is to be obliterated at the following locations: [XX + XX]

Moisture-density control will be required for the full depth of those embankments on this project.

Depth of moisture-density control for this project shall be as follows:
Full depth of embankments within 100 Feet of bridge abutments.
Top [XX] Feet of those embankments which [XX] Feet or more in height.
Full depth of embankments which are less than [XX] Feet in height.
Full depth of all embankments:
Bases of cuts and fills [XX] Feet.
Bases of fills [XX] Feet or less in height, [XX] Feet.
Full depth of spur dikes [check with bridge section].
Full depth of embankment sections used for ditches and channel changes.

Excavation required for compaction of bases of cuts and fills will be considered as subsidiary to that operation and will not be paid for separately.

The minimum thickness of topsoil shall be [XXX Inches. It is estimated that [XX] Cu. Yds. will be required based on the average thickness of [XX] Inches.

Type of compaction for this project will be AASHTO T-[XXX].

Concrete pipe joint fasteners as shown on M-Standard are required on:
All concrete culvert installations excluding side drains.
All concrete culvert installations located at stations [XXX+XX].

Guard posts, delineators and [XXX] will be removed by State forces at no cost to the project. Mile posts will be adjusted or reset by State forces at no cost to the project.

It is estimated that [XX] gallons of pavement marking paint will be required on this project as follows:
White.....[XX] gallons
Yellow.....[XX] gallons

Final signing and striping will be done by state forces at no cost to the project.

It is estimated that [XX] hours of blading with a motor grader in the [XX] to [XX] flywheel horsepower range will be required as directed by the Engineer.

It is estimated that [XX] hours of dozing with a power crawler type tractor in the [XX] to [XX] horsepower range will be required as directed by the Engineer.

It is estimated that [XX] mile posts will be adjusted or reset by the Contractor and paid for as Reset Marker.

It is estimated that [XX] days of Traffic Control Management will be required on this project.

It is estimated that [XX] days of Traffic Control Inspection will be required on this project.

Print Date: $DATE$
File Name: $FILES$
Model Scale: $SCALESHORT$ Vert. Scale: As Noted
Unit Information Unit Leader Initials

Sheet Revisions

Date:	Comments	Init.

As Constructed
No Revisions
Revised
Void:

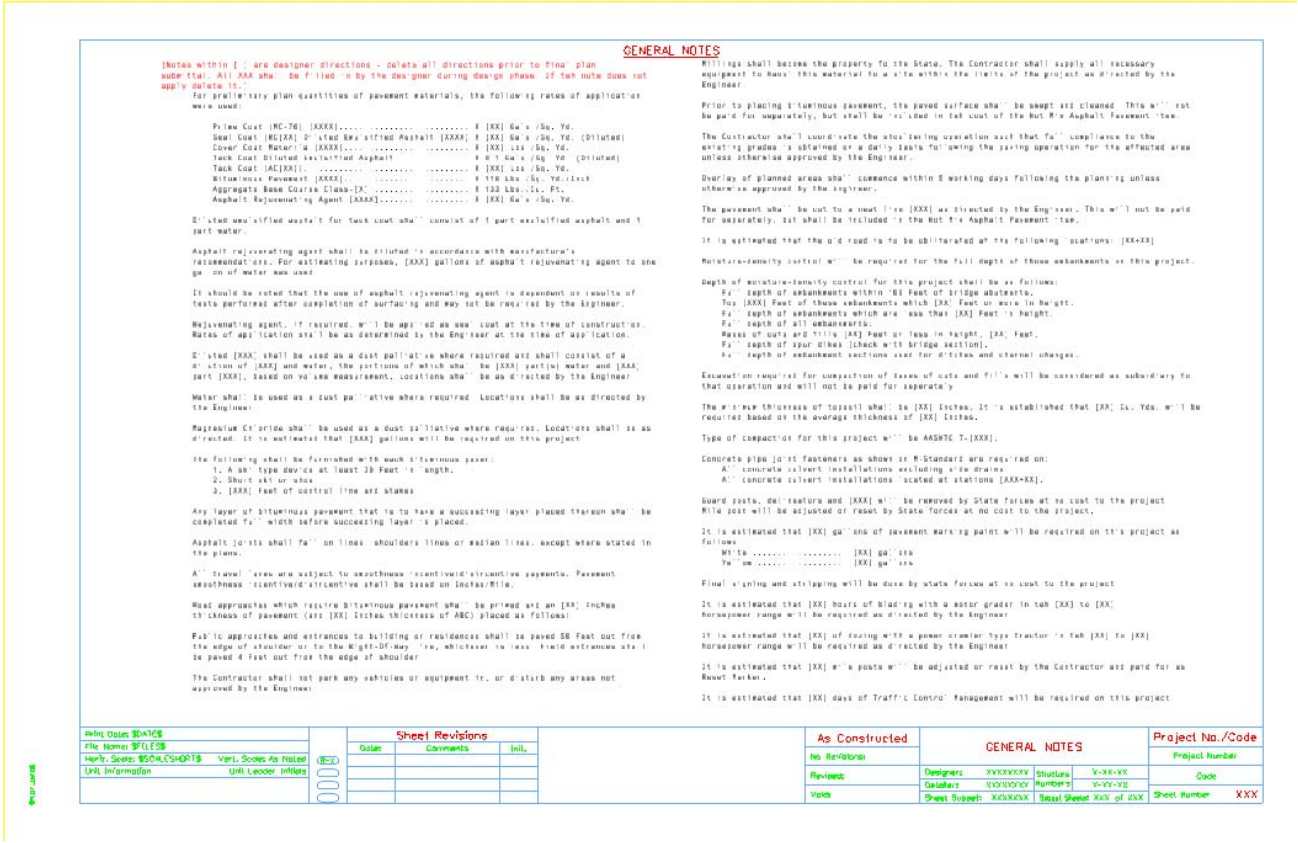
GENERAL NOTES

Designers YYYYYYYY Structure X-XX-YY
Detailers YYYYYYYY Numbers X-XX-YY
Sheet Subsets YYYYYYY Sheet Sheets 1 of 2

Project No./Code
Project Number
Code
Sheet Number XXX

Notes Placed as MicroStation Elements

Included in the workspace are files called ***JPC#DES_GenlNoteMsta##.dgn*** and ***JPC#DES_SWMP-Msta.dgn***. These are MicroStation files that have the respective notes placed as MicroStation text elements instead of using links to Word. These files do not have an external data source and all editing occurs solely within the MicroStation environment using the **Edit Text** command.


GENERAL NOTES

[Notes within [ ] are designer directions - delete all directions prior to final plan submittal. All XXX shall be filled in by the designer during design phase. If teh note does not apply delete it.]

For preliminary plan quantities of pavement materials, the following rates of application were used:

Prime Coat (MC-70) [XXXX]..... @ [XX] Gals./Sq. Yd.
Seal Coat (RC[XX] Diluted Emulsified Asphalt [XXXX] @ [XX] Gals./Sq. Yd. (Diluted)
Cover Coat Materila [XXXX]..... @ [XX] Lbs./Sq. Yd.
Tack Coat Diluted Emulsified Asphalt @ 0.1 Gals./Sq. Yd. (Diluted)
Tack Coat (AC[XX]) @ [XX] Lbs./Sq. Yd.
Bituminous Pavement [XXXX] @ 110 Lbs./Sq. Yd./Inch
Aggregate Base Course Class-[X] @ 133 Lbs./Cu. Ft.
Asphalt Rejuvenating Agent [XXXX] @ [XX] Gals./Sq. Yd.

Diluted emulsified asphalt for tack coat shall consist of 1 part emulsified asphalt and 1 part water.

Asphalt rejuvenating agent shall be diluted in accordance with manufacturer's recommendations. For estimating purposes, [XXX] gallons of asphalt rejuvenating agent to one gallon of water was used.

It should be noted that the use of asphalt rejuvenating agent is dependent on results of tests performed after completion of surfacing and may not be required by the Engineer.

Rejuvenating agent, if required, will be applied as one coat at the time of construction. Rates of application will be as determined by the Engineer at the time of application.

Dilated [XXX] shall be used as a dust palliative where required and shall consist of a dilution of [XXX] and water, the portions of which shall be [XXX] part(s) water and [XXX] part [XXX], based on volume measurement. Locations shall be as directed by the Engineer.

Water shall be used as a dust palliative where required. Locations shall be as directed by the Engineer.

Magnesium Chloride shall be used as a dust palliative where required. Locations shall be as directed. It is estimated that [XXX] gallons will be required on this project.

The following shall be furnished with each bituminous paver:
1. A ski type device at least 30 Feet in length.
2. Shuttle skid or shoe
3. [XXX] Feet of control line and stakes

Any layer of bituminous pavement that is to have a succeeding layer placed thereon shall be completed full width before succeeding layer is placed.

Asphalt joints shall fall on lines, shoulders lines or median lines, except where stated in the plans.

All travel lanes are subject to smoothness incentive/disincentive payments. Pavement smoothness incentive/disincentive shall be based on Inches/Mile.

Road approaches which require bituminous pavement shall be primed and an [XX] Inches (thickness of pavement (are [XX] Inches thickness of ABC) placed as follows:

Public approaches and entrances to building or residences shall be paved 50 Feet out from the edge of shoulder or to the Right-Of-Way line, whichever is less. Field entrances are to be paved 4 Feet out from the edge of shoulder.

The Contractor shall not park any vehicles or equipment in, or disturb any areas not approved by the Engineer.

Millings shall become the property of the State. The Contractor shall supply all necessary equipment to haul this material to a site within the limits of the project as directed by the Engineer.

Prior to placing bituminous pavement, the paved surface shall be swept and cleaned. This will not be paid for separately, but shall be included in the cost of the Hot Mix Asphalt Pavement item.

The Contractor shall coordinate the sequencing operation such that full compliance to the existing grades is obtained on a daily basis following the paving operation for the affected area unless otherwise approved by the Engineer.

Overlay of planned areas shall commence within 5 working days following the planning unless otherwise approved by the Engineer.

The pavement shall be cut to a neat line [XXX] as directed by the Engineer. This will not be paid for separately, but shall be included in the Hot Mix Asphalt Pavement item.

It is estimated that the old road is to be obliterated at the following locations: [XX+XX]

Moisture-density control will be required for the full depth of those embankments on this project.

Depth of moisture-density control for this project shall be as follows:
For depth of embankments within 60 Feet of bridge abutments.
For [XXX] Feet of those embankments which [XX] Feet or more in height.
For depth of embankments which are less than [XX] Feet in height.
For depth of all embankments.
Areas of cuts and fills [XX] Feet or less in height, [XX] Feet.
For depth of spur dikes [check with bridge section].
For depth of embankment sections used for ditches and channel changes.

Excavation required for completion of areas of cuts and fills will be considered as subsidiary to that operation and will not be paid for separately.

The minimum thickness of topsoil shall be [XX] Inches. It is established that [XX] Cu. Yds. will be required based on the average thickness of [XX] Inches.

Type of compaction for this project will be AASHTO T-[XXX].

Concrete pipe joint fasteners as shown in M-Standard are required on:
All concrete culvert installations excluding side drains
All concrete culvert installations located at stations [XXX+XX].

Guard posts, delineators and [XXX] will be removed by State forces at no cost to the project. Mile post will be adjusted or reset by State forces at no cost to the project.

It is estimated that [XX] gallons of pavement marking paint will be required on this project as follows:
White ..... [XX] gallons
Yellow ..... [XX] gallons

Final signing and striping will be done by state forces at no cost to the project.

It is estimated that [XX] hours of blading with a motor grader in sub [XX] to [XX] horsepower range will be required as directed by the Engineer.

It is estimated that [XX] of dozing with a power crawler type tractor in sub [XX] to [XX] horsepower range will be required as directed by the Engineer.

It is estimated that [XX] # posts will be adjusted or reset by the Contractor and paid for as Mount Parker.

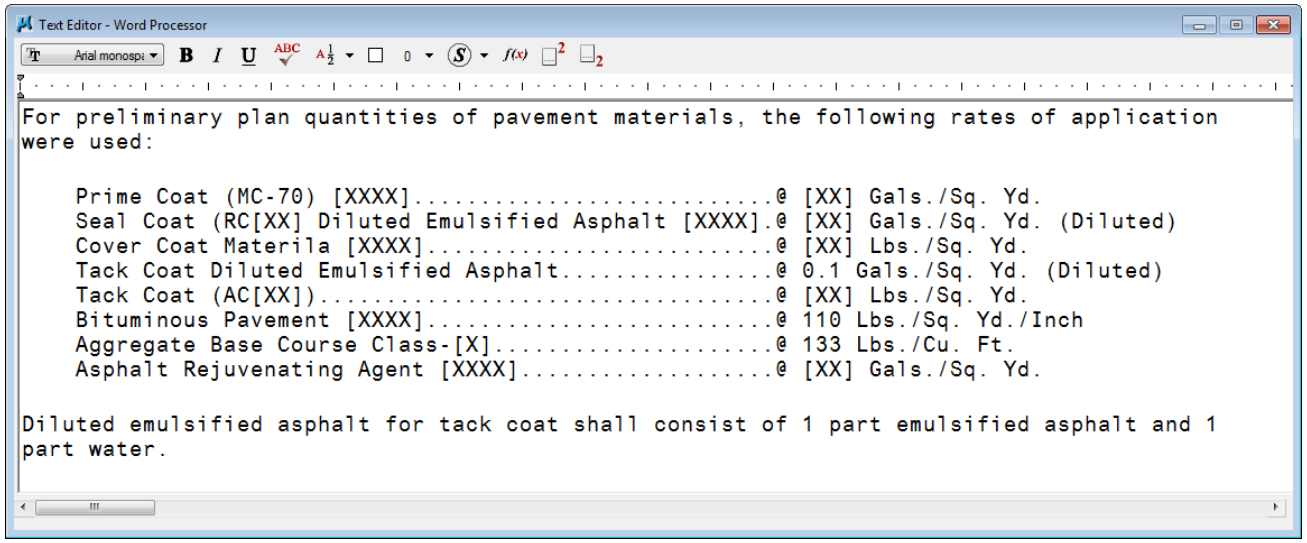
It is estimated that [XX] days of Traffic Control Management will be required on this project.

Sheet Revisions
Date | Comments | Init.

As Constructed
No Revisions
Revised:
Voids

GENERAL NOTES
Designed: XXXXXXXX Structure Number: X-XX-XX
Detailed: XXXXXXXX Structure Number: X-XX-XX
Sheet Subset: XXXXXXX Total Sheets XxX of XXX

Project No./Code
Project Number
Code
Sheet Number XXX



If used, these files should replace those containing the linked Word documents and should not be used in addition to them.