



# The Challenges of Stormwater Management on Linear Construction Projects

Michael Heller, PWS, CPESC  
Ryan Joe  
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# Presenting today.....

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SENIOR  
ENVIRONMENTAL  
SCIENTIST



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SENIOR  
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# The Challenges of Stormwater Management on Linear Construction Projects

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**01**

## **Designing SWPPPs for Linear Projects**

What is in the Plan

**02**

## **Inspection of SWPPPs for Linear Projects**

Implementing the Plan

**03**

## **Questions and Comments**

Reducing environmental review periods



# Designing SWPPPs for Linear Projects

What is in the Plan

# 01



# Keys to Success

Managing the  
Five Pillars



1. Communication

2. Work

3. Water

4. Erosion

5. Sediment



# PROJECT DOCUMENTS



**Permix  
Application**



**NDEE  
CSW-NOI**



**NDEE CSW  
Authorization  
Letter**



**SWPPP  
Map**  
Living  
Document  
(Always  
Changing)



**Narrative  
Form**

# INSPECTION DOCUMENTS

Construction Stormwater Permit requires inspection reports and corrective action documentation to be saved with the SWPPP for at least three years after permit coverage ends. Uploaded to Permixon



## Project Information

**Name:** WP1712A Giles Road Approach Water Main  
**Number:** SAR-20200211-5333-GP2  
**Address:** Giles Road from S. 168th Street to S. 186th Street  
Omaha, 68136  
**Location:** Giles Road from S. 168th Street to S. 186th Street

**Inspection Type:** Project  
**Period Ending:** 8/28/2021  
**Current Stage:** 1  
**Report ID:** 111689

### Applicant

Metropolitan Utilities District (MUD)  
Address: 3100 South 61st Avenue, Omaha, NE  
68106

### Designer

### Inspector

JEO Consulting Group, Inc. (Omaha)  
Address: 11213 Davenport Street, Omaha, NE 68154  
402-934-3680  
dnielsen@jeo.com  
  
Zach Schulz  
402-392-9926  
zschulz@jeo.com

### Grading Contractor

## Inspection Information

Grading	Storm	Sanitary	Paving	Seeding	Utilities	Overall
80%					90%	

Inspection Dates	Preceded by 0.5" of Rain?	Rain Dates	Rain Amount
8/25/2021	Yes	8/25/2021	1.20

## Inspection Findings Summary

**BMPs not yet installed:**

**Unresolved project findings from previous inspections:**

**New unresolved project findings:**

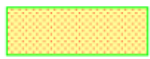
**LEGEND**



CIP - CULVERT INLET PROTECTION; STANDARD BMP DETAIL NO. 9.5.7



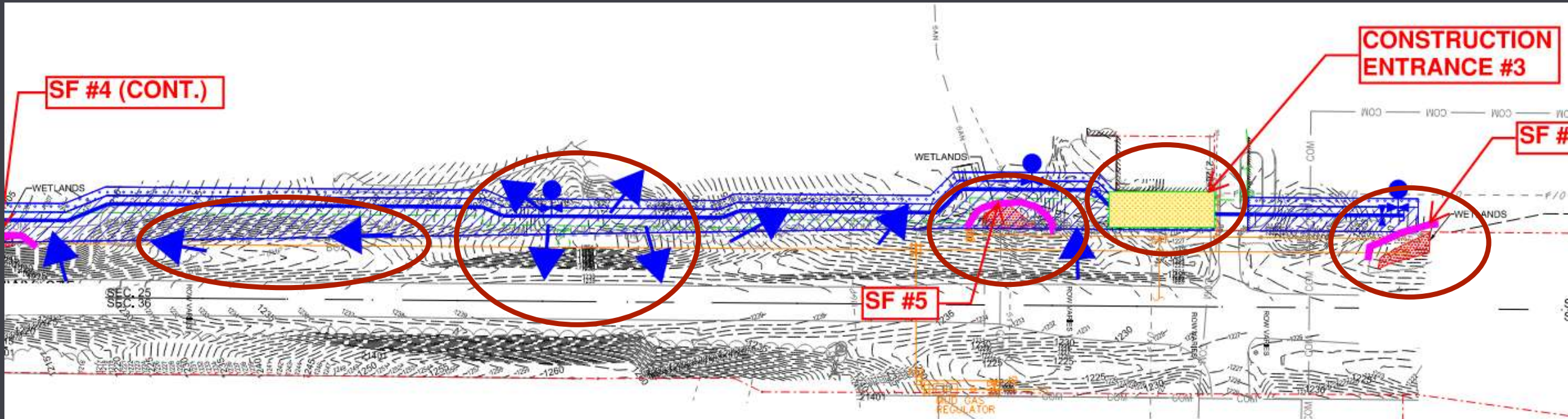
SF - SILT FENCE; STANDARD BMP DETAIL NO. 9.5.5



CONSTRUCTION ENTRANCE; STANDARD BMP DETAIL 9.5.2



FLOW PATH ARROWS



Flow Direction



Proposed BMPs



Construction Entrance



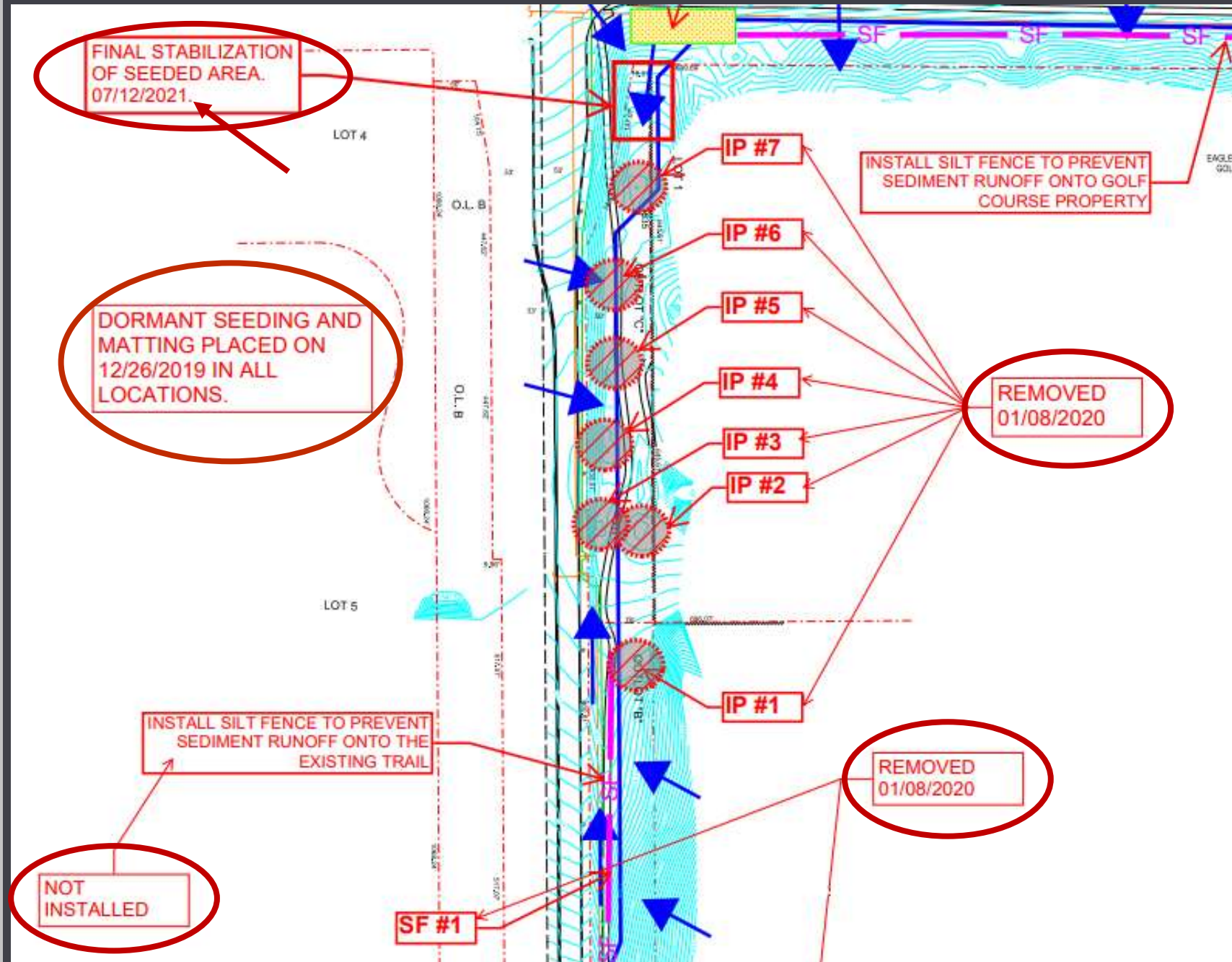
Wetland Locations





# Working SWPPP MAP

## Document Changes





# Design of Construction Entrances



Easily  
Accessible



Track Out  
Potential



Minimum  
Disturbance to  
Traffic Flow



Minimum  
Disturbance to  
Existing Vegetation

# Think Outside the Box

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Wattles and Logs



# Inspection of SWPPPs for Linear Projects

Implementing the plan

02



# Challenges of Linear Projects

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Continuous data collection

- Overall length of projects (can cover 1-2 miles).
- Maintaining an updated SWPPP Map.
- Proximity to streets (snowplows, vehicles getting off the road, traffic concerns, track-out, inlets nearby).
- Other adjacent construction/development projects.
- Coordination with Contractors.
- Contractors disturbing areas already established for repair work.



# Challenges of Linear Projects

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Visit the project site to become familiar with the site.



Review SWPPP plans to see if design will be adequate.



Work with the Erosion Control Contractor on getting the BMPs installed prior to construction taking place.

# General SWPPP Items

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1. Submit grading start form.
2. Weekly or rain event inspection (rain event greater than 0.50") and reporting
3. Coordinate with Erosion Control Contractor to maintain or reinstall BMP's if issues are observed during inspections.
4. Coordinate with the contractor to maintain construction entrance and roads.



# General SWPPP Items

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5. Contractor to only remove BMP's if necessary to install water main and reinstall once work in the area is completed.
6. Maintain and update SWPPP working map.
7. Monitor the site during daily waterline inspections.
8. If issues are observed coordinate with Erosion Control Contractor to maintain before inspection.
  - Temporary diversion channels.
  - Channel water to a temporary sediment trap.





# General SWPPP Items

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9. Coordinate installation of temporary seeding if the site is inactive for 2 weeks.
10. Monitor stockpiles and coordinate BMP installation around piles if they are in place for a certain length of time.
11. Housekeeping:
  - Material stockpiles.
  - Concrete washouts.
  - Solid waste management (trash).
  - Sanitary waste management (portable toilets)



# Site Examples

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# Questions?



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