

MICHIGAN DEPARTMENT OF TRANSPORTATION

MDOT Consultant Workspace Environment

Version: 2.0.0

Document Version: 1.3.0

11/15/2011

Directions and information on how to install and integrate the MDOT MicroStation custom workspace environment for consultants and external workstations.

Table of Contents

<u>Introduction Page</u>	3
<u>Download Instructions</u>	4
<u>Type # 1 Integration</u> - (Local Installation using only the MDOT Environment)	5
<u>Type #2 Integration</u> - (Local Installation using combined Environment)	6
<u>Type #3 Integration</u> - (Customized Network Workspace Environment)	8
<u>Editing the MDOT Consultant.cfg File</u>	10
<u>Editing the Options.cfg File</u>	11

MDOT Consultant Workspace Environment 2.0.0

June 09, 2011

Document Version: Beta 1.1.0

The MDOT Consultant Workspace environment is a system of files, resources and standards designed to allow MDOT consultants the ability to work in a compatible design software environment to the Michigan Department of Transportation (MDOT). The purpose of this kind of environment is to help ensure that the electronic design files created by the consulting partners are in every way possible, compatible with the internal systems, processes and environments of MDOT.

Workspace Environment Version 2.0.0.

The newest Workspace environment is due to be released in August of 2011. This workspace will provide customization for the latest of the Bentley MicroStation and Geopak products. In addition with being compatible with Version 8i MicroStation and Geopak, this new environment will also implement a new direction for MDOT in workspace configuration. One we hope will bring collaboration with our valued Consulting community to a new and better level.

Why change?

With challenges in staffing and resources being a reality for us all, the need to improve efficiency is more urgent than ever. Our continuing effort to keep our staff and processes up to date and as efficient as possible as well as maintain this updated environment that has been extended to our consulting base has created a need for change. This change is intended to extend a design environment to our consultants that is as close to the internal MDOT design environment as is possible. Also, for this environment to be as functional as possible, it will need to be updated periodically. The new format and folder structure will allow more efficient updating and implementation of MDOT customizations because of it's similarity with MDOT's current production environment.

What is this Document?

This document is intended to provide information necessary to deploy and integrate the MDOT Workspace environment. At this time three possible scenarios and the process for deploying to each of them have been included here. It is anticipated that additional possibilities will come to light as time goes on.

Intended audience:

This document is intended for staff members who are somewhat familiar with software loading. The individual who is working with this document is assumed to be fluent in file management and the use of programs such as Windows Explorer , Notepad, and Winzip.

Obtain the installation files:

Step #1) Download the installation pack from the web-site

Downloading the installation files:

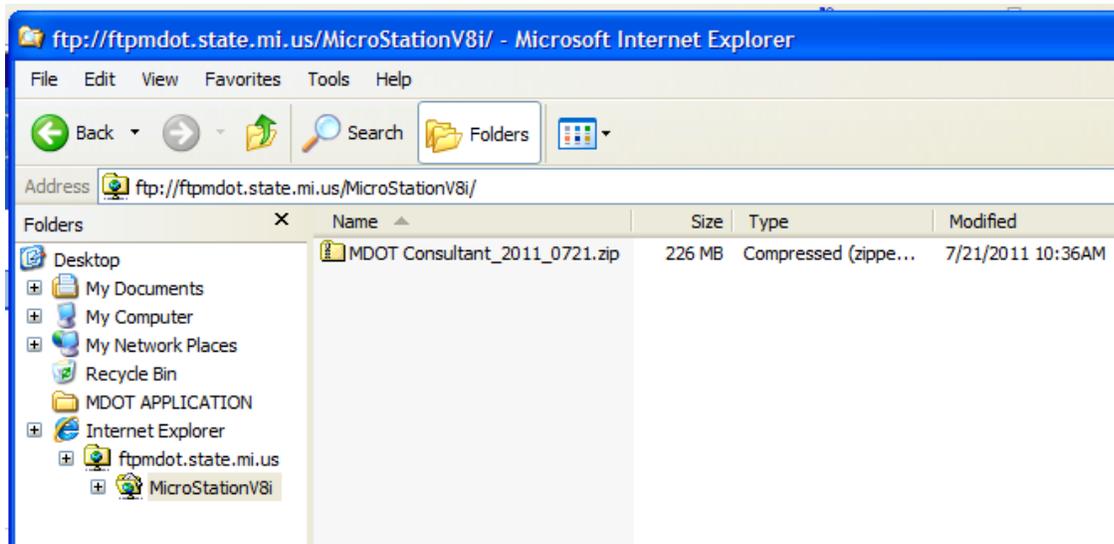
The current workspace, can be found on the MDOT FTP site in the MicroStationV8i folder.
External (Consultant) Access

* Read Only If the external customer only needs to read and copy the data .

Open your Internet browser and connect to:

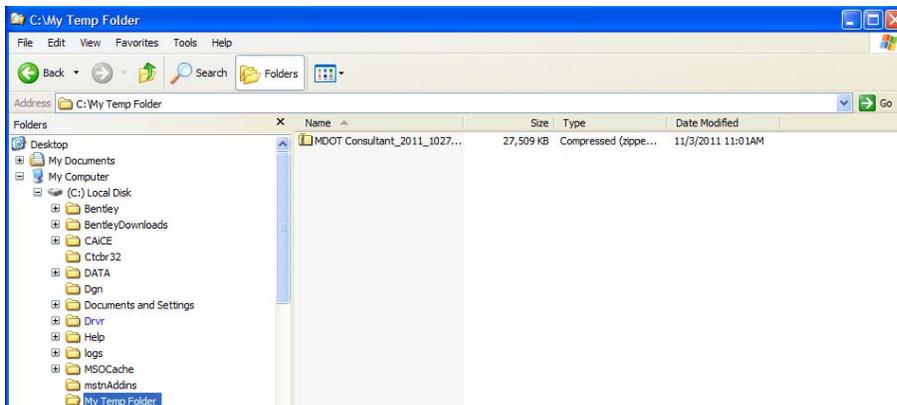
ftp://ftpmdot.state.mi.us

browse to the "MicroStationV8i" folder..



Note the date of the zip file

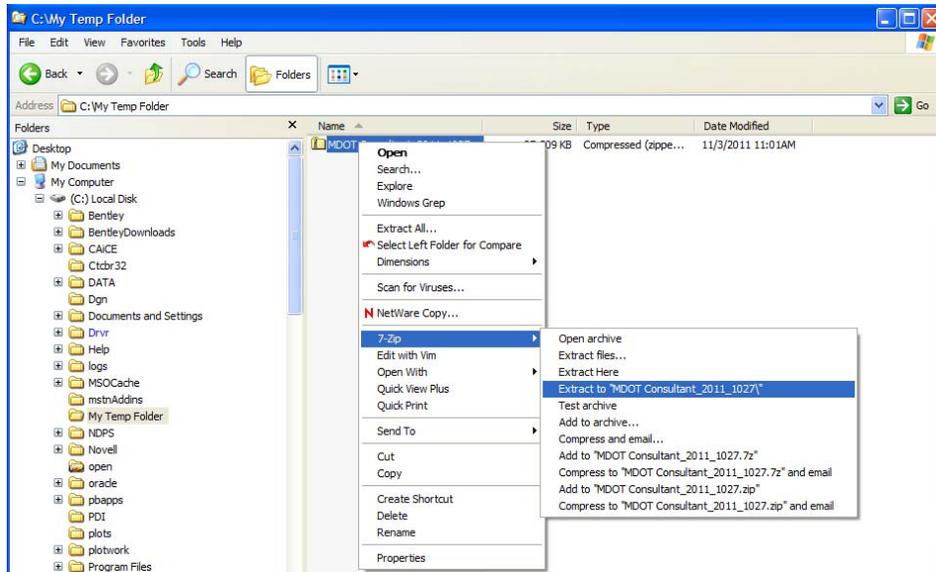
Copy the zip file to a local working or temp directory .



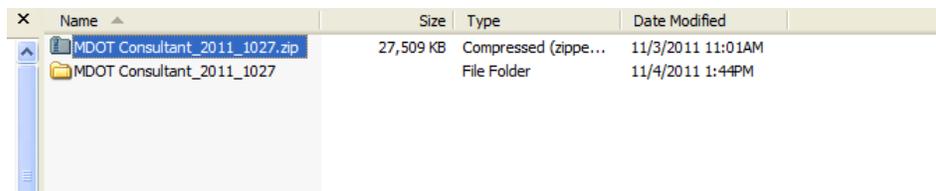
Step #2) Unpack the zip file into a temporary folder.

Either to “c:\Temp” or one of your choosing.

- Use winzip or 7zip, unpack to a local directory. Preserve folder structure.



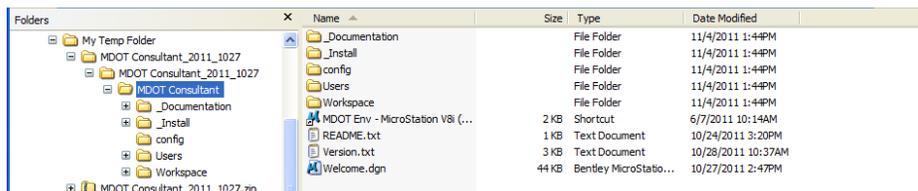
...



Step #3) Once the file is unpacked, verify the following directories are available where you unpacked them.

Please note where this folder is, we will be referring to these folders as the “source folders”.

- MDOT_Constant



Step #4) Determine which type of Installation will work best with your organization's Workspace Environment.

Important Note:

The MDOT Environment is specifically designed to have a minimum impact on the user's current setup. The install is designed to access all the MDOT data from a single location for each of the 3 types of installs. This reduces the risk of "bleed through" to the users current system and helps with updating the MDOT data. The concept of this environment is to compartmentalize the data and use MicroStation's configuration environment to "bring the software to the resource files" rather than breaking the resource files up, scattering them into different folders and risking overlapping resources with other "projects". If you have questions, problems, or suggestions, please contact MDOT Design Support.

Type #1(Local Installation using only the MDOT environment):

Little or no customization; or local install for client workspaces only.

This type of setup is the simplest, however it is also individual to each workstation.

A setup that has MicroStation loaded to each workstation and uses network access only to share design files or an organization that wants to limit access and installation of MDOT standards to a small number of machines is most likely to make use of a "Type #1" [install](#).

Type #2 (Local Installation using a combined environment):

Some customization, utilizing the default directories provided by the Bentley install.

This type of setup is quite common with production environments that have need for some customization, but do not have enough demand to push the environment to a network share.

The most common characteristics of this type of setup is that the customization is done in the "...Workspace/Projects", "...Workspace\interfaces", and "...Workspace/users" folders*.

Typically, custom users, interfaces, and projects (.pcf) files are added to these folder locations so they can be seen and chosen through the default MicroStation Interface.

Organizations with this type of setup will want to use the "Type #2" [install](#).

**-During installation, the Workspace folder structure's location is configurable. Typical locations for this is the "C:\Bentley\" folder or the "C:\Documents and settings\..." (the default).*

Type #3 (Customized Network Workspace Environment):

Extensive customization, use of a shared, network area to store and access workspace environment files and resources.

This type of configuration is common with medium and large companies who have many clients and/or customizations. The general idea for integration with this type of Workspace environment is to introduce the MDOT environment as projects that extend the existing environment.

Organizations with this type of setup will want to use the "Type #3" [install](#).

Note:

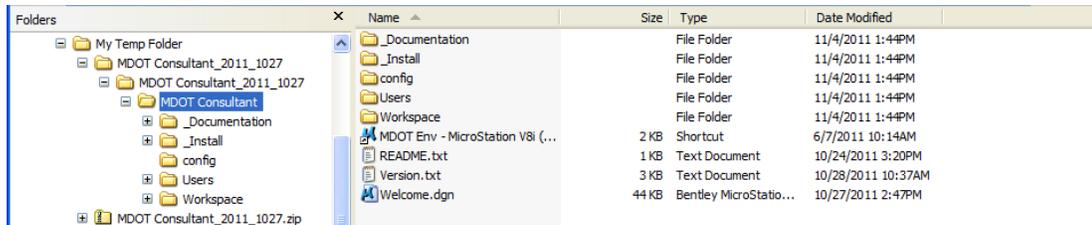
Workspace setups that rely on "hook files", that is files that initiate the workspace environment from a configuration file included at the SYSTEM or APPL level and are located in the "...MicroStation\config\appl" or the "...MicroStation\config\system" folders; are not generally compatible with other workspaces. This is due to the fact that this configuration is always loaded and there is no easy way to bypass the files once they have been placed in the previously mentioned directories. The best chance for implementation of the MDOT workspace with an environment of this kind is the type #2 or type #3; implemented as a Project

Installation and integration instructions:

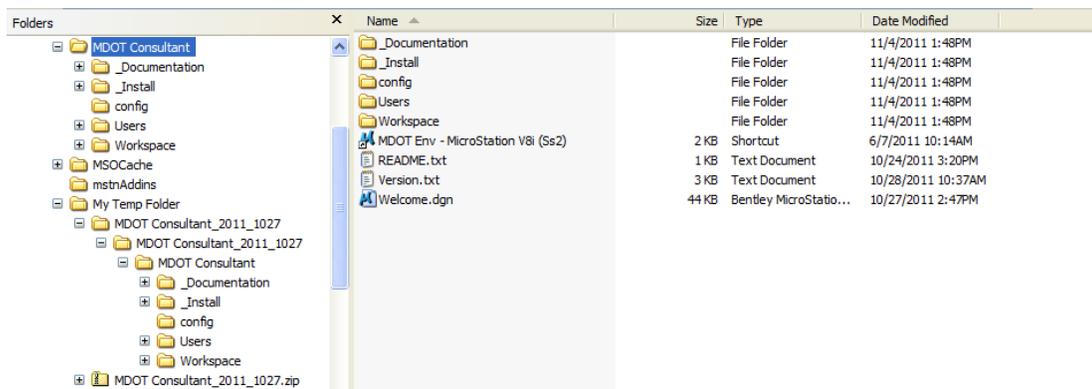
Type #1(Local Installation using only the MDOT environment):

Installation for the MDOT Workspace Environment to this type of environment is as follows:

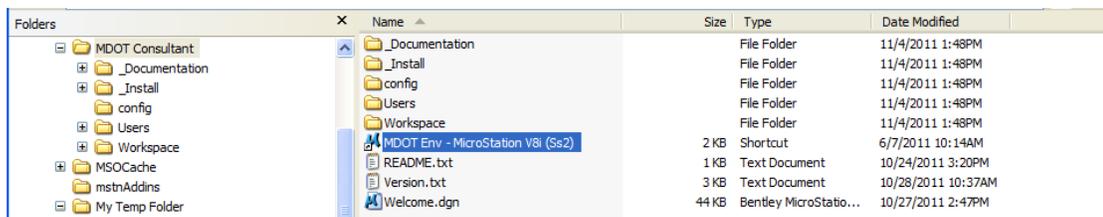
- 1) From the “Source Folders” location, locate the “MDOT Consultant” folder.



- 2) Copy/move this folder to the root of C: (creating a “C:\MDOT Consultant” folder)



- 3) Using the Windows Explorer, navigate to the “C:\MDOT Consultant “ folder.
- 4) Locate the shortcut “MDOT Env - MicroStation V8i (Ss2)”* and double click it to open MicroStation with the MDOT Consultant environment attached.



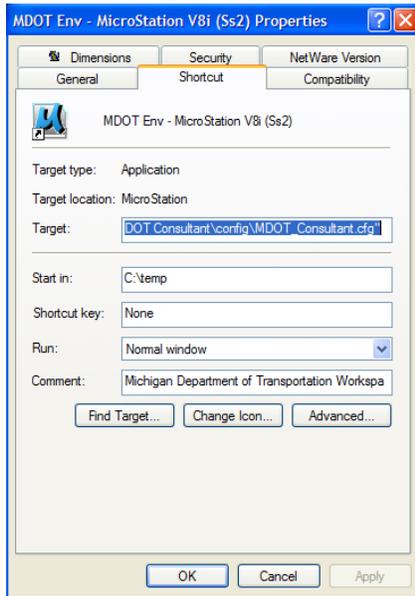
*- Shortcut may be copied to the computer’s Desktop to simplify access.



ICON Error – “Application not found”

If MicroStation has been installed to a folder other than the Bentley Default location, the delivered icon will not work. To remedy this situation, right-click the icon and select “Properties”. Select the “Shortcut” tab.

In the “Target box”, modify the location of the “ustation.exe” file to match your system.



Target:

"C:\Program Files\Bentley\MicroStation V8i (SELECTseries)\MicroStation\ustation.exe"
"-WCC:\MDOT Consultant\config\MDOT_Consultant.cfg"

Note:

In some cases, it is easier to copy a working shortcut for MicroStation on your system and add the command line parameter at the right side of the “Target” box:

Add this: "-WCC:\MDOT Consultant\config\MDOT_Consultant.cfg"

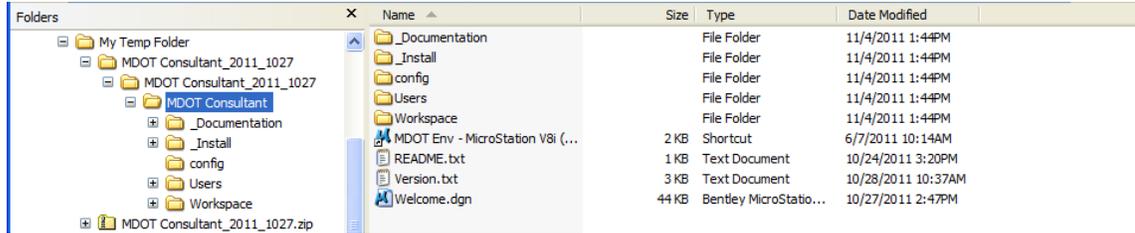
With a space between the ending quote of the target application and the beginning quote above.

The quotes are needed.

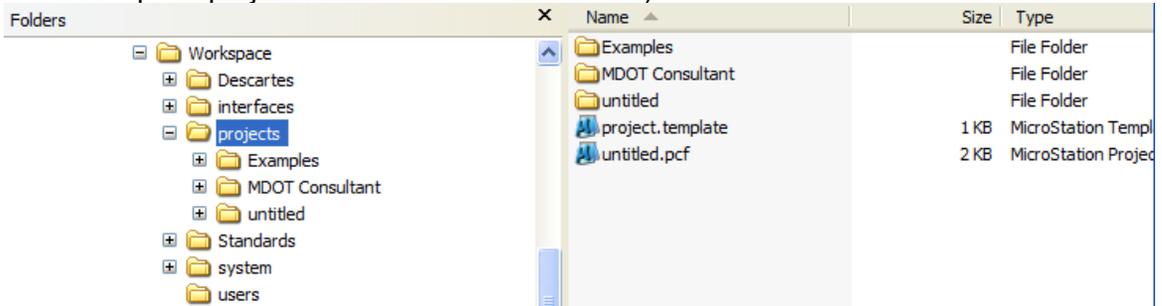
Type #2 (Local Installation using a combined environment):

Installation for the MDOT Workspaces to this type of environment is as follows:

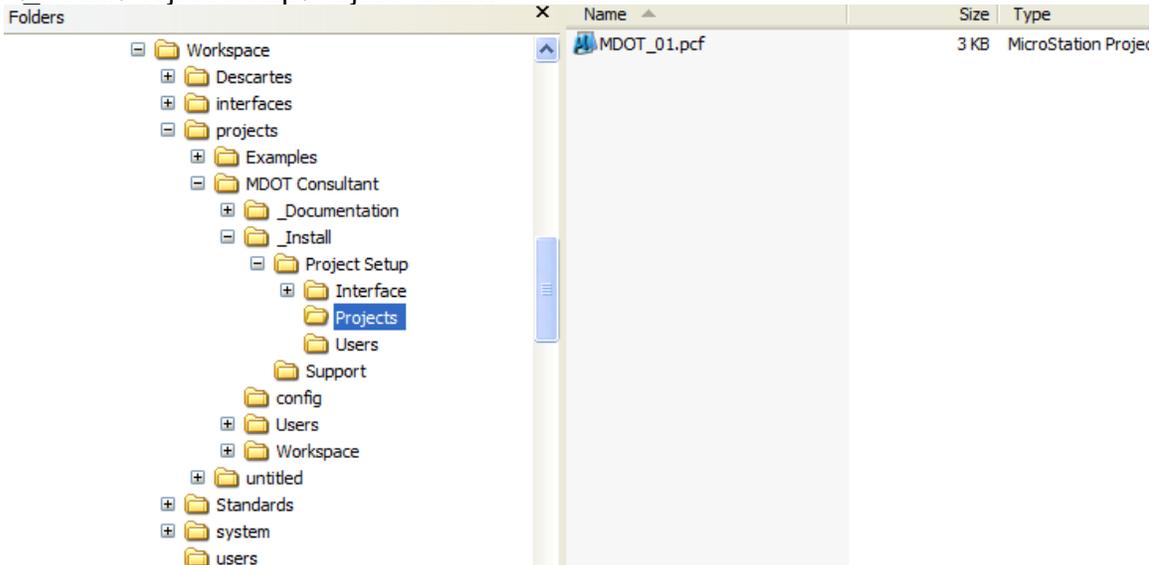
- 1) From the “Source Folders” location, locate the “MDOT Consultant” folder.



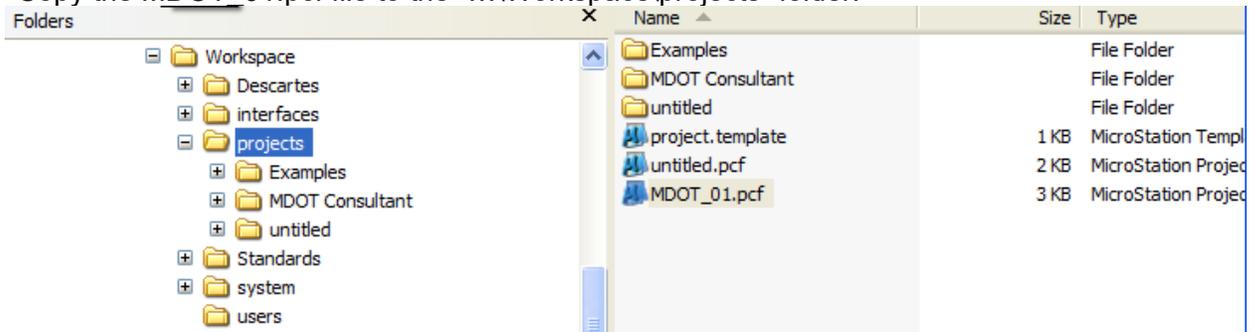
- 2) Copy/move this folder to the root of the “...Workspace\projects” folder. (creating a “...Workspace\projects\MDOT Consultant” folder)*



- 3) Using the Windows Explorer, navigate to the “...Workspace\MDOT Consultant _install\Project Setup\Project” folder.



- 4) Copy the MDOT_01.pcf file to the "...\Workspace\projects" folder:



- This will place the file in with the other .pcf files.

- 5) Edit the MDOT_01.pcf file using any ASCII Text Editor (Notepad).

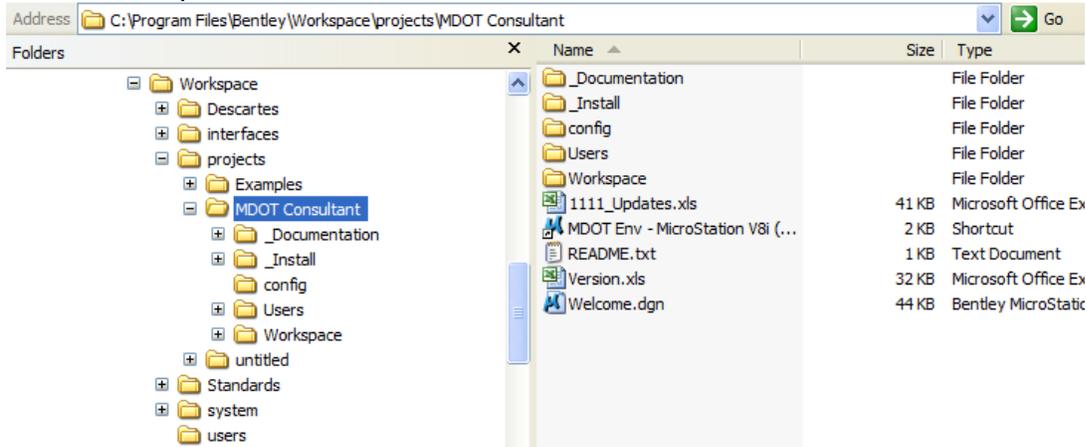
The screenshot shows a Notepad window titled 'MDOT_01.pcf - Notepad'. The text content is as follows:

```
File Edit Format View Help
#=====#
# MDOT_consultant_Road.cfg
#
# Creator: MDOT CADD SUPPORT
# Date: June 03, 2011
#
# This project file is designed to act as a "proxy .pcf" file.
# that is, this file allows the environment setup to execute as designed without
# copying pcf files to different locations. The same effect is achieved by using this file
# to include the .pcf from within the main structure.
#
#
#Copyright 2011 Michigan Department of Transportation
#=====#
#MDOT CADD CUSTOMIZATION INFORMATION
# Please adjust "MDOT_CONSULTANT_ROOT" to the
# location of the directory where you have chosen to store the
# "../..MDOT Consultant" folder- End it with a slash ("/").
#=====#
MDOT_CONSULTANT_ROOT = C:/Program Files/Bentley/workspace/projects/MDOT Consultant/
#=====#
# MICROSTATION USER SETUP
# Set MDOT_USER to 1 to enable the use of MDOT USER environment setup
# Set MDOT_USER to 0 to use the existing user environment and setup
#=====#
MDOT_USER = 1
#=====#
# MICROSTATION PROJECT SETUP
# Set MDOT_PROJECT to 1 to access the workspace as projects.
# Set MDOT_PROJECT to 0 to access the workspace as an environment
# NOTE: a value of zero (0) is not valid when using this file.
#=====#
MDOT_PROJECT = 1
#=====#
#=====#
#===== NO EDITING BEYOND THIS POINT REQUIRED =====
#=====#
```

Note the variables: MDOT_CONSULTANT_ROOT, MDOT_USER, and MDOT_PROJECT – these are the only lines we **MAY** need to change.

MDOT_CONSULTANT_ROOT – this variable points to the location where we have installed the “MDOT_Consultant” Directory and it’s subdirectory structure.

For our example here:



Note the “Address” at the top of the explorer window.

This is the location we will set the variable to point at:

- MDOT_CONSULTANT_ROOT = C:/Program Files/Bentley/Workspace/projects/MDOT Consultant/
-

Note that the configuration files have opposite “slashes” to what we find in the explorer, these need to be adjusted to “Forward slashes” for our variable.

MDOT_USER – This variable indicates if we are going to use the MDOT user setup or if we want to use the user files we already have setup in it’s place. Set the variable: MDOT_USER = 1 if you wish the files and setup delivered in “Workspace\MDOT Consultant\Users” to be employed in this setup. Set the variable: MDOT_USER = 0 to allow MicroStation to find Users files and setup from: “Workspace\users”.

MDOT_PROJECT – This variable controls how we load the MDOT Workspace. Either as a stand-alone environment (MDOT_PROJECT = 0) or as nothing more than a group of (in this case 1) workspace “project modules” to be added to your other workspace “projects”. (MDOT_PROJECT = 1) – In this case, we are adding to existing .pcf files, so we leave it at it’s default value of : “MDOT_PROJECT = 1”.

(In this type of setup, MDOT_PROJECT = 0 will cause a “grey-screen” error dump - MicroStation doesn’t like to try and load the msconfig .cfg for a second time.)

Be sure to save this file when you exit. The rest of this file is controlled by what we have set, and under normal circumstances, it should not need to be edited....only the three variables.

- 6) Optionally, if you wanted to use MDOT_01 setup for the user, but wanted to edit those files , you could edit and place the files contained in the “...Workspace\MDOT Consultant _install\Project Setup\Users“ folder and the “...Workspace\MDOT Consultant _install\Project Setup\Interface“ folder .

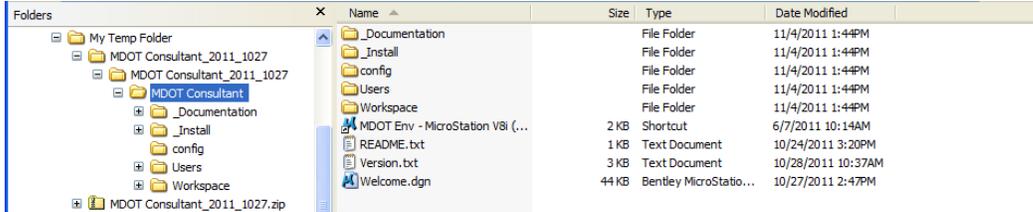
*- MDOT_Consultant Directory can actually be placed nearly anywhere, as long as the location is set in the MDOT_Consultant .cfg file.

Type #3 (Customized Network Workspace Environment):

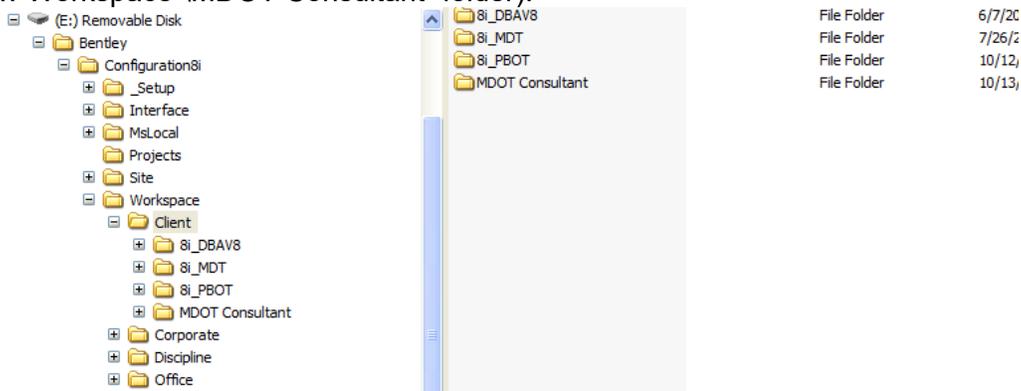
Please Note:

Integration with a “Type #3” Workspace Environment should be done by the CADD System Manager. Many of the locations and setup files are referred to as “Functional”. This is because those files and directories may have different names and/or different locations depending on the design of the Workspace Environment. It is important to understand the functionality of a file or folder...not just it's name for the integration process to be as successful as we are hoping it will be.

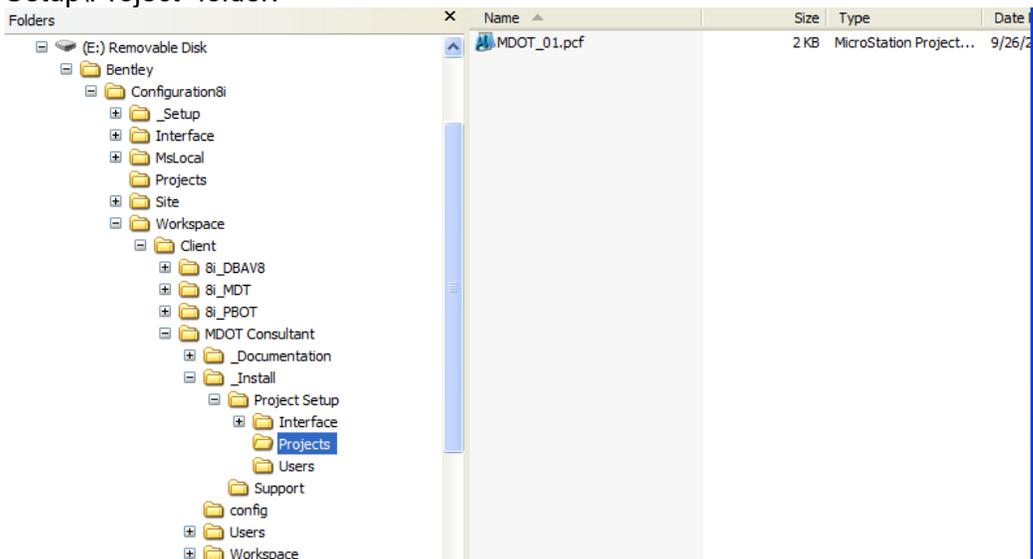
- 1) From the “Source Folders” location, locate the “MDOT Consultant” folder.



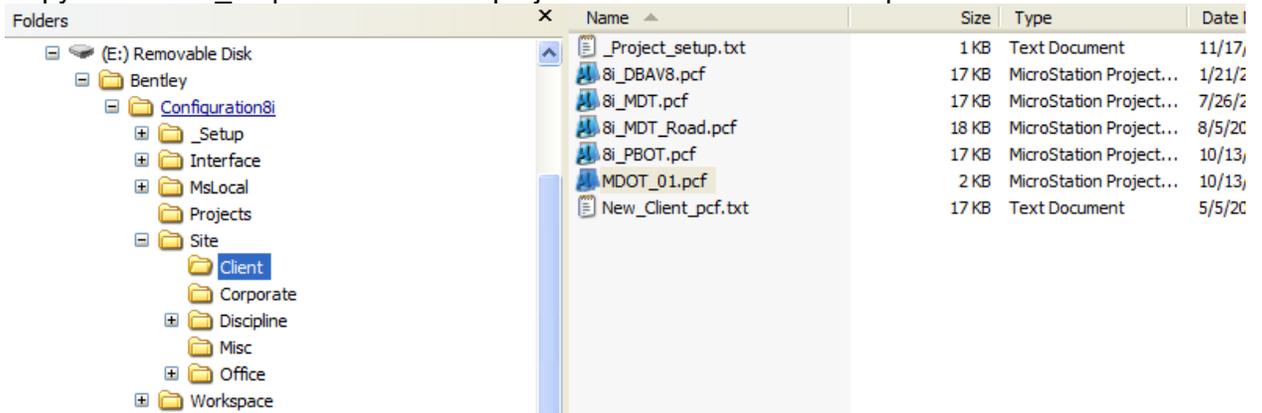
- 2) Copy/move this folder to the root of the functional “Workspace” folder. (creating a “...”\Workspace”\MDOT Consultant” folder).*



- 3) Using the Windows Explorer, navigate to the “...MDOT Consultant _install\Project Setup\Project” folder.



- 4) Copy the MDOT_01.pcf file to the "...\projects" folder with the other .pcf files:



- 5) Edit the MDOT_01.pcf file using any ASCII Text Editor (Notepad).

```

MDOT_01.pcf - Notepad
File Edit Format View Help
=====
# MDOT_Consultant_Road.cfg
#
# Creator: MDOT CADD SUPPORT
# Date: June 03, 2011
#
# This Project file is designed to act as a "proxy .pcf" file.
# that is, this file allows the environment setup to execute as designed without
# copying pcf files to different locations. The same effect is achieved by using this file
# to include the .pcf from within the main structure.
#
#
#Copyright 2011 Michigan Department of Transportation
=====
#
#MDOT CADD CUSTOMIZATION INFORMATION
# Please adjust "MDOT_CONSULTANT_ROOT" to the
# location of the directory where you have chosen to store the
# "/...MDOT Consultant" folder- End it with a slash ("/").
#
=====
MDOT_CONSULTANT_ROOT = C:/Program Files/Bentley/workspace/projects/MDOT Consultant/

#
# MICROSTATION USER SETUP
# Set MDOT_USER to 1 to enable the use of MDOT USER environment setup
# Set MDOT_USER to 0 to use the existing user environment and setup
#
=====
MDOT_USER = 1

#
# MICROSTATION PROJECT SETUP
# Set MDOT_PROJECT to 1 to access the workspace as projects.
# Set MDOT_PROJECT to 0 to access the workspace as an environment
# NOTE: a value of zero (0) is not valid when using this file.
#
=====
MDOT_PROJECT = 1

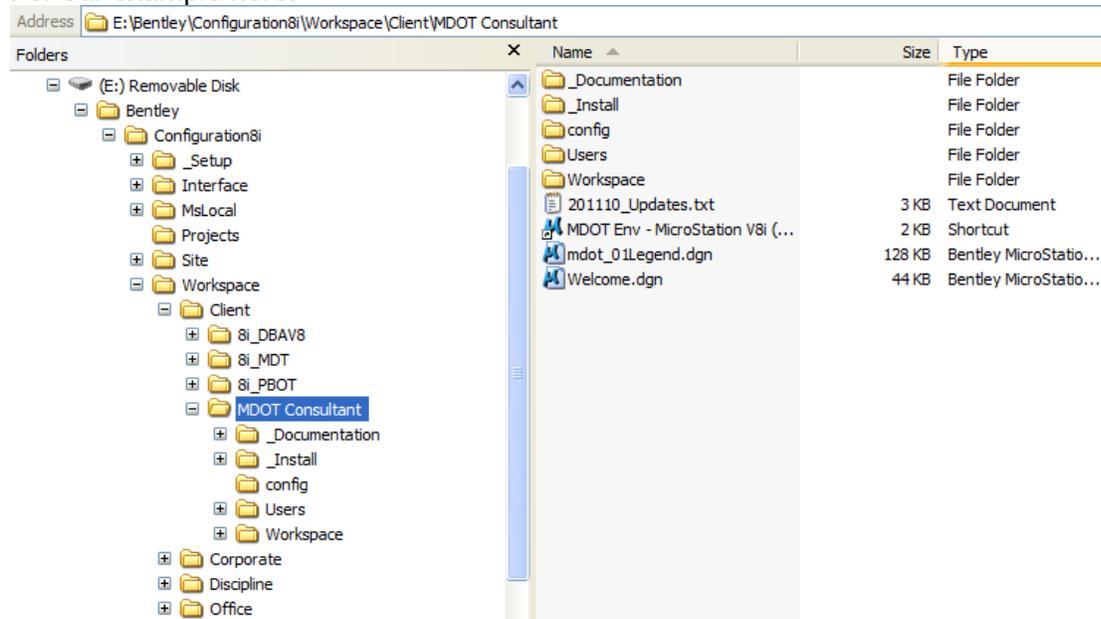
#
#=====
#===== NO EDITING BEYOND THIS POINT REQUIRED =====
#=====
#

```

Note the variables: MDOT_CONSULTANT_ROOT, MDOT_USER, and MDOT_PROJECT – these are the only lines we **MAY** need to change.

MDOT_CONSULTANT_ROOT – this variable points to the location where we have installed the “MDOT_Consultant” Directory and it’s subdirectory structure.

For our example here:



Note the “Address” at the top of the explorer window. This is the location we will set the variable to point at:

- MDOT_CONSULTANT_ROOT = E:/Bentley/Configuration8i/Workspace/Client/MDOT Consultant/

Note that the configuration files have opposite “slashes” to what we find in the explorer, these need to be adjusted to “Forward slashes” for our variable.

MDOT_USER – This variable indicates if we are going to use the MDOT user setup or if we want to use the user files we already have setup in it’s place. Set the variable: MDOT_USER = 1 if you wish the files and setup delivered in “Workspace\MDOT Consultant\Users” to be employed in this setup. Set the variable: MDOT_USER = 0 to allow MicroStation to find Users files and setup from: “Workspace\users”.

MDOT_PROJECT – This variable controls how we load the MDOT Workspace. Either as a stand-alone environment (MDOT_PROJECT = 0) or as nothing more than a group of (in this case 1) workspace “project modules” to be added to your other workspace “projects” (MDOT_PROJECT = 1) – In this case, we are adding to existing .pcf files, so we leave it at it’s default value of : “MDOT_PROJECT = 1”.

(In this type of setup, MDOT_PROJECT = 0 will cause a “grey-screen” error dump – MicroStation doesn’t like to try and load the msconfig .cfg for a second time.)

Be sure to save this file when you exit.

The rest of this file is controlled by what we have set, but under normal circumstances, it should not need to be edited....only the three variables.

- 6) Optionally, if you wanted to use MDOT_01 setup for the user, but wanted to edit those files , you could edit and place the files contained in the "...Workspace\MDOT Consultant _install\Project Setup\Users" folder and the "...Workspace\MDOT Consultant _install\Project Setup\Interface" folder .

*-The MDOT_Consultant folder can be placed nearly anywhere, as long as the location is set in the MDOT_CONSULTANT_ROOT path(s).

Editing the MDOT Consultant.cfg file

The only need to Edit this file is when you are installing a type #1 install and cannot (or don't want to) create a "C:\MDOT Consultant" directory – Then, the "MDOT_CONSULTANT_ROOT" will need to be edited to reflect where this directory exists.

The MDOT_Constant.cfg configuration file is the main connection between the MicroStation environment and the MDOT setup directories. This file is designed to "change" it's role in the workspace depending on what values certain variables have been changed to.

The file is designed to appear as a mslocal.cfg file to MicroStation when the setup (#1) needs to load the MDOT Workspace(s) as an Environment.

When the file simply needs to set up variables so resources can be found by MicroStation and the workspace(s) are accessed as "projects", this file behaves as nothing more than a custom configuration file. This behavior is controlled by value of the "MDOT_PROJECT" variable.

First thing you may notice in the file is the use of ":" to set variables. The ":" is used when we want to preserve the value of a variable IF, it has had a value previously assigned to it. This condition allows us to set variables ahead of time in specific configuration files (as in setup types #2 and #3 – MDOT_01.pcf) and have those values remain intact while processing the rest of this file.

The next thing to notice are the conditional blocks:

```
%if $(MDOT_PROJECT) != "1"
```

```
...
```

```
%endif
```

Several of these are used to determine setup dependent on the value of a particular variable.

The one above will execute the setup lines in between the %if and the matching %endif ONLY if the variable "MDOT_PROJECT" does NOT equate to "1".

These kind of conditionals allow us to manipulate the way a file loads, based on values of select variables

In some instances, further editing of this file could be necessary, If that should be the case , please let MDOT design support staff know in case a change needs to be made to the environment setup to help with future installations..

Editing the MDOT_Options.cfg file

The MDOT_Options.cfg file contains simple variables that control the integration process. There are directions and information about each variable available included in the file .

Two of the more important variables are:

“MDOT_USER” (Possible values: 1 or 0)

This variable controls the setup and use of the delivered user setup for the MDOT Consultant workspace. Often, workspace environments have special “user level” setup that should not be disturbed for the convenience of the users or the administrator...by setting this variable to “0”, The workspace will not attempt to set user configuration variables. By setting this variable to “1” <the default>, the user setup for the MDOT Workspace will be directed to the user area of the MDOT_Consultant folder.

Note: If you opt out of using the MDOT user configuration file, be aware that several variables that the environment uses will need to be set from a different location, perhaps added to your customized User configuration file.

MS_USERPREFSEED = **\$(MDOT)/mst v8i/workspaces/userprefs/mdot_01.upf**
MS_SEEDFILES = **\$(MDOT)/mst V8i/seed/**
MS_DESIGNSEED = **Please_Select_Zone_Seed_File.dgn**

“MDOT_PROJECT” (Possible values: 1 or 0)

This variable controls how the workspace is accessed. In the default condition “0”, which is set for a type #1 install, the workspace is treated as if it is the only workspace environment available for MicroStation. In this state, MDOT_Consultant.cfg is treated as a “mslocal.cfg” file.

When this variable is set to “1”, The relationship of the Workspace environment to the Existing Microstation environment is one of a “project”. This relationship requires additional setup which is detailed in the type #2 and type # 3 setup examples.