

Lessons Learned from a Solar Project

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Howard County Stormwater District



Why Stormwater Matters for Solar



- Large disturbed acreage
- Possible major grading impacts
- Sensitive Areas
 - Agricultural drainage systems
 - County roads/regulated drains
 - Wetlands
 - Local residents
- Controversy between state and local officials

Before the Permit

- BZA Approval, Agreements, Drainage Board, Planning Commission
- Early Coordination with engineers, project owners, other municipal departments
- Multiple reviews of plans before filing for stormwater permit
- Visited other projects





Solar-Specific Stormwater Challenges

- Panel dripline concentration
- Long access roads with heavy traffic
- Compacted soils
- Large Grading Areas
- Flat site, slow drainage



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Pre-construction Goals

- Vegetative growth throughout project before ground is broken
- Reduce grading – potential for racking systems that minimize grading
- Improve site drainage before construction starts to minimize effects from breaking old drainage tiles
- Eliminate effects to the local community to the maximum extent
- Potential for return to the original land usage



Community Impact Management

- Noise/dust mitigation
- Complaint resolution system
- Traffic Control





Roadway Protection

- Haul route designation
- Pre/post condition surveys
- Stabilized entrances
- Street sweeping

Start of Construction

- Constant communication is key
- Miles of silt fence
- Construction drives
- Areas that were scheduled for grading were allowed to begin grading



Installation of ESC Measures

- Early inspections at installation is key to setting a standard
- SWPPP measures installed first
 - Construction entrances
 - Silt fences
 - Rock outlets
 - Air bridges

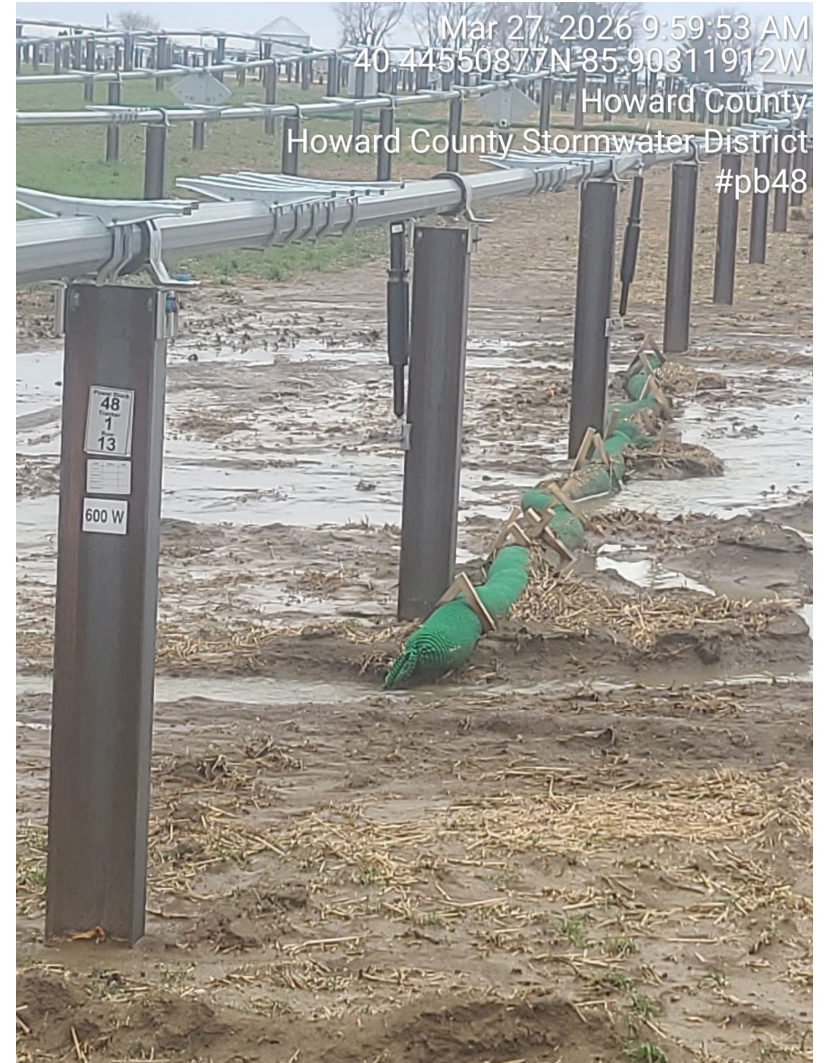


Inspection Process

- Weekly inspections
- Post-rain inspections
- Red-lines
- Focus on all areas identified as problem areas from preliminary plan reviews

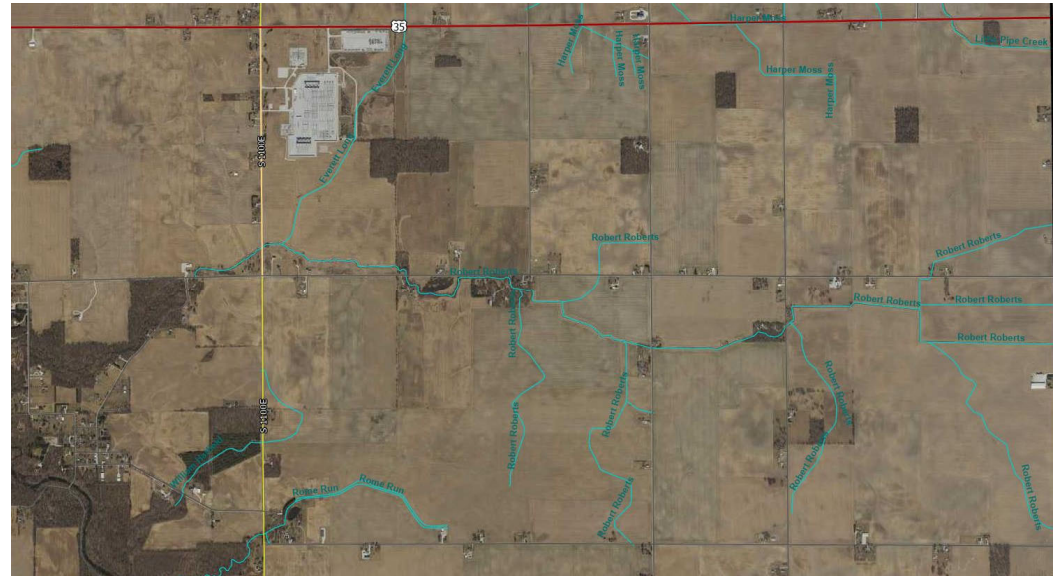






Drainage and Waterway Protection

- Ditches, tiles, streams
- Buffer zones
- Multiple BMPs near waterways
- Section Corners





Drainage Tile Problems

- After installation of new drainage tiles, thorough inspections to the regulated drains are at the highest importance.



Cost Implications of Poor Stormwater Management

- Regulatory fines and penalties
- Construction delays
- Rework and redesign costs
- Road repairs
- Environmental remediation costs



Changes for Future Solar Projects

- More requirements on construction entrances
- Expansion of roadways
- Cover Crop Requirements
- Decommissioning Agreement

Questions?

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