VIRGINIA DEPARTMENT OF TRANSPORTATION
Environmental Compliance Challenges

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Deputy State Construction Engineer

August 2018
What are we going to talk about?

• **Environmental Performance Challenges**
  • Awareness of a problem
  • Reaction to the problem

• **Changes to our Program**
  • Realignment of responsibilities
  • Overhaul of reporting metrics
  • Change in culture
What are we going to talk about?

**Evaluation Summary**

<table>
<thead>
<tr>
<th>Project Name:</th>
<th>Rte. 123 and Rte. 1 Widening</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contract Id:</td>
<td>A00094102C501</td>
</tr>
<tr>
<td>Review Begin Date:</td>
<td>02/15/2017</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CheckList Subsection</th>
<th>Total # of Items</th>
<th>Item in Compliance</th>
<th>Items Correctable</th>
<th>Compliance Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Y</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>General Provisions</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>VDOT'S Contract Management</td>
<td>29</td>
<td>28</td>
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</tr>
<tr>
<td>Contractor Contract Management</td>
<td>17</td>
<td>15</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Legal Responsibilities - Permits, Certificates, and Licenses</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Legal Responsibilities-Environmental Stipulations</td>
<td>9</td>
<td>9</td>
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</tr>
</tbody>
</table>
Stormwater Commitment Hierarchy

- Clean Water Act
  - Established federal authority to regulate water quality

- EPA
  - National Pollutant Discharge Elimination System (NPDES)

- VADEQ
  - VPDES

- VDOT
  - Program Authority

Virginia Department of Transportation
Roles & Responsibilities

**Location & Design Division**
- Develop ESC & SWM Plans
- Administers MS-4 Program
- Oversight of NPDES Compliance

**Environmental Division**
- Determination of Env. Commitments
- Obtaining permits from Agencies
- Oversight of Env. Compliance

**Construction Division**
- Technical assistance to field staff
- Liaison to other divisions
- Monitoring program compliance

**Districts**
- Determination of need for ECR
- Construction QC & Inspection
- Documentation of Env. Compliance
Field Documentation

CONSTRUCTION RUNOFF CONTROL INSPECTION FORM (CRCIF)
C-107 CONTRACTOR INSPECTION SHEET

Type of Inspection: (Check Appropriate Block)
1. (Schedule 1) (6 Business Days and within 48 hours following a measurable storm event)
2. After Measurable Storm Event
3. Estimated Total Rainfall of Storm Event: ______ inches
4. Monthly Schedule
5. Other Schedule: ______

Weather Conditions (All Time of Inspection) (Check All Appropriate)
- Cold
- Cool
- Partly Cloudy
- Cloudy
- Sunny
- Hot

Is there any discharge occurring from construction site at time of inspection?
- Yes
- No

If yes, is discharge compliant with the Erosion and Sediment Control Regulation and VDOS Construction Permit Requirements?
- Yes
- No

If no, describe conditions of discharge:

ESC INSPECTION QUESTIONS

<table>
<thead>
<tr>
<th>ITEM #</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
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</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
</tr>
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</table>

More erosion controls have been evaluated or a dust control measure is still in effect.

Immediate and continuing corrective action required at the time of this review.

- Has sediment left the project limits because perimeter controls as shown in the approved erosion and sediment control plan were not installed, improperly installed, not maintained, or damaged by project activities?
- Is the project out of compliance with applicable burn laws/regulations?
- Is the project out of compliance with commitments for historic properties (architectural and/or archaeological)?
- Is the project out of compliance with the specified time of year restriction in environmental commitments?
- Is the project out of compliance with the countersinking requirements for pipes and culverts?
- Is the project out of compliance with environmental commitments for the restoration of temporary impact areas to their preexisting conditions?
- Is the project out of compliance with the specification timeframe for applying stabilization?
- Has an unapproved support facility been used or is currently being used since the last ECR review? (ex. disposal area, staging area, storage area, borrow pit, etc.)
- Has vegetative waste or solid waste been buried on VDOT or private property?

Environmental Compliance Report

Finalize
Reporting Metrics

Environmental Compliance

District Compliance Performance (5/22/2017 - 5/22/2018)

Compliance Date: 5/22/2018

Show Statewide Compliance

<table>
<thead>
<tr>
<th>District</th>
<th>Compliant Reports</th>
<th>Non-Compliant Reports</th>
<th>Total Reports</th>
<th>Monthly %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bristol</td>
<td>65</td>
<td>1</td>
<td>66</td>
<td>92.6%</td>
</tr>
<tr>
<td>Culpeper</td>
<td>29</td>
<td>0</td>
<td>29</td>
<td>100.0%</td>
</tr>
<tr>
<td>Fredericksburg</td>
<td>45</td>
<td>1</td>
<td>46</td>
<td>97.7%</td>
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Financial Disclaimer: The dollar costs shown in the On-Budget section represent most of the cost of the project. However, the final payment to a contractor may not be known at this time, and there may be incidental costs, such as fuel adjustments, incentive payments, and material allowances, which are not included. Also, the extent of any potential claims may not be known at the time a project is completed and are not included in the calculations.
Identifying a Problem
Awareness – Project CQIP Report

General Provisions --- Contractor Contract Management

105.07(1) 2  Process Y

Has contractor been fully cooperative with engineer, inspector, other contractors involved in prosecution of the work?

Finding: In review of the project records the following was documented: 1.) On Aug. 3, 2016, the Contractor completely blocked Marumsco Creek when the environmental permit only allows 50% of the stream to be blocked. 2.) The Department noted in the CPEs’ for the Subcontractor Muller Erosion for the months of June and August 2016 that there were issues with the their Source of Materials. 3.) The Department noted in the CPEs’ for the Subcontractor Tessa for the months of August and December 2016 of trenching violations.

Recommendation: The Prime Contractor and their Subcontractors’ shall be fully cooperative with the Engineer, Project Inspector, and Inspection Staff involved with the prosecution of the work on this project.
Awareness – Other Reporting

- C-107 Checklist
  - No deficiencies
- ECR Form
  - 100% Compliance
- CQIP Env. Section
  - 100% Compliance

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Awareness – Outreach and Site Visit

• **Environmental Division / DEQ coordination**
  • Self-reported (eight months late) permit violation to DEQ.
  • Asked to visit site and determine if remedial action is required.

• **Construction Division site visit**
  • Assess current condition of entire project
  • Review project records related to environmental compliance
  • Interview project staff
Site Visit – Permit Violation Location

• No significant issues
  • Meets permit requirements
  • No harm caused by earlier full stream diversion
  • Generally well maintained
Site Visit – Full Project Review

- Significant issues
  - Severe channelized erosion
  - Lack of maintenance
Awareness – What really happened on 8/3/16?

- **Per Inspector Diary Report**
  
  “...the inspector noted that the contractor was in violation of the permit to install waterline across Marumsco Creek.”

  “The contractor instead dammed off the entire creek and re-routed 100% of the water flow around the work area....”

  “Contractor refused to return the stream back to agreed upon conditions and proceeded to work in violation of the permit and instructions from VDOT.”

- **Permit conditions required**
  
  - Work in the dry using non-erodible cofferdams
  - Blocking of no greater than 50% of stream flow

- **C-107 and ECR Reporting did not capture this issue**
Permit Sketch vs. Construction Plan

Permit Sketch – no waterline

Construction Plan - waterline
Permit Violation
Site Visit – Project Records

- All Environmental Documentation (C-107 Form & ECR Report) indicated that the project was fully compliant
Permit Violation – Outcome & DEQ Response

• Contractor Shut Down for Active E&S issues

• Considerable VDOT resources expended
  • Multiple field inspections
  • Numerous on-site meetings with field personnel

• VDEQ response:
  • Pump around method in conflict with permit conditions
  • Acknowledged contractor’s lack of coordination with VDOT prior to deviating from approved work plan
  • Acknowledged VDOT’s eventual self-reporting of incident and noted our commitment to address internal controls and training issues
Addressing the Problem
Roles & Responsibilities

**Location & Design Division**
- Develop ESC & SWM Plans
- Administers MS-4 Program
- Oversight of NPDES Compliance

**Environmental Division**
- Determination of Env. Commitments
- Obtaining permits from Agencies
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Realigning Responsibilities – Integration & Division

Environmental Compliance Assistance Program (ECAP)

Construction Environmental Management Program (CEMP)

MS4 / Stormwater Management / Erosion & Sediment Control (MS4/SWM)
Realigning Responsibilities – Coordination

Communication & responsibilities are integrated horizontally & vertically

- Environmental
- Construction
- Location & Design
- Districts
- Projects
- Central Office
Realigning Responsibilities – Matrix of Roles

Communication & responsibilities are integrated horizontally & vertically

- Environmental Compliance Assistance Program
  - District Environmental Manager
  - Environmental Compliance Inspector

- MS4 / Stormwater Management
  - District Hydraulics Engineer
  - NPDES Coordinator

- Construction Environmental Management
  - District Construction Engineer/ACEs
  - Construction Managers and Inspectors
# Realigning Responsibilities – District Staff

<table>
<thead>
<tr>
<th>NPDES Coordinator</th>
<th>Environmental Compliance Inspector</th>
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<tbody>
<tr>
<td>Provide oversight and compliance inspections</td>
<td></td>
</tr>
<tr>
<td>Manage permit and program requirements</td>
<td></td>
</tr>
<tr>
<td>Embedded in the districts</td>
<td></td>
</tr>
<tr>
<td>Subject matter experts and first point of contact</td>
<td></td>
</tr>
</tbody>
</table>

**VDOT NDPES Program**
- Construction General Permit
- MS4 & Stormwater Management
- Inspect facilities and monitor program compliance

**Environmental Commitments**
- Threatened & Endangered Species
- Wetlands and Streams
- HAZMAT
- Cultural Resources
## Reporting and Response – Building a Metric

<table>
<thead>
<tr>
<th>GREEN</th>
<th>YELLOW</th>
<th>ORANGE</th>
<th>RED</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Proactive, Project Team Engaged</strong></td>
<td><strong>District Leadership Engaged</strong></td>
<td><strong>VDOT Central Office Divisional Leadership Engaged</strong></td>
<td><strong>VDOT Executive Leadership Engaged</strong></td>
</tr>
<tr>
<td><strong>Status</strong>: The project is implementing a compliant SWPPP by self-identifying and self-correcting deficiencies (project-identified deficiencies) and the project is correcting deficiencies noted by the NPDES Coordinator, designee (Coordinator-identified deficiencies), or regulatory agency within allowable timeframes.</td>
<td><strong>Status</strong>: The project has failed to self-identify and/or failed to maintain deficiencies that were apparent to the NPDES Coordinator or the project has failed to perform the necessary corrective action that was identified by the NPDES Coordinator; or the project has a self-reporting incident that is not considered non-compliant (i.e. a sediment discharge as a result of an improperly implemented ESC Plan).</td>
<td><strong>Status</strong>: A previous yellow scoring has not been addressed during the second follow-up or the project has a self-reporting incident that is considered non-compliant (i.e. had a sediment discharge as a result of an improperly implemented ESC Plan).</td>
<td><strong>Status</strong>: The project has received a Notice of Violation or Warning Letters that has been issued by a regulatory agency, systematic non-compliant findings or egregious non-compliant findings are documented.</td>
</tr>
<tr>
<td><strong>Communication Level</strong>: Routine correspondence between project team, NPDES Coordinator, and designee, as needed.</td>
<td><strong>Communication Level</strong>: The NPDES Coordinator will notify the CM, the ACE, DCE, and DPDE of the project’s status. The DCE and DPDE will communicate to the District Administrator following District protocols.</td>
<td><strong>Communication Level</strong>: The NPDES Coordinator and State L&amp;D Engineer will determine if self-reporting to DEQ is required under the CGP.</td>
<td><strong>Communication Level</strong>: The NPDES Coordinator will notify the same individuals as identified in yellow in addition to the State L&amp;D and Construction Engineers.</td>
</tr>
<tr>
<td><strong>Enforcement Efforts</strong>: N/A</td>
<td><strong>Enforcement Efforts</strong>: The NPDES Coordinator will evaluate the need for increased oversight inspections.</td>
<td><strong>Enforcement Efforts</strong>: The District Administrator will consider possible shut down of the project: either grading activities or all project activities in consultation with the State L&amp;D and Construction Engineers and the Environmental Division Director.</td>
<td><strong>Enforcement Efforts</strong>: The project will be shut down in some capacity: either grading activities or all project activities as determined by the District Administrator in consultation with the State L&amp;D and Construction Engineers and Environmental Division Director.</td>
</tr>
</tbody>
</table>

The color rating system prioritizes engagement and response over ‘penalizing’ deficiencies.
Changing the Culture

Messaging to staff is crucial.

100% compliance is a great goal but an unreasonable expectation.

Communication is important and goes hand-in-hand with self reporting.

Green is not perfect, and yellow isn’t ‘bad’. Instead, the goal is to see people taking ownership of their projects.

Success in Environmental Compliance

Environmental compliance is not about being perfect, it is about being proactive!

“The perfect is the enemy of the good”

Above: Slide from 2018 VDOT workshop for inspector trainees.
Challenges and Next Steps

• **Consistency**
  • Across Districts (subjectivity in reviews)
  • Across Disciplines (two different color ratings at the same time)
  • Across Agencies (better defined self-reporting criteria)

• “Right-sizing” the program
  • Significant resource commitment
  • Limited budgets and staff allocations