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January 4, 2013

Ms. Vickie Taddy  
Wisconsin Department of Natural Resources  
2984 Shawano Ave  
Green Bay, WI 54307

Subject: Management of Potentially-Contaminated Soil Excavated During Construction  
of the Western Approach to the 17<sup>th</sup> Street East Twin River Bridge  
WisDOT Project ID #4998-02-71

Dear Ms. Taddy:

On behalf of the Wisconsin Department of Transportation, we have enclosed a documentation report for field screening and management of potentially-contaminated soil excavated during construction of the western approach to the 17<sup>th</sup> Street East Twin River Bridge reconstruction project. The work was completed in accordance with the Special Provisions for the project.

Please feel free to contact me at 608-826-3659 if you have any questions.

Sincerely,

TRC Environmental Corporation

Dennis Siewert  
Senior Designer /b/1

Daniel Haak, P.E.  
Project Manager

cc: Kathie VanPrice – WisDOT (hard copy and pdf on CD)  
Shar TeBeest – WisDOT (hard copy and pdf on CD)  
Scott Ahl – City of Two Rivers (hard copy and pdf on CD)  
Jim Morse – TRC



# Management of Potentially-Contaminated Soil Excavated During Construction

17th Street East Twin River Bridge  
Two Rivers, Wisconsin

WisDOT ID #4998-02-71

January 2013

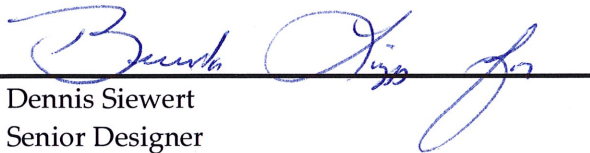


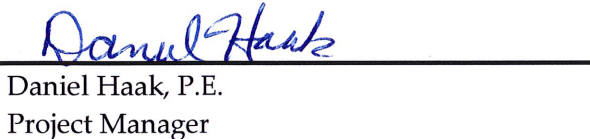
# Management of Potentially-Contaminated Soil Excavated During Construction

17<sup>th</sup> Street East Twin River Bridge  
Two Rivers, Wisconsin

WisDOT ID #4998-02-71

January 2013

  
Dennis Siewert  
Senior Designer

  
Daniel Haak, P.E.  
Project Manager

  
James E. Morse  
Senior Client Service Manager

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# Commonly Used Abbreviations and Acronyms

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AST	aboveground storage tank
bgs	below ground surface
BRRTS	Bureau for Remediation and Redevelopment Tracking System
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CTH	County Trunk Highway
CY	cubic yards
DRO	diesel range organics
FDM	Facilities Development Manual
EMP	Excavation Management Plan
ERP	Environmental Repair Program
ES	Enforcement Standards
ESA	Environmental Site Assessment
FINDS	Facility Index System/Facility Identification Initiative Program Summary Report
GIS Registry	WDNR Geographic Information System (GIS) Registry of Closed Remediation Sites
GRO	gasoline range organics
HAZWOPER	Code of Federal Registry Chapter 29 (29 CFR) Part 1910.120 Hazardous Waste Operations and Emergency Response
HMA	Hazardous Materials Assessment
IH	Interstate Highway
LQG	large quantity generator
LUST	leaking underground storage tank
NPL	National Priorities List
NR ###	Wisconsin Administrative Code (WAC) Natural Resources (NR) Chapter ###
PAHs	polynuclear aromatic hydrocarbons
PAL	Preventive Action Limits
PCBs	polychlorinated biphenyls
PCE	perchloroethylene/tetrachloroethylene
PID	photoionization detector
PVOCs	petroleum volatile organic compounds
RCLs	Residual Contaminant Levels in NR 720
RCRA	Resource Conservation and Recovery Act
RCRIS	Resource Conservation and Recovery Information System
R/W or ROW	right-of-way
sf	square feet
STH	State Trunk Highway
TCE	trichloroethylene
TRIS	Toxic Chemical Release Inventory System
USGS	United States Geological Survey
USH	United States Highway
UST	underground storage tank
VOCs	volatile organic compounds
WDNR	Wisconsin Department of Natural Resources
WDSPS	Wisconsin Department of Safety and Professional Services
WisDOT	Wisconsin Department of Transportation
WGNHS	Wisconsin Geological and Natural History Survey
WI ERP	Wisconsin Environmental Repair Program database

# Section 1

## Introduction

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### 1.1 Background

The Wisconsin Department of Transportation is reconstructing the 17<sup>th</sup> Street East Twin River Bridge (WisDOT Project ID 4998-02-71) in the City of Two Rivers, Manitowoc County, Wisconsin (Figure 1).

Soils & Engineering Services (SES) completed a Phase 2 Subsurface Exploration Report adjacent to the Fisher Hamilton Scientific property (located at 1315 18<sup>th</sup> Street) at the western approach to the 17<sup>th</sup> Street East Twin Rivers Bridge in June 2010 (SES, 2010). The investigation found that adjacent to the Fisher Hamilton Scientific property (located at 1316 18<sup>th</sup> Street) within the project right-of-way of the 17<sup>th</sup> Street East Twin River Bridge approach, metals and heavy-end petroleum products were occasionally present based on laboratory information obtained from the soil samples recovered from borings E1 through E6.

The findings of the Phase 2 Subsurface Exploration resulted in the need for Special Provisions for the management of potentially-contaminated soils that were to be excavated within the right-of-way of the existing bridge approach. Special Provisions (Appendix A) were prepared specifying the management of potentially-contaminated material should it be encountered.

### 1.2 Purpose

The purpose of this report is to document the results of the field screening and the management of potentially-contaminated material excavated within the limits of the right of way of the existing bridge approach.

# Section 2

## Description of Fill Activities

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### 2.1 Field Screening

TRC was on site to field screen excavated materials within the western approach to the 17<sup>th</sup> Street Bridge over the East Twin River. During the field screening, TRC looked for visual and olfactory signs of contamination, as well as tested soil sample head space with a PID. The field-screening results are in Table 1, and locations are shown on Figure 2. Photographs of the site are included in Appendix B.

TRC was onsite for two separate excavation locations.

- **October 20, 2012** – Field screening near the bridge abutment at station 18+45 during the installation of the new sanitary line, and soil stockpile from the abutment. This consisted of screening excavated soils during the trenching activities along the west bank of the East Twin River.
- **October 27, 2012** – 4 test pits were excavated for determining of the potential presence of contaminants between stations 17+60 and 18+28. These test pits were completed to a depth of 20 feet below existing grade.

### 2.2 Management of Fill

Potential sources of metals and heavy-end petroleum contamination (such as industrial waste) was not observed within the test pits during the investigation. Based on the Phase 2 subsurface investigation, known areas of contaminated soil would likely be encountered, and would require landfill disposal. The excavation contractor, under the direction of TRC, removed soils for the construction of the western approach to the bridge over the East Twin River on October 28, 2012. The known contaminated material was located between 6 ft and 12 ft below existing roadway grade, (Elevation 588 and 582), between Station 17+93 and Station 18+ 28.25 , and from 15 feet left to 15 feet right of reference line. Contaminated material was disposed of at the Waste Management Ridgeview Landfill in Whitelaw, Wisconsin. The contaminated material was generally sand with occasional pieces of wood. Approximately 492 tons of contaminated material was disposed of at the Waste Management Ridgeview Landfill.

## Section 3

# Conclusions and Recommendations

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The contaminated material excavated between Stations 17+93 to 18+28.25 was managed in accordance with the Special Provisions. A representative from TRC was on-site to field screen potentially-contaminated material, including test pits representative of the soil/fill areas excavated within this section of the project. No evidence of contamination was observed during this test pit investigation. However based on the Phase 2 lab data, TRC directed the excavation contractor to dispose of a total of 492 tons of contaminated soil, as was referenced in section 2.2. TRC recommends that no further action be taken with respect to this site.



# Section 4

## References

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SES, Inc. 2010. WisDOT 17<sup>th</sup> Street East Twin River Bridge Phase 2 Investigation. WisDOT Project #4998-02-00. July 2010.

**Table 1**  
**Summary of Soil Field-Screening Results**  
**17th Street Approach to the East Twin River Bridge, Two Rivers, Wisconsin**  
**WisDOT Project ID #4998-02-71**  
**August 2012**

DATE	LOCATION	DEPTH (ft bgs)	PID	COMMENTS
10/20/2012	STA 18 + 45, 20.0' LT of reference line	10	ND	Light Brown Sand, no odor.
10/20/2012	STA 18 + 05, 5.0' RT of reference line	8	ND	Light Brown Sand, no odor.
10/20/2012	STA 17 + 60, On reference line	10	ND	Light Brown Sand, no odor.
10/20/2012	STA 17 + 10, 5.0' RT of reference line	--	ND	Light Brown Sand, no odor.
10/27/2012	STA 18 + 22, 10.0' LT of reference line	20	ND	Light Brown Sand, no odor.
10/27/2012	STA 18 + 05, 5.0' RT of reference line	20	ND	Light Brown Sand, no odor.
10/27/2012	STA 17 + 60, On reference line	20	ND	Light Brown Sand, no odor.
10/27/2012	STA 17 + 10, 5.0' RT of reference line	20	ND	Light Brown Sand, no odor.

Notes:

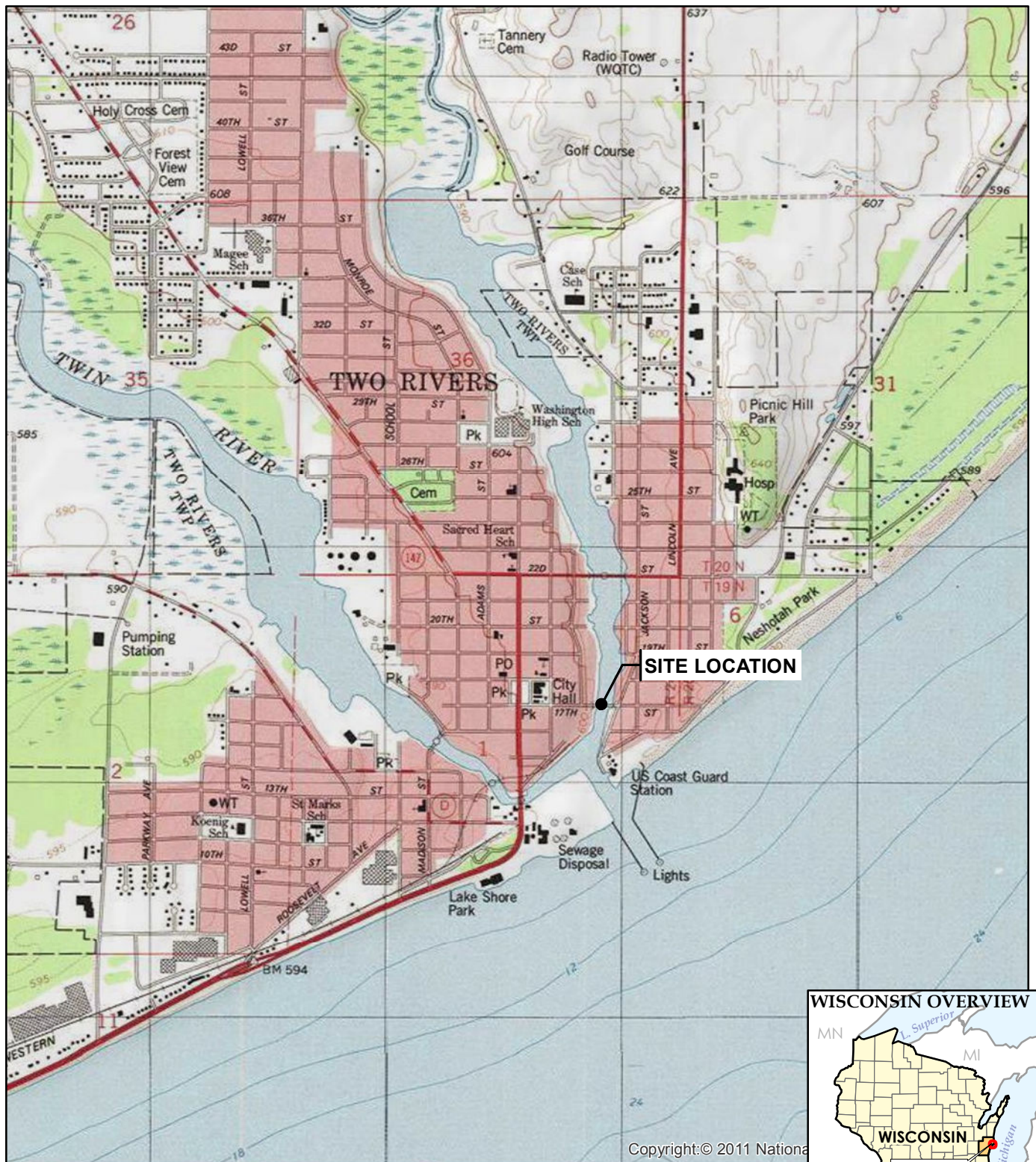
ND = not detected.

PID = photoionization detector.

Created by: DSS 12/24/2012

Checked by: DJH 12/24/2012

TRC - GIS



BASE MAP FROM USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE SERIES.



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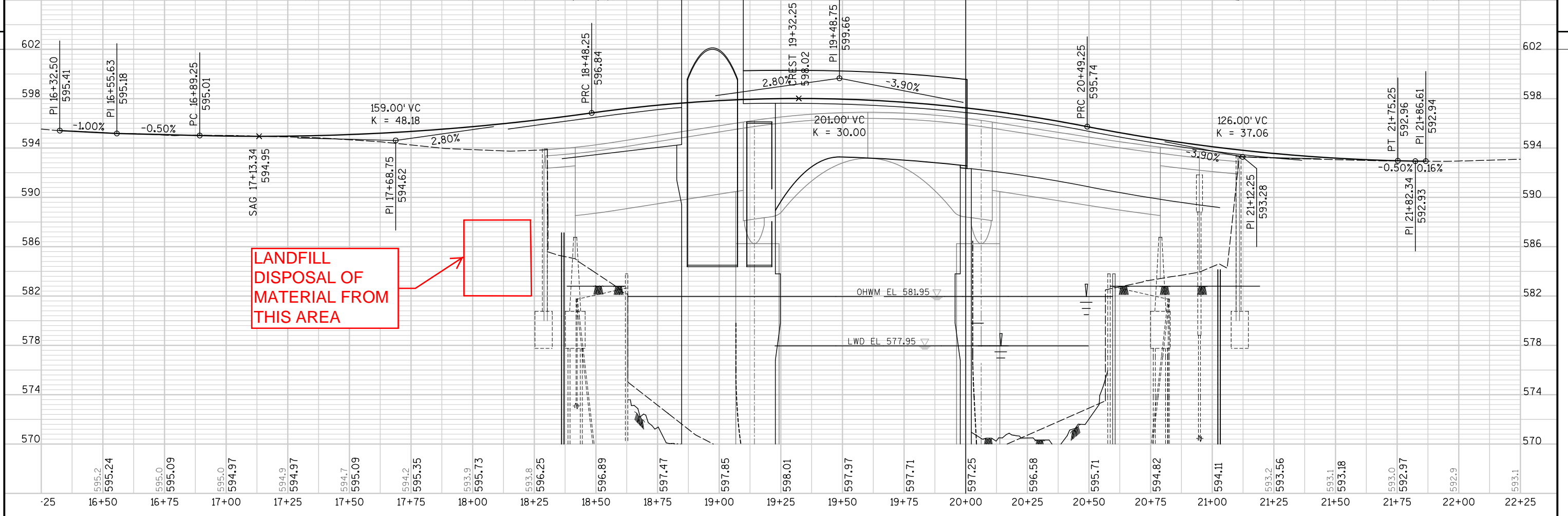
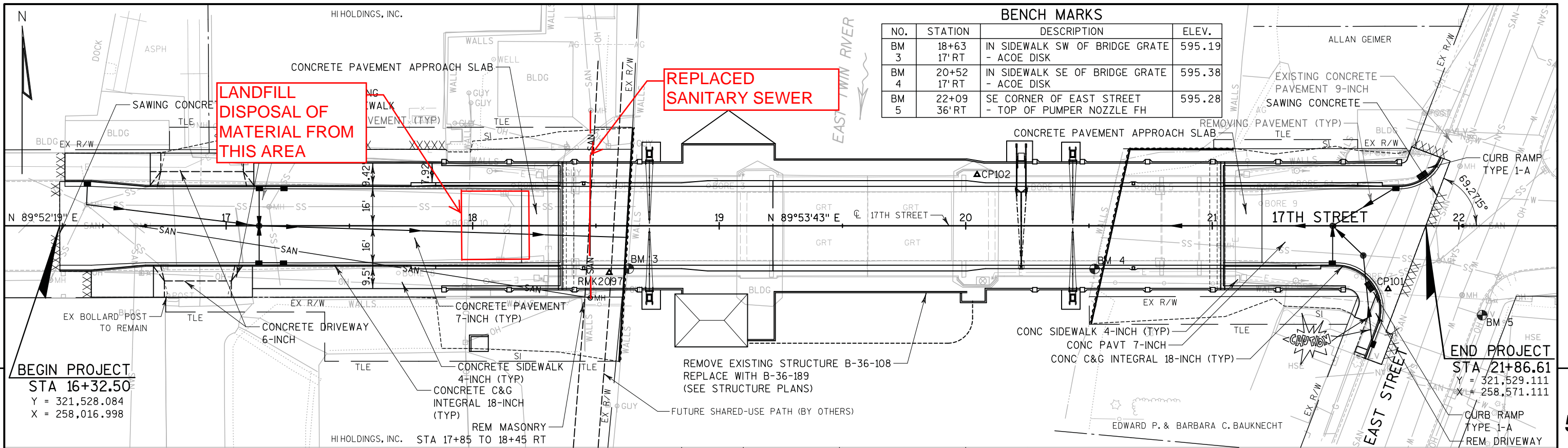
WISDOT ID# 4998-02-71  
 17TH STREET EAST TWIN RIVER BRIDGE  
 TWO RIVERS, WISCONSIN

SITE LOCATION MAP

DRAWN BY:	PAPEZ J
APPROVED BY:	SIEWERT D
PROJECT NO:	196285
FILE NO.	197081-001slm.mxd
DATE:	OCTOBER 2012

FIGURE 1





# Appendix A Special Provisions

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**E Payment**

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.05	Architectural Surface Treatment Special	SF

Payment is full compensation for Architectural Surface Treatment Special and for furnishing all labor, tools, equipment, materials, and incidentals necessary to complete the contract work.

**81. Contaminated Soil Management, Item SPV.0195.01.**

**A Description**

This special provision describes work conforming with the requirements of section 205 of the standard specifications, pertinent parts of the Wisconsin Administration Code (Department of Natural Resources Environmental Investigation and Remediation of Environmental Contamination, Chapters NR 700-736), as shown on the plans, and as supplemented herein.

This work consists of excavating, loading and hauling of contaminated soil to the nearest and most cost-effective department-approved landfill/bio-remediation facility (BioSite). The nearest facilities are the Veolia Hickory Meadows Landfill in Hilbert, Calumet County, Wisconsin and Waste Management Ridgeview Landfill in Whitelaw, Wisconsin. These facilities are located approximately 20 to 35 miles from the project limits.

Manage contaminated soil encountered within the project limits at locations identified in section A.1 as a solid waste and haul directly to the nearest and most cost-effective department-approved landfill/BioSite.

The cost for contaminated soil treatment/disposal will be billed directly by the landfill/BioSite to the responsible party and/or the department. The contractor is not responsible for landfill/BioSite tipping fees.

Per NR 718.07, a solid waste collection and transportation service operating license is required under NR 502.06 whenever excavated contaminated soils are transported.

**A.1 Notice to the Contractor**

A Phase I Environmental Site Assessment and Phase II Subsurface Assessment were completed by the department for locations within the project corridor. Information obtained by the department indicates that contaminated soil requiring special management will be encountered at the following location:

Station 16+32.50 to Station 18+34.75, as shown on the plans, at a depth of approximately 0 to 1.5 feet below existing (pre-construction) roadway (to subgrade) and approximately 0 to 10 feet at the west bridge abutment. The soil management area is located along the entire west approach of the 17<sup>th</sup> Street Bridge.

The estimated volume of contaminated soil to be excavated by the contractor at this location is approximately 526 cubic yards (approximately 737 tons using a multiplier of 1.4 tons/cubic yard).

If contaminated soil is encountered at other locations on the project, terminate excavation activities in the area and notify the engineer. The engineer and environmental consultant will determine if contaminated soil encountered elsewhere on the project is to be managed as a solid waste.

For further information regarding investigation activities at these locations, contact Kathie VanPrice, Wisconsin Department of Transportation, Environmental Coordinator, 944 Vanderperren Way, Green Bay, Wisconsin, 54304, telephone (920) 492-7175.

### **A.2 Coordination**

Coordinate work under this contract with the environmental consultant retained by the department:

Consultant:	STS Consultants, Ltd.
Address:	1035 Kepler Drive, Green Bay, Wisconsin, 54311
Contact:	Paul Garvey, Mike DeBraske or Roger Miller
Phone:	(920) 468-1978
FAX:	(920) 468-3312

The role of the environmental consultant will be limited to obtaining approval from a department-approved landfill/BioSite for treatment/disposal of contaminated soil encountered during the project, determining the location and limits of contaminated soil to be excavated based on soil analytical results from previous field investigations, and collection of post-excavation soil samples.

Manage contaminated soil in accordance to the terms and conditions specified herein. Provide a proposed schedule for all excavation activities in the area of contamination during the pre-construction conference. Notify the engineer and environmental consultant at least three calendar days prior to commencement of excavation and activities in the contaminated area. Coordinate with the environmental consultant to ensure that the consultant is present prior to and during excavation activities in the area of contamination.

Obtain a unique waste profile approval number from the environmental consultant 30 days prior to construction in the area of contamination, and provide the engineer with the number.

### **A.3 Health and Safety Requirements**

Prepare a site specific Health and Safety Plan complying with the Occupational Safety and Health Administration (OSHA) standard for Hazardous Waste Operation and Emergency Response (HAZWOPER), 29 CFR 1910.120.

Prior to the start of remediation work, provide health and safety training meeting OSHA requirements for all site workers taking part in remediation activities or who will have the reasonable probability of exposure to safety or health hazards associated with the contaminated material. Submit a site-specific Health and Safety Plan and written verification that workers have completed up-to-date OSHA training to the engineer prior to the start of remediation work.

Develop, delineate and enforce the health and safety exclusion zones for each contaminated site location pursuant to 29 CFR 1910.120.

**B (Vacant)**

**C Construction**

*Supplement subsection 205.3 of the standard specification with the following:*

Manage contaminated soil encountered within the project limits at locations identified in section A.1 as a solid waste, and haul directly to the nearest and most cost-effective department-approved landfill/BioSite.

Provide and place suitable backfill material required to bring the excavation to the elevation of proposed subgrades. Notify the environmental consultant and engineer prior to placement of backfill in the excavation to ensure that post excavation samples have been collected by the environmental consultant.

Obtain approval from the engineer and environmental consultant prior to placing any temporary stockpiles of contaminated soil in the project corridor.

**D Measurement**

The department will measure Contaminated Soil Management by the ton of excavated material accepted at the landfill/bio remediation facility as shown on the special waste manifest disposal tickets.

**E Payment**

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0195.01	Contaminated Soil Management	TON

Payment is full compensation for excavating, loading, and hauling of contaminated soil to the landfill/BioSite; for temporary stockpiling at the project site (if necessary); and for furnishing all labor, tools, equipment, and incidentals necessary to complete the contract work.

**82. Sanitary Manhole, Item SPV.0200.01.**

**A Description**



Furnish and install sanitary sewer manholes to the requirements of the plans and the Standard Specifications for Sewer & Water Construction in Wisconsin and as hereinafter provided.

**B Materials**

Manholes shall be precast concrete. Sanitary manholes shall be provided with cast-in boots or seals meeting the physical requirements of ASTM C443 and the performance requirements of both ASTM C425 and ASTM C443. Sanitary manhole benches shall extend to the crown of the outgoing pipe. Eccentric manhole cones shall be used.

**C Construction**

Sanitary sewer manholes shall be constructed in accordance to the plans and the Standard Specifications for Sewer & Water Construction in Wisconsin.

Back-plaster the adjusting rings with cement mortar and exterior bituminous waterproof coating.

The manhole castings shall be sealed to the adjusting rings with bituminous sealing material.

**D Measurement**

The department will measure Sanitary Manhole by the vertical foot in place, acceptably completed.

**E Payment**

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0200.01	Sanitary Manhole	VF



Payment is full compensation for furnishing all materials including all masonry, sewer connections, boots, backplastering, waterproofing, steps, and other fittings; for furnishing all excavations, for furnishing and installing sheeting and shoring, forming foundations, and making connections to all new or existing facilities; for removal of existing manholes, for furnishing all bedding material; for backfilling and compaction, testing of backfill compaction, removing sheeting and shoring, cleanup, and restoring the site of the work; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the contract work.

# Appendix B Photographic Log

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## Photographic Log

<b>Client Name:</b> Wisconsin Department of Transportation (WisDOT)		<b>Site Location:</b> 17 <sup>th</sup> St. – East Twin River Bridge Two Rivers, Wisconsin	<b>Project No.:</b> TRC #197081.0000.0000 WisDOT ID #4998-02-71
<b>Photo No.</b> 1	<b>Date</b> 9/27/2012		
<b>Description</b> Section of 17 <sup>th</sup> Street undergoing reconstruction (view facing east)			
<b>Photo No.</b> 2	<b>Date</b> 9/27/2012		
<b>Description</b> Test pit at east end of 17 <sup>th</sup> Street at abutment location (16' deep) (Approximate Station: 18+10; from reference line: 10' Left)			



## Photographic Log

Client Name:		Site Location:	Project No.:
Wisconsin Department of Transportation (WisDOT)		17 <sup>th</sup> St. – East Twin River Bridge Two Rivers, Wisconsin	TRC #197081.0000.0000 WisDOT ID #4998-02-71
Photo No.	Date		
3	9/27/2012		
Description			
Test pit at east end of 17 <sup>th</sup> Street 16' deep) (Approximate Station: 17+90; from reference line: 10' Right)			
Photo No.	Date		
4	9/27/2012		
Description			
Test pit at east end of 17 <sup>th</sup> Street 16' deep) (Approximate Station: 17+10; from reference line: 2' Left)			







## Photographic Log

<b>Client Name:</b> Wisconsin Department of Transportation (WisDOT)		<b>Site Location:</b> 17 <sup>th</sup> St. – East Twin River Bridge Two Rivers, Wisconsin	<b>Project No.:</b> TRC #197081.0000.0000 WisDOT ID #4998-02-71
<b>Photo No.</b> 5	<b>Date</b> 9/20/2012		
<b>Description</b> Soil stockpile to be removed			
<b>Photo No.</b> 6	<b>Date</b> 9/20/2012		
<b>Description</b> Soil stockpile being removed			




## Photographic Log

<b>Client Name:</b> Wisconsin Department of Transportation (WisDOT)		<b>Site Location:</b> 17 <sup>th</sup> St. – East Twin River Bridge Two Rivers, Wisconsin	<b>Project No.:</b> TRC #197081.0000.0000 WisDOT ID #4998-02-71
<b>Photo No.</b> 7	<b>Date</b> 9/20/2012	 A large yellow excavator is shown working on a deep trench. The trench is filled with dark soil and debris. In the background, a body of water is visible, and a concrete structure is partially submerged. The excavator's bucket is positioned over the trench.	
<b>Description</b> Trenching for sanitary line replacement.			
<b>Photo No.</b> 8	<b>Date</b> 9/20/2012	 A yellow excavator is working on a trench next to a brick building. The trench is filled with dark soil and debris. A large concrete pipe is visible in the foreground. The excavator's bucket is positioned over the trench.	
<b>Description</b> Trenching for sanitary line replacement.			





## Photographic Log

<b>Client Name:</b> Wisconsin Department of Transportation (WisDOT)		<b>Site Location:</b> 17 <sup>th</sup> St. – East Twin River Bridge Two Rivers, Wisconsin	<b>Project No.:</b> TRC #197081.0000.0000 WisDOT ID #4998-02-71
9	<b>Date</b> 9/20/2012		
<b>Description</b> Sanitary manhole replacement excavation			

<b>Photo No.</b> 10	<b>Date</b> 9/20/2012	
<b>Description</b> Trenching for sanitary line replacement.		

# Appendix C

## Landfill Disposal Documentation

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**RIDGEVIEW RDF**

P.O. Box 227  
Whitelaw, WI 54247  
(920) 732-4473  
(920) 732-3758 Fax

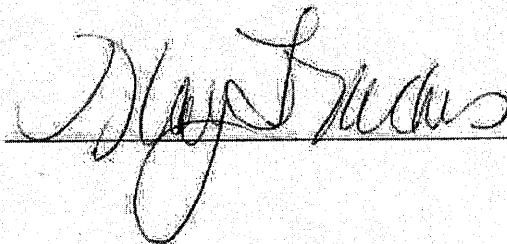
**Certification of Disposal for:  
WI DOT - Two Rivers  
DC114990WI**

Thank you for choosing our disposal services. This secure disposal service has been used by a number of industries in order to provide assurance that the material intended for disposal is disposed of properly, with no chance for improper use.

The load listed below was disposed of at Ridgeview Recycling and Disposal Facility following secure disposal techniques:

Date: 09/ 28 /2012 Disposal Volume: 491.82 Tons

Scale Operator Signature:

 Date: 9-28-12

If you have any questions or concerns, please don't hesitate to contact us at 920/732-4473.

certofdisposalwfmco

From everyday collection to environmental protection, Think Green® Think Waste Management.