

# OHIO DEPARTMENT OF TRANSPORTATION

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## Changes, Progress, and Issues

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# SGE Changes (new)

- ④ **Section 602; requirement to visually inspect (for gypsum) and test for sulfate**
- ④ **Sample Plan clarification/correction**

# SGE Changes (old)

- ① **Section 701: Submit electronic copies of all final Geotechnical Exploration plan sheets as TIFF images**
- ① **Submit a paper and electronic copy of all final reports to the DGE.**

# SGE Changes (future)

- ① **PDP Changes**
- ① **Boring numbering clarification; mainline first, side road second**
- ① **Culvert exploration requirements; coordinate with hydraulic standard drawings and requirements**

# SGE Changes (future)

- ④ **Inclinometer reading schedule**
- ④ **Uncontrolled fill description**
- ④ **Reporting hand penetrometer readings on soil profiles**
- ④ **Standardize undisturbed test result presentations for plans and in gINT**

# GB1 Changes

## ☉ July 15, 2011

- ☉ Sulfate Testing Requirements and Restrictions
- ☉ Filter criteria correction for geogrid
- ☉ Rubblize and Roll: Do not consider when average  $N_{60} < ~~15~~ 12$  (1/3/2012)

# PDP Changes

- ⦿ <http://www.dot.state.oh.us/projects/pdp/Pages/default.aspx>
- ⦿ **Updated to:**
  - ⦿ Minimize project processing time
  - ⦿ Reduce cost
  - ⦿ Balance risk
- ⦿ **Goals:**
  - ⦿ Improve scoping
  - ⦿ Determine preferred alternative quicker
  - ⦿ Further advancement of design during NEPA

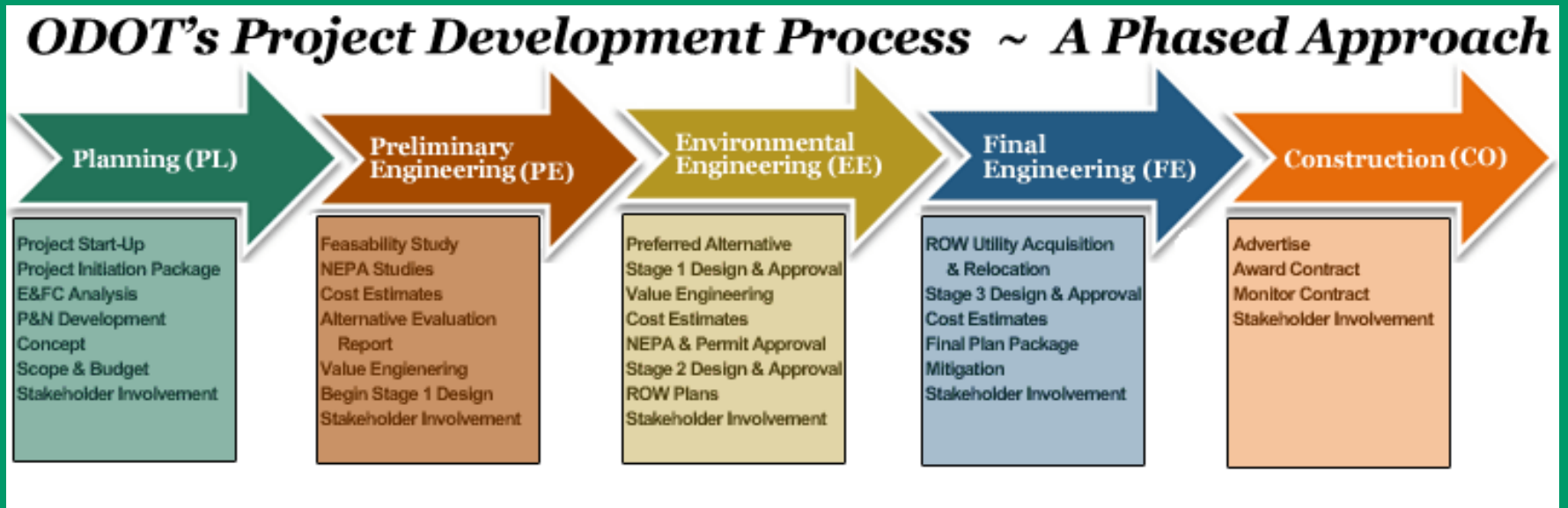
# PDP Changes

Path 1	Path 2	Path 3	Path 4	Path 5
<p>Path 1 projects are defined as "simple" transportation improvements generated by traditional maintenance and preventative maintenance. They involve minor structure and roadway maintenance work with no ROW/utility impacts. These are typically NEPA exempt or CE Level 1 NEPA documents.</p>	<p>Path 2 projects are also simple projects that may be similar in work type to Path 1 projects. They include minor structure and roadway work. Some examples may include culvert and bridge replacement/reconstruction, resurfacing and addition of turn lanes/shoulders. These jobs can involve non-complex ROW acquisition (strip takes, temporary easements and/or channel easements). These jobs are typically CE Level 1 documents.</p>	<p>Path 3 projects involve a higher level of complexity than projects in Path 1 and 2. They include moderate roadway and structure work including intersection and minor interchange upgrades, minor realignments, reconstruction, median widenings, etc. They can involve utility and ROW acquisition including relocations. These projects are usually CE Level 2 or higher level NEPA documents.</p>	<p>Path 4 projects involve complex roadway and structure work that may add capacity. Path 4 projects typically have multiple alternatives. Projects may include highway widening, new alignments in suburban or rural settings, reconstruction, access management, complex bridge replacement and/or multiple intersection/interchange alternatives. They may have substantial utility and/or ROW relocations /impacts. These are typically CE Level 3 or higher level NEPA documents.</p>	<p>Path 5 projects have the highest complexity and typically add capacity. They involve projects like new capacity-adding alignments in complex urban centers, major highway widenings, reconstructed interchanges or new interchanges. These projects will have substantial ROW relocations/impacts, complex utility issues, multiple alternatives and access management issues. These projects are typically higher level NEPA documents.</p>





# PDP Changes



# PDP Changes

- ④ **Project Initiation Package**
  - ④ Replaces Red Flag Summary
  - ④ ID issues and concerns
  - ④ Used to scope consultant
  
- ④ **Feasibility Study**
  - ④ Narrow alternatives or establish preferred alternative
  - ④ Secondary source information and site recon

# PDP Changes

- ④ **Alternative Evaluation Report**
  - ④ Discuss environmental/design issues
  - ④ Recommend Preliminary Preferred Alternative
  - ④ Once chosen, Stage 1, 2 can begin concurrent with NEPA studies/permits
  
- ④ **Replaces Red Flag Summary, CAS, AFA, Preliminary Engineering Report, PAVR**

# PDP Changes

[http://www.dot.state.oh.us/projects/pdp/Pages/PDP\\_Path\\_Matrix.aspx](http://www.dot.state.oh.us/projects/pdp/Pages/PDP_Path_Matrix.aspx)



# Document Management Progress

- ① **164 external and internal users from 34 engineering firms registered for access**
- ① **EMH&T performing geo-referencing pilot study for Guernsey and Summit Counties; 20 counties to follow**

# Inventory Progress

<b>Rockfall</b>						
	# Sites	Freq. of Inspection (yrs)	Total Number of Annual Inspections	Inspection (hrs/site)	Total # Inspection (hrs/yr)	
<b>Tier 1</b>	3822	10	382	0.5	191	
<b>Tier 2</b>	1015	5	203	1	203	
<b>Tier 3</b>	467	3	156	1.5	234	
<b>Tier 4</b>	13	1	13	2	26	
<b>Sum</b>	5317		754		654	
<b>Landslide</b>						
	Current # Sites	Projected # Sites	Freq. of Inspection (yrs)	Total Number of Annual Inspections	Inspection (hrs/site)	Total # Inspection (hrs/yr)
<b>Low</b>	7479	11778	5	2356	0.5	1178
<b>Moderate</b>	685	1079	3	360	1	360
<b>High</b>	1236	1947	2	974	1.5	1460
<b>V. High</b>	124	196	1	196	1.5	294
<b>Sum</b>	9524	15000		3885		3292
<b>UVIRA</b>						
	# Sites	Freq. of Inspection (yrs)	Total Number of Annual Inspections	Inspection (hrs/site)	Total # Inspection (hrs/yr)	
<b>Low Rated</b>	585	5	117	0.75	88	
<b>High Rated</b>	323	3	108	1	108	
<b>Mine Opening</b>	225	2	113	1	113	
<b>Surface Deformation</b>	69	1	69	1.5	104	
<b>Sum</b>	1202		406		411	

# Research Progress

- ④ **Relative Operational Performance of Geosynthetics Used as Subgrade Stabilization (GUSS)**
  - ④ Pooled fund study with Montana DOT
  - ④ Completion scheduled for November 30, 2013
- ④ **Incorporating Chemical Stabilization in Pavement Design and Construction**
  - ④ Ohio University, completion scheduled for December 2013
- ④ **Assessment and Treatment of Sulfate-Bearing Soils in Ohio**
  - ④ University of Akron, estimated completion by March 2014

# Research Progress

- ④ **LAK-2 Sulfate Student Study**

- ④ Bowling Green State University

- ④ **Rockfall Concrete Barrier Evaluation and Design Criteria**

- ④ University of Akron, January 2014

- ④ **Bioengineering Techniques for Landslide Stabilization**

- ④ The Ohio State University, March 2014





# Issues

- ④ **Borings drilled by others or drilled as part of a previous (preliminary) exploration are still project borings.**
- ④ Must be included and considered in planning additional explorations
- ④ Present accordingly in the soil profile
- ④ **Include historic structure borings and useful roadway borings in the soil profile/SFE**

# Issues

- ④ **Exploration identification numbers are still a challenge**
  - ④ Borings well off the mainline that cannot be reasonably referenced to the mainline, should be numbered consecutively from the last boring along the mainline.
- ④ **Review submissions before submitted**

# Issues

- ⦿ **Proper Sealing vs. Backfilling of Borings**
  - ⦿ Not performing the sealing properly. Just putting bentonite chips in instead of grouting when appropriate.
  - ⦿ Not documenting the quantities utilized on the boring logs. No records when asked.
  - ⦿ Confuse the placement of cuttings back in the hole as sealing and trying to charge ODOT \$6 per foot for this work.
- ⦿ **Payment may be withheld if not properly documented**

# Issues

- ④ **Discrepancies on the boring logs such as describing (classifying) soils as cohesionless (i.e. sandy silt) but then providing strength parameters for them, such as pocket pen readings.**

# Issues

- ① **Failure to note GWT at time of drilling.**  
**Failure to leave the borings open (where possible) during the work day to record “stabilized” GWT depths (after several hours at least, if not overnight).**

# Issues

- ① **Drilling methodologies.** A lot of drillers do not switch to mud-rotary drilling in saturated sands/sandy silts. This leads to unreliable SPT data. Reversely, using mud rotary but failing to mention it on the logs.

# Issues

- ① **Failure to take the existing conditions on the site into consideration when providing subgrade stabilization approach, for example, recommending deep undercuts (2-3') in urban areas with lots of utilities, etc.**

# Issues

- ④ **The Art of Creating a Soil Profile**
  - ④ Leave no information behind
  - ④ Where are the geotechnical features and site reconnaissance notes?
  - ④ Be creative but clear and complete
  - ④ Use notes to help the reader
  - ④ Do not place a boring in profile at the correct elevation left or right of its actual location
    - ④ Put it in a box, above or below, or show it in a cross section

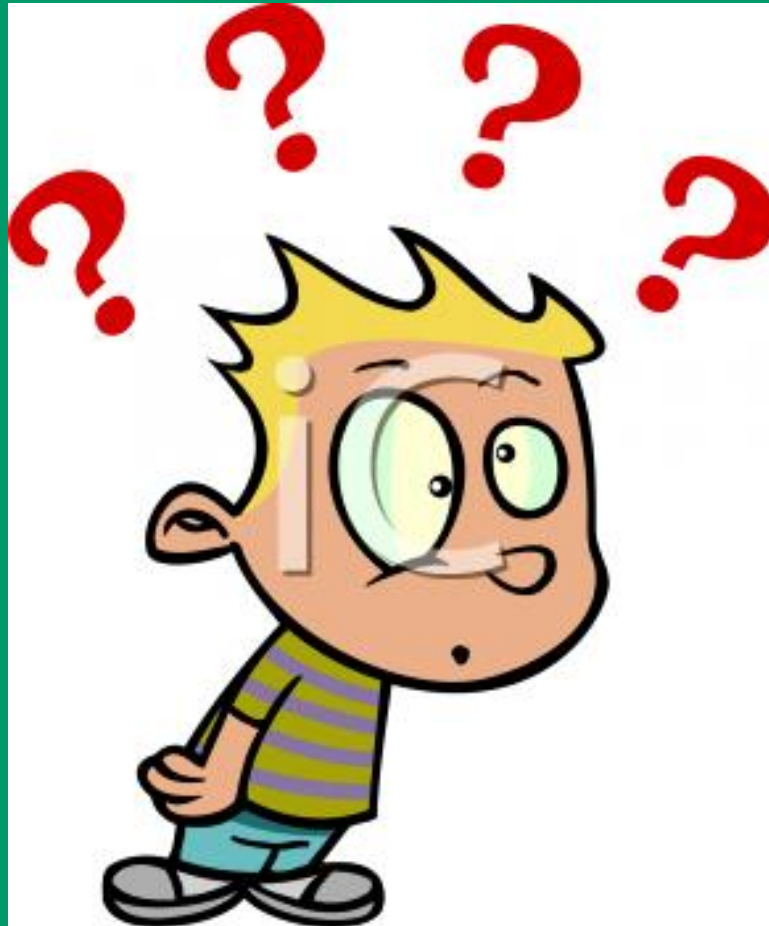


# Issues

- ① **No questions or comments received from the consultant community**



# Questions?






# Summary

## Changes









-  SGE: old, new and future
-  GB1: sulfates
-  PDP

## Progress

-  Document Management System  
(georeference)
-  Inventories
-  Research: sulfates, subgrades, bioengineering

# Summary

## Issues

-  Boring ID
-  Include all the borings
-  Boring sealing
-  Use proper drilling techniques, and note them
-  Avoid discrepancies
-  ID water level properly
-  Is it constructible?
-  Master the art of creating a soil profile

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## General Questions/Comments

ODOT Geotechnical Consultant Workshop

May 8, 2012