Environmental Monitor Construction Site Inspection Report MassDOT Project #608164 Construction Contract # 119678 EM Report #15

Project Description: Bruce Freeman Rail Trail Right-of-Way

Permit Description(s): Order of Conditions (MGL Chapter 131, Section 40 and 310 CMR 10.00, Mass DEP File No. 301-1362); 2022 EPA NPDES General Permit for Discharges from Construction Areas; U.S. Army Corps of Engineers Permit No NAE-2021-01975

I. General Project Information

Project Name:

Bruce Freeman Rail Trail - Phase 2d - Sudbury

Date of Inspections:

8/5/2024

Bi Weekly/ Monthly Period Covered:

August Weekly Inspection #1

Inspector's Name(s):

Anna Haznar

Inspectors' Contact Information:

ahaznar@beta-inc.com

II. Weather Information						
	Inspection #1	Inspection #2	Inspection #3	Inspection #4	Inspection #5	
WeatherUnderground	Inspector: Anna Haznar	Inspector:	Inspector:	Inspector:	Inspector:	
Type of Inspection (i.e. non-storm event, pre-storm event, during-storm event or post-storm event):	Post-storm event					
Number of days since last rain event greater than 25"	1					
Has there been a storm event since the last nspection?	Yes					
f yes, please provide storm start date, storm duration, and approx amount of precipitation:						
5torm 1:	August 5th (8 hours 0.89")					
itorm 2:						
Storm 3:						
Storm 4:						
Weather at the time of inspection (i.e. clear, overcast, cloudy, rain, sleet, fog, snow, windy):	Clear					
Femperature: Jnusual Conditions (drought, severe storm):	82					
onusual Conditions (drought, severe storm):						
Have any discharges occurred since the last nspection report?	Yes					
f yes, please describe:	Runoff from the stamped concrete splitter island was observed within					
	the streambed at Station 216+00, crushed stone was observed within					
	the steambed at Station 170+00					
	and 215+00 to 217+50					

Note: Inspections should only be conducted on days during work hours while RE or ARE is onsite. The EM should contact the RE to address any immediate corrective actions.

III. General Description of Construction Status

8/5/2024 - At the time of the Site visit, crews were installing the stamped concrete splitter islands at multiple intersections throughout the Project.

IV. Status of Existing BMPs						
Control Measure (These are examples; list measures	Cleaning or Repair Needed (yes	Comments/Recommendations from the EM				
specific to the project)	no n/a)	Collineits) recollineits it of the Livi				
Perimeter Controls	Yes	Perimeter erosion and sedimentation control measures were installed at the commencement of the Project and are in varying conditions across the Site; however, they were generally observed to be degraded. While areas upgradient of degraded controls are temporarily stabilized at some locations, several discharges of sediment beyond the limits of work were observed including at Station 170+00, Stations 172+00 to 173+00, and Stations 215+00 to 217+50. It is recommended that the contractor repair erosion and sedimentation control measures where breaches are occurring and where stabilization has not been achieved. Areas where stabilization has commenced should be monitored for germination, as replacement of erosion controls may not be required if stabilization is achieved. Perimeter controls were generally in degraded condition along culverts, streams, and cattle crossings. New perimeter controls were added on 6/27/2024 at Stations 310+00 through 311+00 as requested.				
Inlet Protection Measures	Yes	Catch basins in the vicinity of active work at the Hudson Road intersection require the installation of inlet protection.				
Stabilized Construction Entrances	No					
Stockpile Protections	No					
Dust Control	No					
Street Sweeping	No	Sweeping of stone dust is required on the path at Station 297+00 to 298+00 and 308+00.				
Dewatering Controls	No					
Construction Equipment and Material Storage	No					
Construction and Domestic Waste Storage and Collection	No					
Location of Sanitary Waste Facilities	No					
Washout Areas	No					
Fertilizers, Herbicides, and Landscape Material	N/A					
Stabilization of Exposed Soil	Yes	Varying degrees of stabilization are present within areas that were constructed/graded as part of the Project. Stabilization efforts are required at Station 105+00 to 106+00, Stations 172+00 to 175+00, Station 217+45, Station 225+50, Station 265+50 to 273+00, Stations 313+00 to 316+00 and along the driveway to the parking lot near Station 216+50. Stabilization has commenced via application of hydroseed at the majority of these locations and should be monitored for successful establishment.				
Overall Adherence to Environmental Permits	Yes	As noted in Action Items 41 and 42, it appears that work has been conducted beyond the limits of work approved under the Order of Conditions. These areas will require coordination amongst the Project Team to confirm if any restoration is required.				
Note: Use station numbers, wetland ID or other mea	ins to determine locations of BMP	's that need repairs.				

V. Compliance Table - Compliance Action Items

V. 1. Compliance Action Items Observed During the One Month Reporting Period Ending [June 30, 2024].

Current Open and Closed Compliance Action Items Observed During the Reporting Period Ending [June 30, 2024]. For those items within the most current two week period, color the Item in blue, as shown on lines 48-50 as an example. RED text indicates that the item is outstanding. Once item is resolved, place resolution date in 'Recommended Resolution/Resolution Date' column, convert to BLACK text, and move to the bottom of the Action Item list. Place resolution date on TOP of resolution action. Each Compliance Action Item is assigned a unique number only to be used to reference that item for the duration of the project. Separate but related Action Items will be labeled in an "Item Number-1 and Item Number-2" manner or similar. Completed action items can be removed once they have appeared in the Bi-Weekly Report to MassDEP

"<u>Urgent</u>" - Needs to be completed immediately, "<u>High</u>" - Needs to be completed in < 7 days due to site conditions, proximity to resource areas, anticipated weather, etc., "<u>Medium</u>" - Needs to be completed within 7 days and has short-term potential to impact resource areas impact resource areas. "<u>Low</u>" - Needs to be completed within 7 days with minimal potential to impact resource areas

Iten	Location/ Description	Observation Date	Resolution Due Date	Recommended Resolution / Resolution Date	Comments/Updates
56	Crushed stone discharged to the stream at Station 170+00 Priority: High	8/5/2024	8/12/2024	Remove crushed stone from streambed and provide more robust erosion and sediment controls	
55	Crushed stone dust was observed requiring removal from the streambed on the west side of the path at Station 215+00 to 217+50 Priority: High	8/5/2024	8/12/2024	Remove crushed stone from streambed and provide more robust erosion controls	
54	Runoff/debris associated with the stamped concrete splitter island was observed to be requiring removal from the streambed on the west side of the path at Station 216+00 Priority: High	8/5/2024	8/12/2024	Remove debris from streambed and provide more robust erosion controls	
53	Stone was observed requiring removal from the swale on the east side of the trail at Station 172+00 to 173+00 Priority: High	7/29/2024	8/6/2024	Remove stone from the swale.	8/5/2024 - Observation remains.
52	Slope along the driveway to the parking lot at Station 216+50 requires stabilization Priority: Medium	7/29/2024	8/6/2024	Install erosion control blanket and place seed.	8/5/2024 - Observation remains.

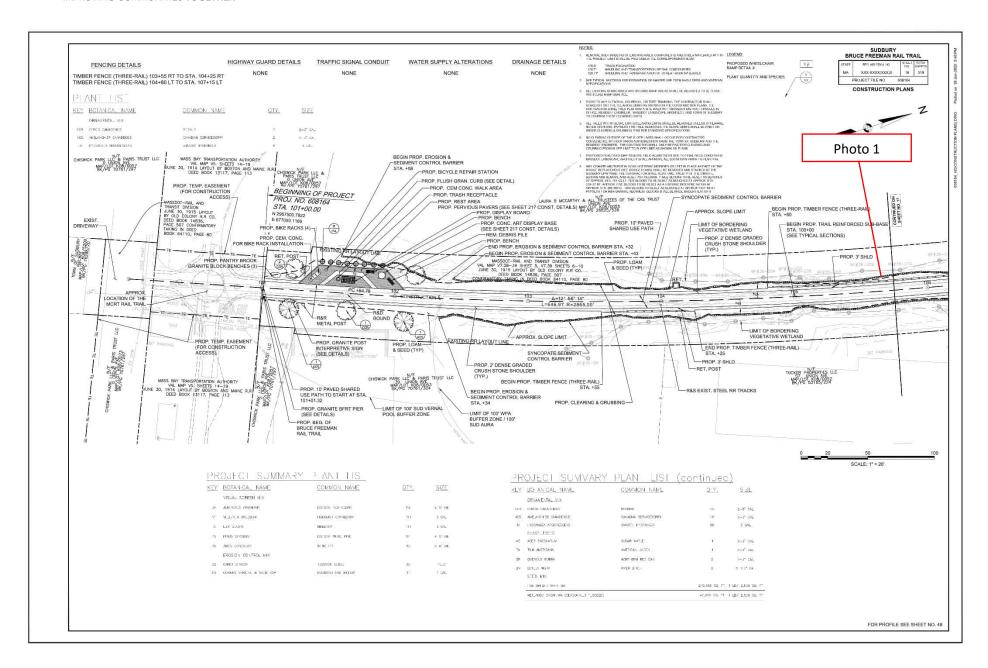
51	Stone dust requiring sweeping was observed within and to the east of the trail at Station 297+00 to 298+00 and 308+00. Priority: High	7/29/2024	8/6/2024	Sweep stone dust from trail and sides of trail.	8/5/2024 - Observation remains.
50	Catch basin requiring inlet protection at the Hudson Road intersection Priority: Medium	7/15/2024	7/22/2024	Install inlet protection within the catch basin.	7/22/2024 - Observation remains. 7/29/2024 - Observation remains. 8/5/2024 - Observation remains.
43	Overtopped compost filter tubes and exposed soils beyond the limits of work at Station 105+00 Priority: High	6/7/2024	6/14/2024	Stabilize the area with the approved seed mixture and provide interim stabilization such as straw mulch.	6/14/2024 - Observation remains. 6/17/2024 - Observation remains. 6/24/2024 - Observation remains. 6/24/2024 - Observation remains. 7/8/2024 - Observation remains. 7/15/2024 - Observation remains. 7/15/2024 - Observation remains. 7/22/2024 - Observation remains. 7/29/2024 - Observation remains. 8/5/2024 - Observation remains.
44	Slopes require stabilization / additional seed due to lack of compost filter tubes at 105+00 and 106+00 Priority: High	6/7/2024	6/14/2024	Stabilize the slope with the approved seed mixture and provide interim stabilization such as straw mulch.	6/14/2024 - Observation remains. 6/17/2024 - Observation remains. 6/27/2024 - Observation remains. 6/27/2024 - Observation remains. 7/8/2024 - Observation remains. 7/15/2024 - Observation remains. 7/15/2024 - Observation remains. 7/22/2024 - Observation remains. 7/22/2024 - Observation remains. 8/5/2024 - Observation remains.

45	Erosion observed along east side of trail at Station 225+50 Priority: Medium	6/7/2024	6/14/2024	Stabilize the slope with the approved seed mixture and provide interim stabilization such as straw mulch.	6/14/2024 - Observation remains. 6/17/2024 - Observation remains. 6/24/2024 - Observation remains. 6/27/2024 - Vegetation has become established; however, migrated material requires removal. 7/8/2024 - Observation remains. 7/15/2024 - Observation remains. 7/22/2024 - Observation remains. 7/29/2024 - Observation remains. 8/5/2024 - Observation remains.
47	Slope stabilization required due to condition of compost filter tubes at Station 265+50 and 273+00 Priority: High	6/7/2024	6/14/2024	Stabilize the slope with the approved seed mixture and provide interim stabilization such as straw mulch.	6/14/2024 - Observation remains. 6/17/2024 - Observation remains. 6/24/2024 - Observation remains. 6/24/2024 - Observation remains. 6/27/2024 - Observation remains. 7/8/2024 - Observation remains. 7/15/2024 - This area could not be assessed due to paving operations ongoing during the inspection. 7/22/2024 - Observation remains. 7/29/2024 - Observation remains. 8/5/2024 - Observation remains.
34	Sediment is eroding downhill from behind the cemented stone masonry wall at Station 217+45 Priority: Low	5/28/2024	6/4/2024	Apply seed and temporarily stabilize the soils along the slope with straw, jute netting, etc.	5/31/2024 - Observation remains. 6/7/2024 - Observation remains. 6/14/2024 - Observation remains. 6/14/2024 - Observation remains. 6/24/2024 - Observation remains. 6/24/2024 - Observation remains. 6/27/2024 - Rills were raked, loam was added, and hydroseed was applied. 7/8/2024 - Observation remains. Grass was observed to be germinating at this location. Comment will remain open until stabilization is complete. 7/8/2024 - See previous update. 7/15/2024 - Additional hydroseed is required due to washouts. 7/22/2024 - Observation remains. 7/29/2024 - Observation remains. 8/5/2024 - Observation remains.
32	Soil and organic debris has been placed within the wetland between wetland flagging WF#23-119 and WF#23-118 at Station 224+00 Priority: High	5/21/2024	5/28/2024	Remove all material and provide stabilization of the area with the approved wetland seed mixture. Straw should also be placed for interim stabilization.	5/28/2024 - Observation remains. 5/31/2024 - Observation remains. 6/7/2024 - Observation remains. 6/14/2024 - Observation remains. 6/14/2024 - Observation remains. 6/14/2024 - This area has been hydroseeded multiple times, but the debris should also be removed from the downgradient wetland. 6/24/2024 - Observation remains. 6/24/2024 - Observation remains. The area was hydroseeded again. 7/8/2024 - Observation was observed and the area will be monitored for stabilization. 7/15/2024 - Observation remains. 7/29/2024 - Observation remains. 7/29/2024 - Observation remains. 8/5/2024 - Observation remains.

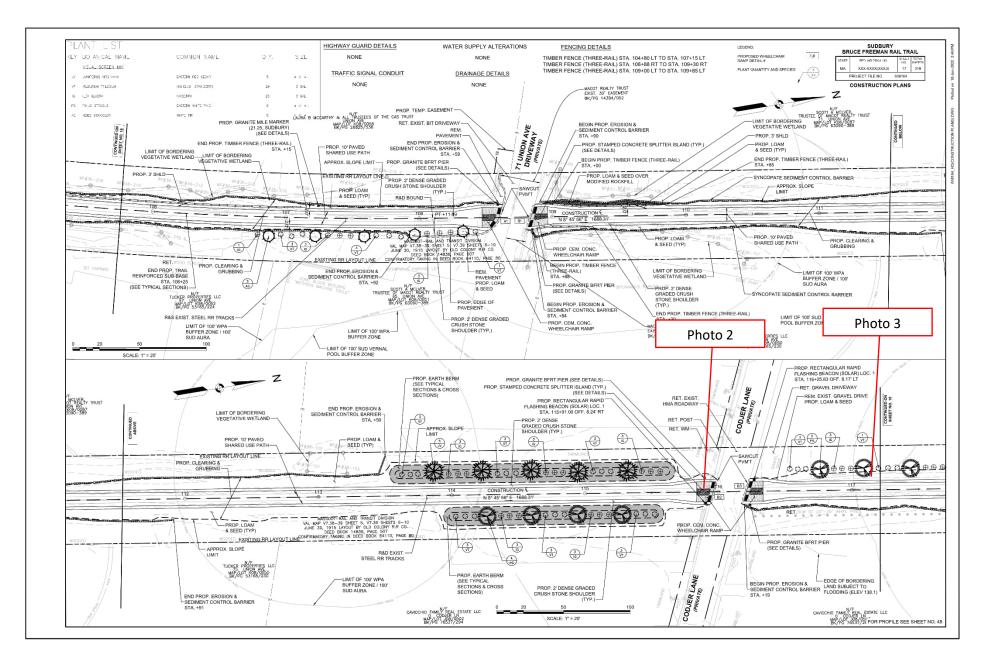
6	Exposed sediment slope at Station 172+00 to 175+00 Priority: High	5/8/2024	5/15/2024	Install temporary sediment controls along the slope such as jute netting and/or straw following the application of seed.	5/16/2024 - Observation remains. 5/21/2024 - Observation remains. 5/28/2024 - Partial germination was observed. 5/31/2024 - See previous update. 6/7/2024 - Further earthwork has occurred and soils require stabilization. 6/14/2024 - Observation remains. 6/14/2024 - Observation remains. 6/24/2024 - Observation remains. 6/24/2024 - Observation remains. 6/24/2024 - The area has been regraded and loam has been spread. New trees have been planted upgradient of the swale. Stabilization is still required. 7/8/2024 - Jute netting has been installed over the applied seed, and the area will be monitored for germination. 7/15/2024 - See previous update. 7/22/2024 - Observation remains. 7/29/2024 - Observation remains. 8/5/2024 - Observation remains.
14	Sediment-laden runoff is being discharged into a stream from the new parking lot at Station 216+50 Priority: High	5/8/2024	5/15/2024	Replace compost filter tubes around the stream and develop a method of redirecting runoff from the parking lot at the source.	6/14/2024 - Observation remains.
17	Sediment migration beyond the limits of work at Stations 236+00 to 238+00 Priority: High	5/8/2024	5/15/2024	Remove accumulated sediment from areas beyond the limits of work and replace compost filter tubes. Once any grading work is completed, apply seed to the slope and stabilize it with jute netting, straw, etc.	5/16/2024 - Observation remains. 5/16/2024 - Observation remains. 5/28/2024 - Hydroseed has been applied; however, accumulated sediment beyond the limits of work requires removal. 5/31/2024 - Observation remains. 6/7/2024 - Application of seed is required for stabilization. 6/14/2024 - Observation remains. 6/14/2024 - Observation remains. 6/14/2024 - Observation remains. 6/24/2024 - Observation remains. 6/27/2024 - This area has been hydroseeded and germination was observed. 7/82/2024 - Germination was observed and the area will be monitored for stabilization. 7/15/2024 - Observation remains. 7/29/2024 - Observation remains. 8/5/2024 - Observation remains.

18	Sediment migration beyond the limits of work at Stations 238+00 to 241+00 Priority: Medium	5/8/2024	5/15/2024	Stabilize steep slopes with jute netting or compost filter tubes to prevent additional land movement and erosion.	5/16/2024 - Observation remains. 5/21/2024 - Observation remains. 5/28/2024 - Hydroseed has been applied; however, accumulated sediment beyond the limits of work requires removal. 5/31/2024 - Observation remains. 6/7/2024 - Application of seed is required for stabilization. 6/14/2024 - Observation remains. 6/17/2024 - Observation remains. 6/21/2024 - Observation remains. 6/22/2024 - Observation remains. 6/22/2024 - This area has been hydroseeded and germination was observed. 7/8/2024 - This area could not be assessed due to paving operations ongoing during the inspection. 7/22/2024 - Observation remains. 7/22/2024 - Observation remains. 8/5/2024 - Observation remains.
23	Sediment has accumulated within the cattle crossing at Station 258+00 and is migrating towards adjacent wetlands Priority: High	5/8/2024	5/15/2024	Remove all accumulated sediment and address the sediment release at the source through additional erosion controls and stabilization measures.	5/16/2024 - Observation remains. 5/21/2024 - Partial sediment removal has been completed. It appears that this accumulation of sediment may be occurring due to offsite inputs and may require coordination with MassDOT. 5/28/2024 - Observation remains. 5/31/2024 - Observation remains. 6/7/2024 - Observation remains. 6/14/2024 - Observation remains. 6/14/2024 - Observation remains. 6/24/2024 - Observation remains. 6/24/2024 - Observation remains. 6/27/2024 - Observation remains. 7/8/2024 - Observation remains. 7/15/2024 - Observation remains. 7/22/2024 - Observation remains. 7/22/2024 - Observation remains. 7/29/2024 - Observation remains.
26	Erosion and migration of gravel into a stream observed along the east side of the trail at Stations 292+00 to 294+50 Priority: High	5/8/2024	5/15/2024	Add or replace erosion controls and remove the gravel eroding into wetlands and streams. Replace gravel and/or supplement with larger stone.	5/16/2024 - Observation remains. 5/21/2024 - Observation remains. Recently placed loam should be stabilized to prevent sediment-laden runoff from discharging to the stream. 5/28/2024 - Observation remains. 5/31/2024 - Observation remains. 6/7/2024 - Observation remains. 6/7/2024 - Observation remains. 6/14/2024 - Observation remains. 6/17/2024 - Observation remains. 6/24/2024 - Observation remains. 6/24/2024 - Observation remains. 6/27/2024 - Observation remains. 7/8/2024 - Observation remains. 7/8/2024 - Observation remains. 7/2/2024 - Observation remains. 7/2/2024 - Observation remains. 7/2/2024 - Observation remains. 7/2/2024 - Observation remains.
27	Material washout was observed along the west side of the trail from Stations 313+00 to 316+00 Priority: High	5/8/2024	5/15/2024	Provide supplemental erosion controls and stabilize the slope.	5/16/2024 - Observation remains. 5/21/2024 - Observation remains. 5/28/2024 - Observation remains. 5/31/2024 - No further sediment migration was observed. Additional stabilization measures have not been installed. 6/7/2024 - Observation remains. 6/14/2024 - Observation remains. 6/14/2024 - Observation remains. 6/24/2024 - Observation remains. 6/24/2024 - Observation remains. 6/27/2024 - This area has been hydroseeded. 7/8/2024 - Observation remains. 7/15/2024 - Observation remains. 7/29/2024 - Observation remains. 7/29/2024 - Observation remains. 7/29/2024 - Observation remains. 8/5/2024 - Observation remains.

	V.2. On Going (Longer-Term) Compliance Items					
		Typically, these it	ems require coordination with I	MassDEP. If so, remove once appro	val is obtained from MassDEP	
Item	Location/ Description	Observation Date	Resolution Due Date	Recommended/Discussed Resolution	Comments/Updates	
57	Japanese hops (Humulus japonicus) has been observed throughout the Project and requires removal Priority: High	8/5/2024	8/12/2024	The Contractor should perform varying removal approaches including herbicide treatment and hand-pulling to remove the vegetation throughout the Project.	3/5/2024 - Removal methods, including herbicide work and hand-pulling have been conducted throughout the Project.	
42	Riprap slope extends beyond limits of work along the WFI Series wetland near flags 103 to 107 Priority: High	5/28/2024	6/4/2024	The Contractor should confirm if this work was permitted by the Conservation Commission, as it does not appear to be a part of the approved plans/impacts. MassDOT should be consulted on next steps regarding notification and potential restoration.	5/31/2024 - Observation remains. 6/7/2024 - Observation remains. 6/7/2024 - Observation remains. 6/14/2024 - Riprap slope has been altered and active construction is repairing the area. 6/17/2024 - During this inspection, additional work in support of the repair/potential replacement of an underlying pipe has was ongoing. It is recommended that the contractor confirm that they have coordinated with the Conservation Commission for this work and provide a restoration plan for the area once work is complete. 6/24/2024 - During this inspection, BETA was informed that the existing cast iron pipe was replaced with a new concrete 12-inch reinforced concrete pipe. It appears that riprap was replaced along the side slopes to mirror conditions observed prior to this inspection. 6/27/2024 - During this inspection, the area was observed to have been rolled and prepared for paving. Hydroseed was applied and plantings were installed. 7/8/2024 - Cermination was observed and the area will be monitored for stabilization. See previous updates regarding Conservation Commission coordination. 7/15/2024 - This area could not be assessed due to paving operations ongoing during the inspection. 7/22/2024 - Observation remains. 8/5/2024 - Observation remains.	
41	Stream Bank has been regraded beyond the limit of work at Station 216+00 Priority: High	5/28/2024	6/4/2024	The Contractor should confirm if this work was permitted by the Conservation Commission, as it does not appear to be a part of the approved plans/impacts. MassDOT should be consulted on next steps regarding notification and potential restoration.	5/31/2024 - Observation remains. 6/7/2024 - Observation remains. 6/14/2024 - Observation remains. 6/14/2024 - Observation remains. 6/24/2024 - Observation remains. 6/24/2024 - Observation remains. 6/24/2024 - Observation remains. 7/8/2024 - Observation remains. 7/15/2024 - This area could not be assessed due to paving operations ongoing during the inspection. 7/22/2024 - Crushed stone and sediment continue to be discharged to the stream between Stations 215+00 and 217+00 due to overtopped and undermined compost filter tubes. 7/29/2024 - Observation remains. 8/5/2024 - Observation remains.	
	Submittal	Date Submitted	Description	Note: only filled out for monthly re	port) Status	
	Submittal	Dute Submitted	Description		Juan	
			VII Attachments (#2	only attached with monthly report	+1	
1 Field	d Sketch		VIII Attacimients (#5	o, accurred with monthly repor	· <u>·</u>	
	tographic Documentation					

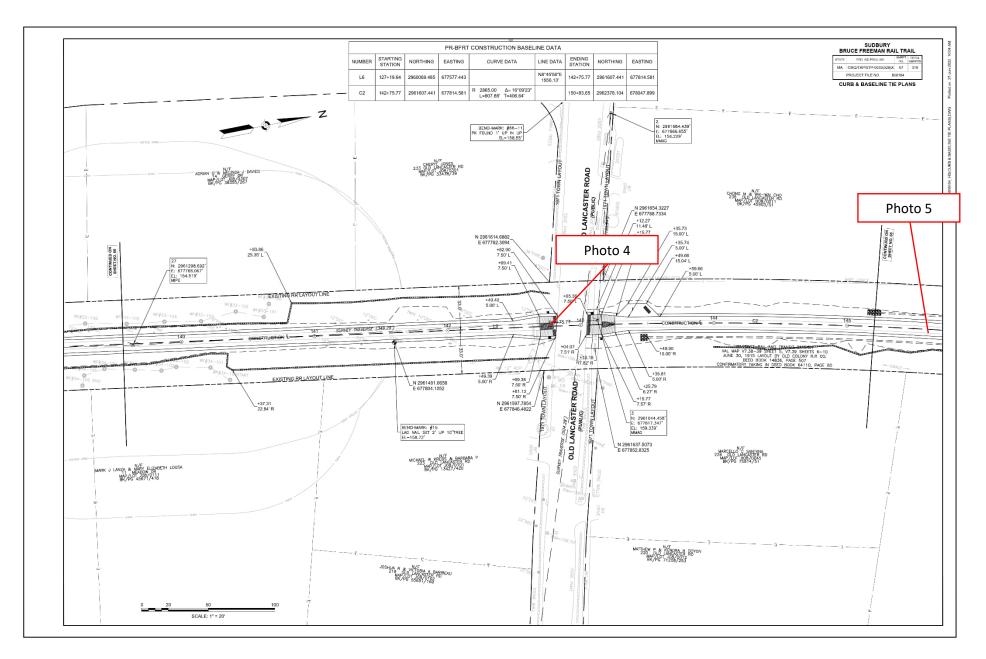




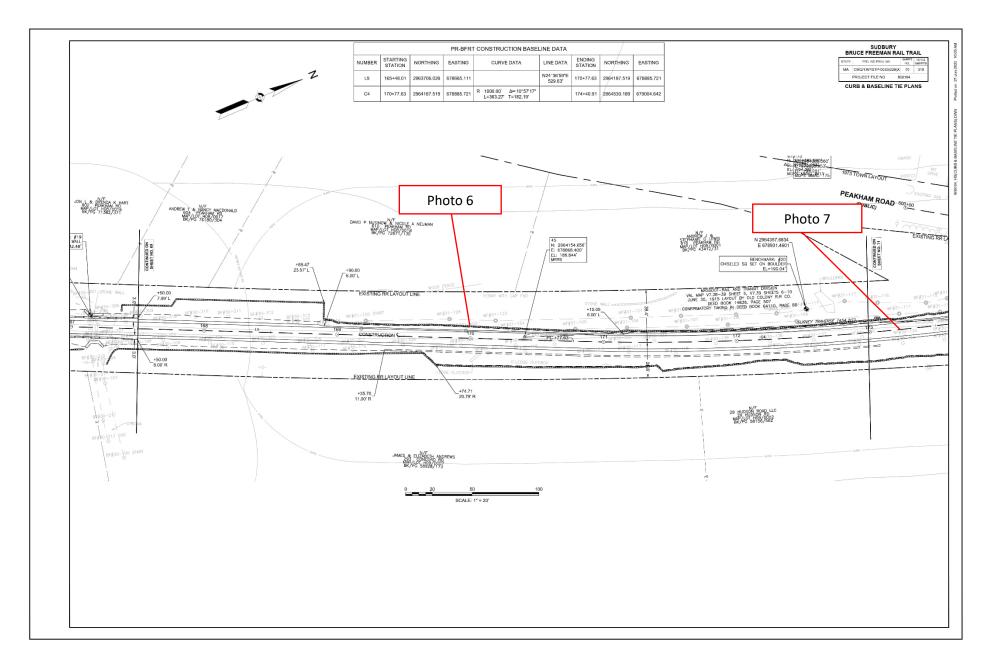




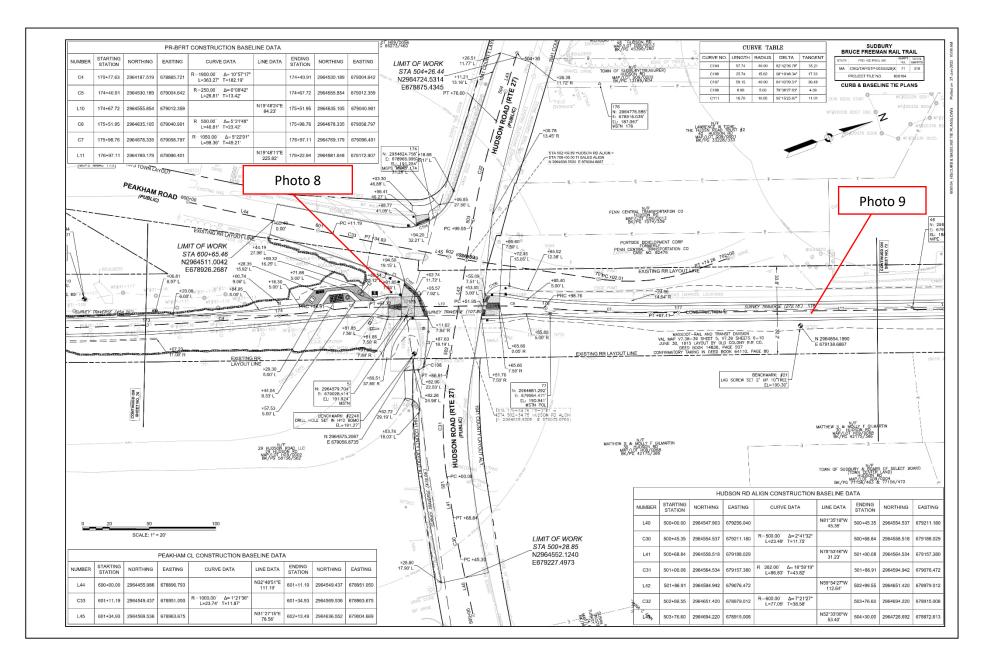


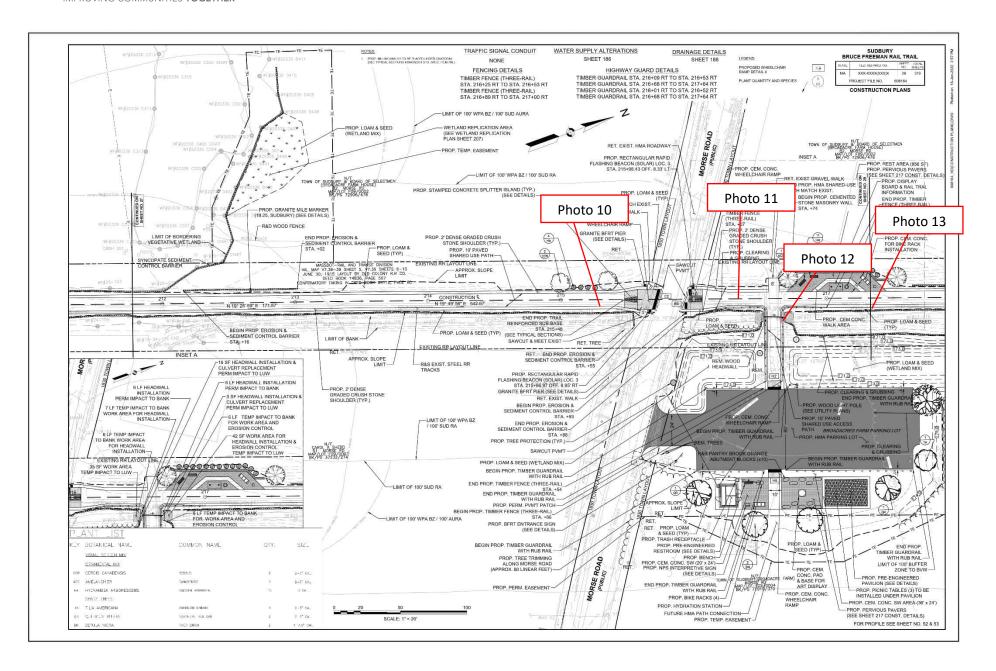


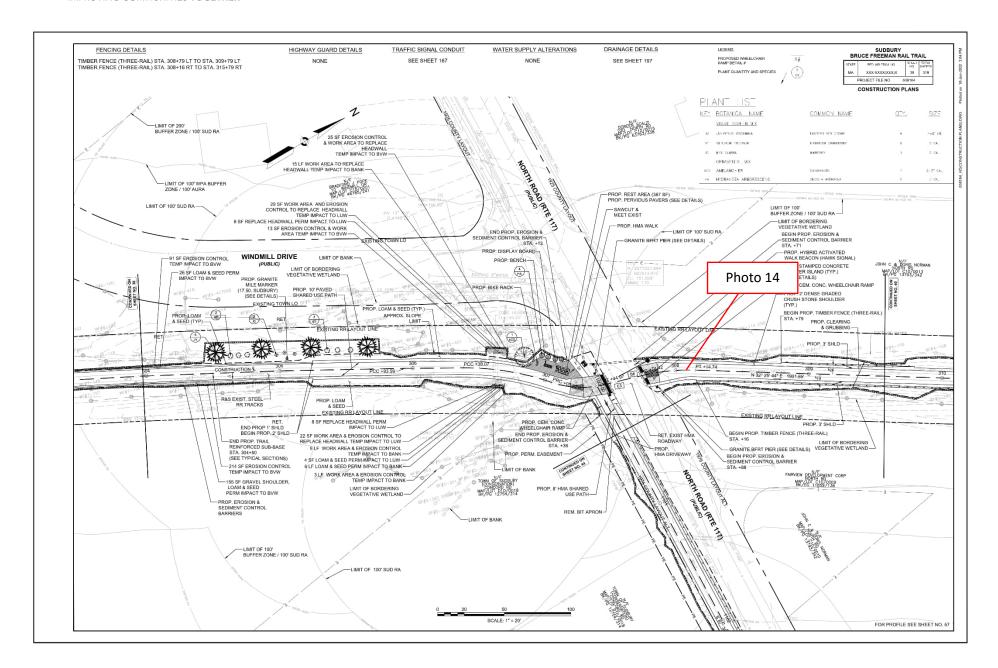














Site Location

Bruce Freeman Rail Trail Right-of-Way

BETA Project No. 24.10326.23

Photo No. 1 **Date:** 8/5/2024

Direction Photo Taken:

Toward the West

Description:

Typical view of slopes requiring stabilization and removal of gravel/sediment accumulation along compost filter tubes at Station 105+00 to 106+00 per Compliance Action Items 43 and 44.



Photo No. 2

Date: 8/5/2024

Direction Photo Taken:

Toward the South

Description:

Typical view of a stamped concrete splitter island that has been installed at every intersection along the path.





Site Location Bruce Freeman Rail Trail Right-of-Way

BETA Project No. 24.10326.23

Photo No. 3 **Date:** 8/5/2024

Direction Photo Taken:

Toward the Northeast

Description:

View of an area where Japanese hops (*Humulus japonicus*) have been hand pulled away from plantings at Station 117 per Compliance Action item 67.



Photo No. 4

Date: 8/5/2024

Direction Photo Taken:

Toward the North

Description:

View of the crew "stamping" the concrete splitter islands.





Site Location

Bruce Freeman Rail Trail Right-of-Way

BETA Project No. 24.10326.23

Photo No. 5 **Date:** 8/5/2024

Direction Photo Taken:

Toward the Northeast

Description:

Typical view of a location where Japanese hops and invasive species have been treated with herbicide at Station 145+50 per Compliance Action item 67.



Photo No. 6 **Date:** 8/5/2024

Direction Photo Taken:

Toward the North

Description:

View of crushed stone that requires removal from the streambed at Station 170+00 per Compliance Action Item 56.





Site Location Bruce Freeman Rail Trail Right-of-Way

BETA Project No. 24.10326.23

Photo No. 7 **Date:** 8/5/2024

Direction Photo Taken:

Toward the North

Description:

View of stone requiring removal from the swale at Station 172+00 to 173+00 per Compliance Action Item 53.



Photo No. 8

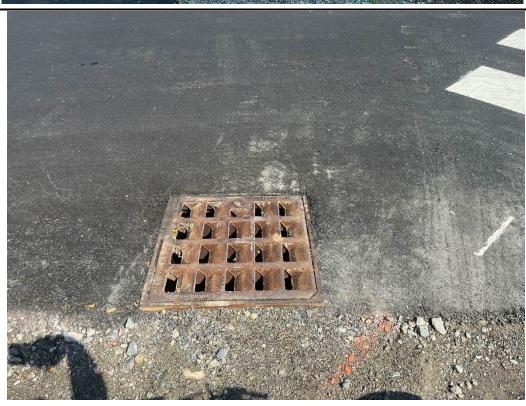
Date: 8/5/2024

Direction Photo Taken:

Toward the East

Description:

View of a catch basin requiring inlet protection at the Hudson Road intersection per Compliance Action Item 50.





Site Location

Bruce Freeman Rail Trail Right-of-Way

BETA Project No. 24.10326.23

Photo No. 9 **Date:** 8/5/2024

Direction Photo Taken:

Toward the East

Description:

Typical view of a location where crushed stone has migrated from where it was placed but is still within the limit of work. This photo was taken at Station 178+00; however, this condition was observed in multiple areas across the Project.

Photo Date: 8/5/2024

Direction Photo Taken:

Toward the North

Description:

View of a location where crushed stone requires removal from the streambed at Station 215+50 per Compliance Action Item 55.







Site Location

Bruce Freeman Rail Trail Right-of-Way

BETA Project No. 24.10326.23

Photo No. 11

Date: 8/5/2024

Direction Photo Taken:

Toward the South

Description:

View of the location where runoff from the stamped concrete splitter island requires removal from the streambed at Station 216+00 per Compliance Action Item 54.

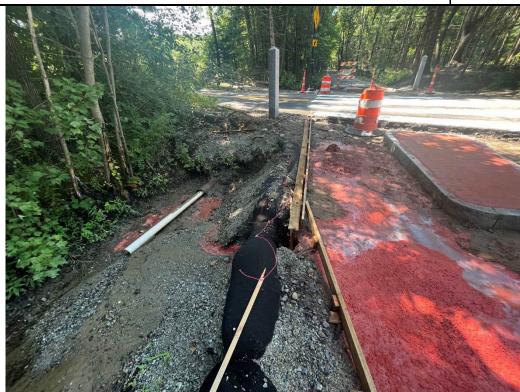


Photo Date: **No. 12** 8/5/2024

Direction Photo Taken:

Toward the East

Description:

View of a slope requiring stabilization along the driveway to the parking lot near Station 216+50 per Compliance Action Item 52.





Site Location

Bruce Freeman Rail Trail Right-of-Way

BETA Project No. 24.10326.23

Photo No. 13

Date: 8/5/2024

Direction Photo Taken:

Toward the West

Description:

View of the location where crushed stone required removal from the streambed at Station 217+50 per Compliance Action Item 55.



Photo D No. 14 8

Date: 8/5/2024

Direction Photo Taken:

Toward the North

Description:

Typical view of a location where crushed stone is required to be swept from the path at Station 308+00 per Compliance Action Item 51. This condition has been observed in multiple areas along the Project.

