

October 4, 2011

MEMORANDUM

To: Shannon Harbour, NDEP
From: Jim Hutchens, ENVIRON
Subject: Proposed Erosion Control Measures – NERT Henderson

As you are aware, on September 13, 2011, the Henderson site experienced a large rainfall event (approximately 1.1" of rain in just under 1 hour). The rainfall runoff created areas of erosion at various locations throughout the site. Cathy Buchanan from McGinley & Associates was on site as a NDEP representative and photographed a number of these locations.

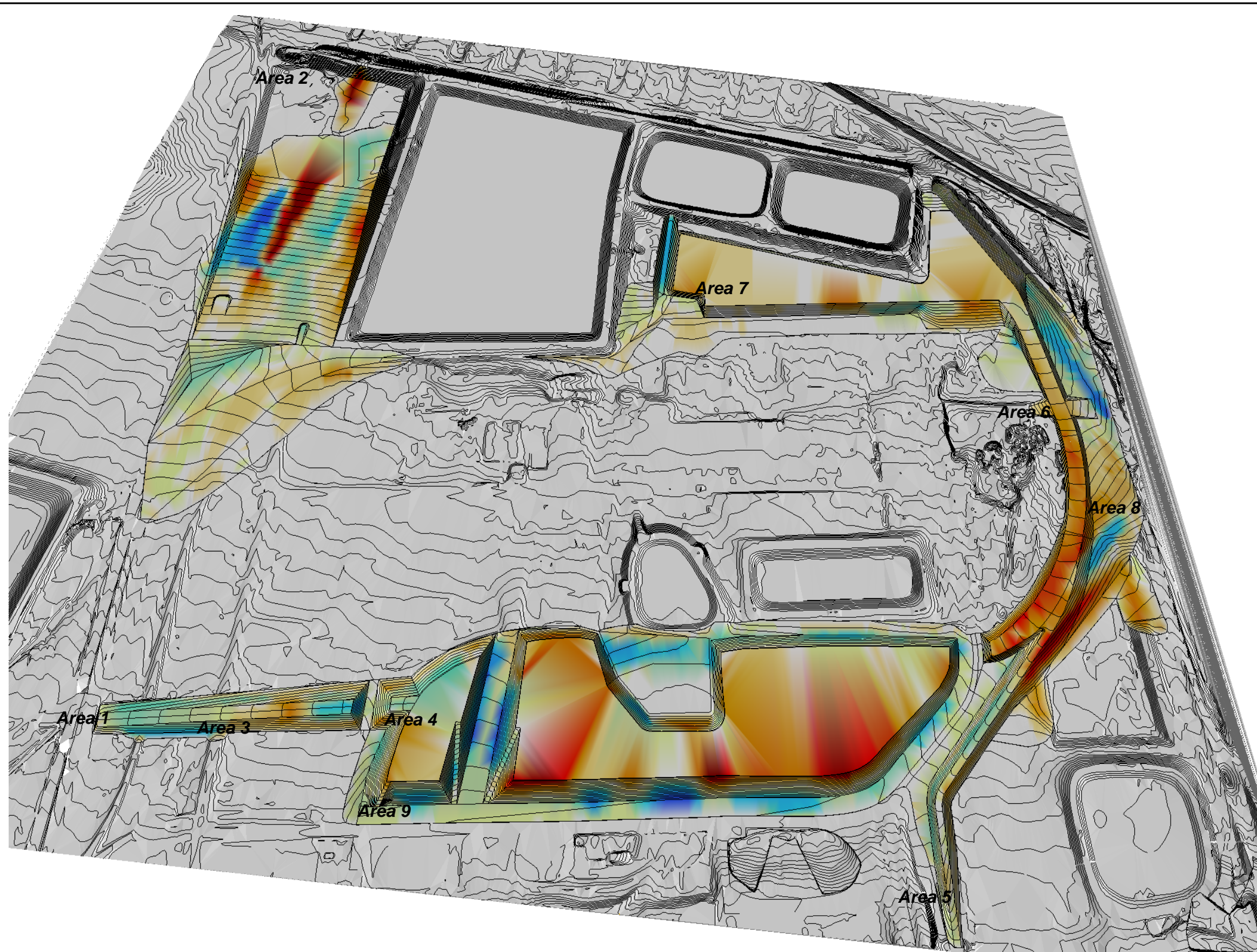
Attached is a description of the erosion repair plan for the areas which experienced major erosion issues. We have attached a figure which identifies the areas and associated photos from Cathy's report of the areas.

While some of the areas will be corrected with final grading of the areas, the three major types of repair include:

- Outfall 1 will have a designed apron which slopes from the invert to the bottom of the retention basin at a 3:1 slope which will give a 24-foot long section of riprap. The riprap to be used is a d50 of 24 inches and a total thickness of 4 feet. The apron will extend out 2.5 feet on each side of the pipe outlet for a total width of 10 feet.
- In areas which appear to have higher flows and experienced considerable erosion, the plan is to install directional berms to move the water to a designated energy dissipating channel into the respective basin. These higher flow channels will consist of a nonwoven geotextile fabric covered by approximately 12 inches of 6-inch angular stone.
- In areas with lower flows and less erosion, directional berms and channels will also be used. However in these areas the channel will consist of a geotextile fabric covered by 8 inches of 3- to 6-inch angular stone.

The different areas are shown on the attached figure with a description of the repair for each of these areas.

If you have any questions please contact me.



Area 1: West Property Line – Repair. Removal of silt fence once construction is complete allowing flow through culvert as designed, minimizing sheet flow over road and flow around culvert. Area around culvert will be repaired.

Area 2: Northwest corner – Culverts were temporary when road was installed. They are to be removed and flow from offsite diverted back to western property to minimize any onsite erosion.

Area 3: RZ-E-3 – Repair. Will install directional berm to flow into channel at designated location. Slope at inflow will include placement of nonwoven geotextile with 8" of 3 to 6" angular stone.

Area 4: RZ-E-4. Will install directional berm(s) to flow into channel at designated location. Slope at inflow will include placement of nonwoven geotextile with 12" of 6" angular stone

Area 5: RZ-E-14A. Runoff from roadway- Will install directional berm(s) to flow into channel at designated location. Slope at inflow will include placement of nonwoven geotextile with 12" of 6" angular stone.


Area 6: West Side of New Drainage Channel. Will install directional berm(s) to flow into channel at designated location. Slope at inflow will include placement of nonwoven geotextile with 12" of 6" angular stone

Area 7: RZ-D-17B. Will install directional berm(s) to flow into channel at designated location. Slope at inflow will include placement of nonwoven geotextile with 12" of 6" angular stone.

Area 8: Drainage channel on west side of RZ-D. Will install directional berm(s) to flow into channel at designated location. Slope at inflow will include placement of nonwoven geotextile with 12" of 6" angular stone

Area 9: Outfall 1. Design calls for 4 ft thick 24" Riprap which is in the process of being installed.

Area 10: Pond berms. Areas will be addressed as part of the berm cover

PROJECT:		NERT – Henderson, Nevada	
SHEET TITLE:		Erosion Control Repair Areas	
DATE:	09/30/11	FIGURE No.:	Figure 1
PROJECT NO.:	21-26719		
		175 N. Corporate Drive, Suite 160 Brookfield, WI 53045 PHONE: (262) 901-0099 FAX: (262) 901-0079	
www.environcorp.com			



Area 1: West Property Line – Repair. Removal of silt fence once construction is complete allowing flow through culvert as designed, minimizing sheet flow over road and flow around culvert. Area around culvert will be repaired.



Area 2: Northwest corner – Culverts were temporary when road was installed. They are to be removed and flow from offsite diverted back to western property to minimize any onsite erosion. We are working with Landwell/BMI to have them removed.



Area 3: RZ-E-3 – Repair. Will install directional berm to flow into channel at designated location. Slope at inflow will include placement of nonwoven geotextile with 8" of 3 to 6" angular stone.



Area 4: RZ-E-4. Will install directional berm(s) to flow into channel at designated location. Slope at inflow will include placement of nonwoven geotextile with 12" of 6" angular stone.



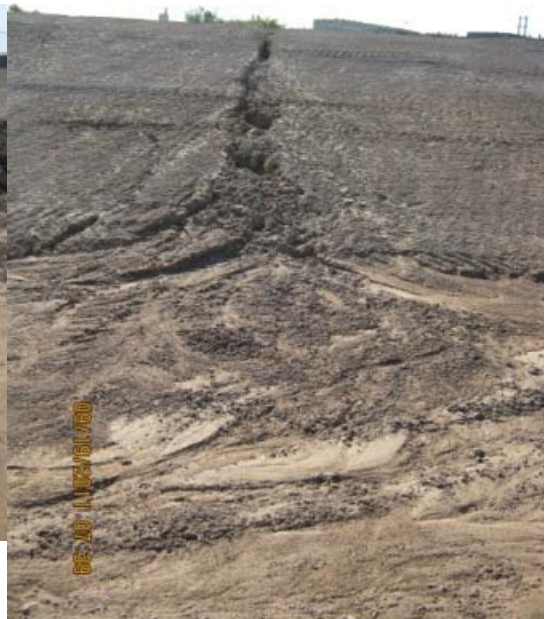
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