# PLS-GRID – A CONSULTANT'S IMPLEMENTATION

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2024 PLS-CADD Advanced Training and User Group (ATUG)

# **PLS-GRID.....HOW WE DID IT**

### ► Change

- Technology
- Human behavior





# **FILE ACCESS**

Our new Constitution is now established and has an appearance that promises permanency; but in this world nothing can be said to be certain, except death and taxes. Benjamin Franklin 1789

large PLS-CADD models





# **FILE ACCESS**

- Network
  - Collaboration
  - Security
  - Redundancy





# CACHE

- Geographical Cache
  More nodes, longer line
  Bad cache,
  - bad .lock file,
  - bad .don
  - Bad day



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# **WIFI VS ETHERNET?**





# **TEAMS, SHAREPOINT, ONEDRIVE, PROJECTWISE**

▶ Don't.....



# **CACHE ON LAPTOP IS WHERE WE STARTED**

WORK

► Speed

ACE		×	+											
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											11/1/2023 10:26 AM	PLS-CADD Design	19 KB	
											5/30/2024 1:31 PM	PLS-CADD Design	56 KB	

**ONLY CHANGES** 









# **YOU NEED A SERVER**

GRID is the librarian not the library

Who owns the checklist?

> You may need an IT project manager



# **PHASED ROLLOUT**



- ► 1<sup>ST</sup> impression matter
- Choose 1<sup>st</sup> users wisely
- Organic rollout
- Early adopters end up being your ambassadors



# **WORKING REMOTE**

- Models stored on network
- ► When working remote...
  - Don't use PLS
  - Deal with VPN lag
  - Make local copy







# **VIRTUAL COMPUTERS?**

### Virtual Computer Pros:

- Quickly open/save models when remote
- Virtual Computer Cons:
  - Secondary key
  - Different
  - Occasional issues
  - Need internet



# REVISIONS





BURNS MEDONNELL

# **REVISION TRACKING**

![](_page_14_Figure_1.jpeg)

Project Preview

Suppose Suppose

![](_page_14_Figure_3.jpeg)

Revision

Revision Report							
Project saved to "C:\BMCD_LIB\PI Revisions (New Value, Old Value) Transmission Lines Line 1 " test"	S WORKSPACE\BP I	'raining\BP Tra	ining.xyz" o	n 12:17:28 PM 5/3/2	024 by jsebolt	(josh	sebolt) (
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Section Color ([	Red=U, Green=128	5, Blue=192], [	Red=255, Gree	en=0, Blue=0])			
Total of 1 Transmission	Lines difference						
Total of 1 Project difference	e	•					
	_		_				
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Revisions (New Value, Old Value)							
Alignment Options							
Alignment							
PI No. 16: X (Eastin	g) (3669737.661,	3678078.477)	(ft) Y (Nort	hing) (1471346.419,	1480650.953)	(ft) Z	(Elevati
PI No. 17: X (Eastin	.g) (3658130.563,	3677281.169)	(ft) Y (North	hing) (1480135.773,	1480627.576)	(ft) Z	(Elevati
PI No. 18: X (Eastin	.g) (3642270.066,	3674091.936)	(ft) Y (North	hing) (1479504.246,	1480534.068)	(ft) Z	(Elevati
PI No. 19: X (Eastin	.g) (3641625.161,	3673294.740)	(ft) Y (Nort	hing) (1479719.475,	1480511.104)	(ft) Z	(Elevati
PI No. 20: X (Eastin	.g) (3641637.535,	3668510.451)	(ft) Y (North	hing) (1478912.761,	1480384.766)	(ft) Z	(Elevati
PI No. 21: X (Eastin	.g) (3641730.219,	3667713.165)	(ft) Y (Nort	hing) (1476586.691,	1480365.196)	(ft) Z	(Elevati
PI No. 22: X (Eastin	.g) (3641796.871,	3666915.726)	(ft) Y (Nort	hing) (1475793.034,	1480346.689)	(ft) Z	(Elevati
PI No. 23: X (Eastin	.g) (3641838.502,	3663726.725)	(ft) Y (North	hing) (1474999.377,	1480241.867)	(ft) Z	(Elevati
PI No. 24: X (Eastin	.g) (3641847.956,	3662929.900)	(ft) Y (Nort	hing) (1474259.801,	1480209.172)	(ft) Z	(Elevati
PI No. 25: X (Eastin	.g) (3641878.861,	3660496.117)	(ft) Y (Nort	hing) (1473484.171,	1480151.263)	(ft) Z	(Elevati
PI No. 26: X (Eastin	.g) (3641919.020,	3658130.563)	(ft) Y (North	hing) (1472708.338,	1480135.773)	(ft) Z	(Elevati
PI No. 27: Y (Northi	ng) (1471931.843	3, 1479504.246)	(ft) Z (Ele	vation) (5341.115,	5240.670) (ft)		
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PI No. 34 has been r	emoved						
PI No. 35 has been r	emoved						
PI No. 36 has been r	emoved						
PI No. 37 has been r	emoved						
PI No. 38 has been r	emoved						

![](_page_14_Picture_5.jpeg)

# **VERSION KNOWLEDGE**

#### roject Manager Discovery

8 8

![](_page_15_Figure_3.jpeg)

Project Name	Project Creation Date	Workspace Revision	Latest Revision	Revision User	Revision Date	Revision Comment	Check Out By	Check Out Machine
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	1:10:47 PM 3/28/2023	7	7		10:57:24 AM 4/9/2024	add dashiel sub coordinat		
	2:12:27 PM 4/7/2023	25	24		4:37:17 PM 6/20/2023		destable sectors.	
	11:05:01 AM 4/17/2023	39	39		11:19:00 AM 11/27/2023	updated P&P border for IF		
	4:15:38 PM 5/1/2023	180	180	distantian sectors.	4:26:01 PM 6/24/2024	misc updated		
	7:21:23 AM 5/31/2023	3	3		9:59:07 AM 12/4/2023	Wire autosag, Trim intern		
	7:29:16 AM 5/31/2023	2	3		4:23:37 PM 11/29/2023	Reroutes changes made		
	12:47:18 PM 6/12/2023	93	93	general descent of	10:49:51 AM 6/20/2024	Added jumpers at #1		
	4:28:41 PM 6/20/2023	14	14		3:29:30 PM 9/1/2023	re-offset 600' 161kV tan		
Mini 1998, Daught, M. Landau, Data dar	8:55:07 AM 7/24/2023	55	55		2:41:24 PM 12/14/2023	updated pole models		
	9:57:45 AM 8/22/2023	2	3		9:52:03 AM 8/23/2023	Riser pole optimization		
	1:19:45 PM 10/20/2023	77	79		10:33:22 AM 6/25/2024			
	1:59:12 PM 10/20/2023	48	51	Charleson and Ch	4:22:20 PM 6/13/2024	30% Resubmittal		
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SPACE LAND TRANSPORT	9:23:27 AM 4/1/2024	2	7		10:06:40 AM 5/20/2024			
Industrialization (MIT Int.)	11:00:34 AM 6/18/2024	2	1		5:02:15 PM 6/19/2024		And in case of the local division of the loc	and the second sec

Open in PM Reviewer Z

Zoom to in GRID View Show Results in GRID View

Workspace Report Report

OK

![](_page_15_Picture_8.jpeg)

# **VERSION KNOWLEDGE**

- 8 23 Find Projects Project Previe Search For Search All Preview Not Available Project Type None By User None (Start) Creation 1/ 1/2020 .... (End) Creation 6/26/2024 Vorkspace Projects Template Projects Key for Workspace Projects Favorites C Advanced Query Find Projects Outdated Workspace Conflict **Besults** Project Name Latest Revision Revision Date Project Creation Date Workspace Revision Revision User Revision Commen Check Out By Check Out Machine 10:29:42 AM 3/28/2023 4:26:55 PM 6/17/2024 -Updated cable tensions of 1:10:47 PM 3/28/2023 10-57-24 AM 4/9/2024 add dashiel sub coordinat 2-12-27 PM 4/7/2023 4:37:17 PM 6/20/2023 and the second second 11:05:01 AM 4/17/2023 11-19-00 AM 11/27/2023 updated P&P border for IF ... 4:15:38 PM 5/1/2023 4:26:01 PM 6/24/2024 misc updated 7:21:23 AM 5/31/2023 9:59:07 AM 12/4/2023 Wire autosag, Trim inter 7:29:16 AM 5/31/202 -23-37 PM 11/29/20 Reroutes changes ma 12:47:18 PM 6/12/2023 10:49:51 AM 6/20/2024 Added jumpers at #1 4:28:41 PM 6/20/2023 3-29-30 PM 9/1/2023 re-offset 600' 161kV tar 8:55:07 AM 7/24/2023 2:41:24 PM 12/14/2023 updated pole models 9:57:45 AM 8/22/2023 9:52:03 AM 8/23/2023 Riser pole optimization 1:19:45 PM 10/20/2023 10:33:22 AM 6/25/202 1:59:12 PM 10/20/2023 4:22:20 PM 6/13/2024 30% Resubmittal 2:00:01 PM 1/9/2024 9-04-41 AM 3/29/2024 1:01:50 PM 3/1/2024 3:28:39 PM 3/14/2024 LCA load applications to a 9:23:27 AM 4/1/2024 06:40 AM 5/20/ 11:00:34 AM 6/18/202 Open in PM Reviewer Zoom to in GRID View Show Results in GRID View Workspace Report Report OK
- Open up "blue model" read only
- Someone else opens, checks out, and checks in

![](_page_16_Picture_4.jpeg)

![](_page_16_Picture_5.jpeg)

# WHAT IS A BACKUP!?

► Bye Bye .BAK??

![](_page_17_Picture_2.jpeg)

![](_page_17_Picture_3.jpeg)

### ► Bye Bye .BAK?? Project Manager Reviewer [CPID a46:15511a78] Project Name: Select a revision: TSDOS.don < Prev Only show milestones 14 - IFC \* Next > 14 - IFC \* 13 12 - 90% Submittal Revision Details Number of Files: 11 User: 10 zjbrinker@burnsmcd.com 68 9 - 60% Submittal Date: Project Size: Project Manager Reviewer [CPID a46:15511a78] Project Name: Select a revision: 5 - 30% Submittal Only show milestones TSDOS.don < Prev 14 - IFC \* Next > $\sim$ 14 - IFC \* 12 - 90% Submittal 9 - 60% Submittal Revision Details 5 - 30% Submittal Number of Files: selected file: User: zjbrinker@burnsmcd.com 68 Project Name Project Size: Date: 3:29:30 PM 9/1/2023 820 KB Comment: re-offset 600' 161kV tan 4

![](_page_18_Picture_1.jpeg)

WHAT IS A BACKUP!?

BURNS MEDONNELL

# **GRID MAP**

All projects, single viewUseful for utility and consultant

![](_page_19_Figure_2.jpeg)

![](_page_19_Picture_3.jpeg)

# WHAT IS DIFFERENT?

- Use of common structure or wire files between models
- Loss of structure folder arrangement power
- Available structure list
- Component files

BURNS MEDONNELL

Name	Date modified	Туре	Size
Attachments	4/24/2023 3:22 PM	File folder	
Cables	4/27/2023 2:06 PM	File folder	
References	4/24/2023 3:22 PM	File folder	
Structures	7/3/2023 3:31 PM	File folder	
🌌 TS23 Foundation Diameters.bak	4/24/2023 2:49 PM	PLS Backup File	95 KB
TS23 Foundation Diameters.brk	6/20/2023 4:37 PM	PLS-CADD Break L	1 KB
TS23 Foundation Diameters.con	6/20/2023 4:37 PM	PLS-CADD Spottin	1 KB
TS23 Foundation Diameters.cri	6/20/2023 4:37 PM	PLS-CADD Design	17 KB
TS23 Foundation Diameters.don	6/20/2023 4:37 PM	PLS-CADD Project	96 KB
TS23 Foundation Diameters.fea	6/20/2023 4:37 PM	PLS-CADD Featur	4 KB
TS23 Foundation Diameters.fsc	5/10/2023 12:31 PM	FSC File	25 KB
TS23 Foundation Diameters.num	6/20/2023 4:37 PM	PLS-CADD Align	3 KB
TS23 Foundation Diameters.pps	6/20/2023 4:37 PM	PLS-CADD Drawin	21 KB
TS23 Foundation Diameters.previous.don	6/20/2023 4:37 PM	PLS-CADD Project	101 KB
TS23 Foundation Diameters.rpt	6/20/2023 4:37 PM	PLS-CADD Project	430 KB
TS23 Foundation Diameters.str	6/20/2023 4:37 PM	PLS-CADD Availa	4 KB
对 TS23 Foundation Diameters.tin	6/20/2023 4:37 PM	PLS-CADD Terrain	1 KB
TS23 Foundation Diameters.wnd	6/20/2023 4:37 PM	WND File	1 KB
🌌 TS23 Foundation Diameters.xyz	6/20/2023 4:37 PM	PLS-CADD Project	1 KB

#### rectory Mapping For Restore

The current directory column contains the directories that your project was backed up from. If you want the project restored to different directories, select them in the new directory column. Use Quick Restore to restore all files to a single directory.

#### Quick Restore Show File Names Change Common Directory Path

	Current directory
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# **COMMON REASONS PEOPLE RESIST**

- "I don't have the install files"
- "What if I don't like it"
- "I already started on this project"
- "I don't have time to transfer it"
- "My client has a very specific folder requirement"

![](_page_21_Picture_6.jpeg)

# **BEST PRACTICES**

- Daily check in/ check outGroups
- Phased roll out

![](_page_22_Picture_3.jpeg)

# **AUGMENTED REALITY**

![](_page_23_Picture_2.jpeg)

![](_page_23_Picture_3.jpeg)

![](_page_23_Figure_4.jpeg)

![](_page_23_Picture_5.jpeg)

# WHY CONSIDER GRID?

### Work is local

- ► Speed
- Revision options

Control

ct Manager Discovery								
ind Projects							Project Preview	
•		Search For						
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Open in PM Reviewer Zoom to in GRID View Show Results in GRID View

Workspace Report Report OK

![](_page_24_Picture_8.jpeg)