S1 guideline-

1) Create a GIS folder under the Soils folder in the project directory.

   Ex: W:\Projects\9106501009\Soils\GIS

2) Copy to the GIS folder, the appropriate template files for GeoMedia. (English or metric, north or south)

   Ex: Template_Engsouth.gwt, UTM.csf, IowaEnglishS.csf, featuresEngSouth.mdb, extra borders.mdb, etc

3) Rename the geoworkspace template (.gwt) to identify the project (County# - 2 digits, Route# 3 digits, and Paren # - 3 digits) and as a geoworkspace (.gws).

   Ex: 91065061.gws

4) Open the geoworkspace in GeoMedia, go to Workspace on the menu bar, go to Connections, and make an Access connection to the features database. If you wish you can make an Access read-only connection to the extraborders database.

5) Go to Terrashare on the menu bar and select Insert images. In the Insert Terrashare Images Window - select Browse. In the Select Raster Backdrop – select USGS_DRG and click on Open. Back at the Insert Terrashare Images Window make sure the warehouse is features database and give the connection a name for the feature class, such as Topo – select OK.

6) Go to Insert on the menu bar, and go to Georeferenced Images. In this window – select:

Georeference Mode:	World File
Coordinate system file:	Browse to the GIS folder (under the Soils folder in the Project Directory) and select UTM.csf or UTM_Z14.csf, click on open
Selected Images- folder:	Browse to X:\ctamswh\Images\Countywide\2009 or 2010, Click on OK
Available files:	In this window, find the appropriate NAIP photo (using county #) and move (>) to the Selected files window.

   Ex: 2009_NAIP_airphoto_97.sid

   Be sure that under Warehouse is “features” and then under Image feature classes with matching coordinate system name the Image feature class – such as Photo. Be sure to check Add new legend entry for feature class. Hit OK.

7) Go to Warehouse on the menu bar and select Feature Class Definition. Open\highlight features and select New. Create a feature class for borrows.

Under the General tab

Name:	S1Borrows or something similar
Geometry type:	Area
Coord system:	this should be preset (but check)

Under the Attributes tab
Click on the space under Key and in the lower right hit Set Primary Key
Click in the space under Type, scroll to and select Auto Number

Hit OK. Do the same for a Text feature class, for Borrow Numbers
Close Feature Class Definition.

8) Open the Legend in GeoMedia, go to View on the menu bar and select Legend.
In an open area of the legend, right click, go to Add and under Add legend entries, go to features and check S1borrows and then OK.

9a) Go to Warehouse on the menu bar. Connections and new Connections and connect to the Soils maps.

Either the DNR digitized maps: connection type - arcview
connection name – soilmaps
Browse to X:\ctamswh\DNR data\Iowa Soils\ and go to the county – select OK and again OK at the new connection and close the connection window.

You will add the appropriate soil township and range shape file in the legend, same as you added the S1Borrow in step 8.

OR

The NRCS SSURGO file if available: connection type – arcview
connection name – ssurgo
Browse to X\ctamswh\NRCS_SSURGO and go to the county - select OK and again OK at the new connection and close the connection window.

You will add the ssurgo shape in the legend, same as you added the S1Borrow in step 8.

9b) Go to Warehouse on the menu bar. Connections and new Connections and connect to the State of Iowa Department of Natural Resources data sets.

DNR data sets: connection type – arcview
connection name – DNR data
Browse to X\ctamswh\DNR data\State of Iowa – select OK and again OK at the new connection and close the connection window.

You will add relevant data sets (sinkhole_loc, mines, coalmine_entrances, bedrock_topo, etc.) to the legend, same as you added the S1Borrow in step 8.

10) Displaying CAD files

If there is a design file available this early in the project it may be nothing more than an alignment or corridor outline.

First go to the project directory, W:\Projects\"project folder"\ and look under OLE, Design, or PrelimSurvey. It also may be in a P folder, which will require finding the correct one, usually by asking OLE or referencing a memo.
Next, open MicroStation and open the design file that you have found. It should be a read only, this is OK.

Go to the mainline (ML) model.
Turn off any unnecessary attachments.
Turn off any unwanted levels in the remaining attached files (if any).

If there is an actual design, the levels absolutely needed are:

- Alignment
- Alignment Stationing
- Alignment Tic Marks
- Edge of Pavement

If there is a bridge or it is specifically a bridge project, keep Existing and New Structure levels.

If there is no design but there is some sort of alignment and/or corridor outline, keep those levels.

Fence around the limits that you want/need (using block and clip), left click on the fence icon and select copy/move to file. In the pop up window browse to the GIS folder and name the file based on County# - 2 digits, Route# 3 digits, and Paren # - 3 digits.

Ex: 91065061.dgn

Click OK and then left click inside the fence area to initiate. Close the MicroStation file and open the one that you just created. Make sure you have the levels on and all that you need. Delete anything unwanted.

Save this file and then export it as a V7 file, adding V7 to the name of the file to be exported and saved in the GIS folder.

Ex: 91065061V7.dgn

Next Open GeoMedia, go to Tools on the menu bar, and in the drop down select Display CAD files.

Under the general tab

CAD Type:	V7 (Browse to the GIS folder – select the file)
Files of Type:	MicroStation Design files .dgn
Coord System file:	hit browse and change the file of type to MicroStation Design files .dgn In the window above this the V7 dgn file in the GIS folder should appear. Select and click on Open.

Under the Advanced tab

Generated CAD schema file – browse to the GIS folder and for the name start with CSD1.csd (for the first CAD file). Hit Save.

Check - Display all levels.
Check - Create a single legend entry for all selected levels.
Check - Do not create legend entries for empty levels.

Click on OK

From this point on you can use this GeoMedia file and other resources to evaluate, review, and select S1 potential borrow sites.

Create Photos:

After the S1 potential borrow sites are selected, create photos of each or as groups (print screen and paint is fine OR photos can be created in the Layout Window in Geomedia) and place the project Number, S1 Borrow numbers, and identify the limits/outlines on each photo. Each photo should be annotated with a north arrow, bar scale, and legend. If possible, a photo showing a view of all selected potential borrow sites should be created. In addition, a separate photo of each potential borrow site should be created.

One suggestion is, in Paint and for each photo, to do a page set up and send to the Soil PDF printer. Retrieve the PDF files and save in the S1 Submittal Folder, under the Soils folder of the Project folder.

Name each photo: County# - 2 digits, Route# 3 digits, and Paren # - 3 digits_S1borrowXX.pdf.

Another suggestion is to create photos of the S1 potential borrow sites in Geomedia.

Creating a photo of a potential borrow site in Geomedia:

1. In the MapWindow, zoom into the potential borrow site that you are interested in.
2. Go to Window on the menu bar, select Show Layout Window

3. Go to File on the menu bar, select Page Setup. Under Page Setup, select either Portrait or Landscape as the Orientation, and enter the name of the map, usually County # - 2 digits, Route# 3 digits, and Paren # - 3 digits_S1borrowXX
4. Go to Insert on the menu bar, select Layout Frames and click Legend, North arrow, and Scale bar.
5. Using the mouse, draw one large layout frame for map and three small layout frames for the Legend, North arrow, and Scale bar.
6. Go to Insert on the menu bar, select Graphics into Layout Frames. From the map window dropdown, select MapWindow, Geographic extent should be Map Window, you can also enter a specific scale or leave it as the default, click OK
7. You can now adjust the sizes of the graphics as necessary.
8. The properties of the Legend, North Arrow, and Scale Bar can be adjusted by right-clicking on the box and selecting Properties.
9. When you are ready to export the map, go to Sheets and select Export Layout. Navigate to the folder where you would like to save the map, enter the file name, and save as a .JPG

Create & Export KML file:

Next, in GeoMedia, Export the borrow shapes to a KML file. Depending on the version of Geomedia, there are two ways to export the potential borrow shapes to a KML file.

1. Exporting the borrow shapes to a KML file – Version 1:

Go to File on the menu bar, Export to KML: Select the feature class under the appropriate warehouse. Save the KML file in S1 Submittal Folder, under the Soils folder of the Project folder.

Name - County# - 2 digits, Route# 3 digits, and Paren # - 3 digits_S1.kml

2. Exporting the borrow shapes to a KML file – Version 2:

Go to Window on the menu bar, select New Map Window
In the New Map Window box, enter KML as the name of the window and under Select legend to display, select Empty
In the KML map window, right click in the Legend Box and select Add, under Access Connection 1, select S1Borrows and click OK.
The outlines of the S1 Borrow sites should now be in the map window.
Go to File on the menu bar, select Publish and Select Configure KML Publishing
In the Configure KML Publishing box, go to Get Placemark Names from dropdown box and select S1 borrow number (or something equivalent), click on Publish Attributes, click OK.
Finally, go to File on the menu bar, select Publish and select Publish map, the Target Format should be KML and the file should be published to the appropriate S1 Submittal Folder in the Soils Folder of the Project Directory

Name - County # - 2 digits, Route# - 3 digits, and Paren# - 3 digits_S1.kml

Create & Export Design File:

Finally, export the shapes as a design file.

Go to Warehouse on the menu bar - Export to - Design File…

Under the General tab

Check MicroStation V7.
Check Output all feature classes to a single design file.
In the Folder window browse to the GIS folder,
In File name: County# - 2 digits, Route# 3 digits, and Paren # - 3 digits_S1
In Save as Type: Micro station V7 Design File (*.dgn)
In Graphic seed file name: browse to the GPS_GIS\GIS_data folder on your C drive and select an appropriate .dgn file for english or metric and north or south.
In Resource file name hit browse and use the default

Under the Criteria tab

Select the features to be exported. Open the features database, check the features: S1Borrows and S1BorrowNumbers.
Click on ADD and then Apply. You should get a pop up say export is done.
Close export window

Go to the GIS folder and rename this file:

County# - 2 digits, Route# 3 digits, and Paren # - 3 digits_S1.sol

Open the sol file in MicroStation and say OK to upgrade to V8:

Change shape attributes to: SolBoundary – color 7, linestyle 0, line weight 5

Change text attributes/characteristics to SolBorrowNumbers – color 18, linestyle 0, lineweight 3, Text height 100, Text width 100.

Save this File in the S1 Submittal Folder, under the Soils folder of the Project folder.