



ASHE Altoona/ PennDOT 9-0 Workshop

Construction Update

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Assistant District Executive - Construction

April 16, 2024



Construction Unit Personnel Changes

Assistant Construction Engineer (ACE) for Bedford/ Fulton –

Dave Wolfhope

- Tom Helsel retired 4/14/23

Finals Unit Supervisor – Steven Farrell

- Larry Riggelman promoted to District Materials Engineer

Assistant Structure Control Engineer – Melvin Criswell

- Bob Heim retired 4/14/23
- In addition to structure control assistance, position expanded to include local project, constructability, and scheduling assistance

Construction Unit Personnel Changes

New IIC's

- Travis Hickey
- Ron Orris
- Gabriel Pepple
- Current Vacancies - 2

New Inspection Staff

- Matt Bihun
- Bryan Boyce
- Matthew Thomas
- Brandon Kline
- Jonathan Hodge
- Micah Smith
- Gary Davis
- Current Vacancies - 4

GREAT START TO THE SEASON

PA 53 PORTAGE EMERGENCY SLIDE



- **PA 53 (Portage Street) closed on Wednesday, April 3rd due to slope failure**
- **Followed heavy rain from March 31st - April 4th**
- **Emergency Declaration Approved: April 9, 2024**
- **Scope: Rock buttress/slope**
- **Traffic Control: Detour**
- **Target Repair Timeframe: April 22nd to May 3rd**
 - Timeframe dependent on right-of-way, funding, and permitting
- **Contractor: Charles J. Merlo, Inc.**
- **Construction Estimate: >\$500,000**

PA 271 (MENOHER BLVD) EMERGENCY SLIDE



- **PA 271 (Menoher Blvd) southbound lane closed on Wednesday, April 3rd due to slope failure**
 - **Barnett Street also closed below PA 271**
- **Followed heavy rain from March 31st - April 4th**
- **Emergency Declaration Approved: April 9, 2024**
- **Scope:** Rock buttress/slope
- **Traffic Control:** Maintaining two-directional traffic along northbound side of PA 271
- **Target Repair Completion:** June 2024
 - Timeframe dependent on right-of-way, funding, and permitting
- **Contractor:** TBD (project to be bid using expedited procedure)
- **Construction Estimate:** >\$1 million

PA 403 TIRE HILL EMERGENCY SLIDE



- **Road closed on Saturday, April 6rd due to roadway settlement/active sliding**
- **Followed heavy rain from March 31st - April 4th**
- **Scope:** Retaining wall (part of original project)
- **Traffic Control:** Detour
- **Original Wall Construction Timeline:** July to October 2024
- **New Wall Construction Timeline:** May to September 2024
 - Working through expedited supply issues with steel beam and precast wall panels with contractor and suppliers

SR 103 EMERGENCY SLIDE



- **Road closed on Wednesday, April 3rd due to slope failure (near Mifflin Line)**
- **Followed heavy rain from March 31st - April 4th**
- **Emergency Declaration Approved: April 8, 2024**
- **Scope:** Rock buttress/slope
- **Traffic Control:** Detour
- **Target Repair Timeframe:** April 22nd to May 3rd
 - Timeframe dependent on right-of-way, funding, and permitting
- **Contractor:** Grannas Bros., Inc.
- **Construction Estimate:** \$350,000

EMERGENCY SCRAMBLE


- **Assessment**
 - **Maintenance** – closes roadway and assesses capability to address
 - **Construction & Design** – called for assessment if beyond maintenance capability
- **Request Emergency Procurement Authorization**
 - **Gives us flexibility to expedite steps, but not eliminate steps**
- **Design/Geotech** – determine recommended scope of repair and cost estimate/plans preparation
 - **Is a consultant needed and, if so, agreement execution?**
 - **Are boring needed?**
- **Construction** – determine contractor procurement
 - **Add to existing contract via Limit of Work Extension**
 - **ECMS bid thru expedited advertisement and award**
- **Request Limit of Work Extension Authorization (if needed)**
- **Survey** – perform survey of repair area
- **ROW Unit** – obtain Authorization to Enter from all property owners
- **Utilities** – obtain utility clearance
- **Environmental** – obtain environmental clearance
- **CRC Unit/DE** – keep local entities, public, and legislators informed of progress & schedule
- **How will repair work be funded?**
 - **Submit PMC Request**
- **Planning & Programming** – obtain RPO/MPO approval of EMG funding



2024 Focus Areas

Field Inspection Staff

**Before the 2024 Construction Season,
Please Re-Review**



Topsoil & Seeding Best Practices

(DCQR issued 2/3/2023)

Topsoil & Seeding

Too often, our efforts to deliver quality projects are undermined at the end due to poor seeding results

- Particularly problematic in residential and commercial areas
- Negative public perception

Topsoil Best Management Practices

- TILL subsoil to required depth: 2 inches for furnished, 6 inches for placing stockpiled
- REMOVE all debris larger than 2 inches
- KEEP IT DRY by covering if stockpiling either stockpiled or furnished topsoil on site
- Make sure it is DRY if bringing in furnished topsoil
- COMPACT as required for proper lift thickness (lightweight/static)



Seeding Best Management Practices

- NEVER use HAY MULCH for topsoil areas (good practice to use straw or wood cellulose for all permanent seeding - not hay)
- TILL *if ANY area to be seeded is hard panned or crusted* ~ need to till to a depth of 2 inches if it is. On slopes this can be accomplished by tracked equipment travelling up and down the slope.
- TILL if the seeded area is topsoil, 3:1 or flatter till to a depth of 2 inches - *topsoil must be compacted during placement and then tilled prior to seeding*
- TILL previously temporarily seeded or mulched topsoil areas before applying permanent seed
- REMOVE DEBRIS that is > 2 inches (anywhere that must be mowed and includes all topsoil areas)
- MOW and WATER if needed or required
- VERIFY GROWTH at 90 days for 70% coverage. Department to direct re-seeding if needed. Re-seeding is only paid for if Department directed out of date seeding (and area was prepared properly) or if a slope fails





Positive Drainage of Asphalt Paving

(DCQR issued 5/3/2023)

District Construction Quality Reminder

Positive Drainage of Asphalt Paving

Issue

- Multiple projects where final paved condition led to drainage crossing the roadway (adverse shoulder slope), ponding, or icing (not an issue pre-paving)
- Normal areas of concern:
 - Intersections coming in on a slope
 - Turn lanes on three-lane sections with limited existing slope
 - High side of a superelevated section of roadway



District Construction Quality Reminder

Positive Drainage of Asphalt Paving (cont.)




District Construction Quality Reminder

Positive Drainage of Asphalt Paving (cont.)

Reminders

Resurfacing projects often include a note to 'match existing slope' ~ critical to evaluate pre-paving

- Shoulders on high-side of superelevated curves
 - Perform pre-check with a smart level on high side shoulders prior to paving (or, in areas to be milled, prior to milling) at minimum intervals of 100' ~ document the location and results of these measurements (so post-checks can be repeated in the same locations)
 - Make the contractor aware of this pre-check and share results prior to paving
 - If the pre-existing shoulder slope is a problem (i.e. ~ found to be flat or sloped towards the lane), seek to remedy the issue and don't just pave what was there ~ the goal is to know far enough in advance to make sure it can be addressed during the paving
 - Discuss the importance of maintaining existing slopes/positive drainage on high-side shoulders as part of pre-pave meeting
 - Perform post-paving verification of shoulder slopes soon enough following paving to allow time to address any issues
- ❖ **Note: The goal here IS NOT to hold the contractor to match the pre-existing high-side shoulder slopes to the tenth. Keep in mind the issue we are trying to address is high-side shoulders that had non-adverse slopes pre-paving, only to have adverse slopes (toward the lanes) post paving. For example, on one particular project we are dealing with the pre-pave slopes were measured to be on average -2.5% pre-paving and then +2% (towards the lane) post paving. If this had been a case where the post-paving slope was found to be say -1.7%, the slope would still have been non-adverse and we would not have a major problem.**
- Areas of very flat pavement
 - Perform spot pre-check of overall pavement cross slopes in areas where the pavement may be very flat to ensure that the roadway will drain and not hold water ~ document the location and results of these measurements (so post-checks can be repeated in same locations)
 - ❖ In addition, in these areas monitor the pavement pre-paving during and immediately following rain events (any existing ponding/ drainage issues?) ~ taking photos and/ or video along the corridor at these times can be invaluable later on if any disputes arise (as it can document whether or not there were any issues prior to paving)
 - Discuss at pre-pave meeting to ensure contractor is aware of the need to get these slopes correct to maintain and provide positive drainage
 - ❖ If the pre-existing slope condition is a problem (i.e. ~ existing ponding), seek to remedy the issue and don't just pave back what was there ~ the goal is to know far enough in advance to make sure it can be addressed during the paving
 - Perform post-paving verification of slopes soon enough following paving to allow time to address any issues



Traffic Barrier Pre-Installation Field Mark-Out

(DCC #23-01)

Traffic Barrier Pre-Installation Field Mark-Out

Effective with March 30, 2023 lettings, the below special provision is included on all District 9 projects with permanent traffic barrier (with exceptions of Districtwide guiderail hit and accelerated bridge/culvert contracts)

Traffic Barrier Pre-Installation Field Mark-Out

A minimum of 14 calendar days before the start of any permanent traffic barrier installation on the project, place temporary markings (paint, stakes, or flags) indicating the layout of all as-designed (per plan), permanent traffic barrier for the entire project including, but not limited to, W-beam guiderail, cable barrier, concrete barrier, end treatments, and impact attenuating devices. Take note of any potential issues or questions concerning the installation as per plan. Notify the Representative two (2) working days in advance of this layout being performed.

Within one (1) working day of completion of the placement of temporary markings, notify the Representative in writing of completion. Include with this written notification a listing of any potential issues or questions concerning the as-designed permanent traffic barrier which were noted during the temporary marking process (obstructions/ impediments to proper install, plan discrepancies, utility concerns, potential property owner concerns, concerns with meeting standards, etc.). If there are no issues or questions, indicate this in the written notification.

Do not install any permanent traffic barrier before 14 calendar days following completion of the placement of temporary markings unless approved in writing by the Representative. Any removal or adjustment of as-designed permanent traffic barrier installed before this time will be performed at no cost to the Department.

For projects where permanent traffic barrier will be installed in accordance with distinct project phases, the temporary markings may be completed and the above process repeated phase-by-phase rather than over the entire project.

Costs associated with placement of the temporary markings are considered incidental to other items of work and no separate payment will be made. Revisions to contract quantities of traffic barrier will be paid in accordance with Section 110.

Traffic Barrier Pre-Installation Field Mark-Out

Policy Intent:

Gain more timely communication of barrier/guiderail issues between the contractor, field inspection staff, and the project design team to minimize those instances where 'day of install' issues are encountered and then require immediate response, which often lead to delays and costly rework

Policy:

- Placement of temporary markings indicating as-designed barrier/guiderail layout a minimum of 14 calendar days before start of install
 - Notify IIC two working days in advance of layout being performed
- Within 1 working day of placement of temporary markings, notify IIC in writing of completion and any potential barrier installation issues/concerns or questions
- IIC to notify ACE & DPM of layout completion/issues

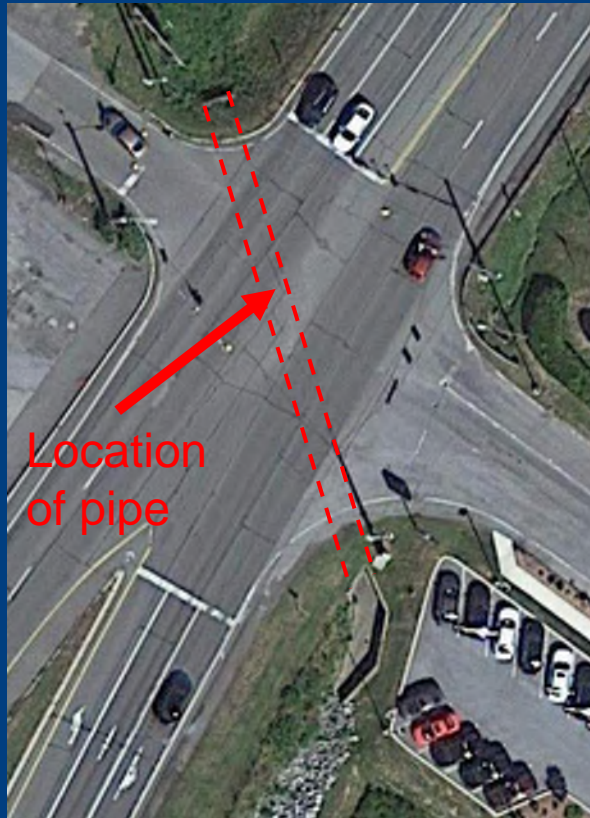


Reminders from Joint Quality Initiative

Joint IIC Council/ Design Quality Initiative

QUALITY PRIORITY RANK	FOCUS AREA	DESCRIPTION
1	Existing Drainage Verification	Existing drainage conditions vary from those depicted on the plans
2	Utility Verification	Field conditions vary from those depicted on the plans
3	Quantity Omissions - Inaccuracies	Quantities required but either not included or significantly under/over estimated
3A	<i>Tree Removals/ Trimming</i>	<i>Impacts to trees not adequately assessed</i>
3B	<i>Shoulder Back-Up</i>	<i>Shoulder back-up quantities significantly underestimated</i>
4	Penelec Outages	Reliance on scheduled power outages to facilitate work operations and lack of Penelec reliability to provide as scheduled (and lack of adequate advanced notice)
5	Not to Scale Drawings	Not to scale drawings result in layout issues in the field or missed conflicts/ issues

DRAINAGE VERIFICATION



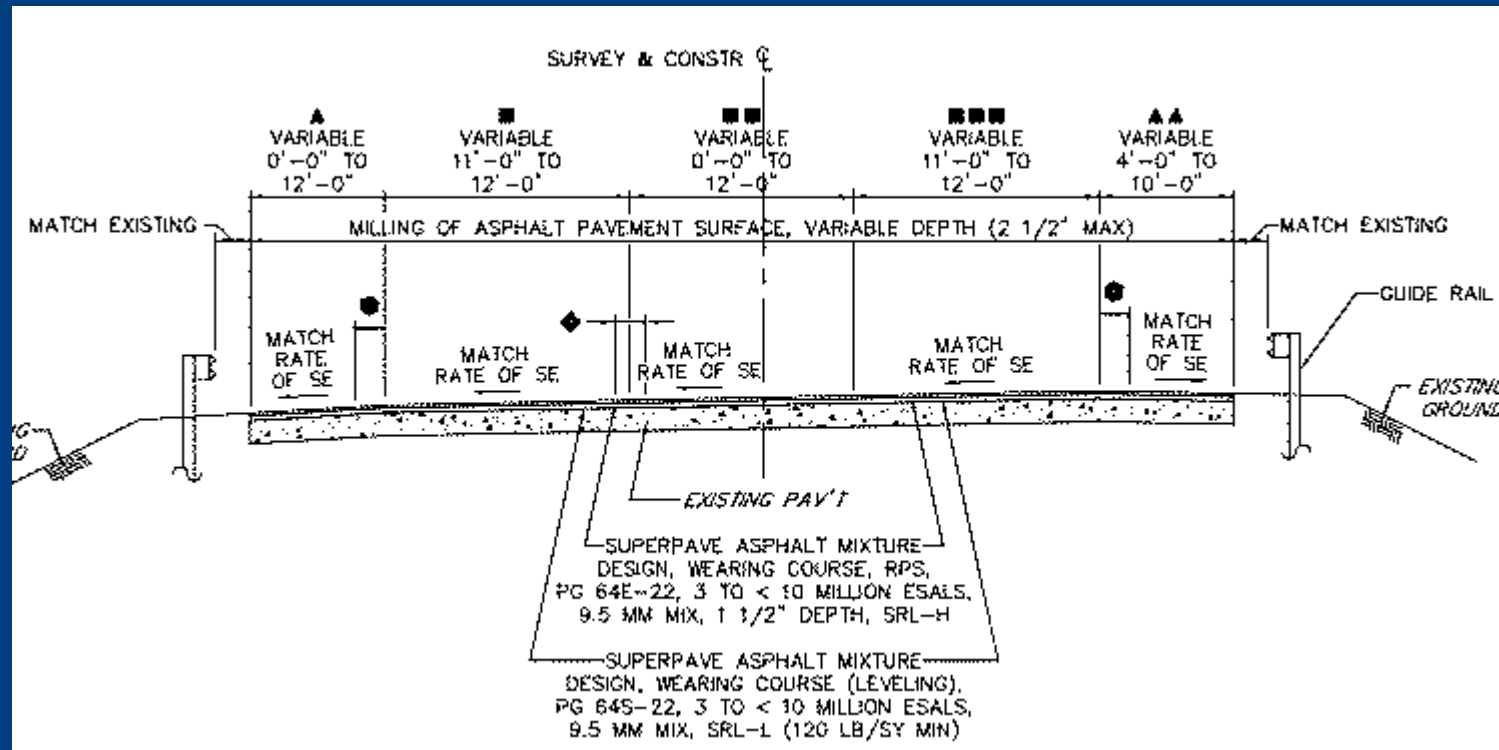
EXAMPLE #4

- During construction, the IIC was reviewing pipe cleaning locations and found a failing 46"x70" elliptical metal pipe
- This was a mill and overlay project and the paving was already complete, so replacement was not a desirable option
- The designer proposed to use a Geospray Pipe Liner to rehabilitate the pipe
- Cost to project: \$189,000

SHOULDER BACK-UP

EXAMPLE #1

- Project scope was for milling and resurfacing to match existing elevations and cross slopes
- Based on mill and fill scope, no items for shoulder back-up were provided in the contract
- In reality, shoulder drop-offs were present throughout much of project corridor
- Item added via work order at a cost of \$26K



SHOULDER BACK-UP

EXAMPLE #1 (cont.)

- Photo below represents some of the actual field conditions encountered
- When computing shoulder back-up, whether mill/fill or overlay, there are rarely cases where the existing road does not already have shoulder drop-offs that need accounted for





Questions???