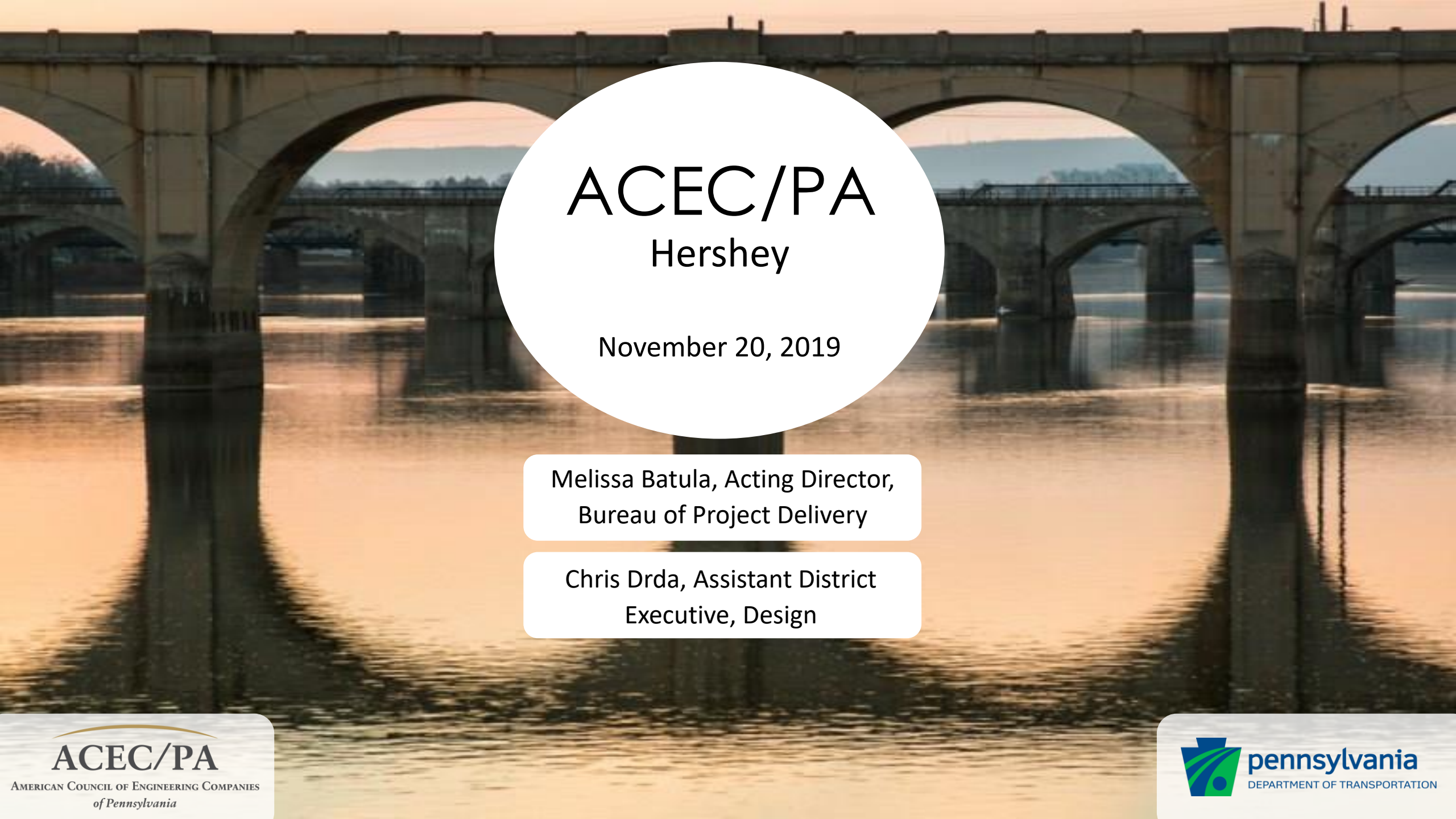


ACEC/PA
Hershey

November 20, 2019

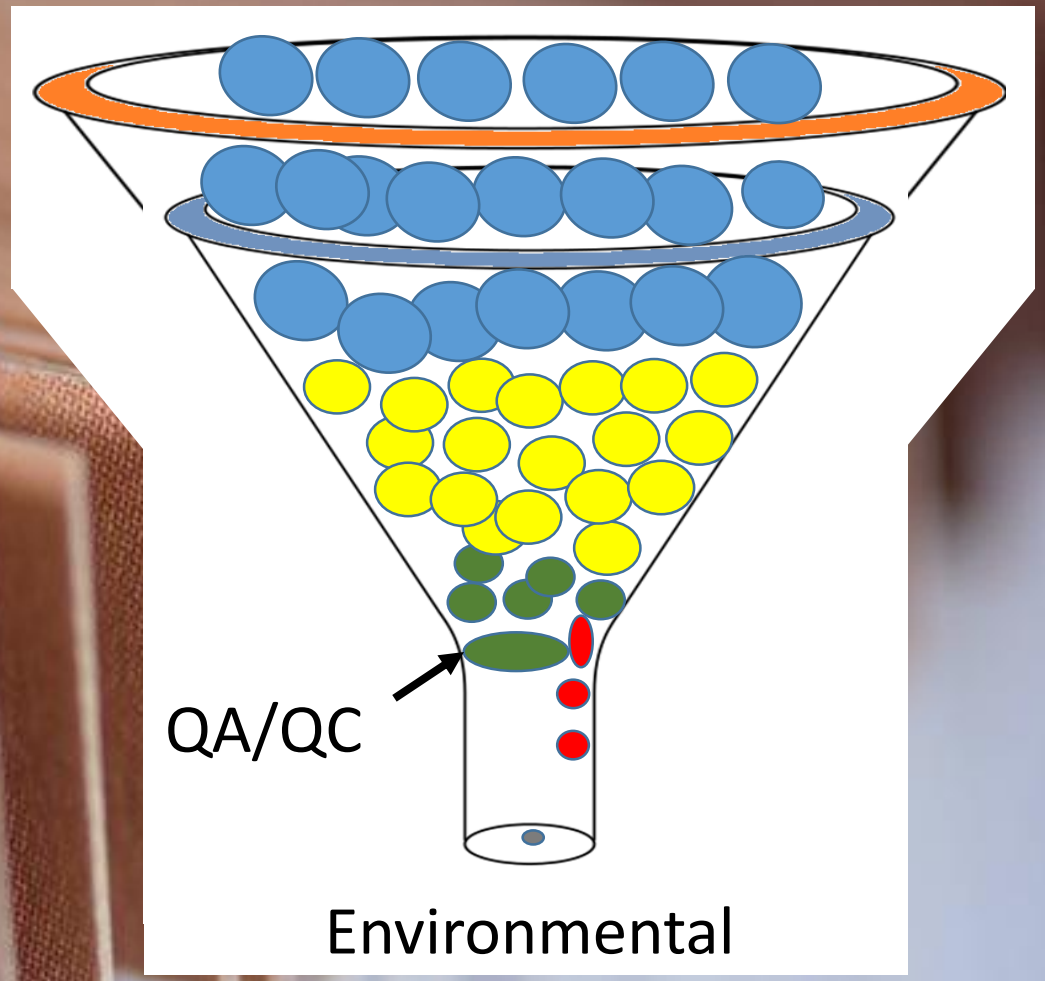
Melissa Batula, Acting Director,
Bureau of Project Delivery

Chris Drda, Assistant District
Executive, Design

ACEC/PA
American Council of Engineering Companies
of Pennsylvania

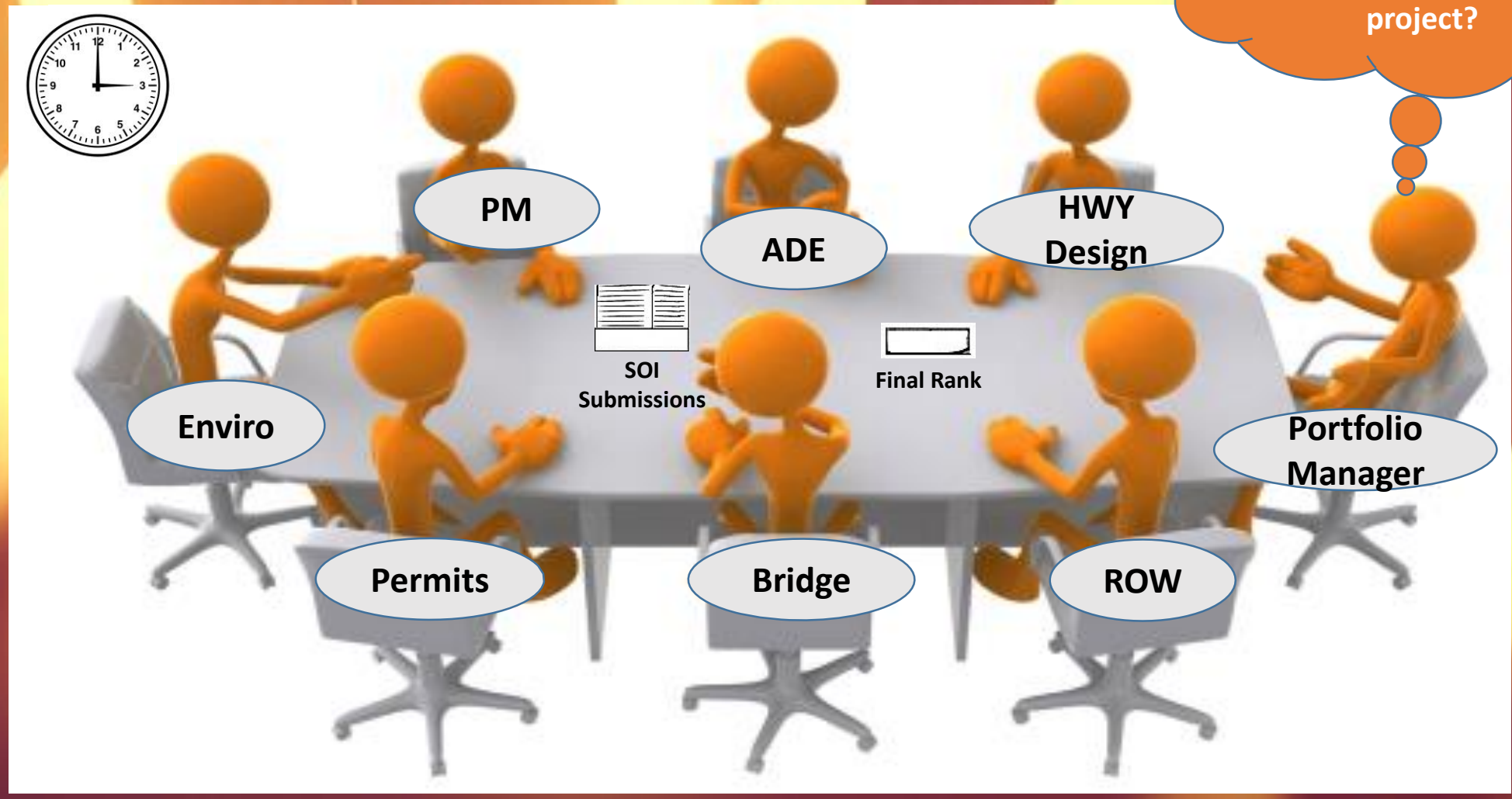
pennsylvania
DEPARTMENT OF TRANSPORTATION

PROJECT DELIVERY



CONSULTANT SELECTION

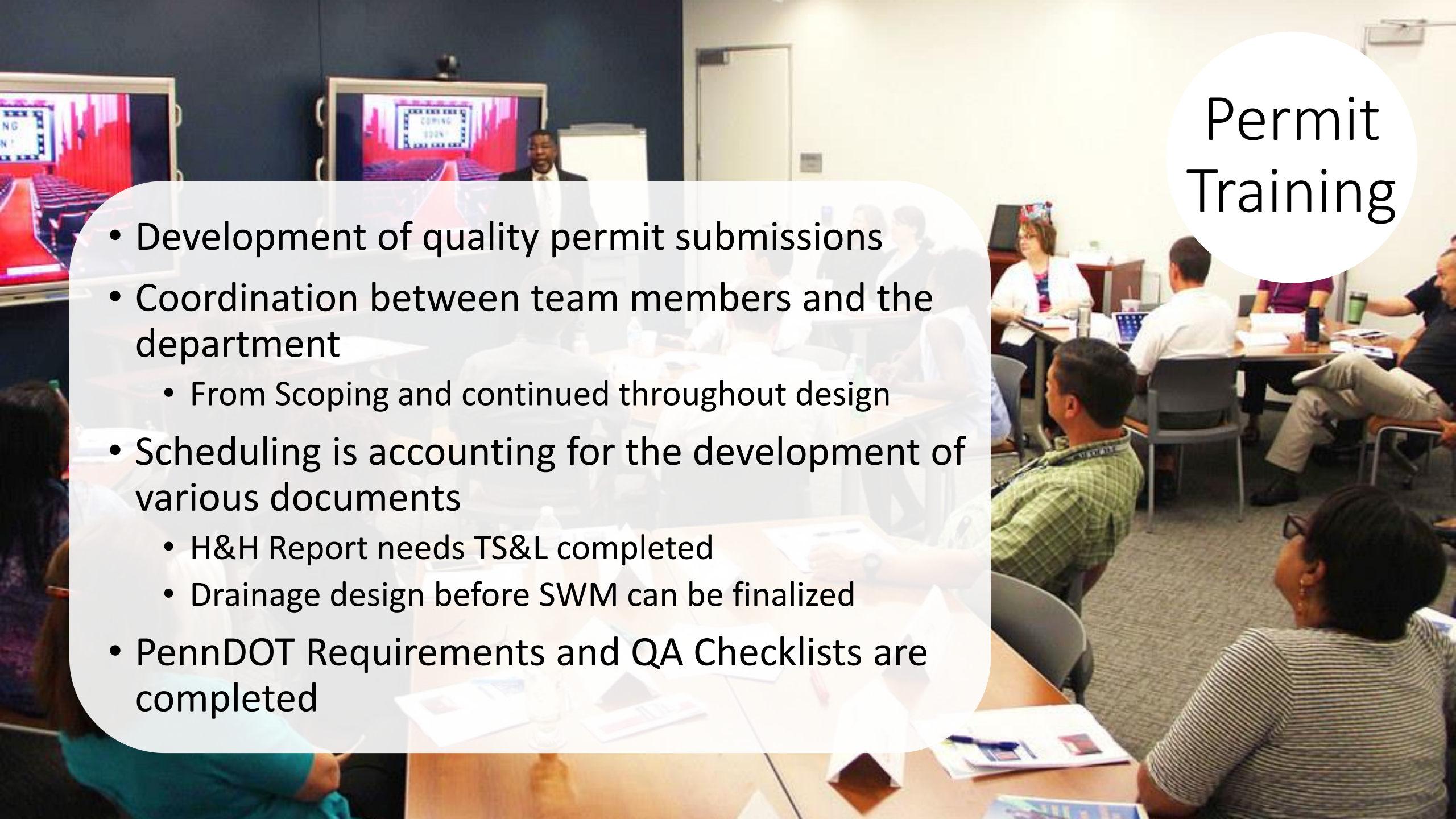
Everyone Has a Voice




IN
OUT


SPOTLIGHT
Technical Deficiencies
Extension of PennDOT
Change In Staff
Subcontractors
Checklists
How Am I Doing?

Permit Training



- Development of quality permit submissions
- Coordination between team members and the department
  - From Scoping and continued throughout design
- Scheduling is accounting for the development of various documents
  - H&H Report needs TS&L completed
  - Drainage design before SWM can be finalized
- PennDOT Requirements and QA Checklists are completed

Chapter 102, Notice of Intent (NOI) and NPDES Permit

Administrative and Technical Deficiencies

Chapter 102, Notice of Intent (NOI) and NPDES Permit Administrative Issues

- A Notarized, signed and complete NOI with all supporting plans and documentation should be submitted to the County Conservation District or it will be returned as Administrative Incomplete.
- Most common items frequently missing from the NOI are:
  - Required data fields left blank, signatures not properly affixed, waterways not identified, inconsistent use of project name and site, and incomplete project description.
- One of the most frequent generator of administrative deficiency is inconsistencies between plan data and work sheet values. Values are frequently omitted, incorrect or transposed.

Chapter 102, Notice of Intent (NOI) and NPDES Permit Administrative Issues

- Other less common deficiencies:
  - Act 167 Plan compliance
  - Pages not numbered
  - Valid PNDI missing
  - Identify if toxic material or pollutants on site.

➢ Goal: Administrative Complete Submission

Chapter 102, Notice of Intent (NOI) and NPDES Permit Technical Deficiencies

- A complete Application package contains technical information regarding the project site, sensitive natural resources, structural and non-structural BMPs, volume reductions, water quality enhancements, worksheets, Erosion and Sediment Control Plans, Post Construction Stormwater Management Plans, Operations and Management information, plus much more.

- Preparer needs to follow their QC process and be diligent when checking the application for technical completeness.

Chapter 102, Notice of Intent (NOI) and NPDES Permit Technical Issues

- The following comments were obtained from review of Technical Deficiency Letters:
  - Construction Sequence Errors: Plans not matching construction sequence.
  - Plan Drawings: Inconsistent labelling of project features
  - E&S Plan and Report: E&S Plans are not "Final Plans" and are missing project features.
  - Site Stabilization: Insufficient stabilization of earthwork within project site.
  - Calculations: calculations for project features frequently omitted.
  - BMPs: Not sized correctly to handle appropriate storm event.

Chapter 102, Notice of Intent (NOI) and NPDES Permit Technical Issues

- Filter Sock and Silt Fence: Frequently located incorrectly, should be installed parallel to contours.
- Basins: Should be sized and sited correctly. Install cleanout stake.
- Channels: Check elevations to ensure positive flow conditions.
- Post Construction Stormwater Management Basin: manage inflow during conversion from sediment basin. Erosion matting frequently recommended for basin floor.
- Wetlands: Unregulated runoff directed to wetlands, should not happen. All runoff from site should be treated, before being released.

- Review Times: Average time to obtain NPDES Permit from DEP, 8 months. Pre-application meeting is recommended for non-typical or complex project.

Chapter 105 and Section 404 Waterway Permits

Administrative and Technical Issues

Chapter 105 and Section 404 Waterway Permits

Administrative Issues

- The following information was compiled after reviewing DEP Deficiency Letters issued on recent Waterway Permits. The Permit Applications ranged from Programmatic, General, and Water Obstruction and Encroachment. The technical information contained in these Applications varied based upon the waterway impacts and the complexity of the project.
- The goal is to provide an administratively and technically complete submission to DEP for review. An incomplete submission will require resolution of deficiency, before DEP will continue processing. Applicants have 60 days to respond to DEP comments.
- These items are frequently missing from the Registration package and result in the issuance of an Administratively Incomplete letter from DEP:
  - Incomplete project information
  - Missing Latitude and Longitude
  - PNDI omitted or outdated
  - Missing SHPO Clearance
  - E&S Plan (preliminary)
  - Incomplete stream information
  - Professional certification not affixed

Chapter 105 and Section 404 Waterway Permits

Administrative Issues

- Other less common deficiencies:
  - Stream cross section views are incomplete
  - Aquatic Resource Table incomplete
  - Wetland Impacts not identified
  - Waterway opening less than existing
  - Details of in stream work are missing
  - Construction sequence errors
  - Degradation of stream quality
  - Trout Stream or Special Quality waters not identified

Chapter 105 and Section 404 Waterway Permits

Technical Deficiencies

- Once the Application is administratively complete, DEP will review the technical information in the package.

- The following is a summary of the major items that were identified in the Technical Deficiency letters :

  - Cross Sections and Stream profile: Frequently lack sufficient information to complete review. The stream profile must include streambed, normal water surface, and flood water surface elevations. The profile should extend far enough upstream and downstream of the proposed channel to determine how it will tie into existing streambed.

  - Construction Sequence: Construction sequence needs to be reviewed and compared to the plans to determine if they match. There are numerous examples of construction sequence of activities not matching what is on the plans.

Chapter 105 and Section 404 Waterway Permits

Technical Deficiencies

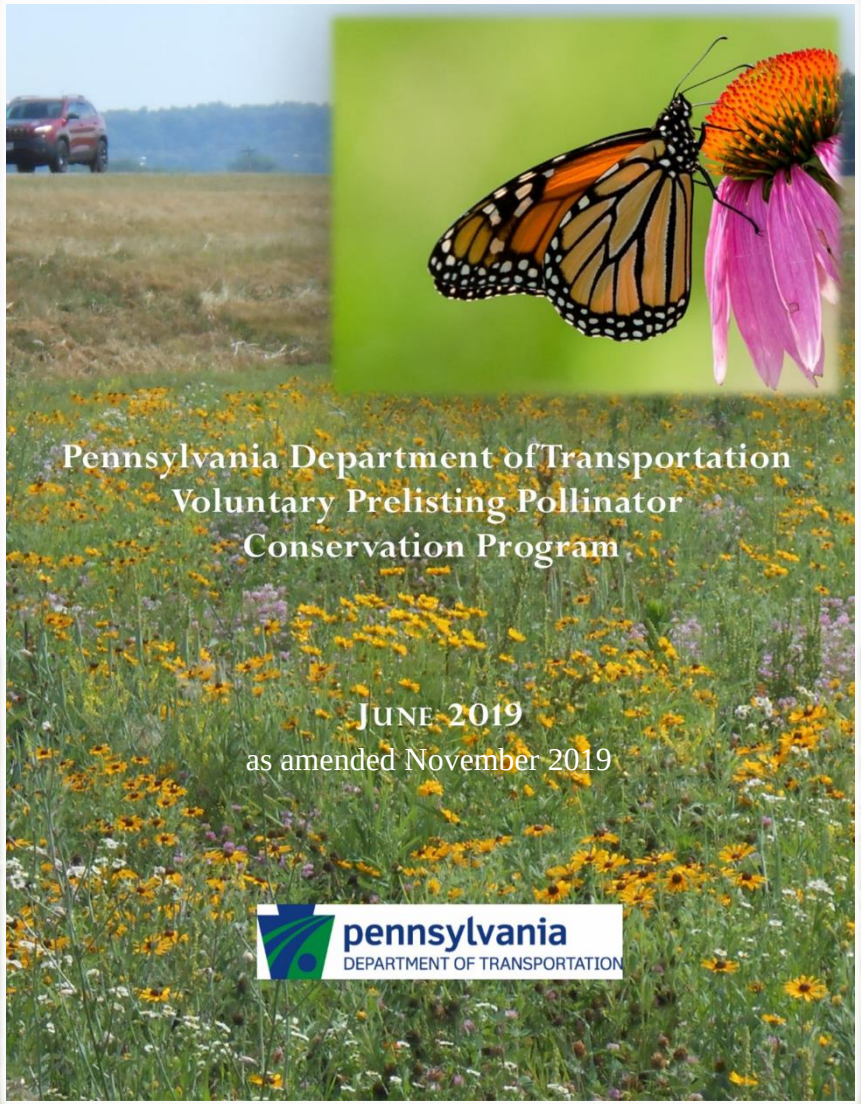
- Stream Channel Restoration: Channel widths through the structure should mimic existing conditions and the natural state of the watercourse should be preserved as much as possible. Even a slight alignment shift can result in accelerated erosion along the steambank.
- Pipes and culverts: The culvert should smoothly transition from the upstream to downstream bed. If required, depress culvert, install fish baffles, or a low flow channel to maintain the integrity of the steam and benefit aquatic resources.
- Riprap: Excessive use of rock rip-rap along channels and stream bed is discouraged. DEP encourages the use of more "natural" methods of stream stabilization. Streambank protection should align smoothly with the existing upstream and downstream banks, and not project into the channel
- Restoration Plantings: High quality watersheds require some form of enhancement or riparian buffer between the project area and the stream. The buffer zone should include plant species native to the area and have a high likelihood of survival at the given location Calculations: calculations for project features frequently omitted.
- Erosion Control: Provide blanketing on cut slope areas when close to a wetland or watercourse. This seems to be missed on recent projects

Chapter 105 and Section 404 Waterway Permits

Technical Deficiencies

- Aquatic Resource Table: The Aquatic Resource Table should account for all temporary and permanent steam and floodway impacts resulting from the proposed project.
- Project Impacts: Include the amount of fill proposed within the floodway and floodplain respectively.
- Bog Turtle: If Bog Turtle habitat is present within the project area, the Application will have to include an approved Bog Turtle Habitat Report. DEP will not issue the Application for a waterway permit without an approved Habitat Report.
- Land Use: Projects must be consistent with local floodplain and stormwater management programs as well as DEP's Land Use Policy.
- Project Description: Project details are usually missing. A concise summary of the proposed work, proposed impacts, and water dependency issues need to be addressed.
- Wetlands: Wetland impacts need to be minimized, or avoided entirely. Recent examples of impacts that have generated a technical deficiency are: silt sock installed in wetlands, wasting material in wetland, installation of rock rip rap.

2019 PennDOT Voluntary Prelisting Pollinator Program



- Developed with PennDOT Pollinator Work Group input
- Voluntary, Non-Regulatory, Pro-Active Conservation Program
- Provides ESA offsetting credits when species are listed if the program generates credits
- Living Document – Posted on PennDOT website
  - Annual reporting
  - Adaptive management/updates
  - Administered by BOPD-EPDS
  - Advised by PennDOT Pollinator Work Group

Four Target Species

- Monarch Butterfly (Danaus plexippus plexippus) – 12/15/2020
- Yellow Banded Bumblebee (Bombus terricola) – 2019
- Regal Fritillary (Speyeria idalia) – 2022
- Frosted Elfin Butterfly (Callophyrus irus) – 2023

Voluntary… but

- Absent credits when species are listed USFWS will establish minimization and avoidance measures such as seasonal restrictions on activities (mowing, spraying & construction) and restricted locations.
- The Pre-listing Program provides us an opportunity to manage this and complete our mission with minimal disruption; and
- Credits can be utilized to offset future impacts from activities performed during seasons and locations that might be restricted in the future.

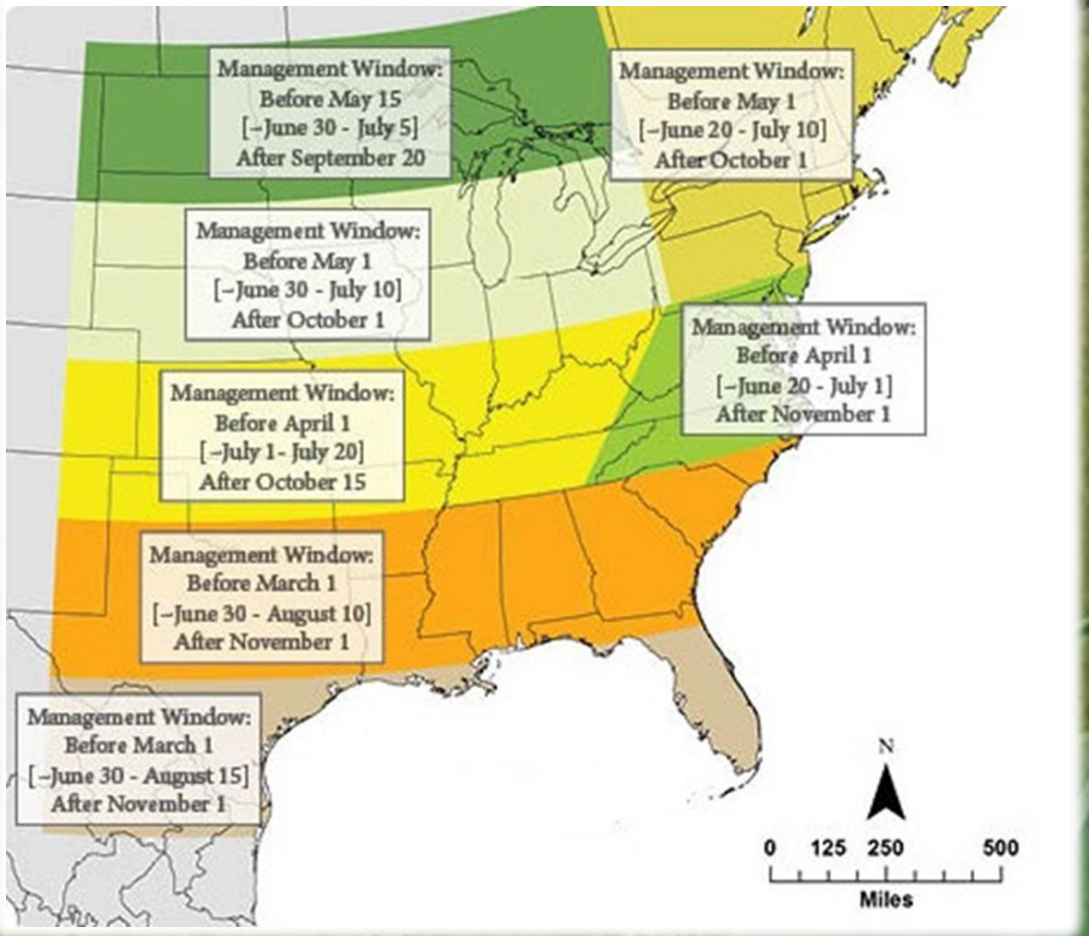
Voluntary Actions – Emphasis is on Rural Routes

Urban and rural areas are defined by AASHTO, in *A Policy on Geometric Design of Highways and Streets* (2011) and PennDOT Publication 13M, Design Manual Part 2: Highway Design

- Three conservation effort focus areas:
  - Increase conservation mowing (reduce mowing, time mowing for pollinator protection, and raise mower decks);
  - Daylight rural routes to promote milkweed and nectar producing plant growth; and
  - Implement planted pollinator sites (by PennDOT, by/with PennDOT partners and Adopt & Beautify Groups)

Roadside Best Management Practices

FHWA-HEP-16-059, Roadside Best Management Practices that Benefit Pollinators

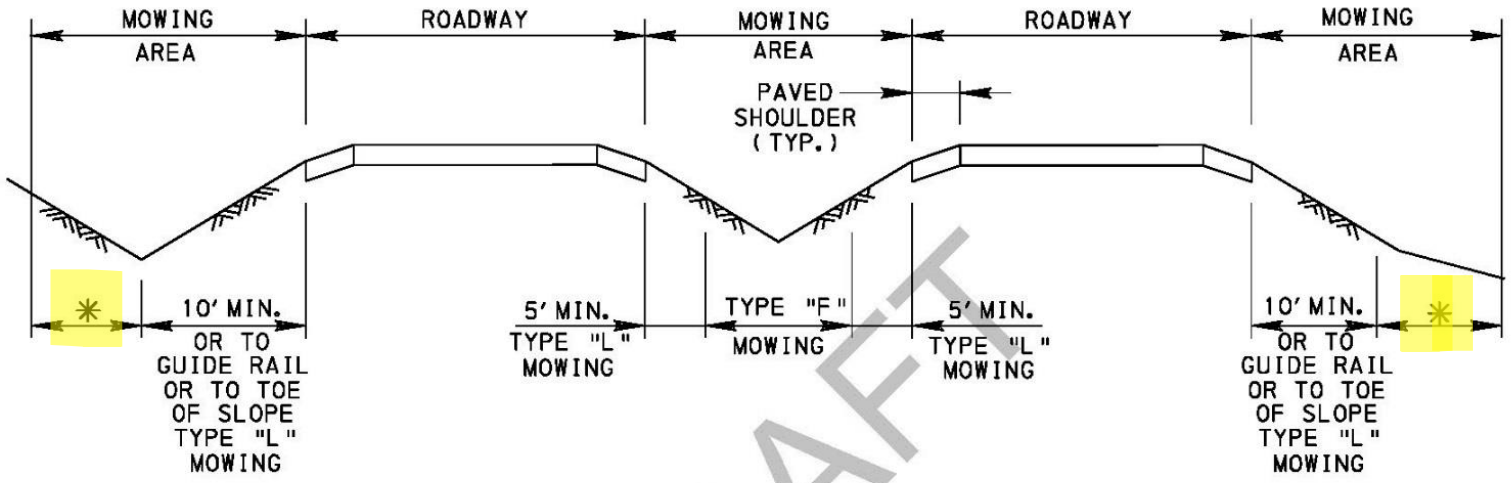


Pubs 23 & 113 New Type "C" – Conservation Mowing Assembly Proposed

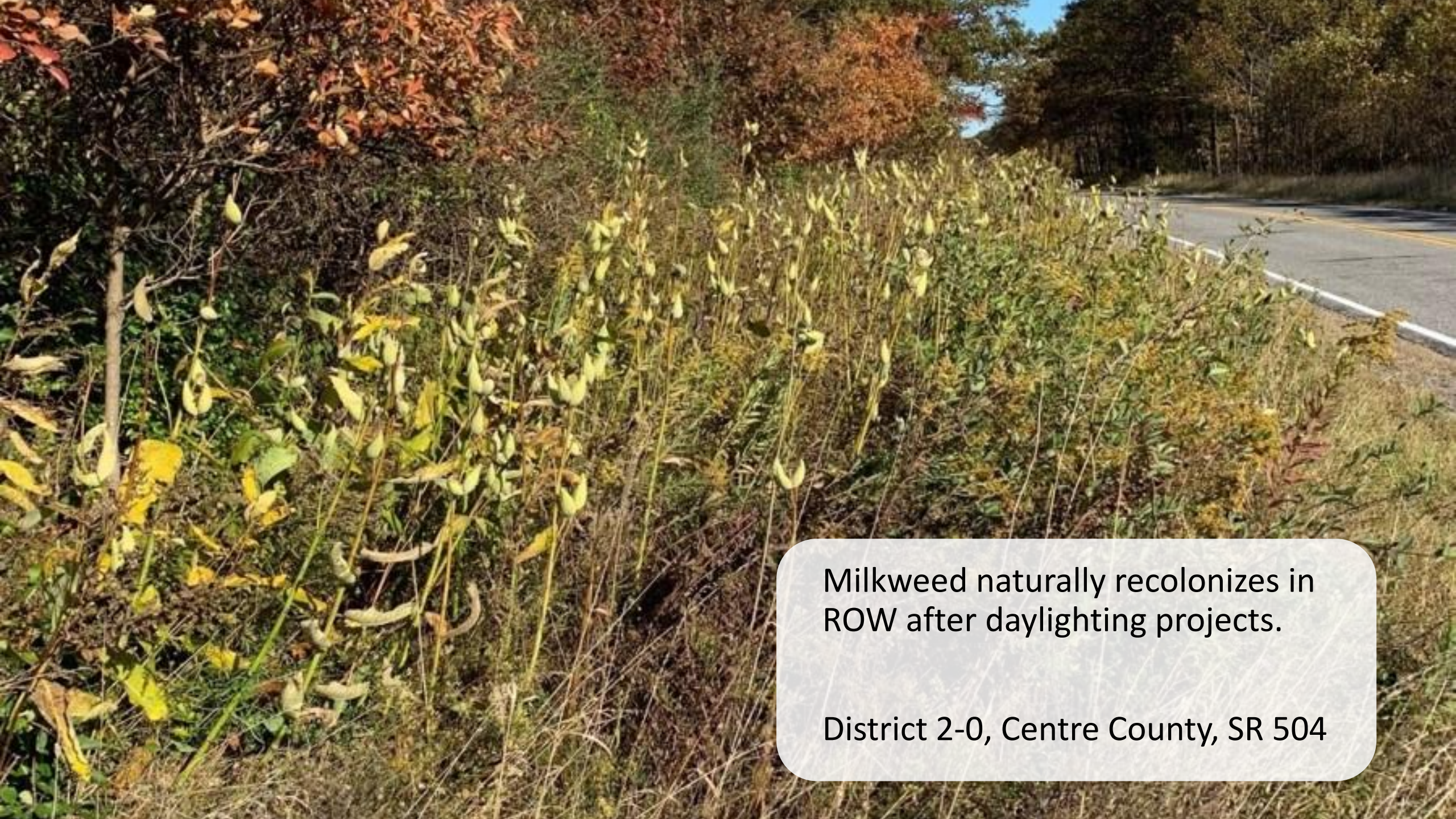
This assembly is performed in interchanges and along the right shoulder of roadway beyond the clear zone *(Type "L" mowed areas) and extending to mow limits or the ROW to control woody vegetation, preventing the growth and spread of prohibited weeds and other undesirable plant growth, and for the purpose of maintaining early succession (meadow) pollinator habitats…. Mow height for this assembly will be at least 8" (10"-12" is preferred)….* ***This assembly must only be conducted between June 20 and July 10 or after October 1 yearly or alternate years.***

STANDARD LIMITS OF MOWING

FIGURE #1
MOWING FOR FOUR OR MORE LANES
UNCURBED HIGHWAYS
(NOT TO SCALE)



* TO MOWING OR ROW LIMIT ONCE ANNUALLY OR ALTERNATING YEARS DURING RESTRICTED SEASON TYPE "C" MOWING



Milkweed naturally recolonizes in ROW after daylighting projects.

District 2-0, Centre County, SR 504

Garden Club Pollinator Adopt & Beautify Site

District 1-0, Erie County, Corry, PA

2-D Hydraulic Modeling at Highway Encroachments

PennDOT has participated in the FHWA's Every Day Counts (EDC) initiative and has used 2D hydraulic models on several projects over the last decade. In 2020, the Central Office is requesting that each District perform at least one 2D hydraulic model as part of their design and permitting process.

The benefits of 2D modeling include:

1. 2D models eliminate the many assumptions required by 1D models.
2. Survey data can be supplemented by publicly funded Lidar Elevation Data.
3. 2D Modeling can improve understanding of the interactions between river environments and transportation assets.
4. 3D graphical displays from the 2D models are better tools for communicating the results of the hydraulic model.