Tracking Contractor Compliance for Stormwater in Ohio

Hans Gucker, P.E., CPESC
ODOT Office of Construction Administration
Construction Hydraulic Engineer
Prior to 2004...
- ODOT prepared all Stormwater Pollution Prevention Plans
- ODOT conducted all required Construction General Permit inspections (weekly & after ½” rainfall event)

2004 - Ohio EPA issues Findings & Orders to ODOT
- $90 mil project
- E&S implementation bid of $59k
- F&O determined “Contractor had no intent to install”
BRIEF HISTORY

- Supplemental Specification 832
- Contractors hire certified professionals to develop SWPPP & perform construction inspections
MS4 AUDIT FINDINGS

- 2013-2016 Ohio EPA conducted audit of ODOT’s MS4 permit
  - Identified major program deficiencies requiring immediate change
MS4 AUDIT FINDINGS

- Poor quality SWPPP’s
- No documentation of SWPPP Reviews
- Poor quality inspections
- Poor quality BMP Implementation
MS4 AUDIT FINDINGS

- Program changes must...
  - Document permit compliance
  - Improve project E&S implementation
  - Assess performance

- Audit offered opportunities for major program improvements

| Level 1 | • Improve Permit Compliance |
| Level 2 | • Increase Knowledge & Awareness |
| Level 3 | • Change Behavior |
| Level 4 | • Reduce Pollutant Loads |
| Level 5 | • Improve Stormwater Runoff Quality |
| Level 6 | • Improve Receiving Water Quality |
PROGRAM IMPROVEMENTS

Evaluation of Options

- Perform inspections using ODOT staff

- Maintain current construction specification, but implement changes to improve quality and document compliance
PROGRAM IMPROVEMENTS

- Implement software solution
  - Product requirements
    - Utilized smartphone/tablet platform
    - Contain elements for quality control
    - Automated reporting – reducing contractor implementation time
  - Make contractors and SWPPP designers accountable
  - Allows convenient program compliance evaluation
EROSION & SEDIMENT CONTROL INSPECTION SOFTWARE

SWPPPTack LTIS

- Only identified linear transportation specific inspection tool
- Contained many internal quality control elements
  - Inspection picture documentation
  - Tracks contractor response times
  - Automates communication between SWPPP designer, contractor and ODOT project personnel
  - Automates evaluation of implementation success
- 5 Pilot projects April 2016 – FHWA EDC Initiative
EROSION & SEDIMENT CONTROL INSPECTION SOFTWARE

SWPPPTTrack LTIS Website Platform

- Statewide project tracking
- Project status
- Critical compliance dates
- Inspection Reports
- Project mapping
EROSION & SEDIMENT CONTROL INSPECTION SOFTWARE

SWPPPTTrack LTIS Website

- SWPPP submittals and reviews performed through website
- ODOT reviewers utilize standard review checklist
- Provides review verification for permit compliance reporting
- Assists in training personnel
**EROSION & SEDIMENT CONTROL INSPECTION SOFTWARE**

**SWPPPTTrack LTIS Website Platform**
- Active Audits
- Program level performance assessments
- Year end permit reporting
SWPPPTTrack LTIS Mobile Inspection

- Implements mobile inspection device for E&S inspections
- Consistent inspections
- Quality control elements
- Easy compliance tracking
- Automated reporting
- Increases compliance understanding
All BMP’s are preloaded into app
- Can be modified
- Added
- Deleted
Quality Control

- BMP’s become control points
- All BMP’s require
  - Inspection
  - Pictures (every 21 days)
Inspecting Control: CIP483

BMP Condition: Good

Does BMP meet SWPPP standards?

- Yes (pic required)
- Maintenance is Required
- Corrective Action is Required
- Record other notes/photos

Back | Suspend
<table>
<thead>
<tr>
<th>Action</th>
<th>Side</th>
<th>Inactive</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>OWI</td>
<td>PIC</td>
<td>INSP</td>
</tr>
</tbody>
</table>

**CIP479**

- Alternative Control
- 110.2mi. MILLER AVE
- 16+90
- LT
- FIND IT: INSP
- OWI: 1

**CIP478**

- Alternative Control
- 110.2mi. S MAIN ST
- 10+40
- MD
- p8
- FIND IT: INSP

**CIP483**

- Alternative Control
- 110.2mi. S MAIN ST
- 10+25
- RT
- FIND IT: PIC

**CIP485**

- Alternative Control
- 110.2mi. LONG ST @ S MAIN ST
- RT
- p8
- FIND IT: PIC

**CIP484**

- Alternative Control
- 110.2mi. LONG ST @ S MAIN
- LT
- p8
- FIND IT: PIC

[Back] [Find BMP] [Add BMP]
Quality Control

- Open Work Items
  - Added to inspection report
  - Indicates contractor action required
  - Starts internal clock for remediation
Quality Control

- Open Work Items
  - Prioritized by age
  - Extended periods of open work item are highlighted
- Provides convenient reference for project progress meeting discussions

### Project Open Work Item Summary

<table>
<thead>
<tr>
<th>Date Opened</th>
<th>Work Item Age</th>
<th>BMP ID</th>
<th>SWPPP PG Nbr</th>
<th>BMP Condition</th>
<th>Roadway Name</th>
<th>Location Station</th>
<th>Side</th>
<th>Installed Date</th>
<th>Issue Recorded</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/5/16</td>
<td>52 days</td>
<td>FFFF4</td>
<td>14</td>
<td>Fall</td>
<td>Duck Creek Connector</td>
<td>126+00</td>
<td>R1</td>
<td>10/6/16</td>
<td>Need to properly entrench fabric. Silk fence needs to be properly entrenched and excavated soil backfilled and compacted.</td>
</tr>
</tbody>
</table>

Aufdenkamp, Jacob Filter Fabric
Quality Control

- Closing Open Work Items
  - Records date remediation occurred
  - Picture verification required during follow up inspection

---

**Erosion & Sediment Control Inspection Software**

**Closing Open Work Items**

- Records date remediation occurred
- Picture verification required during follow up inspection
Quality Control

- Inspection verification
- All inspection points are gps mapped
- System internally collects evaluation data for inspection assessments
**Quality Control**

- **Documentation**
  - BMP Picture and inspection history is automatically generated
  - Provides convenient compliance documentation for regulator inspections
So far so good...

- Communication between parties became instantaneous
- SWPPP Engineer and inspector are engaged in corrective action solutions
- Projects with... compared to projects without – dramatic improvements
- Easy enforcement notifications
Policy Change Rollout Plan

- Partnering with Ohio Contractor’s Association
- Informing industry
  - 30 projects in 2017 – added by bid addendum
- Ohio Transportation Engineering Conference
- Internal & external trainings
- Specification Committee involvement
Questions?