

Erosion Control: Common Violations and Significant Design Considerations

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Dave Bauer, PSS-MnDOT



Minnesota Pollution Control Agency



We all have a stake in **A**  **B**

Erosion Control: Common Violations and Significant Design Considerations

Linear/Road Projects

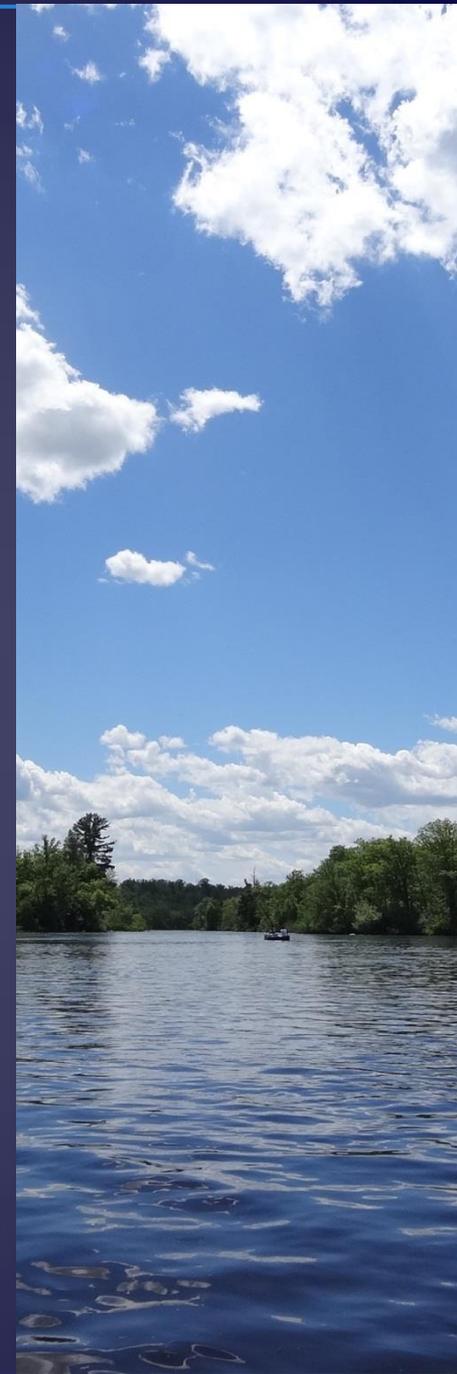
1. E & S control in ditches and swales
2. Permanent Stormwater Management
3. Common violations & Solutions
4. Erosion Control Supervisor & Case study
5. Questions



Goals of the MPCA CSW Permit

Prevent or minimize negative impacts from construction activity both:

- During active construction
- After construction is complete



Online Resources: Permit Application

New Online Permit Application - requires new account

- Permit authorization 7 days *
- Project must not be on tribal land
- Can be done by a third party (Consultant, Council)
- Pay online – credit card (Visa or MasterCard), e-check

e-Services for regulated businesses and local governments

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Online Resources: Permit Application

Projects Requiring SWPPP Approval

- Projects that are disturbing >50 acres and discharge to a special or impaired water, need SWPPP review prior to construction
- Plan on 30 days for the review process or,
- Involve the MPCA early in the design process
- Plans can submitted electronically during the application process or other submittal arrangements can be made

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Online Resources: Permit Information Search

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Construction Stormwater Search

Preferred ID:

Project Name:

Owner Name:

Contractor Name:

City:

County: ▼

Status: ▼

Permit Type: ▼

Permit Coverage Begin Date:

Permit Coverage End Date:

Search Tips: There are sometimes variations on how an "Owner" or "Contractor" name was entered into the system: For example: "MNDOT", "Minnesota Department of Transportation", "Mn Dept. Of Transportation" "MNDOT District 1A Virginia". Be aware that multiple searches with different criteria may be needed.

For technical questions with this database or permit compliance questions, please contact the Stormwater Hotline at: 651-757-2119 or 800-657-3804 (non-metro only) or email: csw.pca@state.mn.us.

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Search Results: 323 records found.

Your searched criteria are:

County: Chisago

Show rows per page
|| Next »

Displaying 1 - 30 of 323 rows

Preferred ID	Permit Type	Project Name	County	City	Owner	Contractor	Coverage Begin Date	Status
C00005683	Coverage Termination	1998 Tanger Dr & Utility Imprvmnt -CSW	Chisago	North Branch	Larson Enterprises	Hagman Construction Inc	12/06/98	Inactive
C00008853	Coverage Termination	2002 Grand Ave. St. & Utility Improv.	Chisago	North Branch	North Branch city of	Kuechle Underground Inc	07/05/02	Inactive
C00011222	Coverage Termination	2003 Grand Ave Street/Utility Imp	Chisago	North Branch	North Branch city of	A-1 Excavating Inc	11/01/03	Inactive
C00019420	Coverage Termination	2006 Linwood Twsp St Maint Project - CSW	Chisago	Stacy	Linwood Township	Knife River Central Minnesota	07/25/06	Inactive
C00028792	Construction Stormwater Permit	2009 Almelund Fire Hall	Chisago	Almelund	Almelund Fire and Rescue	RE Peterson Inc	10/05/09	Active
C00028425	Coverage Termination	2009 Street Pavingg Project	Chisago	Lindstrom	Franconia Township	North Valley, Inc.	08/14/09	Inactive
C00032402	Coverage Termination	2011 Polaris Road	Chisago	Wyoming	Polaris Industries	Peterson Companies Inc	07/29/11	Inactive
C00034642	Construction Stormwater Permit	2012 Street and Utility Imp.	Chisago	Wyoming	Wyoming city of	Wyoming city of	09/09/12	Active
C00037389	Coverage Termination	2013 Pond Excavation	Chisago	Wyoming	Peterson Companies Inc	Peterson Companies Inc	12/27/13	Inactive
C00036004	Coverage Termination	2013 Street Rehab ST2013-1	Chisago	Fridley	Fridley city of	Northwest Asphalt Inc	06/01/13	Inactive
C00040280	Construction Stormwater Permit	2015 Street & Utility Improvements	Chisago	Wyoming	Wyoming city of	A-1 Excavating Inc	04/29/15	Active
C00021684	Coverage Termination	285th Street Improvements - CSW	Chisago	North Branch	North Branch Township	Gustafson Excavating Inc	04/25/07	Inactive
C00032006	Coverage Termination	344th Street Improvement Project	Chisago	Stacy	Lent Township	Knife River Central Minnesota	05/26/11	Inactive
C00015346	Coverage Termination	201rd St. Utility and App Work	Chisago	North	North Branch city of	S. J. Lewis Construction	06/01/05	Inactive



Ditches During Construction:

- The Permittee must stabilize drainage ditches or swales within 200 lineal feet from the property edge, or from the point of discharge into any surface water within 24 hours after connecting to a surface water or property edge.
- The Permittee shall complete stabilization of the remaining portions of any ditches or swales within 14 calendar days
- Temporary or permanent ditches or swales that are being used as a sediment containment system during construction (with properly designed rock-ditch checks, bio rolls, silt dikes, etc.) do not need to be stabilized during the temporary period of its use as a sediment containment system.
- Applying mulch, hydromulch, tackifier, polyacrylamide or similar erosion prevention practices is not acceptable stabilization in any part of a temporary or permanent drainage ditch or swale.

Ditches During Construction:

Applying mulch, hydromulch, tackifier, polyacrylamide or similar erosion prevention practices is not acceptable stabilization in any part of a temporary or permanent drainage ditch or swale.



Ditches During Construction:



Ditches During Construction:



Ditches During Construction:



Ditches During Construction:

Applying mulch, hydromulch, tackifier, polyacrylamide or similar erosion prevention practices is not acceptable stabilization in any part of a temporary or permanent drainage ditch or swale.



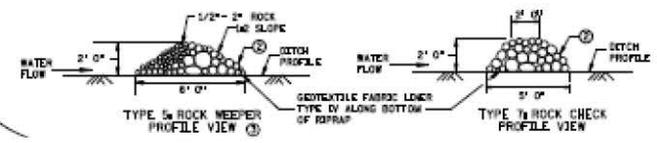
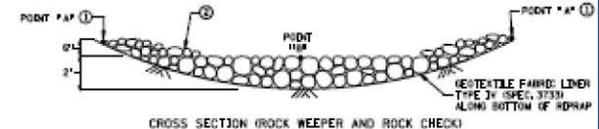
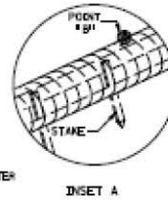
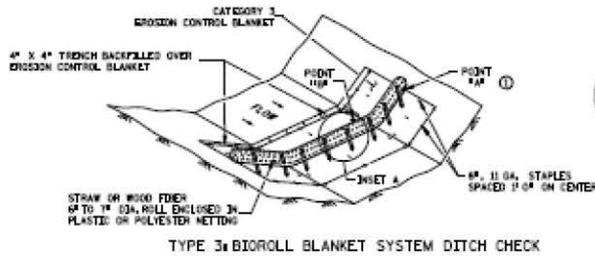
Ditches During Construction:

Ditches or swales that are being used as a sediment containment system during construction do not need to be stabilized during the temporary period of its use as a sediment containment system.



Ditches During Construction:

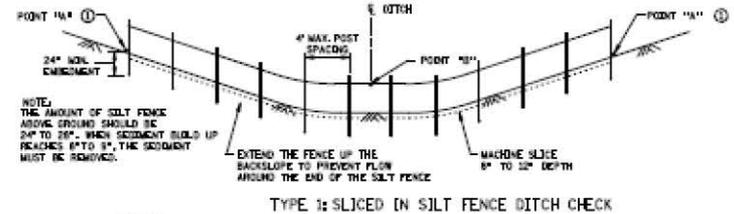
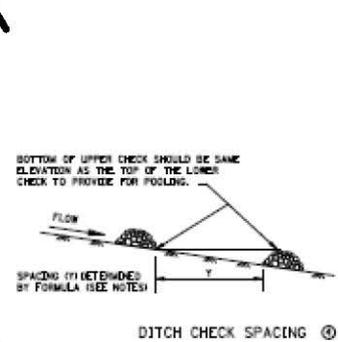
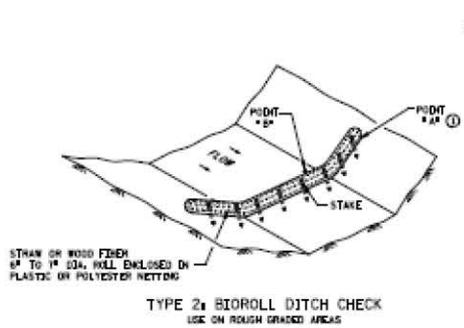
01/22/2013



GENERAL DESIGN GUIDELINES

DITCH CHECK TYPE	SILT FENCE	BIOROLL	BIOROLL BLANKET	TRIANGULAR DIKE	ROCK WEEPER	ROCK CHECK
STORM FREQUENCY:	2 YR. - 24 HR.	2 YR. - 24 HR.	2 YR. - 24 HR.	2 YR. - 24 HR.	5 YR. - 24 HR.	5 YR. - 24 HR.
MAX. FLOW VELOCITY:	< 1 FT./SECOND	1.5 FT./SECOND	4.5 FT./SECOND	1.5 FT./SECOND	12 FT./SECOND	12 FT./SECOND
MAX. DITCH GRADE:	0% - 0.5%	1.5% - 3%	1.5% - 3%	1.5% - 2.0%	3% - 5%	3% - 5%
MAX. DRAINAGE AREA:	1 ACRE	2 ACRE	2 ACRE	4 ACRE	4+ ACRE	4+ ACRE

01/22/2013



NOTE:
THE AMOUNT OF SILTY FENCE ABOVE GROUND SHOULD BE 24\"/>

NOTES:
SEE SPECS. 2573, 3600, 3733, 3885, 3890 & 3895.
APPROXIMATE SPACING BETWEEN EACH DITCH CHECK SHOULD BE DETERMINED FROM THE FOLLOWING SPACING FORMULA:
APPROXIMATE SPACING OF DITCH CHECKS (S) = $S = \frac{V \times H}{C \times SLOPE}$

- ① POINT # 1" MUST BE A MINIMUM OF 6 INCHES HIGHER THAN POINT # 2" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.
- ② CLASS I - IV SODRIP (SPEC. 3600) WITH GEOTEXTILE FABRIC LINER, TYPE IV (SPEC. 3733).
- ③ THE ROCK WEEPER FILTERS SEDIMENT OUT OF THE WATER BETTER THAN THE OTHER DITCH CHECKS. THE ROCK WEEPER COULD BE USED AS A PERMANENT WATER FILTERING FEATURE.
- ④ PERMANENT ROCK DITCH CHECKS PLACED WITHIN THE CLEAR ZONE WILL NEED TO BE 18" OR LESS IN HEIGHT. A 1:6 APPROACH AND DEPARTURE SLOPE SHALL BE PROVIDED.

DITCH CHECK TYPE	SILT FENCE	BIOROLL	BIOROLL BLANKET	TRIANGULAR DIKE	ROCK WEEPER	ROCK CHECK
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MAX. DRAINAGE AREA:	1 ACRE	2 ACRE	2 ACRE	4 ACRE	4+ ACRE	4+ ACRE

Ditches During Construction:



Stormwater Treatment System Design Requirements

- Where one or more acres of cumulative impervious surface is created by the project, permanent SW management is required
- Water volume of 1 inch of runoff from the new impervious surface must be retained on site (i.e. infiltration or other volume control practices)
- For those projects where infiltration is prohibited – maximize volume reduction and treat remainder by filtration, sedimentation basin, or equivalent methods.
- For projects with lack of ROW, a reasonable attempt must be made to obtain ROW and document attempts in the SWPPP

Stormwater Infiltration is Prohibited on Sites With:

- i. Areas that receive discharges from vehicle fueling and maintenance**
- ii. Areas with less than 3 feet of separation from the seasonally saturated soils or bedrock**
- iii. Areas that receive runoff from industrial facilities which are not authorized to infiltrate under an NPDES Industrial Permit**
- iv. Areas where high levels of contaminants in soil or groundwater will be mobilized by infiltrating stormwater**



Stormwater Infiltration is Prohibited on Sites With:

- v. Areas of predominantly Hydrologic Soil Group D (clay) soils
- vi. Areas with 1,000 feet up-gradient or 100 feet down-gradient of active karst features
- vii. Areas within a Drinking Water Supply Management Area (Minn.R. 4720.5100, subp. 13)
- viii. Areas where soil infiltration rates are more than 8 inches per hour unless the soils are amended to slow the rate



Stormwater Treatment System Design Requirements

For Linear Projects:

- **First consider stormwater treatment systems within the existing ROW**
- **For projects with lack of ROW, a reasonable attempt must be made to obtain ROW and document attempts in the SWPPP**
- **Must maximize the water quality volume that can be treated prior to discharge from the site**



Reasons why no ROW acquired Other Reasons...

- Adjacent areas are residential or urban
- Land owners requesting more than fair market value
- Displacing people
- Taking income away - high production farms, orchards, etc.
- Condemnation of land is not required

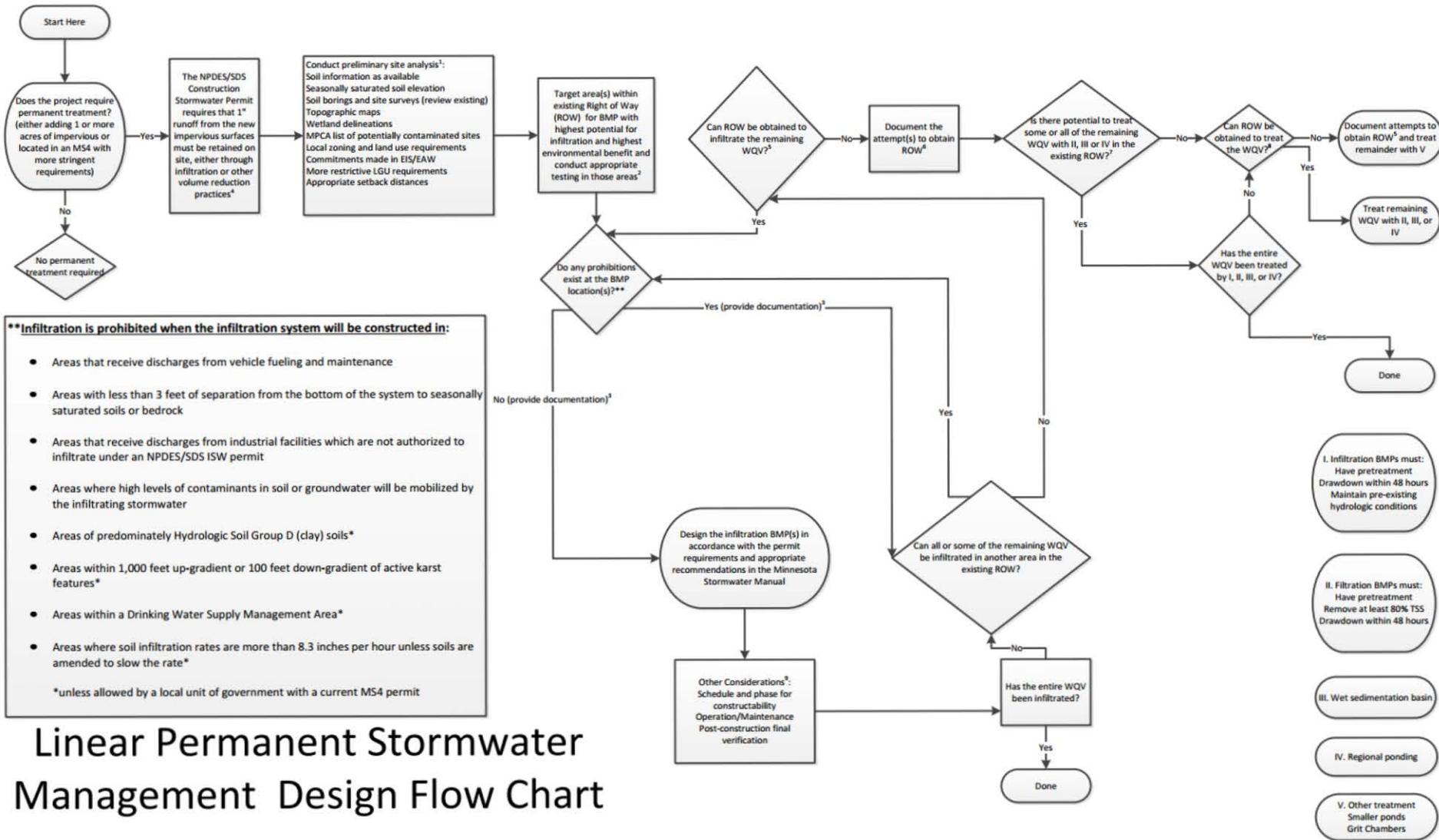
Linear Projects with lack of ROW

Document attempts to obtain ROW

Parcel Fully Closed. 5/28/14: Mailed to landowners via USPS fully executed TCE Addendum and payment check with closing cover letter. 4/28/14: Met with Francine and Mel who signed the TCE and Addendum for both parcels for the final offer amount [REDACTED]. They asked that I continue communication with them regarding staking fencing and construction timelines as they have equipment within the TCE that may need to be moved. They did not verbalize a problem with CP's contractors moving the equipment if necessary to move but did want to be involved. Ma led executed documents to Pat Flannery. 4/23/14: Called and spoke to Francine who said the soonest they can meet is Monday April 28th at 8am. Agreed to meet at their house then. 4/22/14: Called and let Francine know that CP has accepted their counteroffer [REDACTED]. She indicated she was surprised to hear that but that it made sense to her since they have a business on the property and so many trees. She said she was going to talk to her husband on a date for us to meet to sign the agreement. I said I would contact her tomorrow to follow up. 4/4/14: I called and spoke to Francine to confirm our appointment for Monday morning. We changed the time from 10am to 7am because Mel has a doctor appointment. I let her know that I would only have an hour to meet with them as I had an appointment with Ziegelman's scheduled at 8am. I asked if this would be enough time for them to let me know their decision and she replied "it will have to be". I encouraged her to be sure to go through the TCE so that we could make sure she had no additional questions. Let her know I was looking forward to seeing them Monday and hearing their decision. 4/2/14: Met with Francine and Mel at their home. They reviewed many of their concerns and questions that we went over during our last meeting and then asked about the dirt and trees to be removed from site. I asked Nick Stadem HDR Rail Engineer PM and Pat Flannery via email and text message what the plan was for the dirt fill and trees because Knapton's were asking if they could have the dirt and trees. I thought if it were a possibility to close the deal I would do so. However after much conversation Knapton's expressed they only would want the 'quality' dirt and trees not everything and it became clear that offering them this was not going to be a manageable option. I let them know that the contractor will be responsible for removing the dirt which may be used elsewhere or taken offsite along with the trees. My sense is that they were grasping at options to prolong discussion and thwart a decision and ultimately not really all that interested in the dirt or wood. Mel made a comment that they could just ask the contractor when they're out there if they could have the dirt and wood they wanted. After much repetitive discussion surrounding their concerns and issues I let them know that they have all the information including the offer to make a decision and that I would give them some time to do so. I scheduled my 3rd meeting with them for Monday April 7th at 10am. I'm still optimistic but we'll have our answer then. 3/28/14: Called and spoke to Francine. Asked if we can meet again and she agreed to Wednesday April 2nd at 8am. Asked that I call beforehand to remind her. We spoke about the trees and her concern for the visual and noise barriers being removed and I assured her that I heard their concerns and I am hoping that we will be able to reach a solution when we meet and that I had come up with a valuation for the trees/species. She sounded receptive on the phone. 3/25/14: Called and spoke to Francine to request if she or Mel had any names of local landscapers who could provide a tree and install estimate. Francine expressed it wasn't the value per-say of the trees that they were concerned about but the visual and noise buffer and loss of value to the property. I said I understood her concerns and that I was working to address them and that determining the value of the trees was the first step so that we could respond to CP. She said she understood and would ask Mel and get back to me. She took down my phone number. 3/11/14: Met Mel and his wife Francine at their home to introduce myself and the project. Mel was first to meet me in the kitchen and proceeded to call several times for Francine to join us. Francine entered a few minutes later and seemed agitated and commented "it's too early" under her breath. I asked if I had the time right for our appointment or if I came too early. She said that I had it right but it was too early. Then the three of us sat down at the kitchen table and after a brief introduction I showed them the map of the project area and the map of the 2 TCE segments on their property. Both Mel and Francine immediately voiced concerns about the trees on their property and were both speaking very rapidly and at the same time. I asked if I could hear from them one at a time so I didn't miss anything. Francine continued that the trees acted as a buffer zone for sight and noise and that there were very valuable and sentimental trees within the TCE area. She relayed that they are having a wedding on the property in August and that the loss of trees would spoil the wedding. She also said that they have an orchard on the property where people come to pick raspberries apples and pumpkins and that the loss of trees would detract from the 'pick your own' orchard experience. Francine also wanted confirmation that CP will not be spraying anything within the TCE area and suggested that CP should build a retaining wall instead of going on their property. She said that someone had called her about this project and said that they were building a retaining wall. I asked her if she knew who that was and she didn't recall a name but that it was a woman with the railroad. I said that I had called and spoke to her and about this project but that a retaining wall was not mentioned as there is no plan of a retaining wall to which she replied "no it wasn't you but someone else that called." I said that I would be curious to know who that was if she can remember or find any note she may have made from that conversation. I then said that I was hearing their concerns and writing them down which I showed them on my notepad. We went through the TCE and offer amount and I explained how the land valuation was determined and the offer amount of [REDACTED] plus [REDACTED] signing bonus was presented. This seemed to agitate both Mel and Francine and Mel stood up from the table and said "you'll have to talk us to court" and went and opened a can of tuna fish and ate it with a fork in the opposite corner of the room. I responded that we are looking to work out an agreement that will work for both of them as well as CP and would like to avoid the courts. Mel then said that they had recently bought 10.42 acres next door (formerly Bukowski) for [REDACTED] for the land [REDACTED]. I let Mel know that if he provided documentation showing that sold price I could bring that back to CP for consideration. Then Francine and Mel continued to express their concern for the loss of trees and what they are worth and I showed them both on my notepad that I had written down their concerns and asked them if I could get some answers to those questions can we work on moving forward on the agreement to which they both nodded in agreement. I said that I would get back in touch with them once I had more information on how the trees would be handled. Francine then asked about my credentials and if I was in HR to which I explained I was not in HR but a consultant in Real Estate. She laughed. I then thanked them for their time and for meeting with me. Francine said "thank you nice to meet you" and I left. 3/4/14: Mel Knapton returned my call. I provide Mel with a brief introduction to the project and Mel's initial questions were around tree removal and re-vegetation on his property which I described. I asked if we could meet in person to further discuss the project and take a look at the project overview maps the TCE and the offer amount. The soonest Mel and his wife are able to meet is Tuesday March 11 2014. We set meeting for then at their house. 2/26/14: Spoke with Francine to introduce myself and gave a brief overview of the project. Asked if we could find a time to meet this week and she said she would have to check with her husband Melvin and get back to me. I left her my phone number and asked he contact me as soon as he gets a chance and I looked forward to hearing from them. 2/25/14: Attempted calling mailbox full. Requested call back by leaving my number.



Linear Projects



****Infiltration is prohibited when the infiltration system will be constructed in:**

- Areas that receive discharges from vehicle fueling and maintenance
- Areas with less than 3 feet of separation from the bottom of the system to seasonally saturated soils or bedrock
- Areas that receive discharges from industrial facilities which are not authorized to infiltrate under an NPDES/SDS ISW permit
- Areas where high levels of contaminants in soil or groundwater will be mobilized by the infiltrating stormwater
- Areas of predominately Hydrologic Soil Group D (clay) soils*
- Areas within 1,000 feet up-gradient or 100 feet down-gradient of active karst features*
- Areas within a Drinking Water Supply Management Area*
- Areas where soil infiltration rates are more than 8.3 inches per hour unless soils are amended to slow the rate*

*unless allowed by a local unit of government with a current MS4 permit

Linear Permanent Stormwater Management Design Flow Chart

Linear Treatment

Stormwater management within existing ROW:



Infiltration System Serving Highway Built on Acquired ROW



Infiltration System Serving Commercial Dev. and Co. Road



Stormwater Treatment via Municipal Irrigation

EAGLE VALLEY REUSE SYSTEM



Detention Basin Within ROW



Remember, the NPDES Permit is not a design guide!

- Lots of other design considerations
- Pond/infiltration basin location (safety)
- Plants/landscaping
- Shape
- Construction techniques
- Soil exploration
- Pond Liners

Check Minnesota Stormwater Manual for
more design information

Online Resources: Minnesota Stormwater Manual

The screenshot shows a web browser window with the URL http://stormwater.pca.state.mn.us/index.php/Stormwater_Manual_Table_of_Contents. The page header includes the Minnesota Pollution Control Agency logo and the text "Minnesota Stormwater Manual". A search bar and "Search Help" link are visible. The main heading is "Stormwater Manual Table of Contents" with a "Page Contents" dropdown menu. A left sidebar contains navigation and toolbox links. The main content area features a magnifying glass icon with the text "Looking for something? Visit our help section on finding a topic." and a paragraph explaining the Table of Contents. A blue information box states: "Information: To view recent significant content changes or anticipated changes in the near future, see [What's New](#) (left toolber)." Below this is the heading "Minnesota Stormwater Manual" and the section "General Information" with a list of two items: "1. Overview of basic stormwater concepts" and "2. Stormwater research and education". On the right side, there are two callout boxes: one with a cartoon character and a question mark asking "I knew where it was in the old Manual but where is it now?" and another showing a book cover titled "THE MINNESOTA STORMWATER MANUAL" with the text "Access the old Manual. Note: this version is not being".

Minnesota Pollution Control Agency

Minnesota Stormwater Manual

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Stormwater Manual Table of Contents

Page Contents

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The Table of Contents for the Stormwater Manual is provided below. Click on any section within a chapter to go to the selected topic area. You may also conduct a Search to directly find a topic of interest. Guidance for navigation within this website is provided in a [guidance document](#).

Note this web page contains additional articles not included in the original stormwater manual. We anticipate several changes and additional information in the coming month. See the information box below.

Information: To view recent significant content changes or anticipated changes in the near future, see [What's New](#) (left toolber).

Minnesota Stormwater Manual

General Information

1. [Overview of basic stormwater concepts](#)
2. [Stormwater research and education](#)

I knew where it was in the old Manual but where is it now?

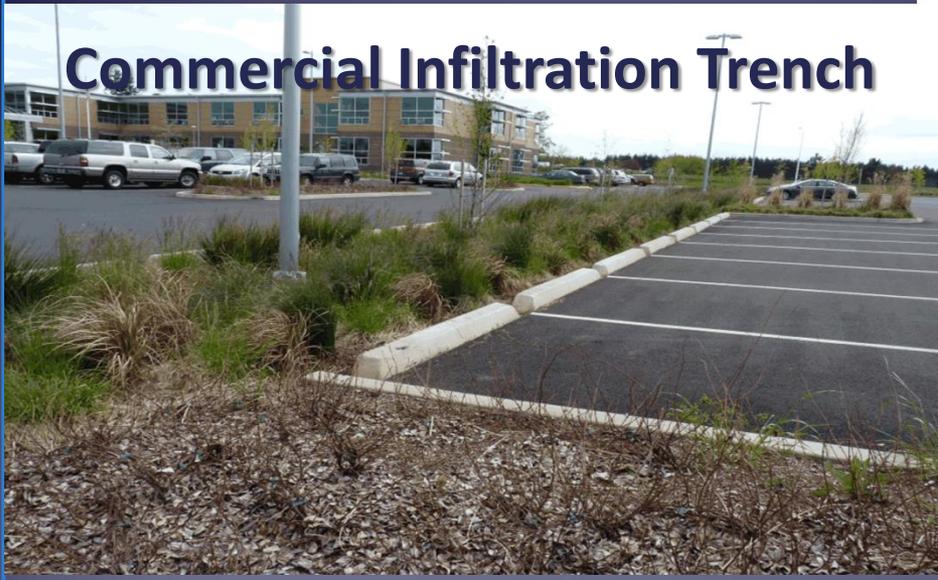
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Common Permit Violations & Solutions- Road & Linear Projects

Paul Erdmann, MPCA



Commercial Infiltration Trench



Underground Infiltration



Linear/Road Infiltration Basin

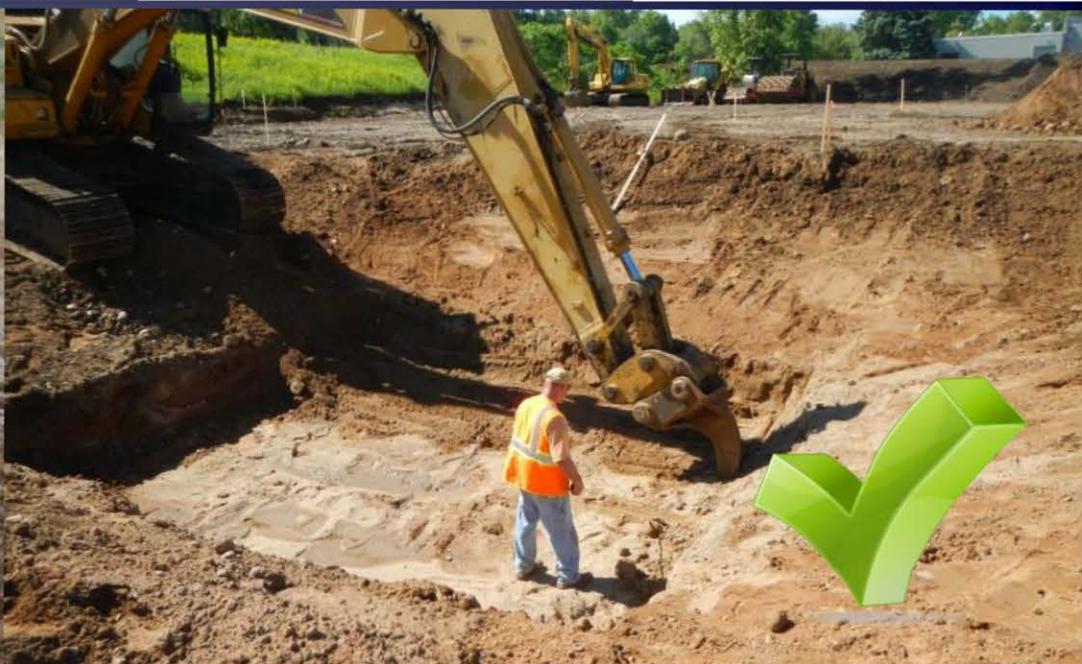


Rain garden



NPDES Infiltration Requirements

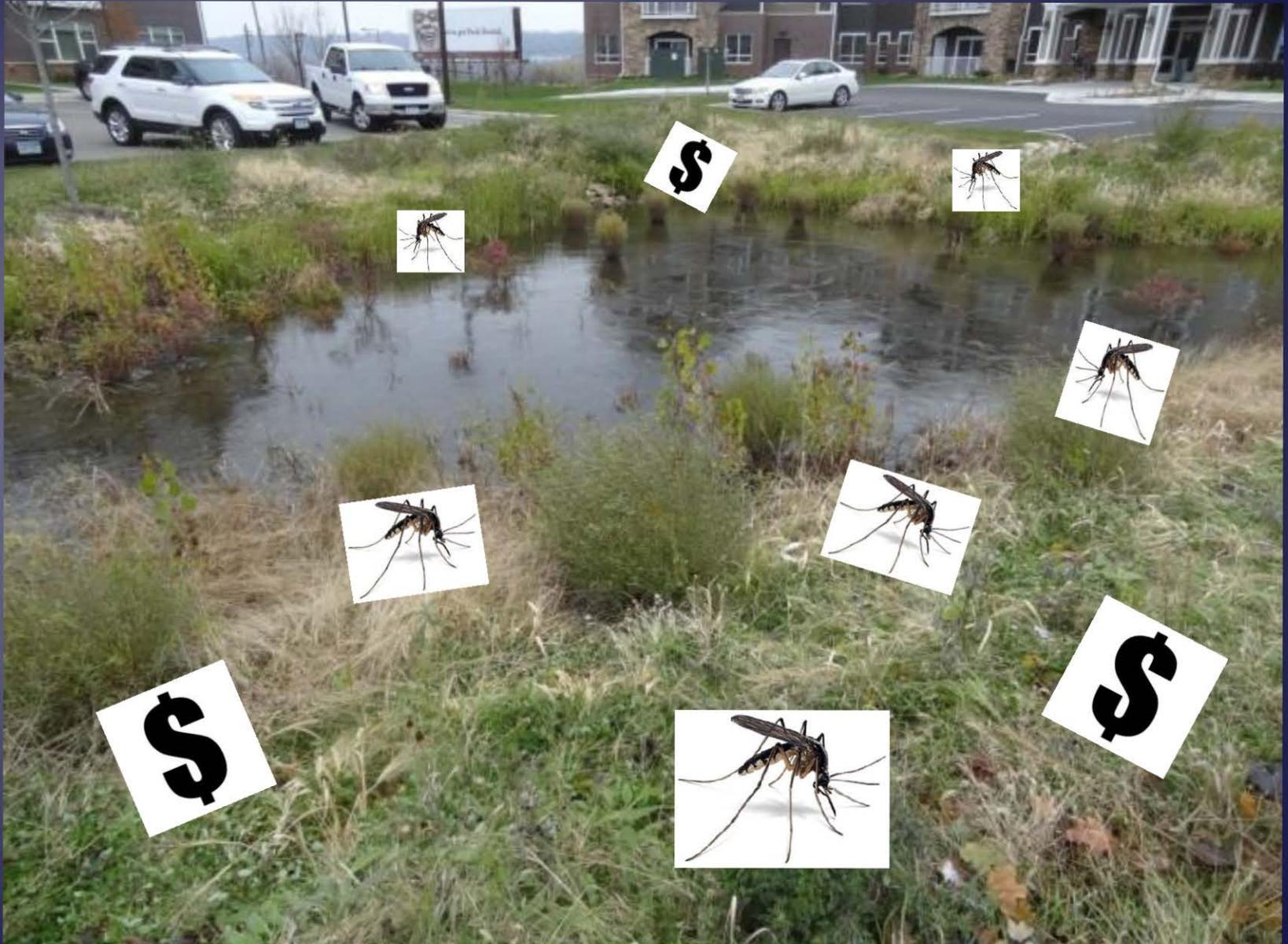
- Constructed last (unless rigorous erosion and sediment controls provided)
- Minimum 3 feet of separation between the bottom of the basin and saturated soils/bedrock
- Stabilize soils around basin
- Area around basin staked off/surrounded by perimeter control to prevent compaction and sedimentation
- System must drain within 48 hours
- Must capture 1 inch of runoff from new impervious surfaces
- Must be inspected to ensure sediment is not entering infiltration area and it is not being compacted by equipment



06 05 2013

04 30 2013

NPDES Infiltration Requirements



Permit Requirements-Temporary Basins

- Required where >10 acres of disturbance drain to a common location- regular sites
- >5 acres near Special or Impaired waters

Temporary Sedimentation Basin Outlet=Pump with Floating Head



- Designed to allow for complete drawdown
- Outlet must withdraw from the surface

Floating head skimmer



Permit Requirements-Temporary Basins

- Energy dissipation required at basin outlet



- Sediment basins must be placed outside of surface waters and any buffer zones

Common Permit Violations-Linear Projects

Soil Stabilization

- Permittee(s) must stabilize all exposed soil areas (including stockpiles) whenever any construction activity has permanently or temporarily ceased on any portion of the site and will not resume for a period exceeding 14 days.
- Stabilization must be “Initiated Immediately”
- 7 day timeline when working next to Special/Impaired waters
- DNR Work in Water Restrictions
 - Within 200 feet of water it must be stabilized within 24 hours (during fish spawning times)

Initiated Immediately

- Definition of “Initiated Immediately”
 - Means taking an action to commence stabilization as soon as practicable, but no later than the end of the work day, following the day when the earth-disturbing activities have temporarily or permanently ceased, if the Permittee(s) know that construction work on that portion of the site will be temporarily ceased for 14 or more additional calendar days or 7 calendar days where Appendix A.C.1.a applies.

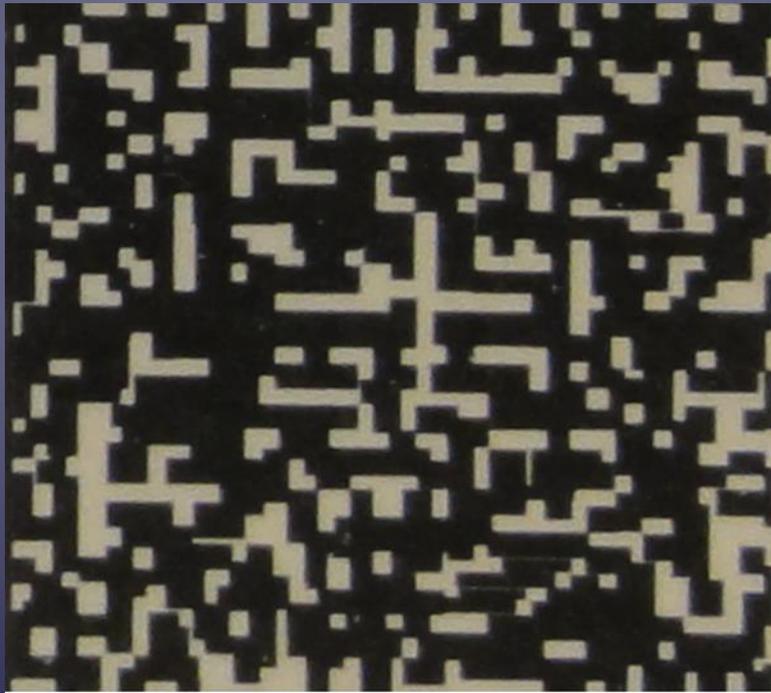


Initiate Stabilization Immediately

- Defined in the NPDES Permit
- The following activities can be taken to initiate stabilization:
 - Prepping the soil for vegetative or non-vegetative stabilization
 - Applying mulch or other non-vegetative product to the exposed soil area
 - Seeding or planting the exposed area
 - Starting any of the activities in the above 3 on a portion of the area to be stabilized, but not on the entire area
 - Finalizing arrangements to have stabilization product fully installed in compliance with the applicable deadline for stabilization

Stabilization: Mulch Application Rates

90% Coverage



60% Coverage



Required: 90% coverage if Hay/Straw and 100% coverage if Hydromulch

Common Permit Violations-Linear Projects

Soil Stabilization- Ditches and Conveyances

- Must stabilize the last 200 feet of **normal wetted perimeter** to point of discharge/prop. edge within 24 hours
- Rest of the ditch- 14 days
- 7 day timeline when working next to Special/Impaired Waters
- Appropriate BMPs

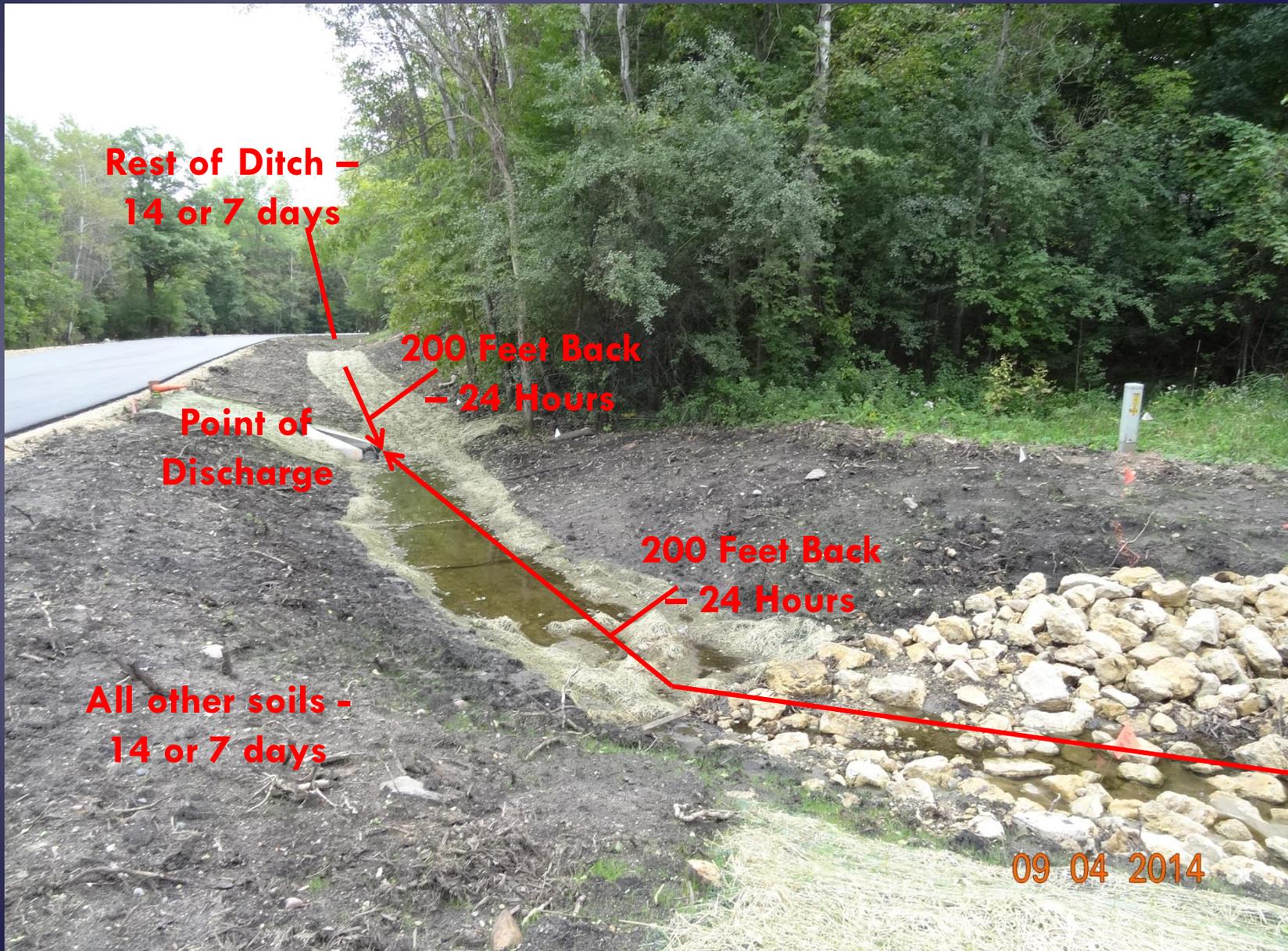


Applying mulch, hydromulch, tackifier, polyacrylamide or similar erosion prevention practices is not acceptable stabilization in any part of a temporary or permanent drainage ditch or swale!

Non-Compliant Stabilization



Soil Stabilization- Ditches and Conveyances



Compliant Stabilization



CSW Permit Requirements-Buffer Zones

- Permittees must preserve a 50 foot natural buffer when surface water is within 50 feet of disturbance and stormwater flows to surface water
- Natural buffer: Any undisturbed cover that existed prior to disturbance, incl. vegetation, barren ground, exposed rock.
- If a buffer is **infeasible**, redundant BMPs must be used
- 100 foot buffer required before and after construction when working next to a Special Water, encroachment into buffer must be mitigated for and requires permission from the MPCA



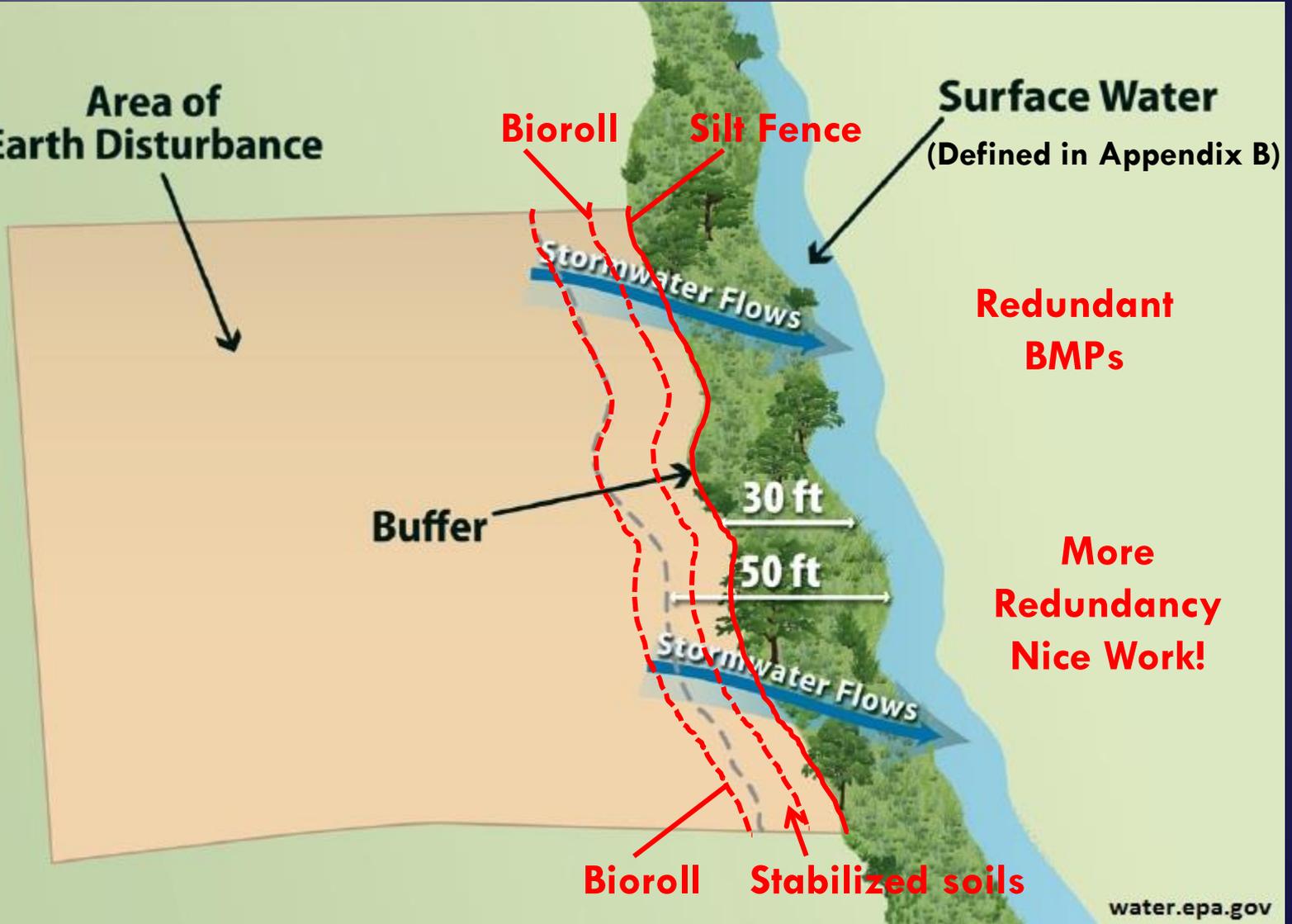
CSW Permit Requirements-Buffer Zones

Area of Earth Disturbance

Bioroll

Silt Fence

Surface Water
(Defined in Appendix B)



Redundant
BMPs

More
Redundancy
Nice Work!

Bioroll Stabilized soils

CSW Permit Requirements-Buffer Zones

If a buffer is **infeasible**,
redundant BMPs must be used

Provides
two areas
for sediment
capture

Stabilize soils!



Common Permit Violations-Linear Projects

Dewatering



Missing Perimeter Controls & Inlet Protection



Maintenance

Dewatering Solutions



Flocculants

Dewatering Solutions



Sediment
Basins &
Filtration

Erosion and Sediment Control Supervisor

Dave Bauer, MnDOT



Erosion and Sediment Control Supervisor

- Erosion and sediment control BMPs, installation, maintenance, and removal.
- Attends Construction meetings and prepares the erosion control schedule
- Responsible for planning including preparing site management plans, suggesting SWPPP improvements
- Regulatory – applies for permits and meets environmental laws

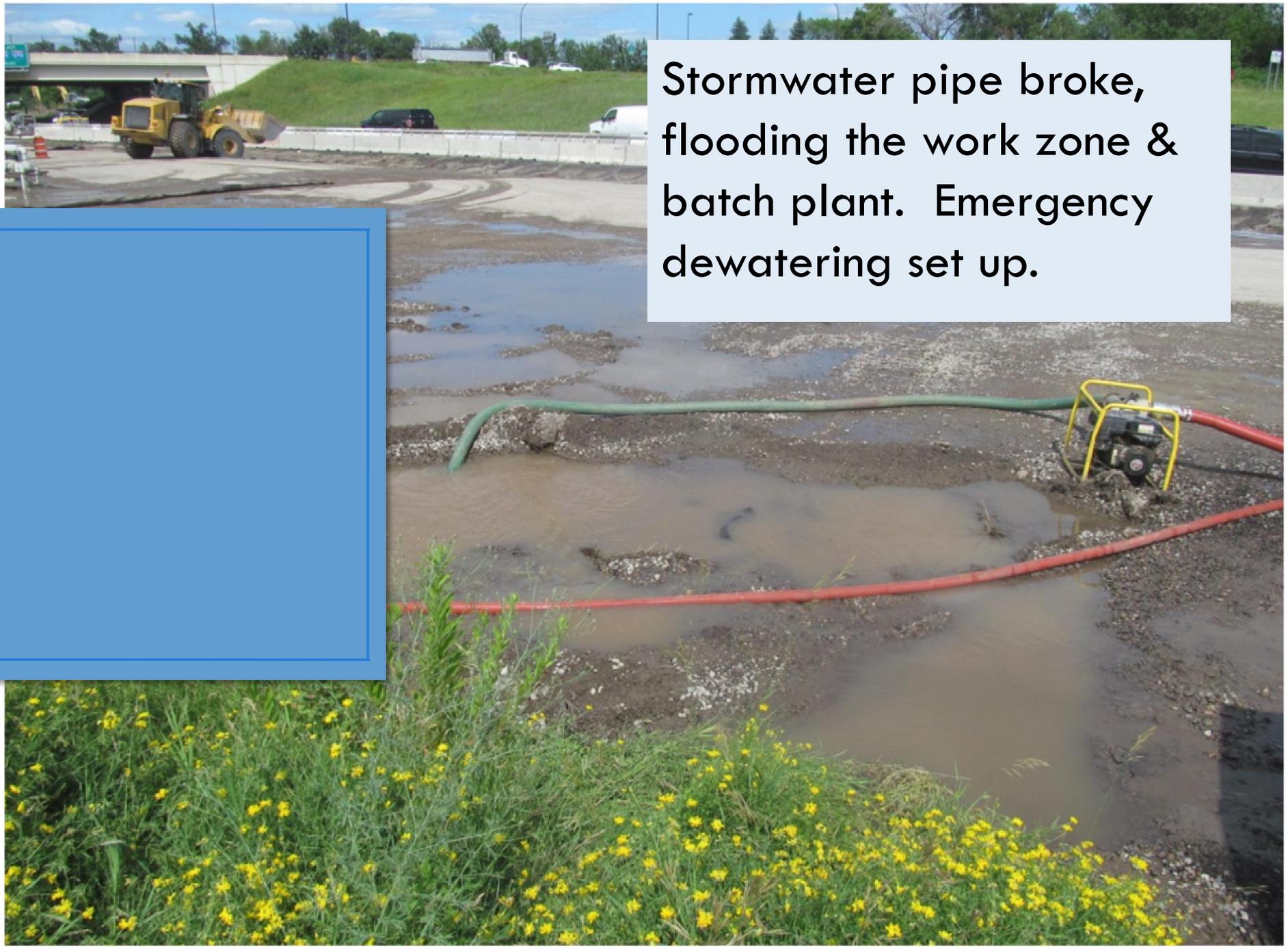
- CASE STUDY





Turbid water contained on ROW by blocked pipe.

Stormwater pipe broke, flooding the work zone & batch plant. Emergency dewatering set up.





ERIE

EAST
EXIT 151
17th WILEY

Water was pumped to culvert to prevent flooding traffic



Flowed through open ditch to rock weeper and buffer, leaving project.



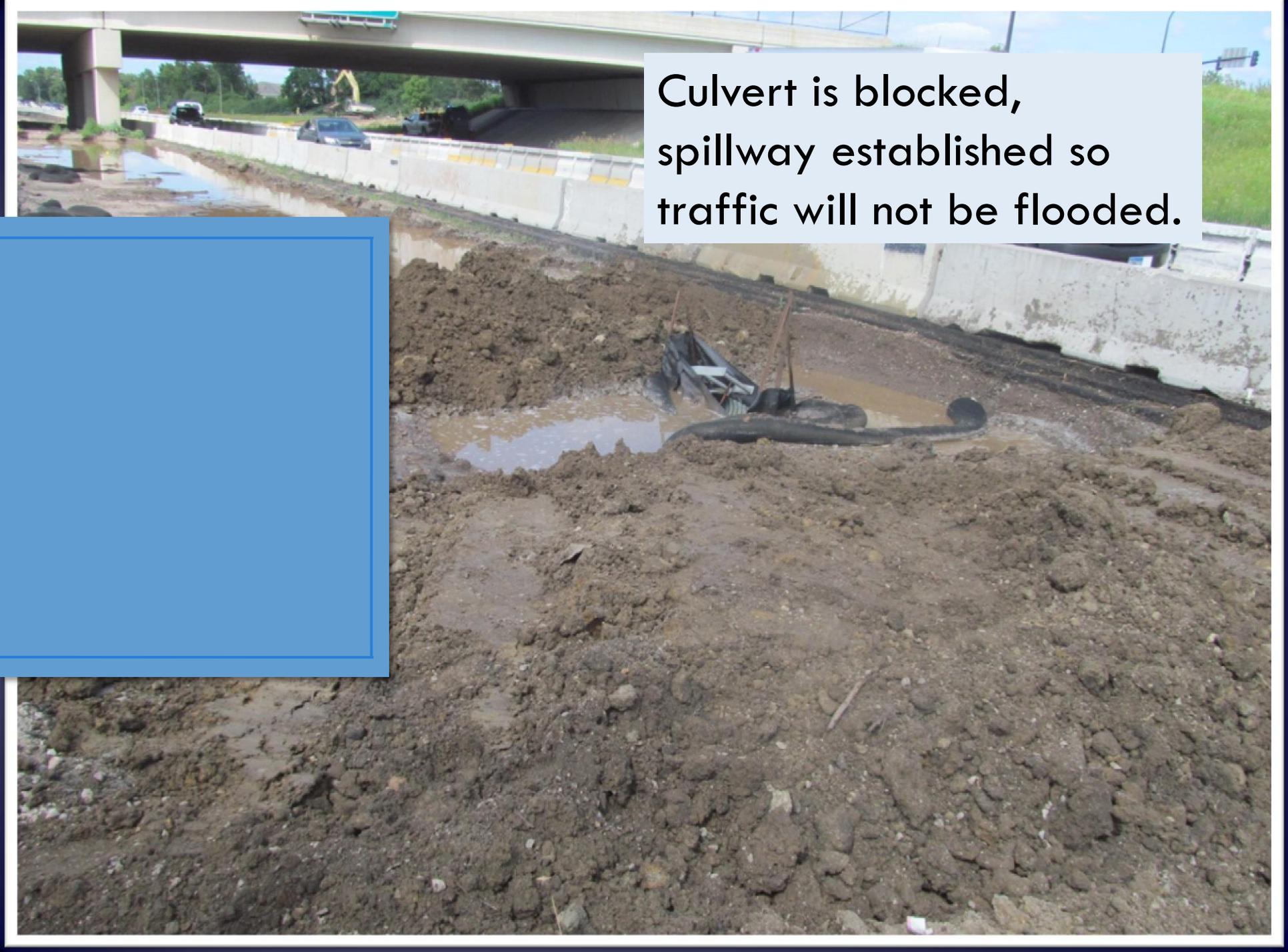


Rock weeper is overwhelmed; turbid water moving through buffer.

ESC Supervisor created temporary blocks with batch plant equipment



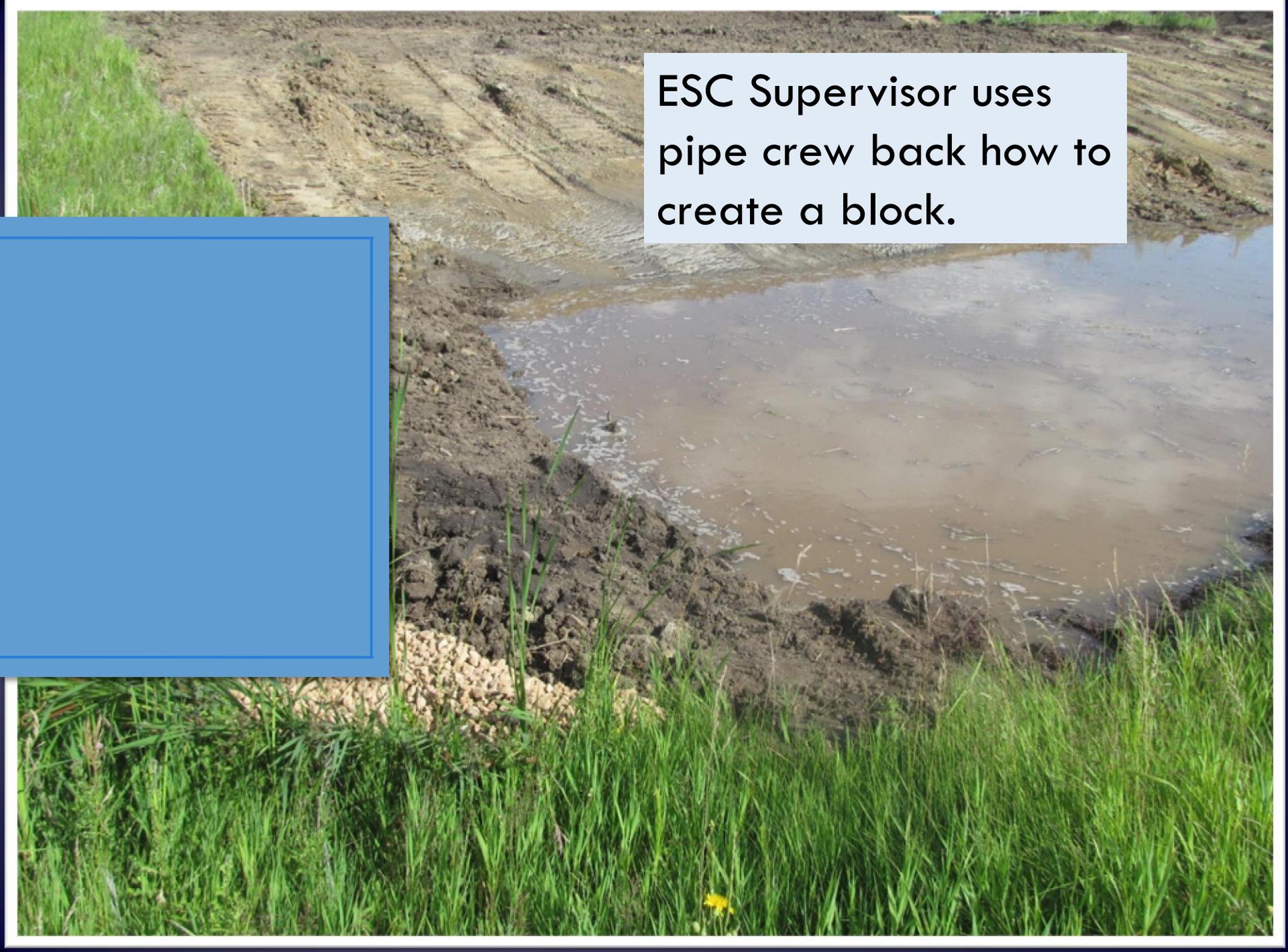
Culvert is blocked,
spillway established so
traffic will not be flooded.





ESC Supervisor uses pipe crew to create a soil berm at outlet.

ESC Supervisor uses pipe crew back how to create a block.



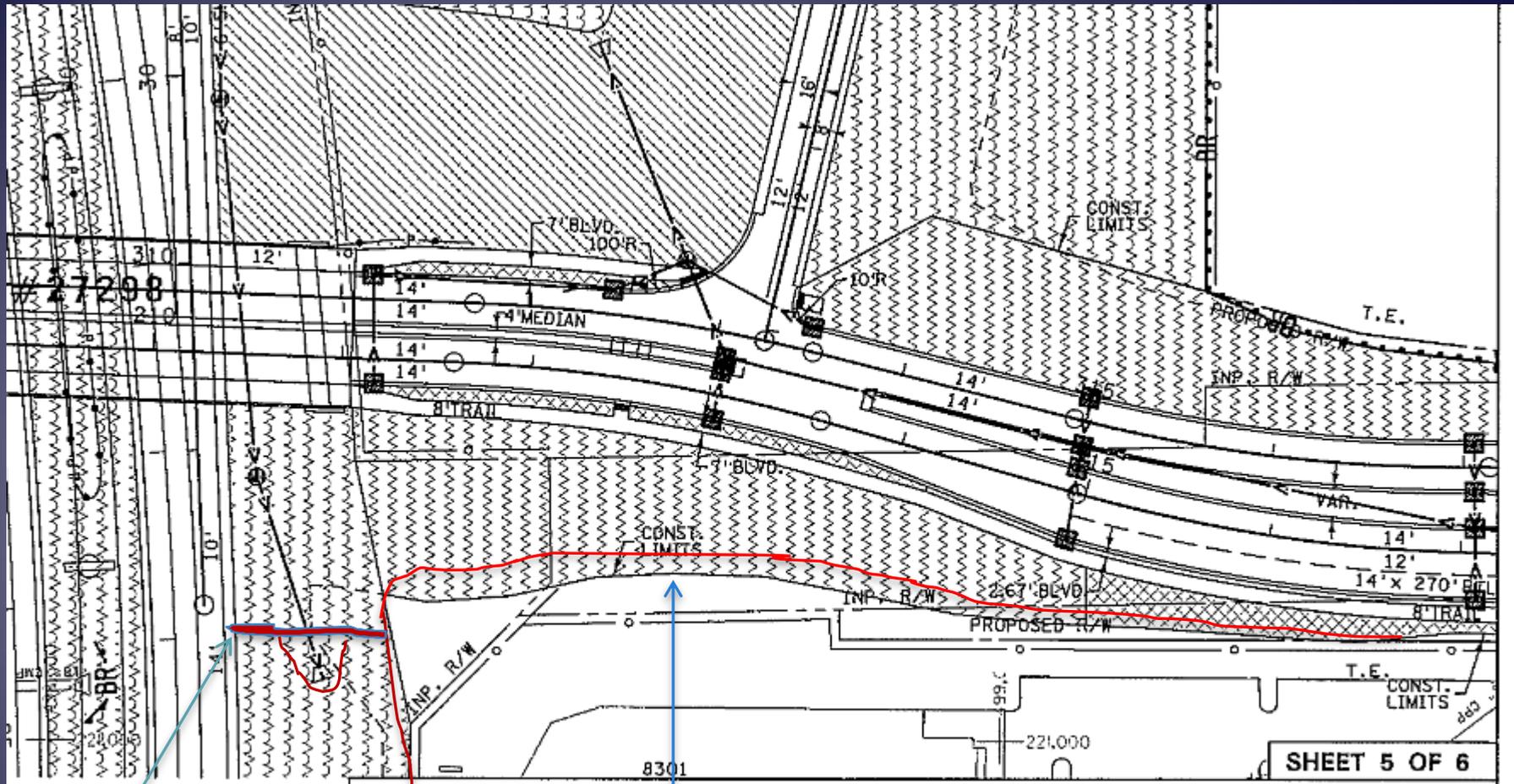
Additional grading for capacity and a circulating flocculent system to lower the turbidity.



Erosion and Sediment Control Supervisor

- ESC Supervisor had the turbid water blocked within 15 minutes of discovery.
- Additional measures were put in place within 24 hours.
- Knowledge of the site, drainage, and construction crew locations allowed for a quick response.
- Small lake downstream that is ringed with apartments and businesses was only lightly impacted with non-recoverable amounts of sediment.





TURF ESTABLISHMENT AND EROSION CONTROL PLAN

SHEET 5 OF 6

10130 DATE 8/9/12 S.P. 2750-75 (T.H. 169) S.A.P. 027-630-014 SHEET NO. 169 OF 176 SHEETS

6/25 silt fence

6/23 silt fence

Questions?

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MnDOT



Minnesota Pollution Control Agency



We all have a stake in **A10B**