

DELIVERY ORDER 0009  
STATEMENT OF WORK 007  
NAVAL SURFACE WARFARE CENTER  
CRANE, INDIANA

**SOILS EROSION CONTROL PLAN**  
**FOR**  
**BIOREMEDIATION FACILITY**

dated March 8, 1996

*Prepared for:*

SOUTHERN DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND  
2155 EAGLE DRIVE  
P. O. Box 190010  
North Charleston, South Carolina 29419-9010

*Prepared by:*

MORRISON KNUDSEN CORPORATION  
2420 Mall Drive  
Corporate Square I, Suite 211  
North Charleston, South Carolina 29406

**SET ID NO:**

56C



DEPARTMENT OF THE NAVY

CRANE DIVISION  
NAVAL SURFACE WARFARE CENTER  
300 HIGHWAY 361  
CRANE, INDIANA 47522-5000

IN REPLY REFER TO:  
5090  
Ser 095/6151  
3 JUN 1996

U.S. Environmental Protection Agency, Region V  
Waste, Pesticides, and Toxics Division  
Waste Management Branch  
Illinois, Indiana, and Michigan Section  
Attn: Ms. Carol Ann Witt-Smith (HRP-8J)  
77 West Jackson Blvd.  
Chicago, IL 60604

Dear Ms. Witt-Smith:

Crane Division, Naval Surface Warfare Center (NAVSURFWARCENDIV Crane) provides, for your information, the Soils Erosion Control Plan for the Bioremediation Facility as enclosure (1). The required certification statement is included as Enclosure (2).

NAVSURFWARCENDIV Crane point of contact is Mr. Thomas J. Brent, Code 09510, telephone 812-854-6160.

Sincerely,

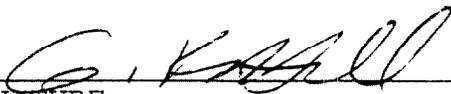
G. K. Hill  
Lieutenant Commander, USN  
Naval Surface Warfare Center, Crane Division

Encl:

- (1) Soils Erosion Control Plan for the Bioremediation Facility
- (2) Certification Statement

Copy to: (w/o encl)  
SOUTHNAVFACENCOM, (CODE 1864)  
COMNAVSEASYS COM (SEA 07E)  
USAE-WES, BILL MURPHY (GG-YH)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



\_\_\_\_\_  
SIGNATURE

G. K. HILL

Assistant Project Director, OIG

\_\_\_\_\_  
TITLE

3 JUN 1995

\_\_\_\_\_  
DATE



DEPARTMENT OF THE NAVY

CRANE DIVISION  
NAVAL SURFACE WARFARE CENTER  
300 HIGHWAY 361  
CRANE, INDIANA 47522-5000

IN REPLY REFER TO:  
5090  
Ser 095/6151  
3 JUN 1996

Indiana Department of Environmental Management  
Defense Environmental Restoration Program  
Attn: Mr. John Manley  
100 N. Senate  
P.O. Box 6015 (Room N-1255)  
Indianapolis, IN 46206-6015

Dear Mr. Manley:

Crane Division, Naval Surface Warfare Center (NAVSURFWARCENDIV Crane) provides, for your information, the Soils Erosion Control Plan for the Bioremediation Facility as enclosure (1).

NAVSURFWARCENDIV Crane point of contact is Mr. Thomas J. Brent, Code 09510, telephone 812-854-6160.

Sincerely,

A handwritten signature in cursive script, appearing to read "T. J. Brent".

THOMAS J. BRENT  
CRANE DIVISION, NAVY  
NAVSURFWARCENDIV

Encl:

(1) Soils Erosion Control Plan for the Bioremediation Facility

Copy to: (w/o encl)  
SOUTHNAVFACENGCOM, (CODE 1864)  
COMNAVSEASYSYSCOM (SEA 07E)  
USAE-WES, BILL MURPHY (GG-YH)

0951



DEPARTMENT OF THE NAVY

CRANE DIVISION  
NAVAL SURFACE WARFARE CENTER  
300 HIGHWAY 361  
CRANE, INDIANA 47522-5000

IN REPLY REFER TO:  
5090  
Ser 095/6151

8 JUN 1996

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Sincerely,

G. S. [Signature]  
Captain, USN  
Director, Crane Division

Encl:  
(1) Soils Erosion Control Plan for the Bioremediation Facility

Copy to: (w/o encl)  
SOUTHNAVFACENCOM, (CODE 1864)  
COMNAVSEASYSYSCOM (SEA 07E)  
USAE-WES, BILL MURPHY (GG-YH)

Brent 09510 3114  
Sime 6/3/96

Handwritten initials and signatures in a grid box, including "CJA", "JJA", and "09510".

**SOILS EROSION CONTROL PLAN**  
**for**  
**BIOREMEDIATION FACILITY**

**Naval Surface Warfare Center**  
**Crane, Indiana**

**Revision 0**  
**March 8, 1996**

**CONTRACT N62467-93-D-1106**  
**DELIVERY ORDER 0009**  
**STATEMENT OF WORK 007**

*Prepared By:*

**MORRISON KNUDSEN CORPORATION**  
2420 MALL DRIVE  
CORPORATE SQUARE 1, SUITE 211  
NORTH CHARLESTON, SOUTH CAROLINA 29406

**APPROVALS**

*William Pisspanen*

MK Safety and Health Program Manager

*24-Apr-96*

Date

*[Signature]*

MK Quality Program Manager

*24-April-96*

Date

*[Signature]*

MK Sr. Project Manager

*24-April-96*

Date

*[Signature]*

MK Program Manager

*24 APRIL 96*

Date

**ACCEPTANCE**

\_\_\_\_\_  
U.S. Navy Responsible Authority

\_\_\_\_\_  
Date

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## **SOILS EROSION CONTROL PLAN BIOREMEDIATION FACILITY**

**PROJECT NAME:** BIOREMEDIATION FACILITY  
NAVAL SURFACE WARFARE CENTER  
CRANE, INDIANA

### **SECTION 1 PROJECT INFORMATION**

**Date Plan Prepared:** March 8, 1996

**Project Number:** N62467-93-D-1106, D.O. 0009, SOW 007

**Geographical Location:** North 38 degrees, 48.63 minutes, West 86 degrees 53.19 minutes, Perry Township, Range 4 West, Martin County, Indiana. See the attached Oden Quadrangle Map No. 01.

**Site Area:** The existing site is approximately 5.83 acres. Surface water drainage is generally to the southwest and the existing ground surface is generally covered with grass. The total site area will be disturbed by the construction activities.

**Project Description:** This project will consist of an office/laboratory area, three compost buildings, a vehicle decontamination facility, an amendment storage/work area, an amendment haul road, and two stormwater retention ponds. The office/laboratory area will consist of two 12 foot by 60 foot office trailers, an 8 foot by 25 foot seavan and an 8 foot by 24 foot laboratory trailer. This area will have a compacted limestone parking area with a 24 vehicle capacity. Three corrugated steel culverts will be installed along the landfill access road at the office/laboratory area driveways. The existing roadside drainage swales will be reworked to drain this area. The compost building area will have three 70 foot by 300 foot long pre-engineered buildings to shelter the composting operations. The area around these buildings will be surfaced with asphalt paving over a compacted limestone base and sub-base. The paving will slope to the southwest and bring all surface drainage into a storage pond located at the southwest corner of the area. The storage pond will have a single layer, high density polyethylene (HDPE) liner and a low point sump to allow for pond drainage by way of a vacuum truck or a 4 inch CPVC discharge pipe. Prior to paving the area around the compost building, the entire area will be stripped of all vegetation, proof rolled to detect and correct soft spots and brought to proper grades. The vehicle decontamination facility will have a covered vehicle wash area, a storage sump, a toilet and an equipment room. The wash area will be an 8 inch curbed concrete slab with an 8 inch CMU wall on both sides to contain spray. The storage sump will have a capacity of 4000 gallons and be constructed of concrete with an epoxy coating. Adjacent to the vehicle wash area will be a personnel change room / shower trailer. The amendment storage/work area will have an asphalt paved surface over a compacted limestone sub-base and base. The amendment storage area will have two bins to store the materials used in the composting operation. This area will be paved with the paving sloped to the south and drained into a storage

pond to the south of the work area. The amendment haul road and truck turnaround area will be constructed of compacted limestone. The site will be stripped of all vegetation, proof rolled to detect and correct soft spots and brought to proper grade.

**Soil Disturbing Activities include:** Clearing and grubbing; installing a stabilized construction entrance, perimeter, and erosion and sediment controls; grading; excavation for storm sewer, utilities, and building foundations; construction of road and parking areas; and preparation for final planting and seeding.

**Sequence of Major Activities:**

Activity	Tentative Start Date
1. Install stabilized construction entrance	3/11/96
2. Strip the affected building sites of vegetation	3/11/96
3. Continue grading and installing erosion controls	3/12/96
4. Construct sub-base and base for the building foundations	3/18/96
5. Install foundations for compost buildings	3/25/96
6. Construct sub-base and base for building slabs	4/09/96
7. Install compost building slabs	4/15/96
6. Continue clearing and grading of remaining affected area	4/09/96
7. Install water mains, sanitary sewer, and underground electrical duct-bank	4/15/96
8. Install foundations and slabs for decontamination facility	4/15/96
9. Construct sub-base and base for remaining paved area	4/22/96
10. Install corrugated steel culverts along the landfill access road	4/29/96
11. Pave the affected surface with asphalt	5/06/96
12. Install storm water retention ponds.	5/06/96
13. Apply stone to parking area and road	5/13/96
14. Construct general facilities and utilities (office/lab area decontamination facility, amendment and amendment haul road)	5/13/96
15. Complete final paving	5/31/96
16. When all construction activity is complete and the site is stabilized, remove as necessary erosion control devices and reseed areas disturbed by their removal.	

**Location of Planned and Existing Features:** See Drawing number C-100 - Master Site/Drainage plan for the layout of all planned structures. Drawing number C-101 - Work Area Paving Layout shows the layout of the paving features. Drawings C-102, C-103, and C-104 show layouts of the compost building paving layout, Office/Lab Area Layout and Haul Road layout respectively. Drawing No. C-105 shows the work area drainage plan. Drawing No. C-108 depicts the South Haul Road profile. Currently located in the vicinity of the proposed construction are an asphaltic concrete roadway/cul-de-sac, an overhead power line and a sewer line.

**Easements:** They are shown on Drawing No. C-100 - Master Site/Drainage Plan as Clearing Limits/Construction Limit.

**Building Locations:** The general facilities involved in this project are as shown on Drawing No. C-100.

## SECTION 2 TOPOGRAPHIC AND GENERAL SITE FEATURES

**Names of Receiving Waters:** Natural unnamed drainage ways to river or canal which channels to Seed Tick Lake located approximately 15,000 + ft. away from site. See the location and vicinity maps 01 and 02 respectively.

**Floodplains, Floodways or Fringes:** Not in flood plain.

**Adjacent Land Uses:** Woods and transportation and NSWC landfill.

**Adjacent Water Courses:** The water courses on and adjacent to this site are unnamed, road and railroad side ditches, natural depressions and swales. It appears, from topographic maps, that they all will eventually enter the Seed Tick Lake 15,000 + feet away.

**Existing Vegetation:** The ground surface is primarily covered with grass. The area to be disturbed is shown on Drawing no. C - 100.

### **SECTION 3 SOIL INFORMATION**

**Soil Map:** Before and after topographic maps are included, along with the boring logs and the location map of these borings.

**Soil Characteristics:** In general, the subsurface profile extracted from the boring logs consist of (in descending order) topsoil, silty clay, residual soils consisting of silty clay or sand with rock fragments, and weathered rock consisting of shale. Ground water was encountered at Boring #8 at approximately 12 ft below the ground surface.

**Hydric Soils:** Are not apparent on this project.

## SECTION 4 DRAINAGE FEATURES

**Discharge Points:** During construction, storm water runoff will follow the natural drainage pattern to the southwest.

**Discharge into Municipal Storm Sewer:** None is expected.

**Receiving Waters:** As noted in Section 2 above.

**Groundwater Effected:** Groundwater was encountered at approximately 12 ft in boring # 8. Construction activities including grading and utility installations will not encounter or impact groundwater.

**Location of Storm Water System:** As marked on drawing nos. C-105, C-106, C-107; includes culverts, swales, ditches and drainage ponds.

**Energy Dissipators:** None

**Peak Discharge:** Discharge rates will be consistent with a 10 year design storm runoff of 3.5 inches per hour. Estimated peak discharge rate is 8 cubic feet per second.

**SECTION 5**  
**LAND DISTURBING ACTIVITIES**

**Location of Disturbed Areas:** See drawing no. C-100 Master Site/Drainage Plan.

**Areas of Preserved Vegetative Cover:** Most of the total area (5.28 acres) will be stripped of all vegetation. Therefore, none within this area will be preserved.

**Location of Soil Stockpiles:** Topsoil will be hauled to the landfill site and will be used as final cover.

**Location of Borrow Areas:** None is expected.

## SECTION 6 EROSION AND SEDIMENT CONTROL MEASURES

**Temporary Stabilization:** Topsoil stockpiles and disturbed portions of the site where construction activities temporarily cease for at least 21 days will be stabilized with temporary seed and mulch no later than 14 days from the last construction activity in that area. The temporary seed shall be Spring Oaks applied at a rate of 100 pounds per acre. Prior to seeding, 400 pounds to the acre of 10-10-10 fertilizer shall be applied. After seeding, straw mulch shall be applied at the rate of 4,000 pounds to the acre. The straw mulch is to be crimped into place by using a disc with the blades set nearly straight. Topsoil will be replaced and stabilized in areas where permitted. Roadways will be stabilized with stone sub-base and base course until bituminous pavement can be applied. Hay bales and silt fences will be utilized in areas where velocities are high and seeding may not be practical.

**Permanent Stabilization:** The permanent seed mix shall be applied as noted in the specifications. Prior to seeding, the area will be prepared for the incorporation of all material required by the specifications. After seeding, the area shall be straw mulched as required by the specifications. The straw will be crimped into place by using a disc with the blades set nearly straight.

### **Structural Practices:**

Corrugated Steel Culverts - will be installed along the landfill access road at the office/laboratory area driveways, and amendment haul road.

Pre-Engineered Buildings - will be constructed to shelter the composting operation.

Earthen Berms - will be constructed to protect the outer perimeter of the excavation where needed, and control stormwater run-on and run-off.

Areas of anticipated high velocity flows will be protected by rip-rap.

### **Timing of Controls/Measures:**

As indicated in the sequence of Major Activities, the stabilized construction entrance, storm swales and erosion control structures will be installed prior to stripping all vegetation and grading the compost building area and amendment Haul Road area. Areas where construction activity temporarily ceases for more than 21 days will be stabilized with a temporary seed and mulch within 14 days of the last disturbance. Once construction activity ceases permanently in the area, it will be stabilized with permanent seed and mulch. After the entire site is stabilized, the erosion control devices will be removed as necessary.

**Maintenance/Inspection Procedures:**

- All control measures will be inspected at least once every week and following any storm event of 0.5 inches or greater.
- All measures will be maintained in good working order; if a repair is necessary, it will be initiated within 24 hours of report.
- Temporary and permanent seeding will be inspected for bare spots, washouts, and healthy growth.
- A maintenance inspection log entry will be made in the field log book after each inspection.
- The contractor's site superintendent, will select individuals who will be responsible for inspections, maintenance and repairs, and filling out the inspection and maintenance report.
- Personnel selected for inspection and maintenance responsibilities will be trained by the site superintendent. They will be trained in all the inspection and maintenance practices necessary for keeping the erosion and sediment controls used on site in good working order.

**SECTION 7**

**CERTIFICATION STATEMENT  
BY OPERATOR**

I certify that the Erosion Control Plan complies with applicable State, County, and Local erosion control requirements including section 7 and 9 of Indiana regulation 327 IAC 15-rule 5-Storm water Run-Off Associated With Construction Activity . I further certify that the erosion control measures will be implemented according to the provided plan.

I verify that State, County, and Local Erosion, Soil/Water Conservation District Office have been sent a copy of the Erosion Control Plan for review.

I also verify that the implementation of the Erosion Control Plan will be conducted by personnel trained in erosion control practices.

**Signature of Facility Operator**

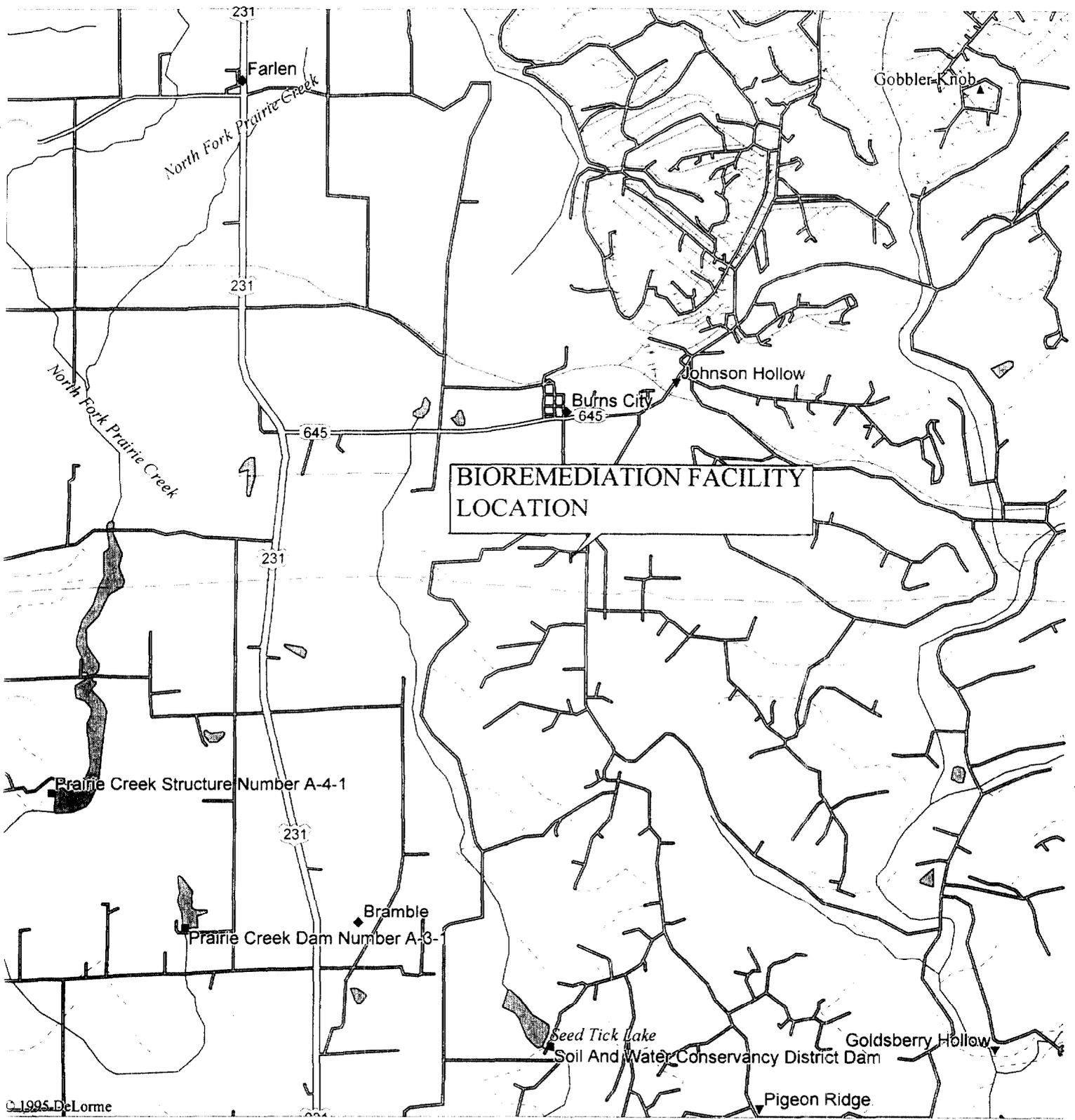
*St T Downey*

**Date**

3/11/96

**Printed or Typed Name of Operator**

Steven T. Downey



© 1995 DeLorme

Mag 13.00  
 Mon Feb 26 18:40 1996  
 Scale 1:50,000 (at center)  
 5000 Feet

1000 Meters

- |  |                              |  |                          |
|--|------------------------------|--|--------------------------|
|  | Secondary SR, Road, Hwy Ramp |  | Point of Interest        |
|  | State Route                  |  | Summit                   |
|  | US Highway                   |  | Geographic Feature       |
|  | Utility                      |  | County Boundary          |
|  | Railroad                     |  | Lake, Ocean, Large River |
|  | Contour                      |  | River, Canal             |



# DEPARTMENT OF THE NAVY

## CRANE DIVISION

### NAVAL SURFACE WARFARE CENTER

### CRANE, INDIANA

## BIOREMEDIATION FACILITY



### DRAWING INDEX

#### DWG. NO.

C-100  
C-101  
C-102  
C-103  
C-104  
C-105  
C-106  
C-107  
C-108  
C-109  
C-110  
C-111  
C-112

#### CIVIL DRAWING LIST

MASTER SITE/DRAINAGE PLAN  
WORK AREA PAVING LAYOUT  
COMPOST BUILDING PAVING LAYOUT  
OFFICE/LAB AREA LAYOUT  
HAUL ROAD LAYOUT & PAVING SECTIONS  
WORK AREA DRAINAGE PLAN  
COMPOST BUILDING DRAINAGE PLAN  
OFFICE/LAB AREA DRAINAGE PLAN  
HAUL ROAD DRAINAGE PLAN & DETAILS  
CROSS SECTIONS - SHT. 1  
CROSS SECTIONS - SHT. 2  
CROSS SECTIONS - SHT. 3  
MISCELLANEOUS DETAILS

S-100  
S-101  
S-102  
S-103

DECON AREA CONCRETE PLAN & SECTIONS  
DECON AREA SECTIONS & ELEVATIONS  
DECON AREA SECTIONS & MISCELLANEOUS DETAILS  
MISCELLANEOUS DETAILS

#### DWG. NO.

E-100  
E-101  
E-102  
E-103  
E-104  
E-105  
E-106  
E-107  
E-108  
E-109

#### ELECTRICAL DRAWING LIST

KEYPLAN  
POWER PLAN  
GROUNDING PLAN  
POWER DETAILS  
LIGHTING FIX. SCHEDULE, S.O.M. & LEGEND  
TYP. LIGHTING FOR BLDGS. +1, +2 & -2  
POWER DETAILS  
SCHEMATICS & LIGHTING DETAILS  
TYPICAL GROUNDING DETAILS  
PANEL SCHEDULES

### SPECIFICATION INDEX

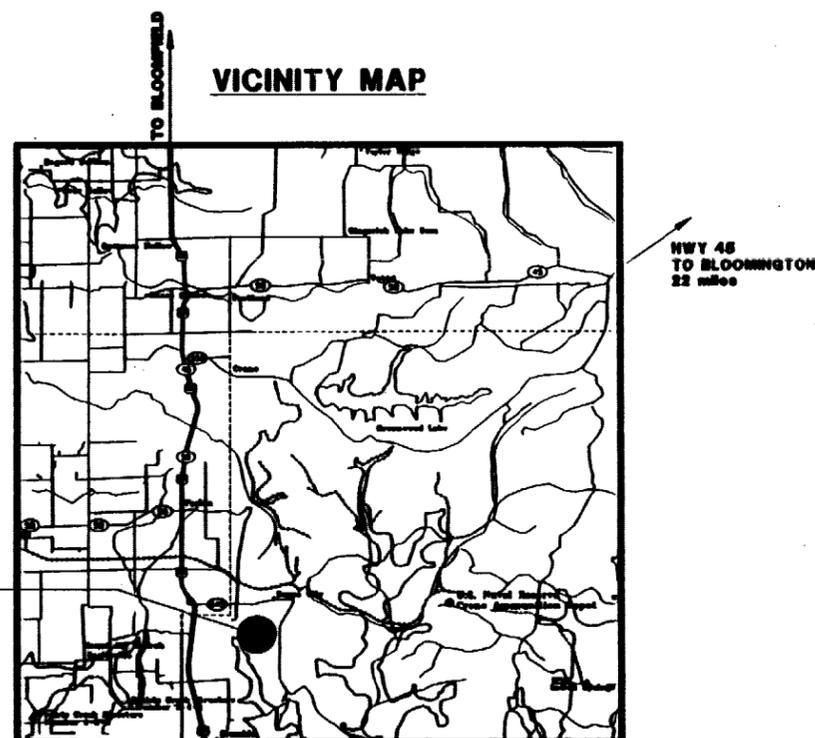
#### SECTION

02100  
02200  
02300  
02400  
02500  
02600

#### DESCRIPTION

SITE CLEARING  
CONCRETE REINFORCEMENT  
CAST-IN-PLACE CONCRETE  
MEMBRANE LEAKAGE SYSTEMS  
CPVC UNDERGROUND PIPE  
ASPHALTIC CONCRETE PAVING

### VICINITY MAP



PROJECT LOCATION

Scale 1:100,000 (at center)

2 Miles

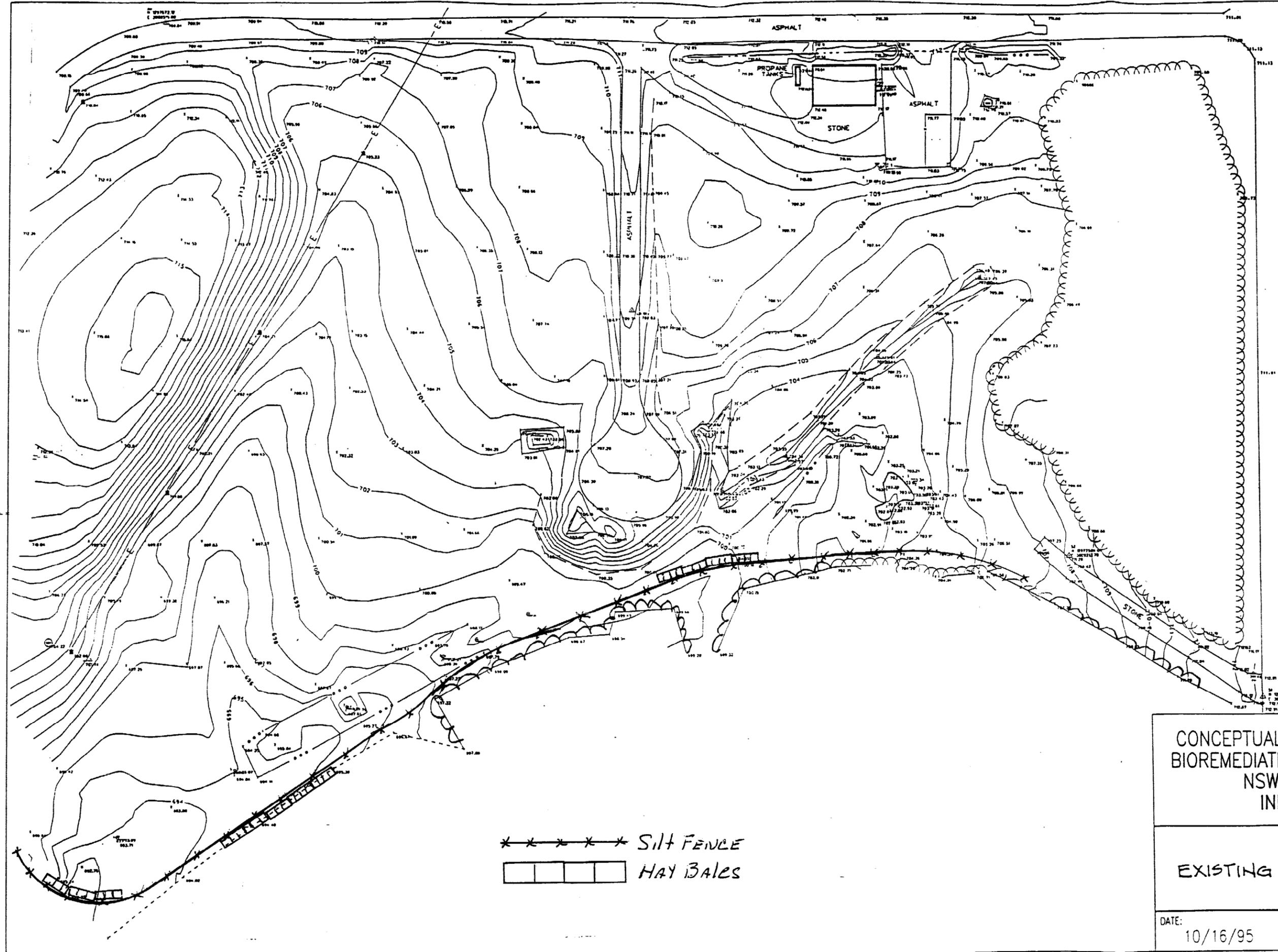
2KM

TO LOGANSPORT

# FOR CONSTRUCTION



JEG JOB NO. 10G175-21



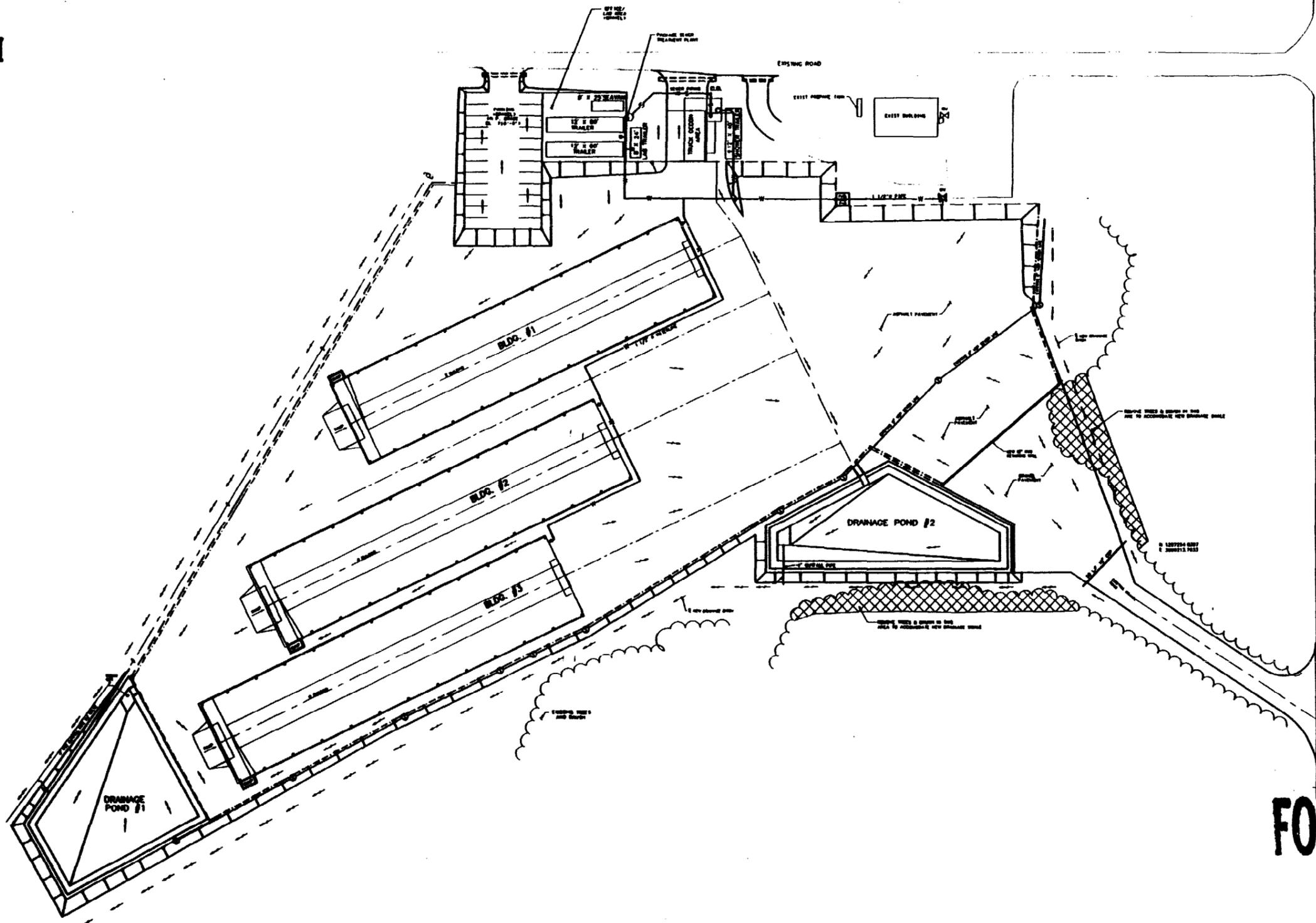
CONCEPTUAL SITE LAYOUT  
 BIOREMEDIATION FACILITY  
 NSWC-CRANE  
 INDIANA

EXISTING TOPOGRAPHY

\* \* \* \* \* Silt Fence  
 [ ] [ ] [ ] [ ] Hay Bales

DATE: 10/16/95 SCALE: AS NOTED





**LEGEND**

- > DENOTES DRAINAGE FLOW
- - - DENOTES NEW ASPHALT BERM
- ⊕ DENOTES EXISTING POWER POLE
- ⊙ DENOTES EXISTING SANITARY SEWER MANHOLE
- DENOTES NEW WATER LINE (INSTALL 3' BELOW GRADE)

**FOR CONSTRUCTION**



**JE Jacobs Engineering Group Inc.**  
Central Region Balon Rouge, Louisiana

CONTRACT NO. 10G175-21	DWG. NO. C-100	REV 0	SCALE 1"=40'
---------------------------	-------------------	----------	-----------------

DWG. TITLE  
**BIOREMEDIATION FACILITY  
CRANE N.S.W.C.  
MASTER SITE/DRAINAGE PLAN**

BLOCK NAME = OSIZE VER. 03/08/89

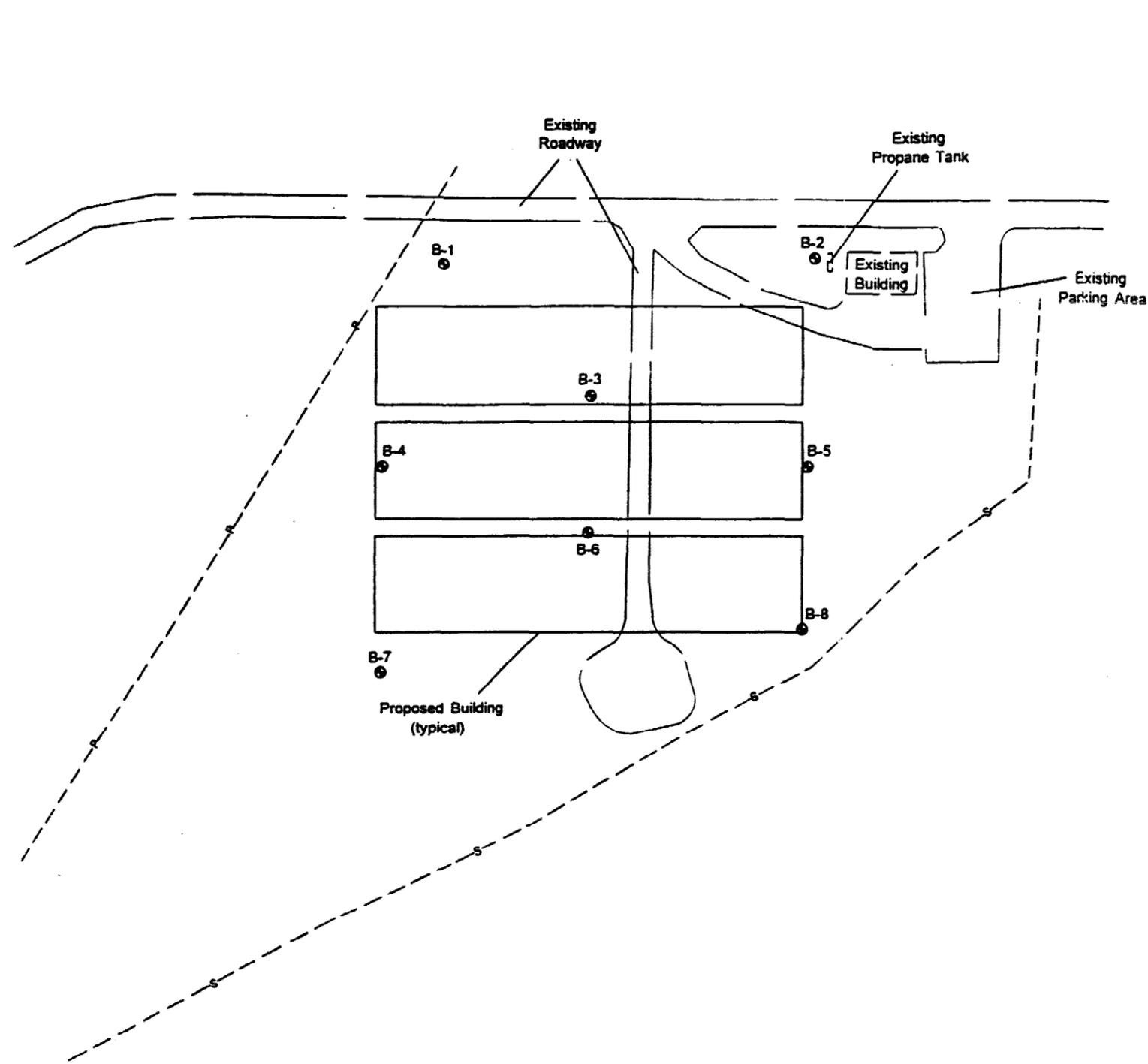
REFERENCE DRAWINGS		REVISION		BY		CHK		APP		DATE		REV	
DWG. NO.	TITLE	NO.	DESCRIPTION	BY	CHK	APP	DATE	NO.	DESCRIPTION	BY	CHK	APP	DATE
1	DELETED GUARD POST	CV	GL	RR									
0	ISSUED FOR CONSTRUCTION	GL	GL	RR			1/96						











**LEGEND**

- B-1  
● Test Boring Location and Designation
- s--s-- Existing Sewer Line
- P--P-- Existing Overhead Power Line

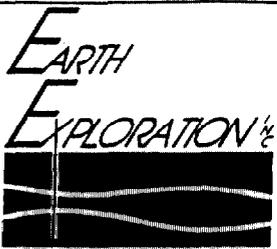
**NOTES**

1. Base map provided by Morrison Knudsen Corporation on October 12, 1995.
2. Refer to the Log of Test Boring (8) in Appendix C for a description of the subsurface conditions encountered at the boring locations.
3. Borings located in the field by Morrison Knudsen Corporation.
4. Ground surface elevations at the boring locations were provided by Morrison Knudsen Corporation on October 12, 1995.

**TEST BORING LOCATION PLAN**



**Project:** Preliminary Geotechnical Evaluation  
 Proposed Bioremediation Facility  
**Location:** Crane, Indiana  
**Client:** Morrison Knudsen Corporation  
**EEl Project No.:** 3597  
**Approximate Scale:** 1" = 100'



# LOG OF TEST BORING

Project Proposed Bioremediation Facility  
 Location Crane, Indiana  
 Client Morrison Knudsen Corporation  
 7770 West New York Street Indianapolis, Indiana 46214  
 317-273-1690 / 317-273-2250 (Fax)

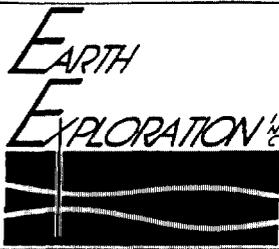
Boring No. B-1  
 Elevation 707.6  
 Datum USC&GS  
 EEI Proj. No. 3597  
 Sheet 1 of 1

Proj. No. --- Station --- Weather Sunny Driller R.S.  
 Struct. No. --- Offset --- Temp. 80 Deg F Inspector ---

SAMPLE					DESCRIPTION/CLASSIFICATION and REMARKS	SOIL PROPERTIES						
No.	Type	Rec %	N Value	Depth ft m		qp tsf	qu tsf	$\gamma_d$ pcf	W %	LL %	PL %	PI %
					TOPSOIL							
SS-1		60	5		CL, SILTY CLAY, trace fine to medium sand, very stiff to hard, brown	4.25			19.2			
SS-2		80	11		CL, SILTY CLAY, trace to little fine sand, hard, mottled light brown (residual soil)	3.25			18.6	37	20	17
SS-3		80	98/0.9									
SS-4		40	89/0.9		SP, FINE TO MEDIUM SAND, very dense, moist, brown (residual soil)							
SS-5		100	50/0.4*		End of Boring at 13.9'							

WATER LEVEL OBSERVATIONS			
Depth ft	While Drilling	Upon Completion	1 7 hrs After Drilling
To Water	NW	NW	NW
To Cave-in		13	12

**GENERAL NOTES**  
 Start 10/2/95 End 10/2/95 Rig CME 55  
 Drilling Method 3-1/4" I.D. HSA  
 Remarks Backfilled with auger cuttings.  
 \*Seating increment: Split-spoon refusal at 13.9'



# LOG OF TEST BORING

Project Proposed Bioremediation Facility  
 Location Crane, Indiana  
 Client Morrison Knudsen Corporation  
 7770 West New York Street Indianapolis, Indiana 46214  
 317-273-1690 / 317-273-2250 (Fax)

Boring No. B-2  
 Elevation 711.9  
 Datum USC&GS  
 EEI Proj. No. 3597  
 Sheet 1 of 1

Proj. No. --- Station --- Weather Sunny Driller R.S.  
 Struct. No. --- Offset --- Temp. 80 Deg F Inspector ---

SAMPLE					DESCRIPTION/CLASSIFICATION and REMARKS	SOIL PROPERTIES						
No.	Type	Rec %	N Value	Depth ft m		qp tsf	qu tsf	$\delta_d$ pcf	W %	LL %	PL %	
					TOPSOIL							
SS-1		80	8		CL, SILTY CLAY, trace to medium sand, very stiff, brown	2.5			21.2			
SS-2		70	8			>4.5			19.2			
SS-3		70	50/0.4			3.5			19.4			
SS-4		40	73/0.9			CL, SILTY CLAY, trace to little fine sand, very stiff to hard, mottled light brown to brown (residual soil)	>4.5			9.6		
SS-5		40	50/0.4				-			11.2		
					End of Boring at 14.4'							

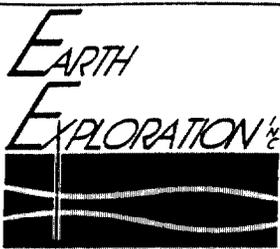
## WATER LEVEL OBSERVATIONS

Depth ft	While Drilling	Upon Completion	1 6 hrs After Drilling
To Water	NW	NW	NW
To Cave-in		13	13

## GENERAL NOTES

Start 10/2/95 End 10/2/95 Rig CME 55  
 Drilling Method 3-1/4" I.D. HSA  
 Remarks Backfilled with auger cuttings.  
Split-spoon refusal at 14.4'

The stratification lines represent the approximate boundary between soil/rock types and the transition may be gradual.



# LOG OF TEST BORING

Project Proposed Bioremediation Facility  
 Location Crane, Indiana  
 Client Morrison Knudsen Corporation  
 7770 West New York Street Indianapolis, Indiana 46214  
 317-273-1690 / 317-273-2250 (Fax)

Boring No. B-3  
 Elevation 708.8  
 Datum USC&GS  
 EEI Proj. No. 3597  
 Sheet 1 of 1

Proj. No. --- Station --- Weather Sunny Driller R.S.  
 Struct. No. --- Offset --- Temp. 80 Deg F Inspector ---

SAMPLE					DESCRIPTION/CLASSIFICATION and REMARKS	SOIL PROPERTIES					
No.	Type	Rec %	N Value	Depth ft m		qp tsf	qu tsf	$\delta_d$ pcf	W %	LL %	Pl %
					TOPSOIL						
SS-1		50	10		CL, SILTY CLAY, trace fine to medium sand, very stiff, brown	3.75			18.1		
SS-2		60	46	5	CL, SILTY CLAY, trace to little fine sand, very stiff to hard, brown, few fragments of limestone (residual soil)	3.5			22.4		
SS-3		60	65/0.9	2		>4.5			24.0		
SS-4		60	85/0.7	10							
					SP, FINE SAND, very dense, moist, brown (residual soil)						
SS-5		60	67/0.4	15							
					End of Boring at 14.4'						

## WATER LEVEL OBSERVATIONS

## GENERAL NOTES

Depth ft	∇ While Drilling	∇ Upon Completion	1 5 hrs After Drilling
To Water	<u>NW</u>	<u>NW</u>	<u>NW</u>
To Cave-in		<u>12</u>	<u>12</u>

Start 10/2/95 End 10/2/95 Rig CME 55  
 Drilling Method 3-1/4" I.D. HSA  
 Remarks Backfilled with auger cuttings.  
Split-spoon refusal at 14.4'

The stratification lines represent the approximate boundary between soil/rock types and the transition may be gradual.



# LOG OF TEST BORING

Project Proposed Bioremediation Facility  
 Location Crane, Indiana  
 Client Morrison Knudsen Corporation  
 7770 West New York Street Indianapolis, Indiana 46214  
 317-273-1690 / 317-273-2250 (Fax)

Boring No. B-4  
 Elevation 704.6  
 Datum USC&GS  
 EEI Proj. No. 3597  
 Sheet 1 of 1

Proj. No. --- Station --- Weather Sunny Driller R.S.  
 Struct. No. --- Offset --- Temp. 80 Deg F Inspector ---

SAMPLE				DESCRIPTION/CLASSIFICATION and REMARKS	SOIL PROPERTIES					
No.	Depth ft m	Rec %	N Value		qp tsf	qu tsf	$\gamma_d$ pcf	W %	LL %	PL %
				TOPSOIL						
SS-1	6	80	6	CL, SILTY CLAY, trace medium sand, hard, brown	4.5			20.1	36	24
SS-2	9	80	9		4.0			21.0		
SS-3	23	100	23	CL, SILTY CLAY, little to some fine to medium sand, very stiff to hard, brown to light gray (residual soil)	3.5			16.0		
SS-4	35	100	35		3.5			14.5		
SS-5	50/0.3	60	50/0.3		4.5			12.4		
	14.3			End of Boring at 14.3'						

## WATER LEVEL OBSERVATIONS

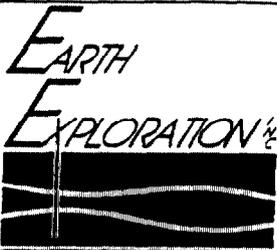
Depth ft	While Drilling	Upon Completion	4 hrs After Drilling
To Water	NW	NW	NW
To Cave-in		13	13

## GENERAL NOTES

Start 10/2/95 End 10/2/95 Rig CME 55  
 Drilling Method 3-1/4" I.D. HSA  
 Remarks Backfilled with auger cuttings.  
Split-spoon refusal at 14.3'

The stratification lines represent the approximate boundary between soil/rock types and the transition may be gradual.





# LOG OF TEST BORING

Project Proposed Bioremediation Facility  
 Location Crane, Indiana  
 Client Morrison Knudsen Corporation  
 7770 West New York Street Indianapolis, Indiana 46214  
 317-273-1690 / 317-273-2250 (Fax)

Boring No. B-6  
 Elevation 707.6  
 Datum USC&GS  
 EEI Proj. No. 3597  
 Sheet 1 of 1

Proj. No. --- Station --- Weather Sunny Driller R.S.  
 Struct. No. --- Offset --- Temp. 80 Deg F Inspector ---

SAMPLE				DESCRIPTION/CLASSIFICATION and REMARKS	SOIL PROPERTIES							
No.	Type	Rec %	N Value		Depth ft	qp tsf	qu tsf	$\sigma_d$ pcf	W %	LL %	PL %	PI %
					TOPSOIL							
SS-1		90	8	1	CL, SILTY CLAY, trace fine gravel, very stiff, brown	3.5			22.0			
SS-2		100	10	5	CL, SILTY CLAY, trace to little fine to medium sand, very stiff to hard, mottled brown (residual soil)	3.0			18.3			
3		100	11	2			4.5			16.2		
SS-4		80	88/0.9	10	HIGHLY WEATHERED SHALE, soft, gray	3.5			20.3			
SS-5		100	50/0.4	15								
				15	End of Boring at 14.4'							

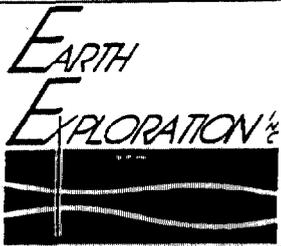
## WATER LEVEL OBSERVATIONS

Depth ft	While Drilling	Upon Completion	1 2 hrs After Drilling
To Water	NW	NW	NW
To Cave-in		13	12-1/2

## GENERAL NOTES

Start 10/2/95 End 10/2/95 Rig CME 55  
 Drilling Method 3-1/4" I.D. HSA  
 Remarks Backfilled with auger cuttings.  
 Split-spoon refusal at 14.4'

The stratification lines represent the approximate boundary between soil/rock types and the transition may be gradual.



# LOG OF TEST BORING

Project Proposed Bioremediation Facility  
 Location Crane, Indiana  
 Client Morrison Knudsen Corporation  
 7770 West New York Street Indianapolis, Indiana 46214  
 317-273-1690 / 317-273-2250 (Fax)

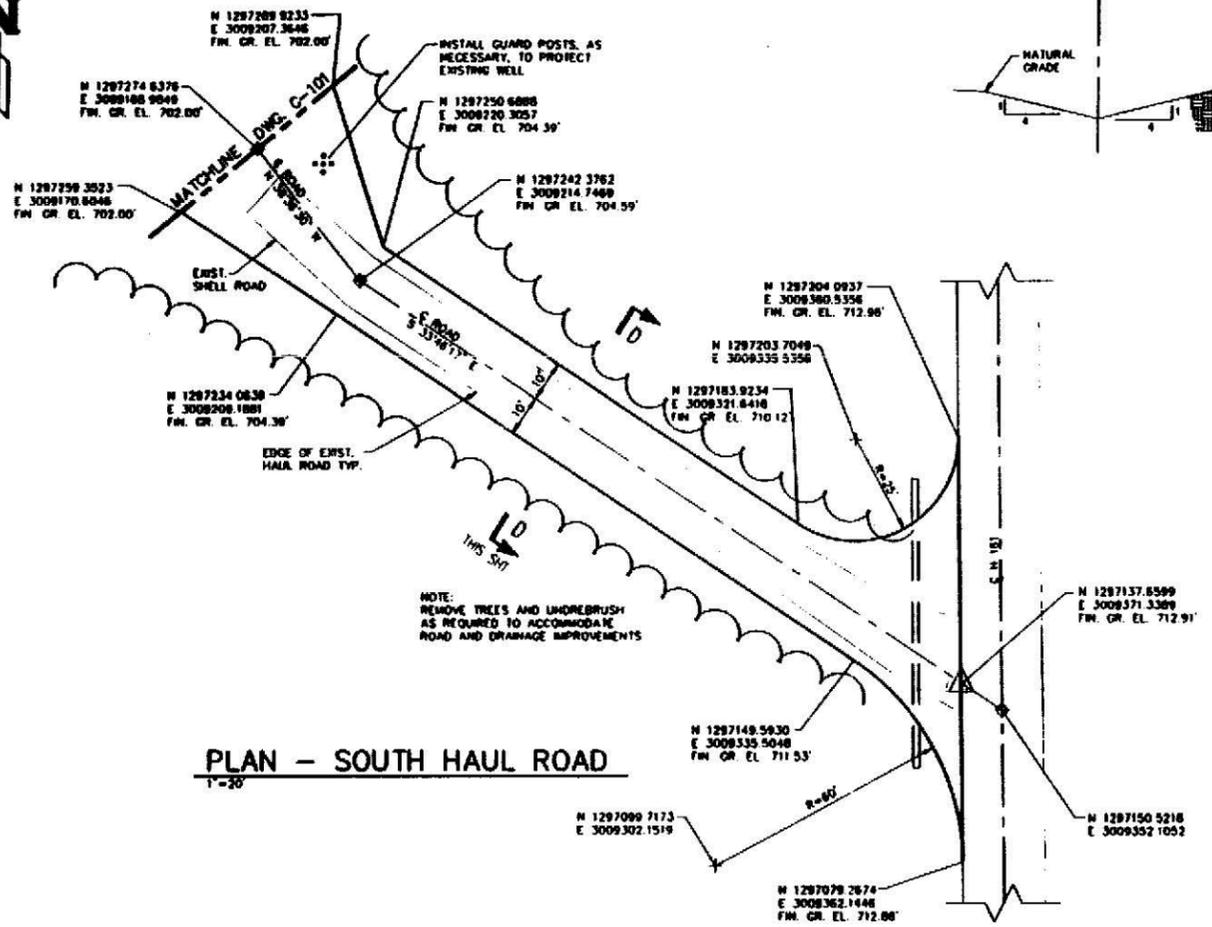
Boring No. B-8  
 Elevation 703.2  
 Datum USC&GS  
 EEI Proj. No. 3597  
 Sheet 1 of 1

Proj. No. --- Station --- Weather Sunny Driller R.S.  
 Struct. No. --- Offset --- Temp. 80 Deg F Inspector ---

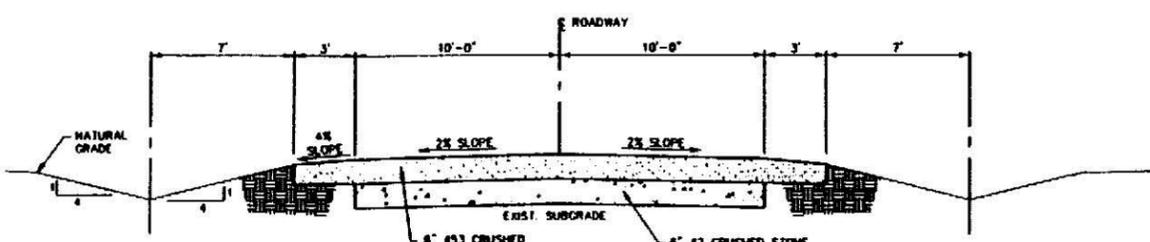
SAMPLE					DESCRIPTION/CLASSIFICATION and REMARKS	SOIL PROPERTIES						
No.	Type	Rec %	N Value	Depth ft m		qp tsf	qu tsf	$\sigma_d$ pcf	W %	LL %	PL %	PI %
					TOPSOIL							
SS-1		100	8	1	CL, SILTY CLAY, trace fine to medium sand, hard, brown	>4.5			18.0			
SS-2		100	56	5	CL, SILTY CLAY, trace to little fine to medium sand, hard, mottled brown (residual soil)	>4.5			14.5			
3		80	64/0.9	2			>4.5			11.6		
SS-4		80	50/0.3	10	SP, FINE SAND, very dense, moist brown (residual soil)							
				3								
SS-5		60	50/0.4	15	HIGHLY WEATHERED SHALE, soft, gray							
					End of Boring at 14.4'							

WATER LEVEL OBSERVATIONS			
Depth ft	While Drilling	Upon Completion	1 1/2 hr After Drilling
To Water	NW	12	12
To Cave-in		12-1/2	12-1/2

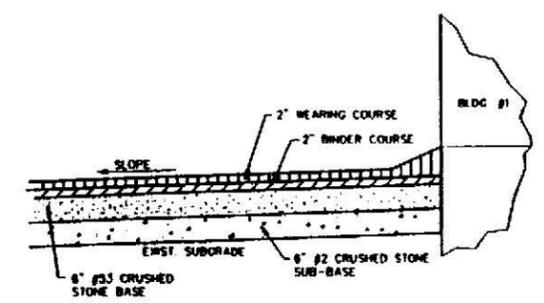
**GENERAL NOTES**  
 Start 10/2/95 End 10/2/95 Rig CME 55  
 Drilling Method 3-1/4" I.D. HSA  
 Remarks Backfilled with auger cuttings.  
Split- spoon refusal at 14.4'



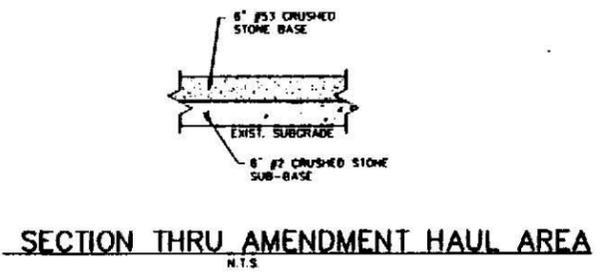
PLAN - SOUTH HAUL ROAD  
1"=20'



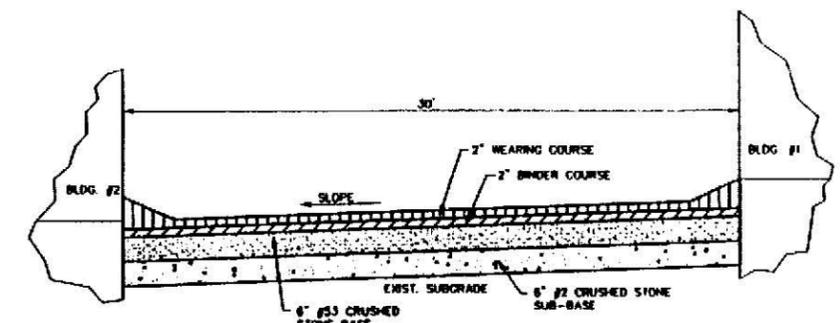
SECTION D-D  
N.T.S.



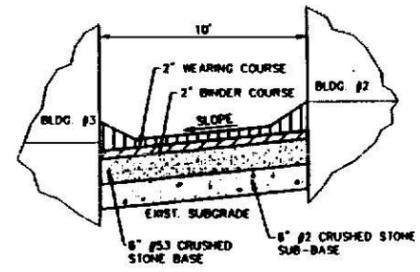
SECTION A-A  
RE: DWG C-101 N.T.S.



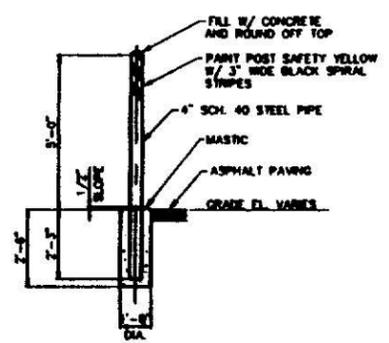
SECTION THRU AMENDMENT HAUL AREA  
N.T.S.



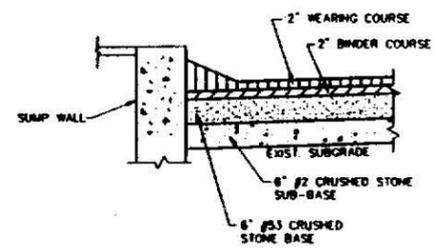
SECTION B-B  
RE: DWG C-102 N.T.S.



SECTION C-C  
RE: DWG C-102 N.T.S.



TYP. GUARD POST DETAIL  
RE: DWG C-104 1/2"=1'-0"



SECTION D-D  
RE: DWG C-102 N.T.S.

# FOR CONSTRUCTION

**MORRISON KNUDSEN**  
ENVIRONMENTAL GROUP

**JE Jacobs Engineering Group Inc.**  
Central Region Baton Rouge, Louisiana

CONTRACT NO. 10G175-21 DWG NO. C-104 REV 0 SCALE 1"=20'

DWG TITLE  
**BIDREMIATION FACILITY  
CRANE N.S.W.C.  
HAUL ROAD LAYOUT & PAVING SECTIONS**

BLOCK NAME = DSIZE VER. 03/08/89

REFERENCE DRAWINGS		REVISION	
DWG. NO.	TITLE	NO.	DESCRIPTION
		1	ADDED ASPH. SLOPE & SECTION D-D
		0	ISSUED FOR CONSTRUCTION

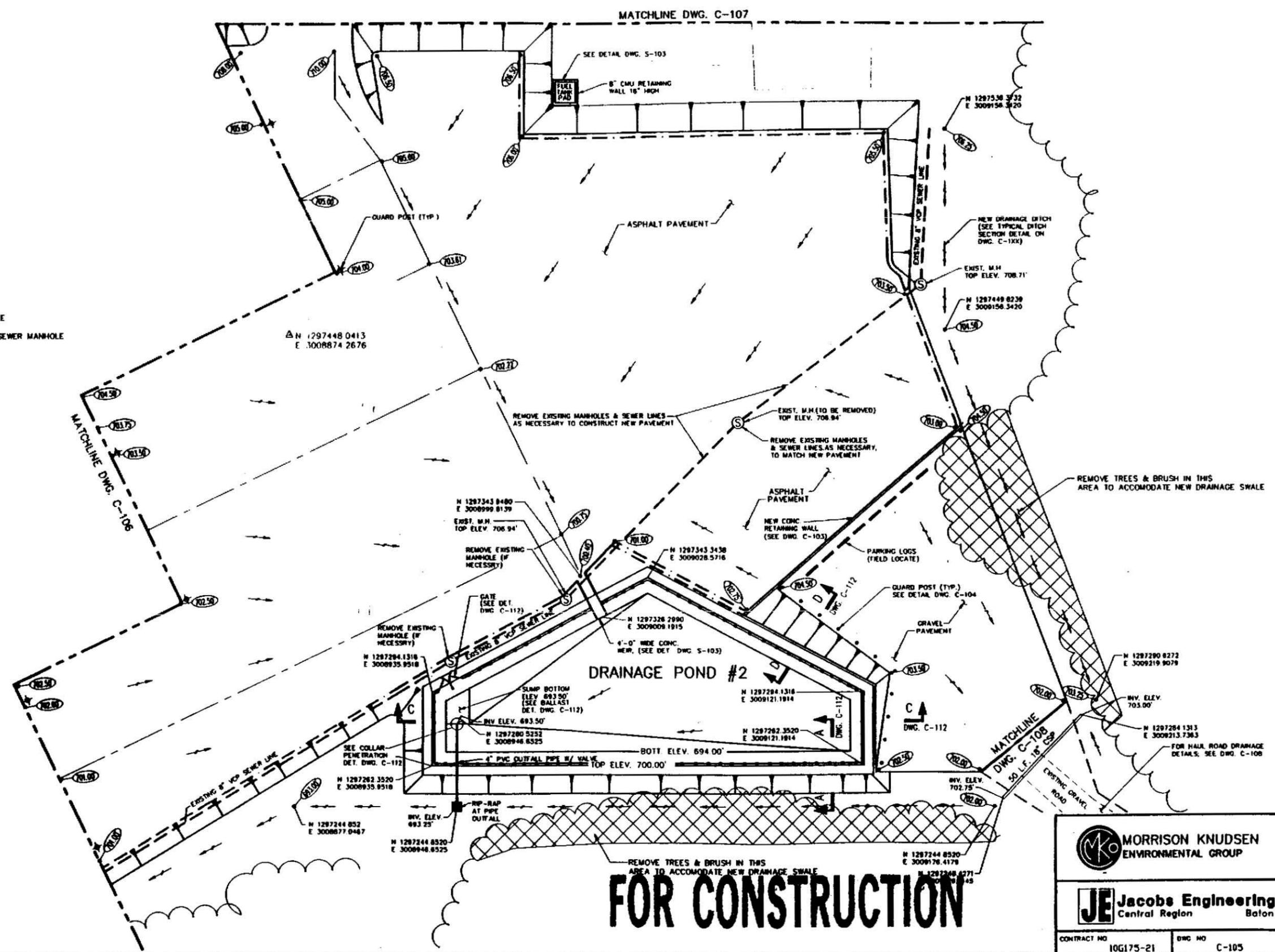
DATE: 12/06/95  
CHECKED: CVL  
APPROVED: RR





**LEGEND**

- DEMOTES DRAINAGE FLOW
- (ELEV.) DEMOTES NEW ELEVATION
- - - DEMOTES NEW ASPHALT BERM
- ⊙ DEMOTES EXISTING POWER POLE
- ⊙ DEMOTES EXISTING SANITARY SEWER MANHOLE
- - - DEMOTES CHAINLINK FENCE



**FOR CONSTRUCTION**



**JE Jacobs Engineering Group Inc.**  
Central Region Baton Rouge, Louisiana

CONTRACT NO. 10G175-21    DWG. NO. C-105    REV. 0    SCALE 1"=20'

DWG. TITLE: **BIDREMIATION FACILITY CRANE NSWC WORK AREA DRAINAGE PLAN**

BLOCK NAME = DSIZE    VER. 03/08/89

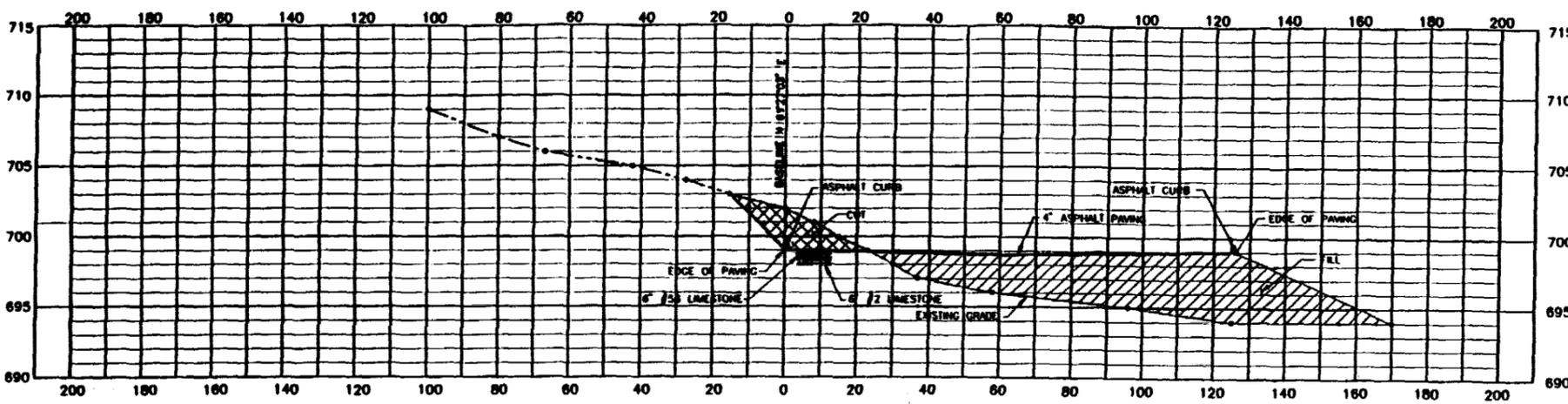
REFERENCE DRAWINGS		REVISION		BY		CHK		APP		DATE	
DWG. NO.	TITLE	NO.	DESCRIPTION	BY	CHK	APP	DATE	BY	CHK	APP	DATE
1	ADDED DETAIL CALLOUTS	CV	GL	RR							
0	ISSUED FOR CONSTRUCTION	FRM	GL	RR			1/96				





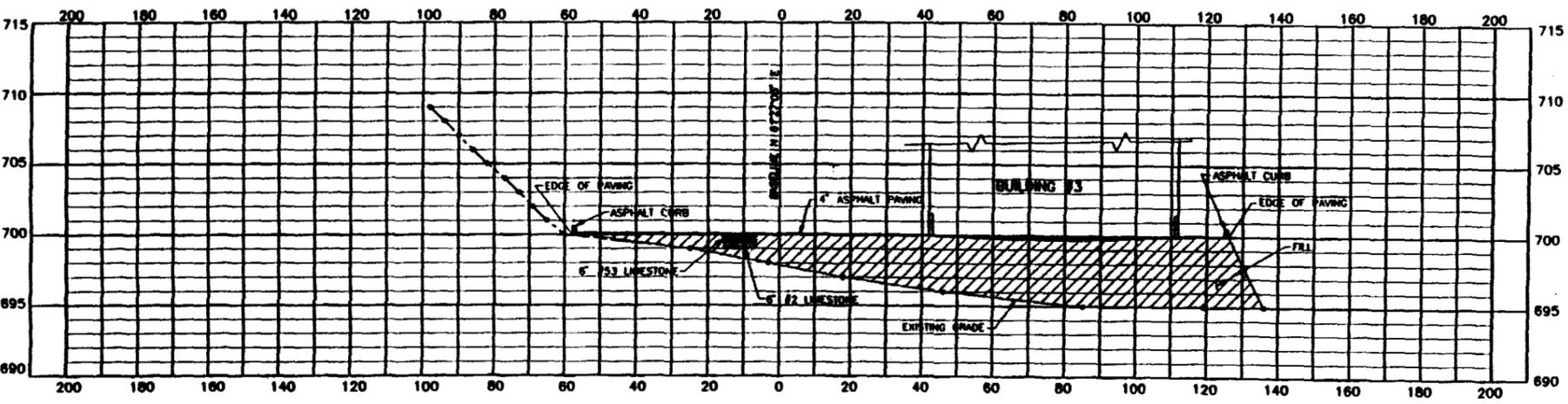






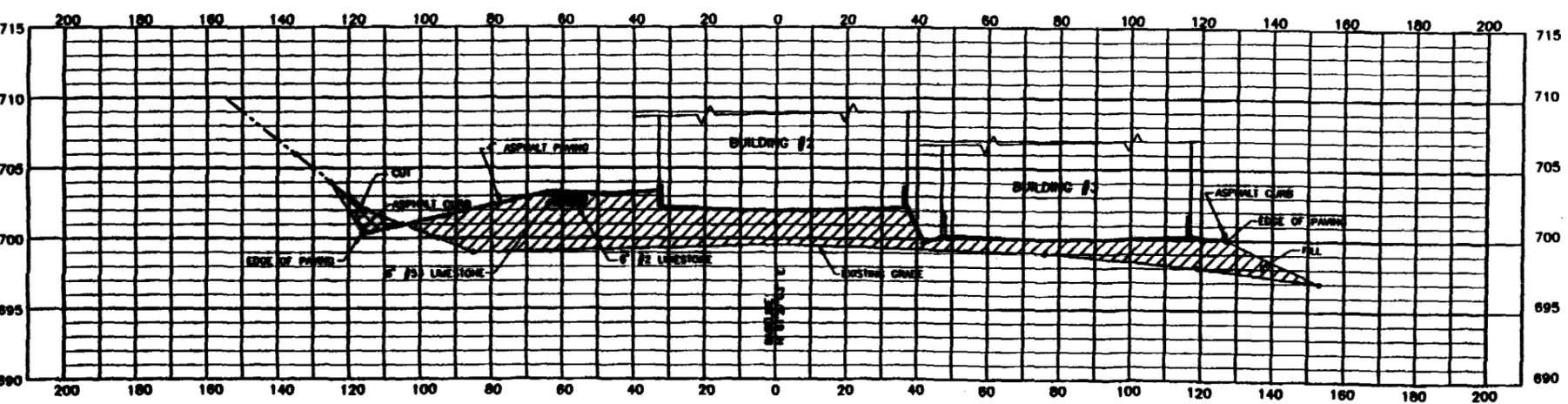
STA. 0+00

HORIZ. 1"=20'  
VERT. 1"=5'



STA. 1+00

HORIZ. 1"=20'  
VERT. 1"=5'



STA. 2+00

HORIZ. 1"=20'  
VERT. 1"=5'

**LEGEND**

 FILL SOIL

 SOIL TO BE REMOVED

# FOR CONSTRUCTION

 MORRISON KNUDSEN  
ENVIRONMENTAL GROUP

 **Jacobs Engineering Group Inc.**  
Central Region Baton Rouge, Louisiana

CONTRACT NO. 10G175-21 DWD. NO. C-109 REV. 0 SCALE NOTED

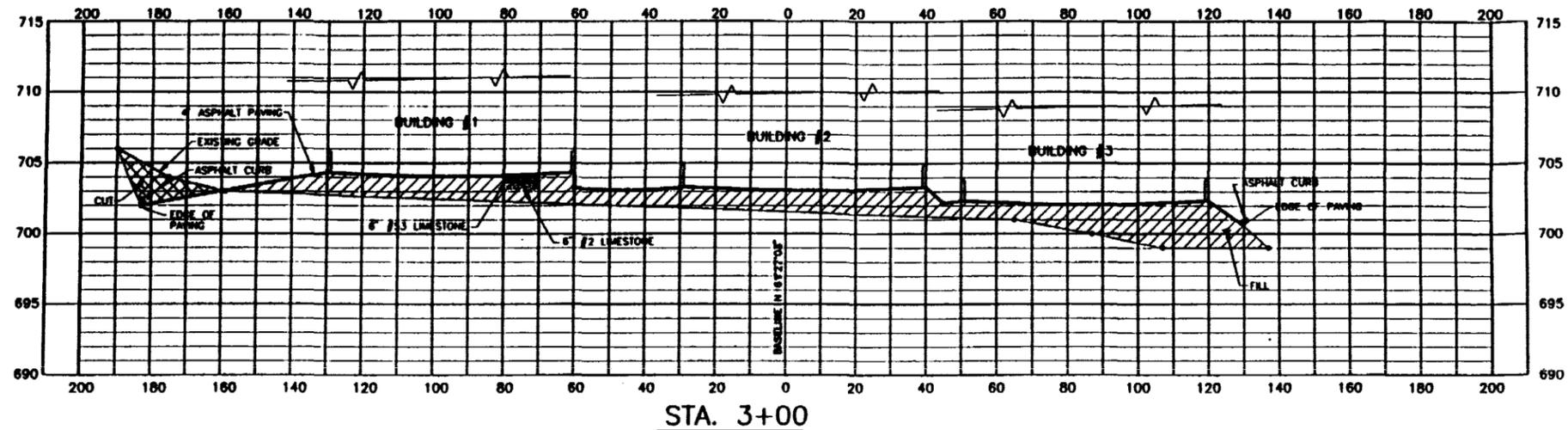


C. WILLIS 1/96  
CHECKED: CWL 1/96  
APPROVED: RR 1/96

**BIOREMEDIATION FACILITY  
CRANE N.S.W.C.  
CROSS SECTIONS - SHT. 1**

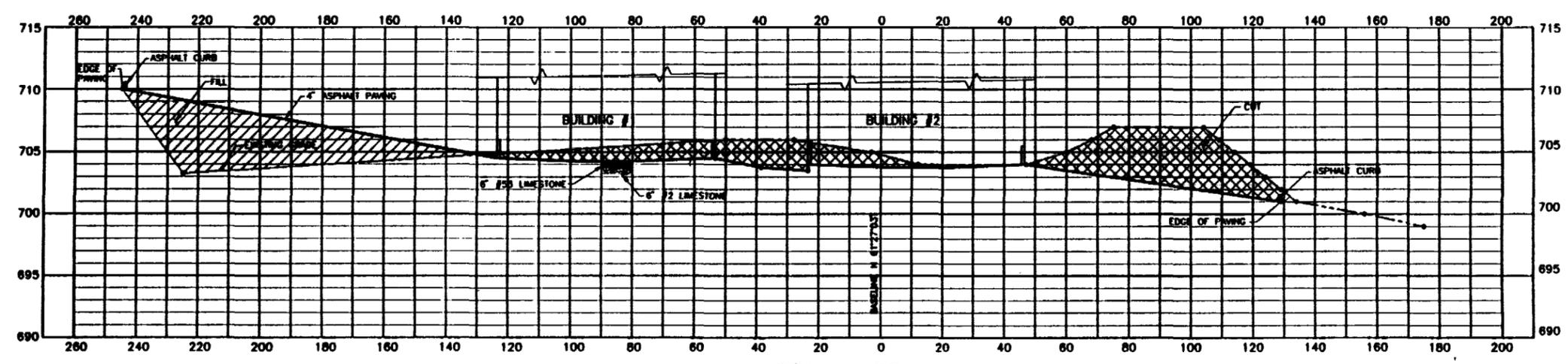
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REF. DRAWING		REVISION	
DWG. NO.	FILE	NO.	DESCRIPTION



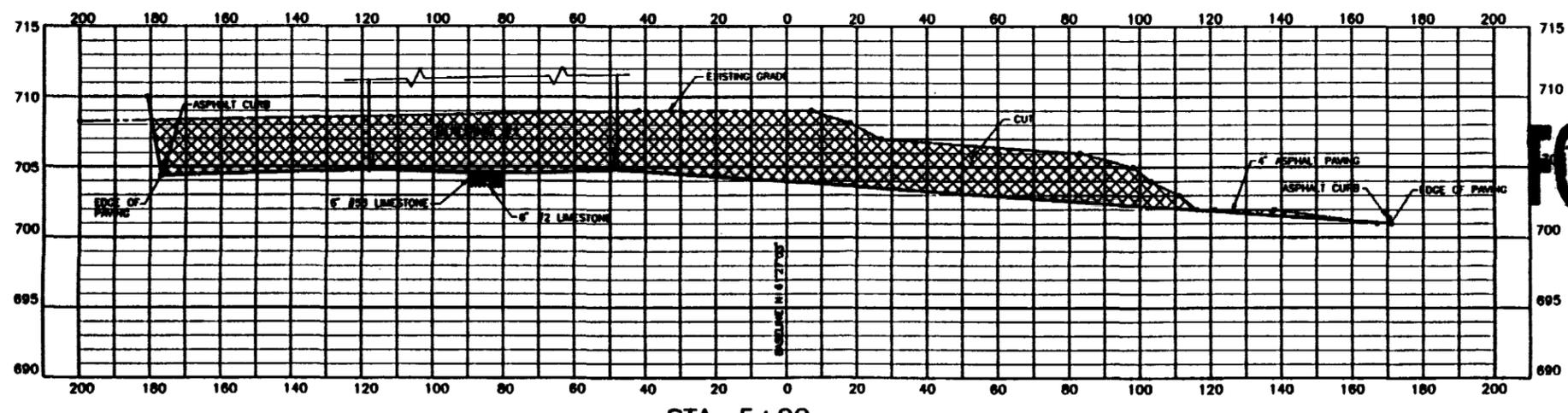
STA. 3+00

HORIZ. 1"=20'  
VERT. 1"=5'



STA. 4+00

HORIZ. 1"=20'  
VERT. 1"=5'



STA. 5+00

HORIZ. 1"=20'  
VERT. 1"=5'

**FOR CONSTRUCTION**

**MORRISON KNUDSEN**  
ENVIRONMENTAL GROUP

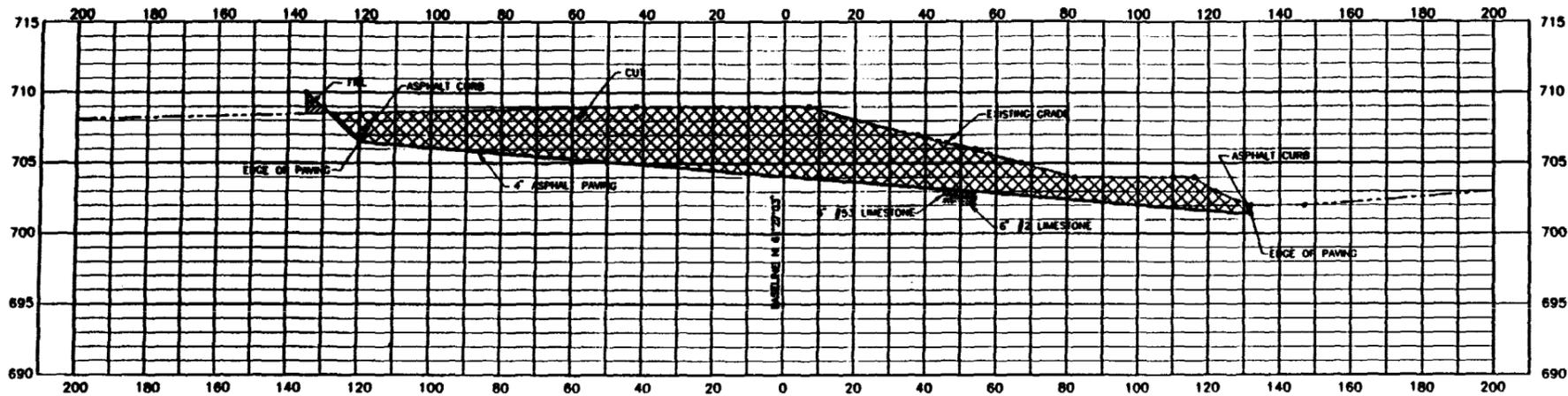
**JE Jacobs Engineering Group Inc.**  
Central Region Baton Rouge, Louisiana

CONTRACT NO. 10G175-21 Dwg. NO. C-110 REV 0 SCALE NOTED

Dwg. TITLE  
**BIOREMEDIATION FACILITY  
CRANE N.S.W.C.  
CROSS SECTIONS - SHT.2**

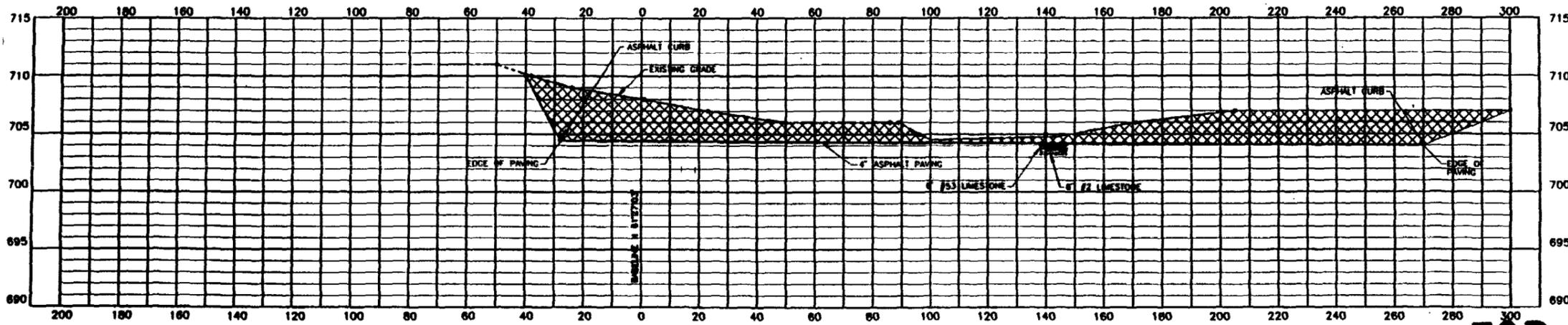
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REFERENCE DRAWINGS				REVISION				APPROVALS			
DWG. NO.	DATE	DWG. NO.	TITLE	BY	CHK	APP	DATE	BY	CHK	APP	DATE



STA. 6+00

HORIZ. 1"=20'  
VERT. 1"=5'



STA. 7+00

HORIZ. 1"=20'  
VERT. 1"=5'

**FOR CONSTRUCTION**

**MORRISON KNUDSEN**  
ENVIRONMENTAL GROUP

**JE Jacobs Engineering Group Inc.**  
Central Region Baton Rouge, Louisiana

CONTRACT NO. 10G175-21 DWG NO. C-111 REV. 0 SCALE NOTED

DWG TITLE: **BIOREMEDIATION FACILITY  
CRANE N.S.W.C.  
CROSS SECTIONS - SHT.3**

DESIGNED BY: C. WILLIS DATE: 1/96  
CHECKED BY: GWL DATE: 1/96  
APPROVED BY: RR DATE: 1/96



DWG. NO.		TITLE		DWG. NO.		TITLE		REVISION		BY	CHK	APP	DATE	BY	CHK	APP	DATE

BLOCK NAME = DSIZE VER. 03/08/89



**DEPARTMENT OF THE NAVY  
OFFICER IN CHARGE OF  
NAVAL FACILITIES ENGINEERING COMMAND  
CONTRACTS**

MAR 19 1996



**CRANE DIVISION, NAVAL SURFACE WARFARE CENTER  
BUILDING 2516  
CRANE, INDIANA 47522-5082**

OIC BR  
4330  
12 Mar 96

Indiana Department of Environmental Management  
Office of Water Management  
100 North Senate Avenue  
P.O. Box 6015  
Indianapolis, IN 46206-6015

**RECEIVED**  
**MAR 15 1996**  
**MK-CRANE**

Attn: Permits Section, General Permit Desk

Gentlemen:

In accordance with 327 IAC 15-3-2, 327 IAC 15-5-5 a Notice of Intent (NOI) indicating Naval Surface Warfare Center (NAVSURWARCEN), Crane Division's intent to comply with the terms of the specified general permit rule, specifically as it relates to the general conditions for construction activity is hereby submitted. This NOI is for the construction of a new Bioremediation Composting Facility consisting of three canopy structures, two storm water retainage ponds, truck decon area, amendment delivery and storage area and asphalt pavement at NSWC Crane Division which will involve the disturbance of approximately 5.83 acres. The Standard Industrial Classification (SIC Code) for this facility is 1542. Included as Enclosure (1) is payment of the \$100.00 NOI letter fee. The Contractor's erosion and sediment control plan prepared Morrison Knudson Corporation, project general contractor is included as Enclosure (2).

In conjunction with this NOI the erosion plan is being submitted to the Martin County Office of Soil and Water Conservation District in Shoals, Indiana.

The name, mailing address, and location of the facility for which this notification is submitted as well as the NSWC Crane Division

NSWC - CRANE			
4324-0009			
PROJECT MEMBER	ACT	INFO	INT
PROJECT MANAGER			
PROJECT ENGINEER			
GENL SUPT			
SAFETY AND HEALTH			
QA/QC SUPERVISOR			
PROJECT CONTROLS			
FIELD ENGINEERING			
MO-CHARLESTON			
<i>[Handwritten signatures]</i>			
FILE:			
FILE:			

C-4324			
DIST	1	A	R
PM	<input checked="" type="checkbox"/>		
PJM			
PCM			
CAM			
BM			
PURCH			
OCM			
SAFETY			
<i>[Handwritten signature]</i>	<input checked="" type="checkbox"/>		

*File 24.07003.F*

point of contact is:

Officer in Charge of NAVFAC Contracts  
Naval Surface Warfare Center, Crane Division  
Building 2516, 300 Hwy 361  
Crane, IN 47522-5082  
Attn: James A. Riggins, PE, Sup. Civil Engr.  
Phone: 812-854-3257 FAX: 812-854-3800

Sincerely,

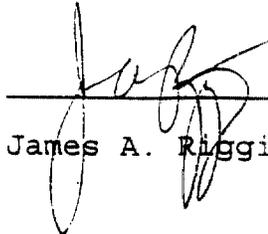
  
James A. Riggins, P.E.  
by Direction

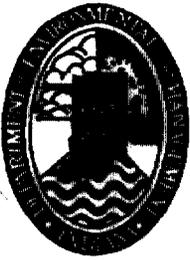
Copy to:  
NAVSURWARCEN Code 095  
OIC BR  
File  
MK Crane  
SCS Martin County

Encl: (1) \$100.00 Application Fee  
(2) Soil Erosion Control Plan

Certification Statement (327 IAC 15-4-3(g))

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

  
James A. Riggins, P.E.



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

*We make Indiana a cleaner, healthier place to live*

*Evan Bayh*  
Governor

*Kathy Prosser*  
Commissioner

APR 04 1996

April 3, 1996

100 North Senate Avenue  
P.O. Box 6015  
Indianapolis, Indiana 46206-6015  
Telephone 317-232-8603  
Environmental Helpline 1-800-451-6027

Dear Storm Water General Permit Applicant:

Re: NAVSURWARCEN-Bioremediation/  
Composting Facility  
Martin County

The Notice of Intent (NOI) letter submitted to the Indiana Department of Environmental Management (IDEM) for the above-mentioned project is sufficient to comply with the NOI letter requirements of 327 IAC 15-5 (Rule 5). Enclosed please find a copy of Rule 5, the NPDES General Permit for Storm Water Runoff Associated with Construction Activity. **You must comply with all of the requirements of this rule. You are not covered by the General Permit until all permit requirements are addressed. These include preparation and implementation of the Soil Erosion Control Plan, maintenance of erosion control structures until the project is complete, and amendment of your NOI as dates or other facts are altered.**

For identification purposes, a name has been assigned to the project for which the NOI was submitted. The name may be found in the upper right-hand corner of this page along with the name of the county in which the construction is taking place. This name and county name should be included on any type of correspondence that is submitted to IDEM pertaining to the NPDES General Permit.

\_\_\_\_\_ If this line is marked with an X, please review the enclosed sheet titled "Developer's Continuing Responsibility" and submit an amended timetable which includes home or building construction, installation of roads and utilities, and revegetation of cleared areas.

Any questions regarding the development or implementation of the Soil Erosion Control Plan may be directed to your county Soil and Water Conservation District Office. Any other questions regarding Rule 5 requirements may be directed to Ms. Anne Burget at 317/ 233-1864 or 800/ 451-6027 ext.31864.

Sincerely,

Reggie Baker, Jr., Supervisor  
NPDES Special Projects Group  
Office of Water Management

Enclosure

An Equal Opportunity Employer  
Printed on Recycled Paper

C-4324			
DIST	I	A	R
PM			
PJM	✓		
PCM			
CAM			
BM			
PURCH			
OCM			
SAFETY			
Wilson		✓	
Downey	✓		
File 11-2.9			



**Martin County Soil and Water Conservation District**  
P.O. Box 34 - Shoals, Indiana 47581

C-4324			
DIST	I	A	R
PM			
PJM	✓		
PCM			
CAM			
BM			
PURCH			
OCM			
SAFETY			
	Wilson ✓		
	Lowrey ✓		
File	11-2-9		

To: Indiana Department of Environmental Management  
Office of Water Management  
Permits Section, Storm Water Desk  
P.O. Box 6015  
Indianapolis, IN 46206-6015

From: *Gene Sherfyck*  
Gene Sherfyck, Supervisor  
Martin County Soil and Water Conservation District

Date: April 5, 1996

Subject: Erosion and Sediment Control Plan Review

This letter is to notify the Indiana Department of Environmental Management, in accordance with 327 IAC 15-5, of the receipt of an erosion and sediment control plan for the project listed below. The plan was reviewed and has been found to contain the required elements and meets the intent of 327 IAC 15-5. Specific information for this project is listed below.

PROJECT NAME: NSWC Crane Bioremediation Composting Facility  
PROJECT LOCATION: NSWC Crane  
LEGAL DESCRIPTION: North 38° 48.63' West 86° 53.19', Section 6  
TOWNSHIP: T4N RANGE: 4W CIVIL TOWNSHIP: Perry  
OWNER/DEVELOPER NAME: NSWC Crane  
ADDRESS: Bldg. 2516, 300 Hwy 231  
Crane, Indiana 47522-5082

The plan, plan review, and other documentation will be kept on file at the Soil and Water Conservation District Office.

cc: NSWC, Crane, Owner/Developer  
Morrison Knudsen Corporation, Project Engineer  
Andrew Brown, Urban Conservation Specialist, IDNR

# EROSION AND SEDIMENT CONTROL PLAN TECHNICAL REVIEW AND COMMENT

Martin County Soil and Water Conservation District

PROJECT NAME: NSWC Crane Bioremediation Composting Facility

SUBMITTED BY: NSWC Crane  
Bldg. 2516, 300 Hwy 231  
Crane, IN 47522-5082  
Attn: James A Riggins, P.E.  
PHONE: 812)854-3257

Morrison Knudsen Corporation  
2420 Mall Drive  
Corporate Square 1 Suite 211  
North Charleston, SC 29406  
 PHONE: ( )

REVIEWED BY: Andrew Brown, Urban Conservation Specialist.  
IDNR, Div. of Soil Conservation

PLAN REVIEW PROCEDURE:      Site Visit (Date: / / )      Plan Review (Date: 4/4/96)

LOCATION: \_\_\_\_\_

LEGAL DESCRIPTION: North 38° 48.63' West 86° 53.19', Section 6  
 TOWNSHIP: T4N      RANGE: 4W      CIVIL TOWNSHIP: Perry

SOIL SURVEY MAP SHEET: 12

The technical review and comments are intended to evaluate the completeness of the erosion and sediment control plan for the project. The erosion and sediment control plan submitted was not reviewed for the adequacy of the engineering design. All practices included in the plan, as well as those recommended in the comments should be evaluated as to their feasibility by a qualified individual with structural practices designed by a qualified engineer. The plan has not been reviewed for local, state, or federal permits that may be required to proceed with this project.

**ARE THE FOLLOWING ITEMS ADEQUATELY ADDRESSED ON THE PLAN?**  
 (NA Designates: An Item is Not Applicable to This Project)

	YES	NO	PROJECT INFORMATION
1A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Project Location Map in Adequate Detail to Show the Site and its relationship to Other Areas Within the County
1B	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Narrative Describing the Nature and Purpose of the Project and the Construction Sequence, Including Start and Completion Dates for Each Land Disturbing Activity
1C	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Location of Planned and/or Existing Roads, Utilities, Structures, Highways, etc.
1D	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Lot and/or Building Locations

All Plans Must Include Appropriate Legends, Scales, and North Arrow

	YES	NO	TOPOGRAPHIC AND GENERAL SITE FEATURES
2A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Identify and Delineate Existing Vegetation
2B	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Existing and Planned Contours at an Interval Appropriate to Indicate Drainage Patterns
2C	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Delineate the 100 Year Floodplains, Floodway Fringes, and Floodways
2D	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Identify Landuse of Adjacent Areas
2E	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Location and Name of All Lakes, Streams, Channels, Ditches, Wetlands, and Other Water Courses On and Adjacent to the Site

Show the Entire Upstream Watershed and Adjacent Areas Within 500 Feet of the Property Lines

PROJECT: NSWC Bioremediation Composting Facility

	YES	NO	SOIL INFORMATION
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3A   Location of the Soil Types; Including Map, Legend, and Descriptions

If hydric soils are present, it is the responsibility of the owner/developer to investigate the existence of wetlands on this property and to obtain permits from the appropriate government agencies.

	YES	NO	DRAINAGE FEATURES
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4A   Location of Specific Points Where Stormwater Discharge Will Leave the Site

4B   Identify All Receiving Waters, or, If Discharge is to a Separate Municipal Storm Sewer, Identify the Name of the Municipal Operator and the Ultimate Receiving Water

4C   Notation of the Presence or Absence of Potential Areas Where Stormwater May Enter Groundwater

4D   Location of Stormwater System (Including Culverts, Storm Sewers, Channels, and Swales)

4E  N/A  Construction Details of Outlet Protection Below Stormwater Outlets

	YES	NO	LAND DISTURBING ACTIVITIES
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5A   Location and Approximate Dimensions of All Disturbed Areas; With Areas Where Vegetative Cover Will Be Preserved Clearly Designated

5B   Location(s) of Soil Stockpiles and/or Borrow Areas

	YES	NO	EROSION AND SEDIMENT CONTROL MEASURES
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6A   Schedule of When Each Measure Will Be Implemented

6B   Maintenance Schedule and Requirements for Each Measure

6C   Location, Dimensions, and Construction Details of Initial Perimeter Sediment Control Measures

6D   Specification and Schedule for Temporary Seeding, With Areas to Be Seeded Clearly Designated (Include Seed Mixes, Fertilizer, Lime, and Mulch Rates)

6E   Location, Dimensions, Construction Details, and Specifications of All Temporary Measures

6F   Location, Dimensions, Construction Details, and Specifications of All Permanent Measures

6G  N/A  Specifications and Details for Storm Inlet Protection

6H   Specifications and Details for a Stable Construction Entrance

6I  N/A  Specifications for Erosion and Sediment Control on Individual Building Lots

All practices included in the plan, as well as those recommended in the comments, should be evaluated as to their feasibility by a qualified individual, with structural practices designed by a qualified engineer. Additional information, including design calculations may be requested to further evaluate erosion and sediment control measures.

	YES	NO	PERMANENT VEGETATIVE STABILIZATION
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7A   Schedule When Each Disturbed Area Will Be Stabilized

7B   Specifications for Permanent Seeding (Include Seed Mixes, Fertilizer, Lime, and Mulch Rates)

EROSION AND SEDIMENT CONTROL PLAN  
TECHNICAL REVIEW  
COMMENTS

PROJECT: NSWC Bioremediation Composting Facility

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Note: All erosion and sediment control measures shown on the plans and referenced in this review must meet the design criteria, standards, and specifications outlined in the "Indiana Handbook for Erosion Control in Developing Areas" from the Indiana Department of Natural Resources, Division of Soil Conservation or similar Guidance Documents.

This plan contains very good information, arranged in an easy-to-follow format. When properly implemented, this plan should adequately control erosion and off-site sedimentation.

One area you will want to watch during construction is the Southwest corner where bales and silt fence are shown. Excessive runoff may cause this area to erode. You may want to consider installing the planned pond (#1) earlier in the construction process to function temporarily as a sediment basin.

If you have any questions, don't hesitate to call Martin County Soil & Water Conservation District at 812-247-2423.

**SOILS EROSION CONTROL PLAN  
FOR  
BIOREMEDIATION FACILITY**

**NSWC CRANE  
Crane, Indiana**

CONTRACT #N62467-93-D-1106  
DELIVERY ORDER #0009  
STATEMENT OF WORK #007

March 8, 1996

*Prepared for:*

**SOUTHERN DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND  
2155 EAGLE DRIVE  
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*Prepared by:*

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