



LEE & RYAN

Construction • Environmental • Engineering • Mechanical

August 16, 2012

Scott Isaacs, Sheboygan River AOC Habitat Restoration Projects
City of Sheboygan
Department of Public Works
2026 New Jersey Avenue
Sheboygan, Wisconsin 53081-4714

**RE: Sheboygan River Area of Concern
Habitat Restoration Projects**
Subcontractor Submittal No. 16
Register No. 9
Specification Reference No. 01310.C
Excavated Materials Management Plan

Dear Mr. Isaacs:

Please find attached documentation being submitted to you per plan specifications for the Sheboygan River Area of Concern Habitat Restoration Projects. If you have any questions, please feel free to contact me by telephone at (317) 289-0681 or by e-mail at bsmith@leeandryan.com.

Respectfully,

LEE & RYAN ENVIRONMENTAL CONSULTING, INC.

Brandi Smith
Federal Capture Manager

Enclosures: Excavated Materials Management Plan

Chicago

Indianapolis

Atlanta

Submittal No. 16, Register No. 9
Excavated Materials Management Plan
Specification 01310.C

Sheboygan River Area of Concern Habitat Restoration Projects
Sheboygan, WI

Transmitted:
August 13, 2012

By:
Lee & Ryan Environmental Consulting, Inc.

Prepared for:
WDNR, City of Sheboygan, Sheboygan County



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1.0 INTRODUCTION

AECOM, Inc. was retained by Lee and Ryan, to develop a management plan for approximately 14,118 tons of dredged soil and sediment (9,412 cubic yards [cy]) and 22,000 tons (17,000 cy) of upland soils will be removed from the banks of the Sheboygan River in the City of Sheboygan and Sheboygan County, which are contained within three broad habitat restoration project sites, including: (1) the Taylor Drive and Indiana Avenue site; (2) the Wildwood Island site; and (3) the Kiwanis Park site. The sediment and soil volume estimates were estimated by Schneider, based on design drawings from Short Elliott Hendrickson Inc. (SHE, hereafter are referred to as the Engineer), the firm that designed the restoration plans.

The purpose of this plan is to describe the procedures used to manage excavated sediment and soil, potentially having low-level contamination, that are removed from the Sheboygan River and its banks during the construction activities. This plan presents a proposed approach for the management, solidification with wood chips, and disposal of sediment assuming the material is non-hazardous. **Figure 1** shows the project area and haul route. This plan is written to fulfill the requirements of project specification 01310.C and is to be submitted to the Engineer and Wisconsin Department of Natural Resources (WDNR) for review and approval prior to implementation in order to meet the requirements of the Chapter 30 permit.

This plan was jointly developed by Lee & Ryan Environmental Consulting, Inc.; AECOM; Schneider Excavating, Inc.; and Rams, Inc. (*trucking services*) all of which are responsible for the implementation and execution of this plan.

2.0 EXCAVATION AND DEWATERING METHODS

The purposes of the site excavations are to remove invasive species to depths below root penetration and to remove low-level contaminated sediment and soil for off-site disposal to achieve the objective of restoring habitat. Excavated soil will include channel bank soil and sediment, and materials within common excavation, some of which is contaminated with polychlorinated biphenyls (PCBs). Contaminated soil/sediment has been characterized as non-TSCA/contaminated (PCBs >1.0 milligrams per kilogram [mg/kg] and <50 mg/kg) or clean (PCBs <1.0 mg/kg). Clean fill or topsoil will be backfilled in excavated areas as needed to achieve the designed grade. and channel banks will be graded and stabilized.

The overall method of excavation includes the combined use of low ground pressure (LGP) dozers, hydraulic excavators, and rubber tire loaders (if stockpile management is necessary). This equipment will be stored on-site in the footprint of active construction areas or on tracking pads during construction activities at each of the restoration areas. Containment measures (e.g., impermeable silt curtain) will be used to prevent turbidity caused by the resuspension of channel sediment caused by excavation of the stream banks or the placement of stone/gravel used to



create habitat. Adequate excavation will be confirmed by topographic survey of open excavation. Temporary road materials and construction pads typically will be hauled off-site to an approved and permitted landfill upon completion of construction. The logistical approach to excavating is detailed in the *Sequence of Work Plan* (Specification 01310.E) and the specifics for dewatering and diversion are detailed in the *Dewatering and Flow Diversion Plan* (Specifications 01310.D and 02530). The general approach for both are described for each site in this section of the EMMP. The disposition of excavated soil/sediment is also site-specific and is generally described in this section. The haul route(s) to the approved and permitted landfill is shown on **Figure 1 and Figure 2**. The layout of each site is shown on **Figures 3 through 5**, which show site access, haul routes, stockpile areas, if any, and equipment storage areas. **Attachment A** shows the areas of cut and fill within each of the restoration sites.

2.1 Taylor Drive and Indiana Avenue Site

The layout of the Taylor Drive and Indiana Avenue Site is shown on **Figure 3**. The site is divided into three areas: Esslingen Park, Taylor Drive Pond, and the Northeast area.

Esslingen Park

The Esslingen Park restoration area will be accessed southward from a parking area off of Lower Falls Road. A construction entrance pad will be built at the edge of the parking area to eliminate mud tracking from the 17,500 square feet (ft²) disturbed area. Trucks will travel over the existing surface (turf) that will be restored upon completion of grading and boulder and gravel bar placement. Approximately 300 cubic yards (cy) of topsoil will be stripped and replaced. Since invasive species are not present the turf will be reused to restore the lawn areas after placing 120 tons of boulder and gravel bar stone. Dewatering is not anticipated at this site due to the elevation of the cut areas above the river. Grading activities will occur after 450 cy of clean soil is cut and relocated to the Northeast area of Taylor Drive and Indiana Avenue.

Taylor Drive Pond

Taylor Drive Pond construction will disturb 227,000 ft². Access will be east off of University Drive. Construction entrance pads will be built as per the Engineer's design (see sheet 9 of 58 of Specifications). Trucks will travel over existing surface that will be restored upon completion. If conditions warrant, a temporary gravel access road will be built using geo-textile and recycled aggregate. Topsoil will be stripped (about 800 cy) and 1,800 cy of soil/sediment excavated after the pond is dewatered. Dewatering will be completed with a submersible pump seated in a sump in the northeast portion of the pond. The 2,600 cy of excavated soil/sediment will be disposed of offsite at an approved and permitted landfill. Another 4,300 cy of soil/sediment will be excavated and relocated for reuse as fill within the footprint of the pond. An additional 4,200 cy of topsoil and 1,250 tons of stone will be imported and placed.



Northeast Taylor Drive and Indiana Avenue

The Northeast area generally will be accessed north off of Indiana Avenue but access will be throughout the limits of the 73,000 ft² area of disturbance. Approximately 250 cy of topsoil will be stripped and disposed of off-site at an approved and permitted facility. Excavated PCB-impacted soil/sediment (3,500 cy) will be direct loaded into haul trucks that will transport the waste material to the approved and permitted landfill, as described later in Section 5 of this plan. Dewatering is not anticipated at this site due to the sandy nature of the soils and the elevation of the cut area above the river. Two hundred forty cubic yards of existing asphalt will be removed and sent to an approved recycling facility. Following excavation activities, 130 tons of gravel bar stone and 100 tons of boulders will be placed. Another 210 tons of base stone will be used for the proposed parking lot. General fill (~3,400 cy) from other portions of the project (Esslingen Park and Kiwanis Park soils) will be placed within the fill footprint throughout the project and 1,200 cy topsoil for final grade will be imported and placed later in the project. Clean, imported soils will be staged about 50 feet west of the proposed parking lot. Erosion control measures such as silt fence and tarps will prevent the loss of staged soil due to stormwater runoff. Habitat structures will be placed per the design specifications and/or as instructed by the Engineer upon completion of grading. Construction pads for this restoration area will not be decommissioned and disposed.

2.2 Wildwood Island Site

The Wildwood Island Site has two restoration areas, Island West and Island East, comprising 98,000 ft² and 55,000 ft² of disturbance area, respectively. Clearing/grubbing will occur as needed to build temporary access roads constructed of geo-textile and recycled aggregate. Small woody debris will be salvaged for use in crib wall construction as described in the *Sequence of Work Plan*. A 10-foot buffer of contaminated bank material will be preserved on the outside of the Island East perimeter during excavation of the upland portions of the island to prevent stream water infiltrating into the open excavation. General fill will be placed in the dry excavation areas, up to the buffer. After the main excavation is complete, the buffer zone will then be removed by direct loadout. During this phase of excavation, port-a-dam structures and sandbags will be used to divert stream flow away from the bank buffer, as described in the *Dewatering and Flow Diversion Plan*. Dewatering and diversion are not anticipated for Island West; however, if water is encountered, it will be managed as it is planned for Island East. Water within the port-a-dam-sandbag segments during earthwork activities will be treated with an onsite treatment unit for PCB and total suspended sediment removal in accordance with permit requirements. General fill will be placed after excavation of the buffer to construct the new island perimeter.

Topsoil will be stockpiled on the island on top of areas previously backfilled. The volumes and materials for each area are as follows:



Island West

- 230 cy topsoil stripped and disposed of offsite at approved and permitted landfill
- 4,200 cy contaminated soil/sediment and reed canary grass disposed of off-site at approved and permitted landfill
- 3,300 cy contaminated excavation giant reed grass disposed of off-site at approved and permitted landfill
- 5,900 cy general fill to be imported and placed
- 1,300 cy topsoil to be imported and placed

Island East

- 380 cy topsoil stripped and disposed of off-site at approved and permitted landfill
- 380 cy topsoil to be imported and placed
- 1,500 cy general cut disposed of off-site at approved and permitted landfill
- 800 cy cut moving to fill within the footprint
- 1,500 cy contaminated soil/sediment and reed canary grass disposed of off-site at approved and permitted landfill
- 1,600 cy contaminated excavation giant reed grass disposed of off-site at approved and permitted landfill
- Habitat as designed and/or directed by the Engineer

2.3 Kiwanis Park Site

The Kiwanis Park Site has two restoration areas, Middle Zone and North Zone, comprising 1,800 ft² and 1,600 ft² of disturbance area, respectively. All site access points are adjacent to existing paved areas. Minor equipment traffic occurring on lawn areas will be repaired and restored as necessary upon completion of construction.

Middle Zone

Approximately 280 cy of topsoil will be stripped and replaced. An additional 60 cy of topsoil will be imported and placed. Since invasive species are not present the turf will be reused to restore the lawn areas after placing 120 tons of gravel bar stone. Dewatering is not anticipated at this site due to the elevation of the cut areas above the river. One hundred forty cubic yards of clean soil/sediment will be reused as fill within the disturbance footprint. Grading activities will



occur after 200 cy of clean soil is cut and relocated to the Northeast area of Taylor Drive and Indiana Avenue.

North Zone

Existing asphalt and concrete (~130 cy) will be removed and designated storm pipes and outfalls will be demolished. These waste materials will be disposed of at an off-site recycling facility. Approximately 170 cy of topsoil will be stripped and replaced. An additional 70 cy of topsoil will be imported and placed. Since invasive species are not present, the turf will be reused to restore the lawn areas after placing 70 tons of gravel bar stone. Dewatering is not anticipated at this site due to the elevation of the cut areas above the river. One hundred cubic yards of clean soil/sediment will be reused as fill within the disturbance footprint. Grading activities will occur after 80 cy of clean soil is cut and relocated to the Northeast area of Taylor Drive and Indiana Avenue.

3.0 CONTAMINATED MATERIALS

The estimated types and volumes of anticipated contaminated soils and sediments were described in Section 2. Additional field screening is not required by the landfills for acceptance; however, if waste materials for offsite disposal are temporarily stockpiled due to unforeseen circumstances, stockpiled soil/sediment will be sampled for waste characterization profile for the respective landfill to which it will be sent.

4.0 STOCKPILE LOCATIONS

Excavated soils and sediments are not anticipated to be stockpiled; rather, they will be direct loaded into haul trucks for off-site disposal or to designated on-site locations for reuse. However, stockpile locations may be necessary to temporary handle the material discussed in Section 2. Any temporary stockpiles will most likely be staged at the Northeast Taylor Drive and Indiana Site while waiting to be placed as fill. Temporarily stockpiled material will be placed at an elevation above the FEMA floodplain to prevent flood risk and will be limited in size to less than 2,500 cy and will be of short duration (less than 30 days). All other staged materials, predominately clean imported fill, stone, boulders and habitat structures, will be protected from erosion by control measures such as silt fence and tarps.

Any temporarily stockpiled soil or sediment that is for off-site disposal will have a waste characterization profile performed to insure proper disposal at the approved and permitted landfills.



5.0 WASTE MANAGEMENT

5.1 Waste Profile Sampling

The waste profile sampling that will be conducted on the solid wastes designated for off-site disposal, will be conducted in compliance with 40 CFR 261, 40 CFR Part 268, 40 CFR Part 761, and the State of Wisconsin regulations.

Lee & Ryan will collect grab waste profile samples prior to disposal and implement the following procedures.

- Sample collection will be accomplished using a disposable trowel or spoon and managed accordingly after use.
- New disposable nitrile gloves will be used when collecting each solid sample. Additional new glove changes will be made as conditions warrant (see the HASP).
- All disposable gloves will be collected and contained for proper disposal with other PPE materials.
- Samples will be collected using a pre-cleaned glass sample container.
- Sample shipment will follow appropriate chain-of-custody procedures.

Note that the waste characterization samples will be collected from various depths at least 0.5 feet below ground surface.

5.2 Decontamination Waste

U.S. Department of Transportation (U.S. DOT) compliant non-hazardous waste hauling vehicles will be loaded outside the Exclusion Zone so decontamination will not be required. However, these vehicles will be inspected after loading for off-site disposal. If decontamination is required, soils/residues adhering to the vehicle will be removed prior to exiting the Exclusion Zone. This will minimize the possibility of contaminating site transport roads and reduce solids and/or rinse water generated at the decontamination pads.

If use of a decontamination pad is necessary, they will be located at the edge of the Exclusion Zone. Dry solids will be first removed by nylon or wire brooms and brushes. At the discretion of the Site Health and Safety Officer based on the adequacy of the brooming process, high-pressure hot water sprayers may be necessary to clean off any remaining residues. All areas where soil/residues may accumulate will be addressed by the same means as primary remediation zones. Any liquid wastes generated from decontamination will be treated in the wastewater treatment system trailer.



Solid wastes generated from the decontamination process will be placed in dumpsters and managed by a local waste service provider.

5.3 Waste Hauler

Planned waste hauler for this project:

Tammy Ristow, President/CEO
RAMS Contracting, Ltd.
6045 North 55th Street, Suite 101
Milwaukee, WI 53218

5.4 Placards, Manifesting and Truck Inspection

Vehicles hauling regulated non-TSCA wastes designated for off-site disposal will be labeled and/or placarded, and each load will be manifested prior to leaving the Site. The manifest forms and records will be consistent with 40 CFR Part 262 “Environmental Protection Agency (EPA) Hazardous Waste Generator Standards”, 40 CFR Part 263 “EPA Hazardous Waste Transporter Standards”, 40 CFR Part 268, “Land Disposal Restriction Standards”, 40 CFR Part 761, “EPA Polychlorinated Biphenyls Rules” and State of Wisconsin regulations.

Following loading and tarping, each transport vehicle will be visually inspected to ensure no loose soil, sludge, or other material is attached to exterior surfaces. The Site Quality Control Manager will inspect and document that each vehicle leaving has been verified “visually” clean, tarps are in place and secure, proper placards are in place, manifest/documents are correct, and there are no visible signs of leaks.

5.5 Approved Disposal Facilities

Transporters and off-site facilities for the treatment, storage, or disposal of containerized or bulk wastes will be approved by the City of Sheboygan prior to commencing transport to these facilities. Certification documents for the proposed landfill facilities for this project will also be provided under separate attachment.

Facilities identified for non-TSCA regulated disposal will be approved under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Off-Site Rule (OSR), RCRA, WDNR, etc. as applicable.



For the purpose of this EMMP, the name and location of the disposal facility for solid waste (excavated soils/sediments) is identified below.

- Waste Management, Inc.— Orchard Ridge RDF
W124 N9355 Boundary Road
Menomonee Falls, WI 53051
(920) 732-4473

Excess soils which are removed as part of the invasive species control measures or cut/fill balance grading in uncontaminated areas, which do not exhibit special waste characteristics will be disposed of in accordance with NR 500, NR 600, NR 700 and, if applicable, NR 605 of the Wisconsin Administrative Code in licensed landfills or at any other site for which Department of Natural Resources (DNR) approval has been obtained. Clean fill disposal sites shall also have required local NR 216 and Chapter 30 permits and will be submitted for Engineer approval 10 days prior to planned transport.



FIGURE 1 PROJECT AREA AND HAUL ROUTE

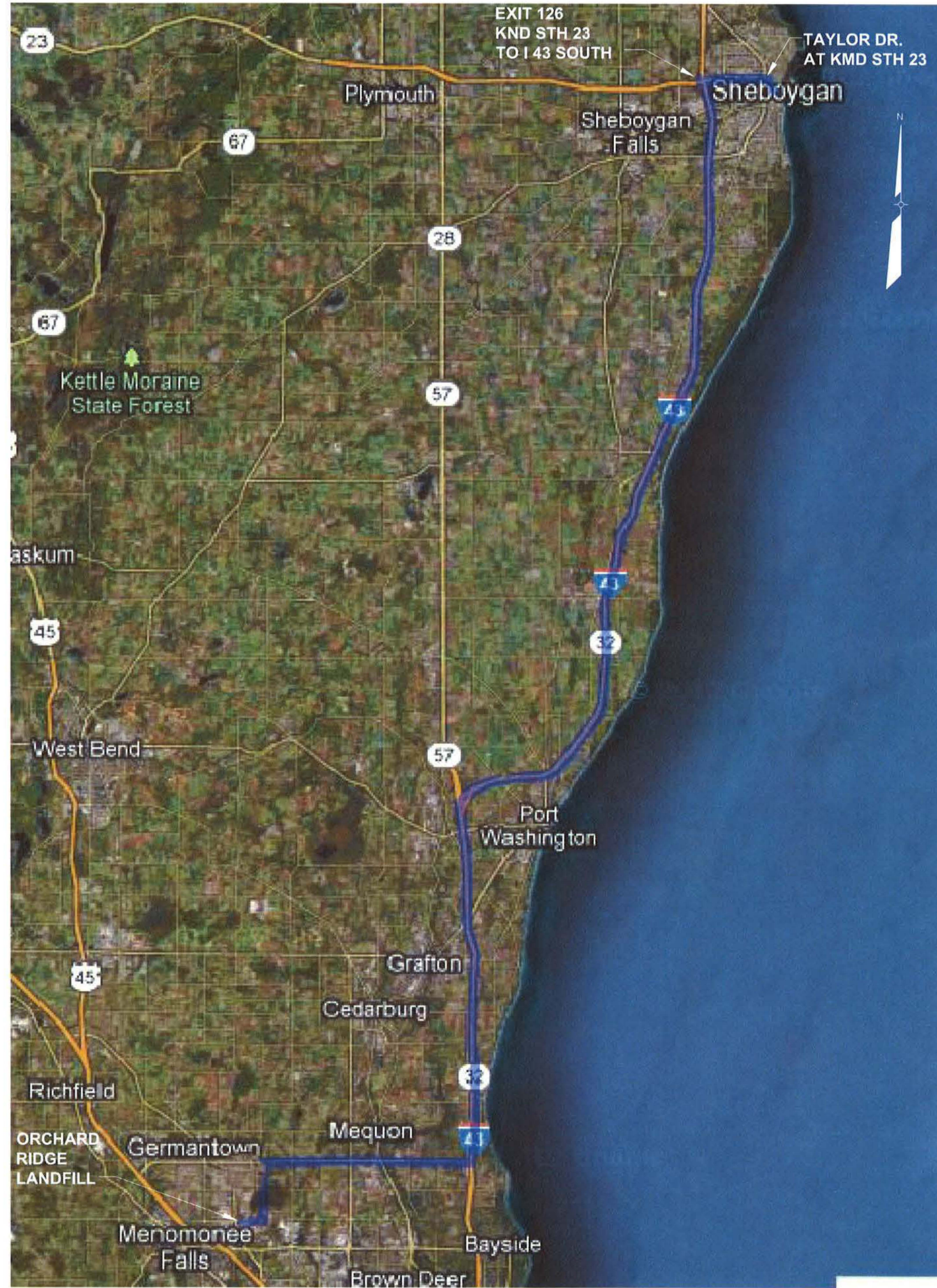
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DATE		AUGUST, 2012	
PROJECT NO		60274063	
FILE		EMM-1.DWG	
FILE NO		---	
SHEET NO		000	
DRAWING NO		EMM-1	
<p>SHEBOYGAN RIVER AOC HABITAT RESTORATION PROJECT SHEBOYGAN CITY & COUNTY, WI</p> <p>EXCAVATED MATERIALS MANAGEMENT PLAN PROJECT AREA</p>			
<p>PREPARED BY:    </p> <p>4135 TECHNOLOGY PARKWAY SHEBOYGAN, WI 53083 T 920-468-8711 WWW.AECOM.COM</p>			
SHEBOYGAN, WISCONSIN			
DRN CLL	AUG., 2012		
DES SG	AUG., 2012		
CHK KME	AUG., 2012		
APP KME	AUG., 2012		
NO	REVISIONS	DRN	CHK
			DATE



FIGURE 2 HAUL ROUTE MAP



HAUL ROUTE LOCATION MAP

DATE	AUGUST, 2012
PROJECT NO	60274063
FILE	EMM-2.DWG
FILE NO	---
SHEET NO	000
DRAWING NO	
EMM-2	

SHEBOYGAN RIVER AOC
 HABITAT RESTORATION PROJECT
 SHEBOYGAN CITY & COUNTY, WI

**EXCAVATED MATERIALS MANAGEMENT PLAN
 HAUL ROUTE MAP**

PREPARED BY:

4135 TECHNOLOGY PARKWAY SHEBOYGAN, WI 53083
 T 920-458-8711 WWW.AECOM.COM

SHEBOYGAN, WISCONSIN	
DRN CLL	AUG., 2012
DES SG	AUG., 2012
CHK KME	AUG., 2012
APP KME	AUG., 2012

NO	REVISIONS	DRN	CHK	DATE



FIGURE 3 TAYLOR DRIVE AND INDIANA AVENUE SITE

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DRN CLL	AUG., 2012	NO	DRN CHK	DATE
DES SG	AUG., 2012			
CHK KME	AUG., 2012			
APP KME	AUG., 2012			

SHEBOYGAN, WISCONSIN
 SCALE: 1" = 50'

PREPARED BY: SHEBOYGAN RIVER AOC
 HABITAT RESTORATION PROJECT
 SHEBOYGAN CITY & COUNTY, WI
EXCAVATED MATERIALS MANAGEMENT PLAN
TAYLOR DRIVE & INDIANA AVENUE SITE

DATE	AUGUST, 2012
PROJECT NO	60274063
FILE	EMM-3.DWG
FILE NO	---
SHEET NO	000
DRAWING NO	

4135 TECHNOLOGY PARKWAY SHEBOYGAN, WI 53083
 T 920-458-8711 WWW.AECOM.COM



FIGURE 4 WILDWOOD ISLAND SITE



FIGURE 5 KIWANIS PARK SITE



DATE AUGUST, 2012
 PROJECT NO 60274063
 FILE EMM-5.DWG
 FILE NO ---
 SHEET NO 000
 DRAWING NO

SHEBOYGAN RIVER AOC
 HABITAT RESTORATION PROJECT
 SHEBOYGAN CITY & COUNTY, WI
EXCAVATED MATERIALS MANAGEMENT PLAN
KIWANIS PARK SITE

PREPARED BY:
 GREAT LAKES RESTORATION
 LEE & RYAN
 4135 TECHNOLOGY PARKWAY SHEBOYGAN, WI 53083
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AECOM
 SHEBOYGAN, WISCONSIN

DRN CLL	AUG., 2012
DES SG	AUG., 2012
CHK KME	AUG., 2012
APP KME	AUG., 2012

NO	REVISIONS	DRN CHK	DATE



ATTACHMENT A EXCAVATION AND FILL PLANS

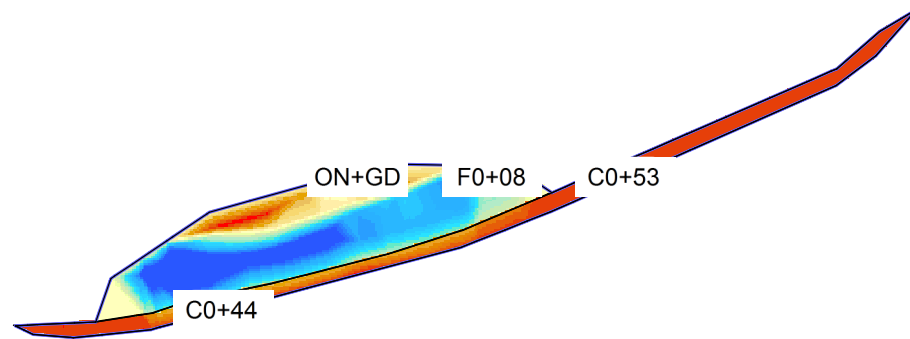
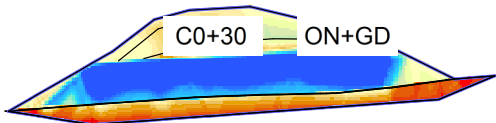
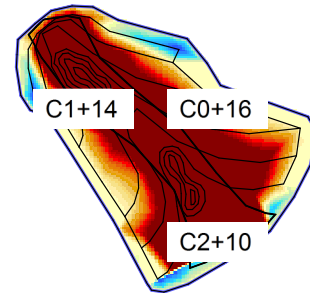
Volume Report
Subgrade vs. Stripped

	Total	Cut	Area		Volume		Comp/Ratio		Compact		Export -Import	Change Per .1 Ft
			Fill	OnGrade	Cut	Fill	Cut	Fill	Cut	Fill		
Gravel Bar	1,928	1,910	7	11	31	0	1.00	1.00	31	0	31	7
Gravel Bar	1,006	934	35	37	12	0	1.00	1.00	12	0	12	4
Gravel Sub:	2,934	2,844	42	48	43	0			43	0	43	11
Land	3,389	615	2,192	582	5	67	1.00	1.00	5	67	-62	13
Land	4,749	3,153	565	1,031	84	6	1.00	1.00	84	6	78	18
Land	4,360	724	3,074	562	6	60	1.00	1.00	6	60	-54	16
Land Sub:	12,498	4,492	5,831	2,175	95	133			95	133	-38	47
Rounded Rock	2,030	2,020	7	3	183	0	1.00	1.00	183	0	183	8
Regions Total	17,462	9,356	5,880	2,226	321	133			321	133	188	66

Stripping Qtys	Plane Area	Slope Area	Depth	Volume
topsoil	3,378	3,492	0.500	65
topsoil	4,312	4,379	0.500	81
topsoil	6,779	6,874	0.500	127
topsoil Sub:	14,469	14,745		273
Stripping Total	14,469	14,745		273

Sectional Qtys	Plane Area	Slope Area	Depth	Volume
Gravel Bar	1,006	1,039	0.500	19
Gravel Bar	1,928	1,987	0.500	37
Gravel Sub:	2,934	3,026		56
Land	4,360	4,400	0.500	81
Land	3,389	3,443	0.500	64
Land	4,749	4,834	0.500	90
Land Sub:	12,498	12,677		235
Rounded Rock	2,030	2,152	0.500	40
Sectional Total	17,462	17,855		331

Kiwanis Park Middle



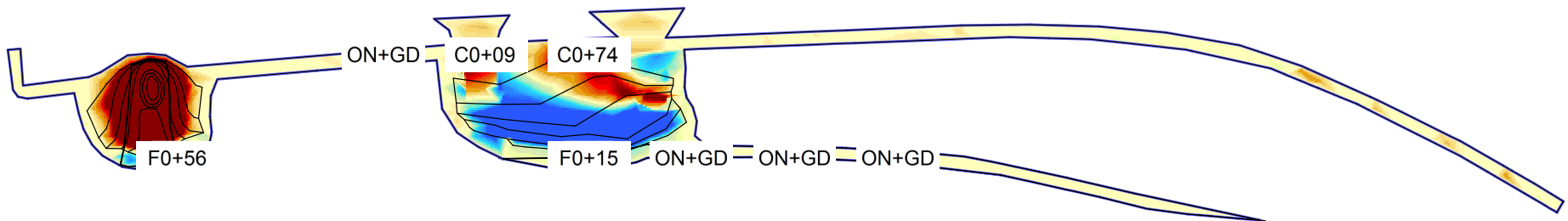
Kiwanis Park North

Volume Report
Subgrade vs. Stripped

	Total	Cut	Area		Volume		Comp/Ratio		Compact		Export -Import	Change Per .1 Ft
			Fill	OnGrade	Cut	Fill	Cut	Fill	Cut	Fill		
Gravel Bar	1,788	0	240	1,548	0	1	1.00	1.00	0	1	-1	7
Land	12,231	3,754	3,301	5,176	69	93	1.00	1.00	69	93	-24	45
Rounded Rock	991	844	135	12	105	2	1.00	1.00	105	2	103	4
Regions Total	15,010	4,598	3,676	6,736	174	96			174	96	78	56

<u>Stripping Qtys</u>	<u>Plane Area</u>	<u>Slope Area</u>	<u>Depth</u>	<u>Volume</u>
asphalt	6,429	6,591	0.500	122
topsoil	8,580	8,784	0.500	163
Stripping Total	15,009	15,375		285

<u>Sectional Qtys</u>	<u>Plane Area</u>	<u>Slope Area</u>	<u>Depth</u>	<u>Volume</u>
Gravel Bar	1,787	1,846	0.500	34
Land	12,231	12,515	0.500	232
Rounded Rock	991	1,053	0.500	20
Sectional Total	15,009	15,414		286



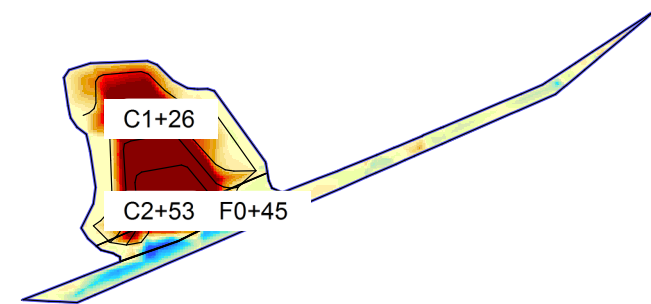
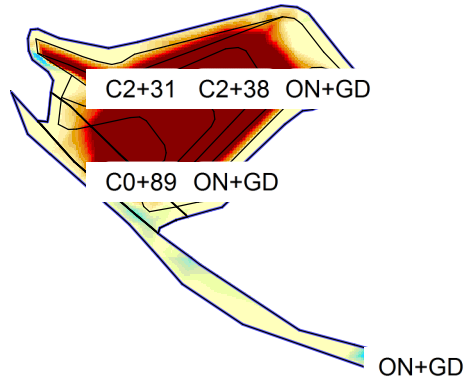
Volume Report
Subgrade vs. Stripped

Taylor Dr Esslingen Park

	Total	Cut	Area		Volume		Comp/Ratio		Compact		Export -Import	Change Per .1 Ft
			Fill	OnGrade	Cut	Fill	Cut	Fill	Cut	Fill		
Gravel Bar	1,736	51	948	737	0	9	1.00	1.00	0	9	-9	6
Gravel Bar	1,390	47	378	965	0	3	1.00	1.00	0	3	-3	5
Gravel Sub:	3,126	98	1,326	1,702	0	12			0	12	-12	11
Land	6,080	4,701	37	1,342	264	1	1.00	1.00	264	1	263	23
Land	3,775	2,951	0	824	112	0	1.00	1.00	112	0	112	14
Land Sub:	9,855	7,652	37	2,166	376	1			376	1	375	37
Rounded Stone	946	655	48	243	13	0	1.00	1.00	13	0	13	4
Rounded Stone	733	366	188	179	12	2	1.00	1.00	12	2	10	3
Rounded Sub:	1,679	1,021	236	422	25	2			25	2	23	7
Regions Total	14,660	8,771	1,599	4,290	401	15			401	15	386	55

Stripping Qtys	Plane Area	Slope Area	Depth	Volume
topsoil	8,415	8,527	0.500	158
topsoil	6,241	6,389	0.500	118
topsoil Sub:	14,656	14,916		276
Stripping Total	14,656	14,916		276

Sectional Qtys	Plane Area	Slope Area	Depth	Volume
Gravel Bar	1,389	1,426	0.500	26
Gravel Bar	1,736	1,819	0.500	34
Gravel Sub:	3,125	3,245		60
Land	6,080	6,160	0.500	114
Land	3,775	3,827	0.500	71
Land Sub:	9,855	9,987		185
Rounded Stone	946	955	0.500	18
Rounded Stone	733	754	0.500	14
Rounded Sub:	1,679	1,709		32
Sectional Total	14,659	14,941		277

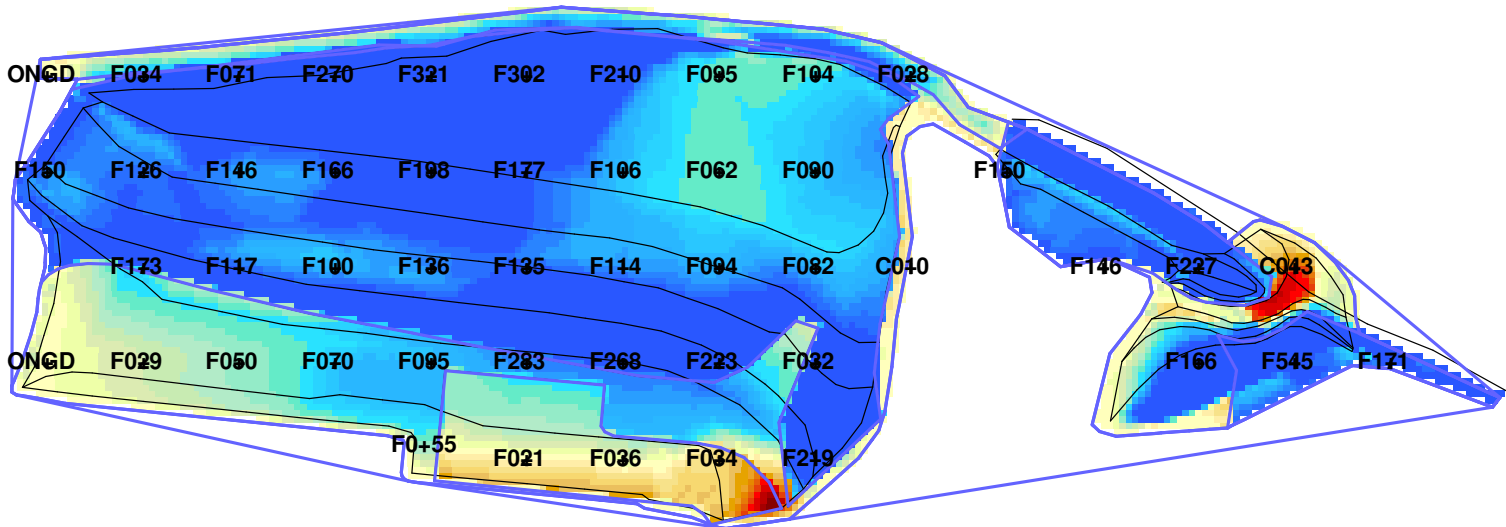


Volume Report
Subgrade vs. Stripped

	Total	Cut	Area		OnGrade	Volume		Comp/Ratio		Compact		Export -Import	Change Per .1 Ft
			Fill			Cut	Fill	Cut	Fill	Cut	Fill		
Gravel Bar	3,442	1	2,986		455	0	81	1.00	1.00	0	81	-81	13
Gravel Lot	4,729	1,913	2,201		615	29	36	1.00	1.10	29	40	-11	19
Gravel Sub:	8,171	1,914	5,187		1,070	29	117			29	121	-92	32
Land	17,748	1,329	13,079		3,340	27	388	1.00	1.00	27	388	-361	66
Reed Canary	40,627	1	40,627		0	0	2,429	1.00	1.00	0	2,429	-2,429	150
Reed Canary	3,766	0	3,766		0	0	221	1.00	1.00	0	221	-221	14
Reed Canary	1,839	0	1,839		0	0	188	1.00	1.00	0	188	-188	7
Reed Sub:	46,232	1	46,232		0	0	2,838			0	2,838	-2,838	171
Regions Total	72,151	3,244	64,498		4,410	56	3,343			56	3,347	-3,291	269

Stripping Qtys	Plane Area	Slope Area	Depth	Volume
asphalt	12,688	12,695	0.500	235
reed canary grass	3,767	3,827	2.000	283
reed canary grass	1,839	1,970	2.000	146
reed canary grass	40,627	40,772	2.000	3,020
reed Sub:	46,233	46,569		3,449
topsoil	13,230	13,396	0.500	248
Stripping Total	72,151	72,660		3,932

Sectional Qtys	Plane Area	Slope Area	Depth	Volume
Gravel Bar	3,442	3,521	0.500	65
Gravel Lot	4,729	4,732	1.000	175
Gravel Sub:	8,171	8,253		240
Land	17,748	17,829	0.500	330
Reed Canary	40,627	40,714	0.500	754
Reed Canary	3,766	3,813	0.500	71
Reed Canary	1,839	1,875	0.500	35
Reed Sub:	46,232	46,402		860
Sectional Total	72,151	72,484		1,430



Taylor Dr Pond

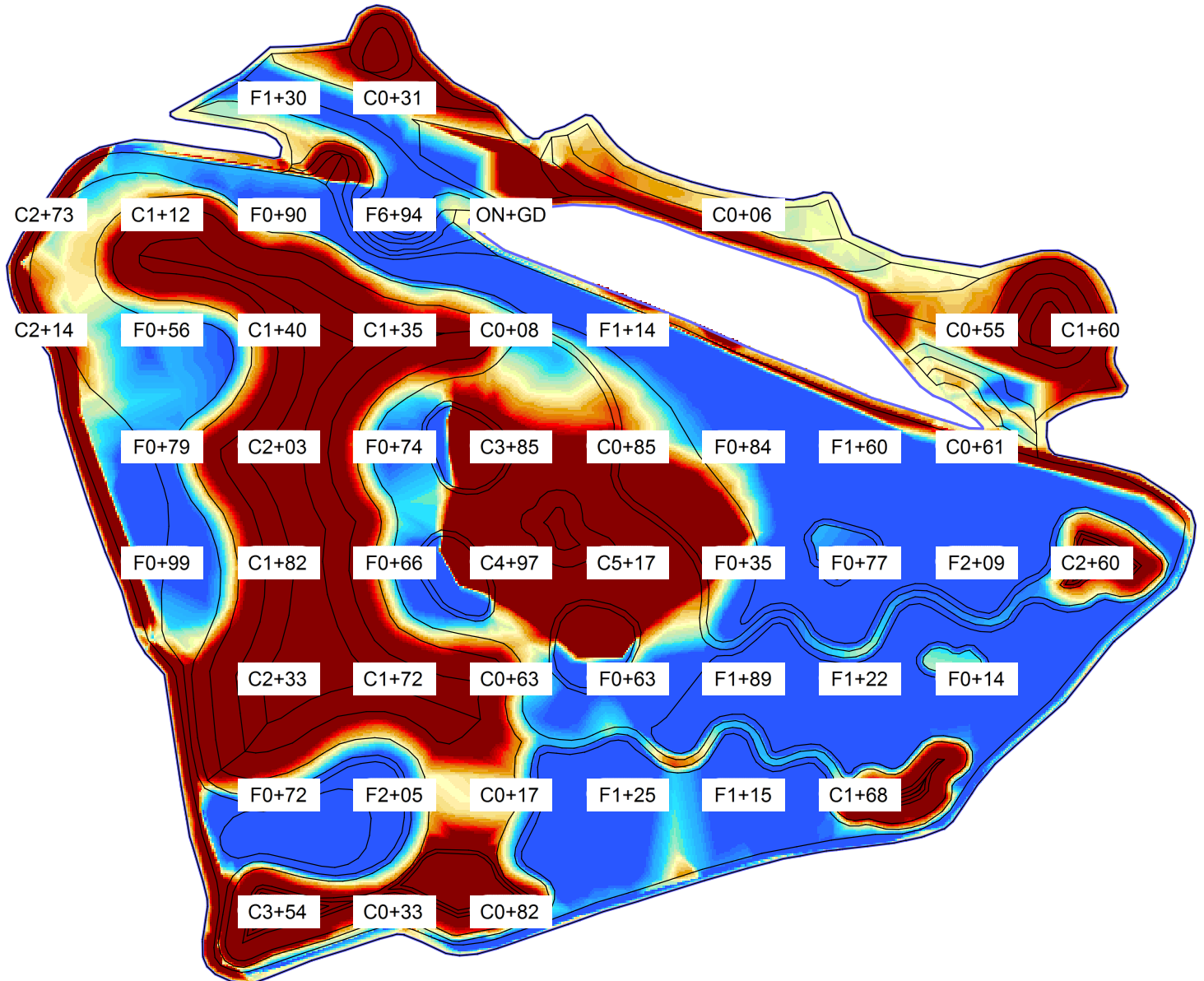
Job: Sheboygan River Taylor Dr
 Units: Ft-CY
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Volume Report Subgrade vs. Stripped

	Total		Area		Volume		Comp/Ratio		Compact		Export Change	
		Cut	Fill	OnGrade	Cut	Fill	Cut	Fill	Cut	Fill	-Import	Per .1 Ft
Land	226,738	107,141	110,332	9,265	6,051	4,300	1.00	1.00	6,051	4,300	1,751	840

Stripping Qty	Plane Area	Slope Area	Depth	Volume
island	14,948	15,170	0.000	0
pond	170,691	171,937	0.000	0
topsoil	41,099	42,576	0.500	788
Stripping Total	226,738	229,683		788

Sectional Qty	Plane Area	Slope Area	Depth	Volume
Land	226,738	229,085	0.500	4,242

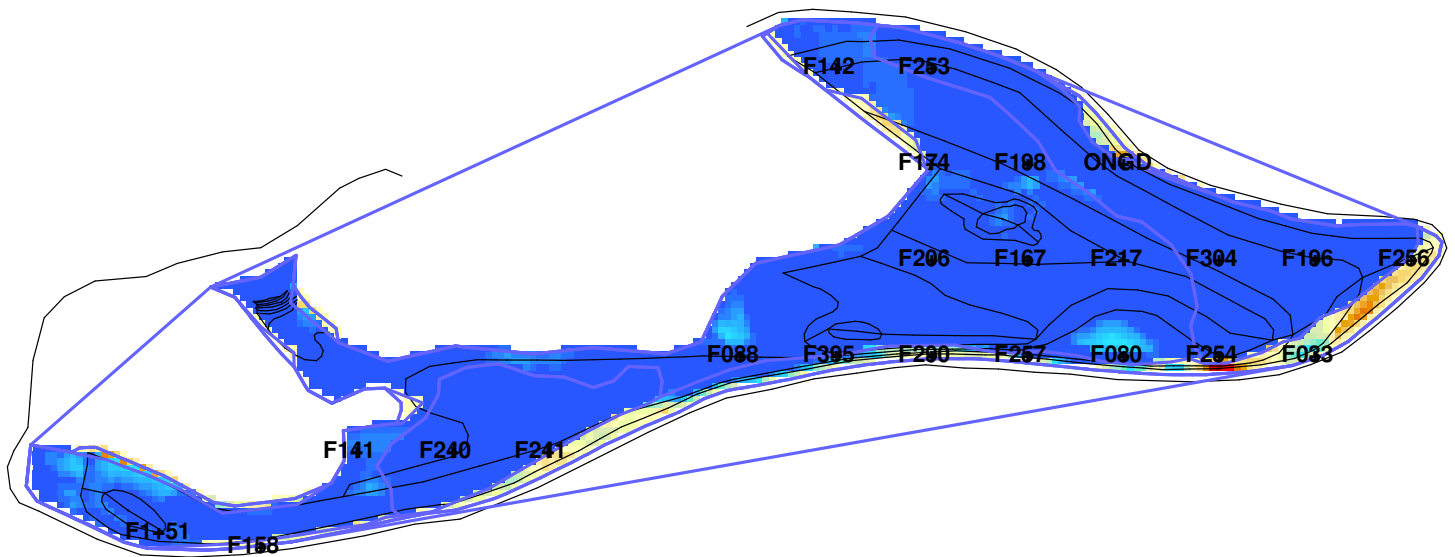


Volume Report
Subgrade vs. Stripped

	Total	Cut	Area		OnGrade	Volume		Comp/Ratio		Compact		Export -Import	Change Per .1 Ft
			Fill			Cut	Fill	Cut	Fill	Cut	Fill		
Canary Reed	56,446	0	56,446		0	0	3,864	1.00	1.00	0	3,864	-3,864	209
Giant Reed	19,347	0	19,346		1	0	1,815	1.00	1.00	0	1,815	-1,815	72
Giant Reed	10,233	0	10,233		0	0	990	1.00	1.00	0	990	-990	38
Giant Sub:	29,580	0	29,579		1	0	2,805			0	2,805	-2,805	110
Land	11,926	2,351	5,414		4,161	32	189	1.00	1.00	32	189	-157	44
Regions Total	97,952	2,351	91,439		4,162	32	6,858			32	6,858	-6,826	363

<u>Stripping Qtys</u>	<u>Plane Area</u>	<u>Slope Area</u>	<u>Depth</u>	<u>Volume</u>
giant reed grass	19,347	19,384	3.000	2,154
giant reed grass	10,233	10,245	3.000	1,138
giant Sub:	29,580	29,629		3,292
reed canary grass	56,446	56,768	2.000	4,205
topsoil	11,926	12,107	0.500	224
Stripping Total	97,952	98,504		7,721

<u>Sectional Qtys</u>	<u>Plane Area</u>	<u>Slope Area</u>	<u>Depth</u>	<u>Volume</u>
Canary Reed	56,446	56,623	0.500	1,049
Giant Reed	19,347	19,381	0.500	359
Giant Reed	10,233	10,241	0.500	190
Giant Sub:	29,580	29,622		549
Land	11,926	12,298	0.500	228
Sectional Total	97,952	98,543		1,826



**Volume Report
 Subgrade vs. Stripped**

	Total	Cut	Area		OnGrade	Volume		Comp/Ratio		Compact		Export -Import	Change Per .1 Ft
			Fill			Cut	Fill	Cut	Fill	Cut	Fill		
Giant Reed	14,419	3,496	9,839		1,084	97	496	1.00	1.00	97	496	-399	53
Land	19,888	14,307	2,853		2,728	848	55	1.00	1.00	848	55	793	74
Reed Canary	20,039	13,220	6,437		382	1,290	247	1.00	1.00	1,290	247	1,043	74
Regions Total	54,346	31,023	19,129		4,194	2,235	798			2,235	798	1,437	201

Stripping Qtys	Plane Area	Slope Area	Depth	Volume
giant reed grass	14,419	14,526	3.000	1,614
reed canary grass	20,039	20,066	2.000	1,486
topsoil	19,888	19,993	0.500	370
Stripping Total	54,346	54,585		3,470

Sectional Qtys	Plane Area	Slope Area	Depth	Volume
Giant Reed	14,419	14,496	0.500	268
Land	19,888	20,131	0.500	373
Reed Canary	20,039	20,147	0.500	373
Sectional Total	54,346	54,774		1,014

