# Indiana Department of Environmental Management
## Office of Water Quality
## Wetlands Section

**Publication Date:**
September 23, 2010

**Closing Date:**
October 13, 2010

# PUBLIC NOTICE

**IDEM ID Number:**
2010-388-29-BCB-A

**Corps of Engineers ID Number:**
LRL-2010-529-sjm

**To all interested parties:** This letter shall serve as a formal notice of the receipt of an application for **Section 401 Water Quality Certification** by the Indiana Department of Environmental Management (IDEM). The purpose of the notice is to inform the public of active applications submitted for water quality certification under Section 401 of the Clean Water Act (33 U.S.C. § 1341) and to solicit comments and information on any impacts to water quality related to the proposed project. IDEM will evaluate whether the project complies with Indiana's water quality standards as set forth at 327 IAC 2.

**1. Applicant:**
Mr. Kent Ward
Hamilton County Surveyors Office
One Hamilton County Square, Suite 188
Noblesville, IN 46060

**2. Agent:**
Ms. Christie Kallio
Hamilton County Surveyors Office
One Hamilton County Square, Suite 188
Noblesville, IN 46060

**3. Project location:** Sections 12, 13 and 14, Township 14 North, Range 5 East, Riverwood U.S.G.S. Quad, Hamilton County. Beginning at 146th Street and continuing approximately 15,332 linear feet upstream to Prairie Baptist Road.

**4. Affected waterbody:** Sand Creek (Regulated Drain), Upper White 8-Digit Hydrologic Unit Code, 05120201.

**5. Project Description:** The applicant proposes to conduct one-step maintenance dredging of approximately 15,332 linear feet (lf) of Sand Creek including 0.086 acre of four abutting jurisdictional emergent wetlands. Activities resulting in the placement of fill material below the Ordinary High Water Mark (OHWM) include the placement of riprap for bank stabilization along 15 separate reaches totaling 1,195 lf; the installation of riprap rock chutes at four (4) separate locations totaling 24 lf; and the installation of a riprap cattle crossing for 40 lf. Additionally, 20 existing drain tiles will be extended above the OHWM; three (3) in-stream 100' long sediment basins will be one-step excavated; and three (3) existing degraded farm tiles will be replaced with one (1) 24" double wall plastic pipe upstream of Prairie Baptist Road to SR 38. The purpose of the project is to improve the drainage of the upstream portions of the Sand Creek Watershed. For additional plans and information, please visit the IDEM Public Notice Webpage at http://www.in.gov/idem/6399.htm.

**Comment period:** Any person or entity who wishes to submit comments or information relevant to the aforementioned project may do so by the closing date noted above. Only comments or information related to water quality or potential impacts of the project on water quality can be considered by IDEM in the water quality certification review process.

**Public Hearing:** Any person may submit a written request that a public hearing be held to consider issues related to water quality in connection with the project detailed in this notice. The request for a hearing should be submitted within the comment period to be considered timely. The request should also state the reason for the public hearing as specifically as possible to assist IDEM in determining whether a public hearing is warranted.

**Questions?** Additional information may be obtained from Mr. Brad Baldwin, Project Manager, at 317-234-5647. Please address all correspondence to the project manager and reference the IDEM project identification number listed on this notice. Indicate if you wish to receive a copy of IDEM's final decision. Written comments and inquiries may be forwarded to -

Indiana Department of Environmental Management
100 North Senate Avenue
MC65-42 WQS IGCN 1255
Indianapolis, Indiana 46204-2251
FAX: 317/232-8406

# HAMILTON COUNTY SURVEYOR'S OFFICE

## THE MAINTENANCE OF THE SAND CREEK DRAIN

**KENTON C. WARD, COUNTY SURVEYOR**

**HAMILTON COUNTY DRAINAGE BOARD**

CHRISTINE ALTMAN, PRESIDENT
STEVEN A. HOLT, VICE PRESIDENT
STEVEN C. DILLINGER, MEMBER

### UTILITY CONTACTS

**COMCAST**
5330 E. 65TH STREET
INDIANAPOLIS, INDIANA 46220
CONTACT: BILL MOORE
(317) 275-6355

**HAMILTON CO. HIGHWAY DEPT.**
1700 S. 10TH STREET
NOBLESVILLE, INDIANA 46060
CONTACT: BRAD DAVIS
(317) 773-7770

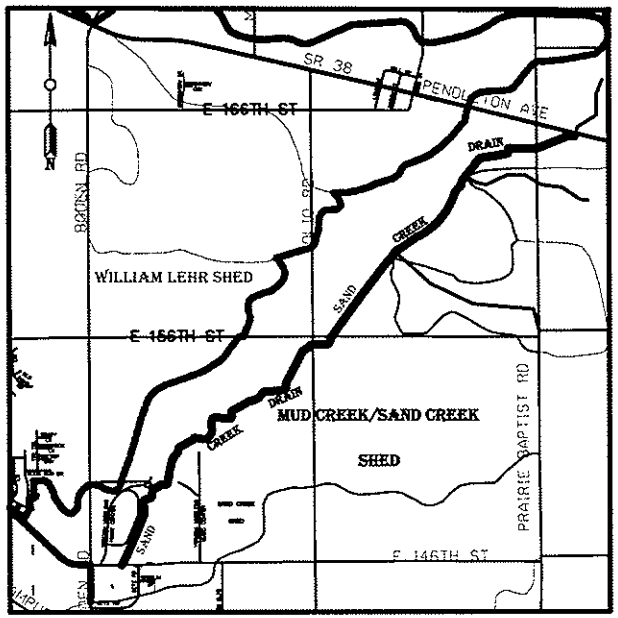
**INDOT**
32 S. BROADWAY
GREENFIELD, INDIANA 46140
CONTACT: DUANE MEYERS
(317) 468-7751

**DUKE ENERGY**
100 S. MILL CREEK ROAD
NOBLESVILLE, INDIANA 46062
CONTACT:
(317) 776-5336

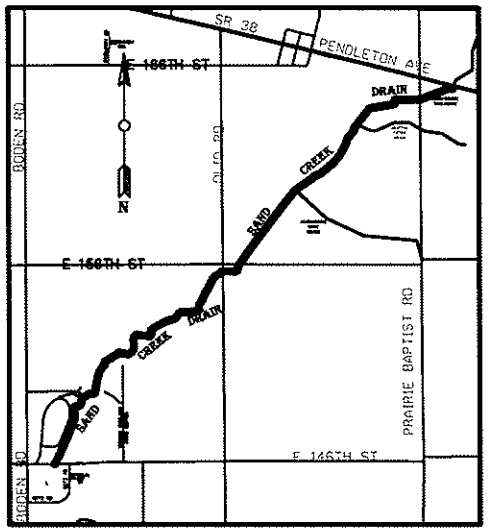
**AT&T INDIANA**
5858 N. COLLEGE AVENUE
INDIANAPOLIS, INDIANA 46220-2552
CONTACT: BRIAN PETERS
(317) 258-4267

811
Know what's **below.**
**Call** before you dig.

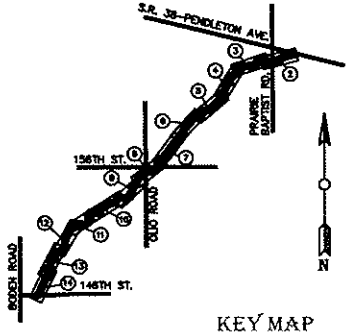
IUPPS Dig Safely.
Indiana Underground Plant Protection Service (877) 230-0495




WATERSHED AREA
NOT TO SCALE




SITE LOCATION MAP
NOT TO SCALE




KEY MAP
NOT TO SCALE

### LEGEND

- REGULATED OPEN DRAIN FOR MAINTENANCE
- REGULATED OPEN ARMS AND DRAINS
- REGULATED TILES
- SUB-SHEDS
- OVERALL MUD CREEK/SAND CREEK SHED

### BENCHMARKS

**JOB BENCHMARK**

HAMILTON COUNTY GEODETIC CONTROL DISK SET IN CONCRETE AT THE SOUTHWEST END OF A WOOD HANDRAIL ON HAMILTON COUNTY BRIDGE #182 OVER SAND CREEK ON 131ST STREET, ELEVATION = 810.00.

**SITE TBM**

HAMILTON COUNTY GEODETIC CONTROL DISK LOCATED AT THE SOUTHEAST CORNER SOUTHEAST HEADWALL OF BODEN ROAD HAMILTON COUNTY BRIDGE #274, ELEVATION = 826.33.

HAMILTON COUNTY GEODETIC CONTROL DISK SET IN THE NORTHEAST WING WALL OLD ROAD HAMILTON COUNTY BRIDGE #170, ELEVATION = 830.73.

HAMILTON COUNTY GEODETIC CONTROL DISK SET IN THE SOUTHEAST CORNER OF THE HEAD WALL PRAIRIE BAPTIST ROAD HAMILTON COUNTY BRIDGE #171, ELEVATION = 843.32.

### INDEX


| SHEET NO. | DESCRIPTION |
|---|---|
| 1 | TITLE SHEET |
| 2-14 | PLAN AND PROFILE SHEETS |
| 15-17 | HAMILTON COUNTY STANDARD DETAILS |



HAMILTON COUNTY, INDIANA
HAMILTON COUNTY SURVEYOR'S OFFICE
HAMILTON COUNTY GOVERNMENT AND JUDICIAL CENTER
ONE HAMILTON COUNTY SQUARE, SUITE 188
NOBLESVILLE, IN 46060
PHONE: (317) 776-8395
FAX: (317) 776-9628
SURVEYOR@HAMILTONCOUNTY.IN.GOV


| PROJECT NO. | |
|---|---|
| FIELD BY: | JRN |
| DRAWN BY: | RJS |
| CHECKED BY: | CLK |
| DATE: | MM/DD/YR |

| REVISIONS | DATE | BY |
|---|---|---|
| REVISIONS | DATE | RJS |

CERTIFIED BY

CHRISTIE L. KALLIO, P.E.

PROJECT NAME:
SAND CREEK DRAIN MAINTENANCE

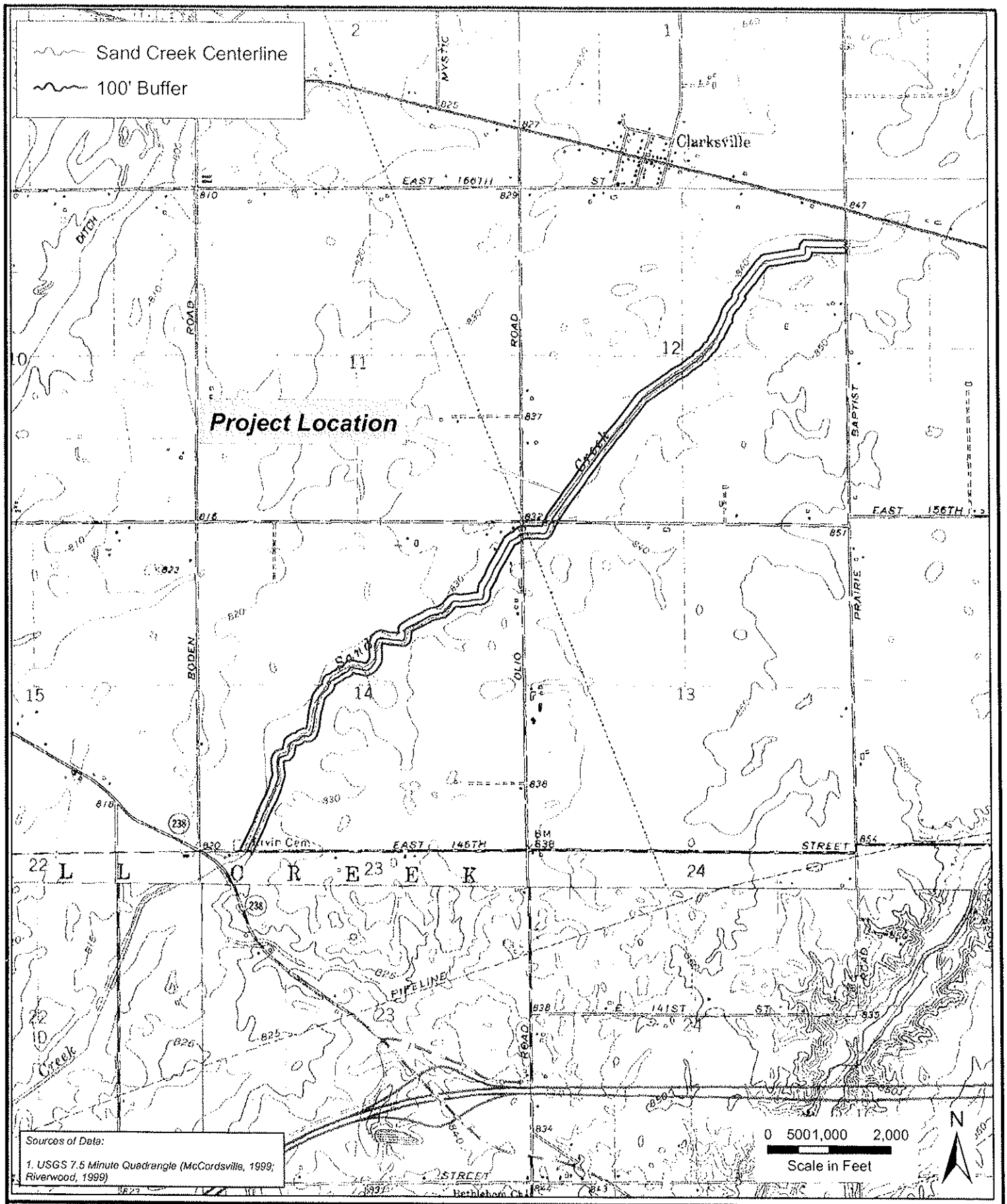
TITLE SHEET

PLOT DATE:

SHEET NO.
1 OF 17

S:\E-Surv\Projects\Legal Drains\Sand Creek\Sand Creek Title.dwg

May 27 , 2010 -- 8:35am





**Christopher B. Burke Engineering, Ltd.**
National City Center, Suite 1368 South
115 West Washington Street
Indianapolis, Indiana 46204
(t) 317.266.8000 (f) 317.632.3306


| | | | |
|---|---|---|---|
| PROJECT: SAND CREEK WETLAND DELINEATION | PROJECT NO. 10-0281 | APPROX. SCALE 1"= 2000' |
| TITLE: SITE LOCATION MAP | | DATE: 08/10 |
| | | EXHIBIT 1 |

# APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT
# (33 CFR 325)

## OMB APPROVAL NO. 0710-0003
## EXPIRES: August 2012

18. NATURE OF ACTIVITY

The proposed maintenance project on the Sand Creek will include the excavation of 1 to 2 feet of sediment from approximately 15,332 linear feet of channel. The channel slope will be 0.137%. The channel bottom width will vary from 4 feet to 12 feet, with channel side slopes of 2:1. There is no channel realignment.

Tree clearing will occur in this area from top of bank to top of bank. Clearing will also occur on the operational side within the 75 foot drainage easement.

The excavation of the channel will be performed from the top of bank on the operational side. The long reach excavator will dredge the bottom of the channel. In a one step process the arm will swing the bucket and place the spoil with in the drainage easement from 10 to 75 feet away from the top of bank. When the spoil is dry it will be spread and leveled to a height of 18 inches.

There are three existing 12 inch farm tiles that go between Prairie Baptist Road and SR 38. These will be replaced with one 24 in RCP. The pipe will be installed from the existing Manhole near SR. 38 and will outlet into the existing gabion drop structure on Prairie Baptist Road.

SEDIMENT TRAPS (Silt Basin)

Sediment traps will be constructed as temporary basins to trap silt and debris from the construction process. Three sediment traps are proposed for the channel. All three sediment traps are 100 feet in length. The common depth is 2 feet and the width is that of the proposed channel. The proposed location and size of each is shown on the attached sheet under Sediment Trap.

The sediment traps will be cleaned out and maintained during the construction process. Once the project is complete the basin will be allowed to fill back in with silt.

## CHANNEL BEND PROTECTION AND ROCK CHUTES

**Rip rap will also be installed at stream bends and at three rock chutes to protect the channel bank from erosion. The attached sheet provides the location; length and quantity of rip rap for the channel bend protection and rock chutes. See the attached sheet under Channel bend protection and Rock Chute.**

## CHANNEL CROSSING REPLACEMENTS

**At station 123+25, there is an existing cattle crossing. When the channel is dredged it will lower the flow line and a new crossing will be reinforced with Rip Rap.**

**The rip rap quantity required at this crossing is shown on the attached sheet under Channel Crossing Replacements.**

**Construction will conform to the existing banks at the upstream and downstream limits of the project site.**

## Regulated Drain Maintenance

## Sand Creek Drain

Box 18 Continued - Description of Planned improvements

**24" reinforced concrete pipe replaces existing broken farm tile.**

| | | | LF |
|---|---|---|---|
| 0+00 | | 9+10 | 910 |
| 9+10 | 27 " CMP end section | | |

**Sediment Trap**

| Station | to | Station | LF | dimensions | |
|---|---|---|---|---|---|
| 10+00 | | 11+00 | 100 | 100 x 4 x 2 | no rip rap |
| 59+30 | | 60+30 | 100 | 100 x 4 x 2 | no rip rap |
| 162+00 | | 163+00 | 100 | 100 x 12 x 2 | no rip rap |

**Rip Rap Bend Protecion**

| Station | to | Station | LF | Height | Volume | Tons | |
|---|---|---|---|---|---|---|---|
| | | | | | cf | | |
| 15+90 | | 16+50 | 60 | 4 | 1029 | 57 | |
| 16+95 | | 17+55 | 60 | 4 | 1029 | 57 | |
| 81+10 | | 81+85 | 75 | 5 | 1683 | 83 | |
| 85+30 | | 85+80 | 50 | 5 | 1010 | 56 | |
| 97+75 | | 98+25 | 50 | 5 | 1010 | 56 | |
| 111+90 | | 112+50 | 60 | 2 | 743 | 41 | |
| 113+70 | | 114+20 | 50 | 3 | 729 | 40 | |
| 117+85 | | 119+15 | 130 | 4 | 2230 | 123 | |
| 121+65 | | 124+05 | 240 | 4 | 4116 | 227 | |
| 126+30 | | 127+00 | 70 | 4 | 1201 | 66 | |
| 127+00 | | 127+70 | 70 | 4 | 1201 | 66 | |
| 130+50 | | 131+30 | 80 | 4 | 1372 | 76 | |
| 140+05 | | 140+75 | 70 | 4 | 1201 | 66 | |
| 145+60 | | 146+05 | 45 | 5 | 941 | 52 | |
| 147+10 | | 147+95 | 85 | 5 | 1716 | 95 | |
| | | | 1195 | | | 1161 | sub-total |

**Rock Chute**

| Station | Length in Channel | Rip Rap Inlet | Rip Rap Chute | Rip Rap Outlet | Total Volume | Tons | Bedding Tons |
|---|---|---|---|---|---|---|---|
| | | cf | cf | cf | cf | | |
| 37+08 | 6' | 240 | 835 | 300 | 1375 | 76 | 25 |
| 79+05 | 6' | 240 | 835 | 300 | 1375 | 76 | 25 |
| 95+00 | 6' | 240 | 835 | 300 | 1375 | 76 | 25 |

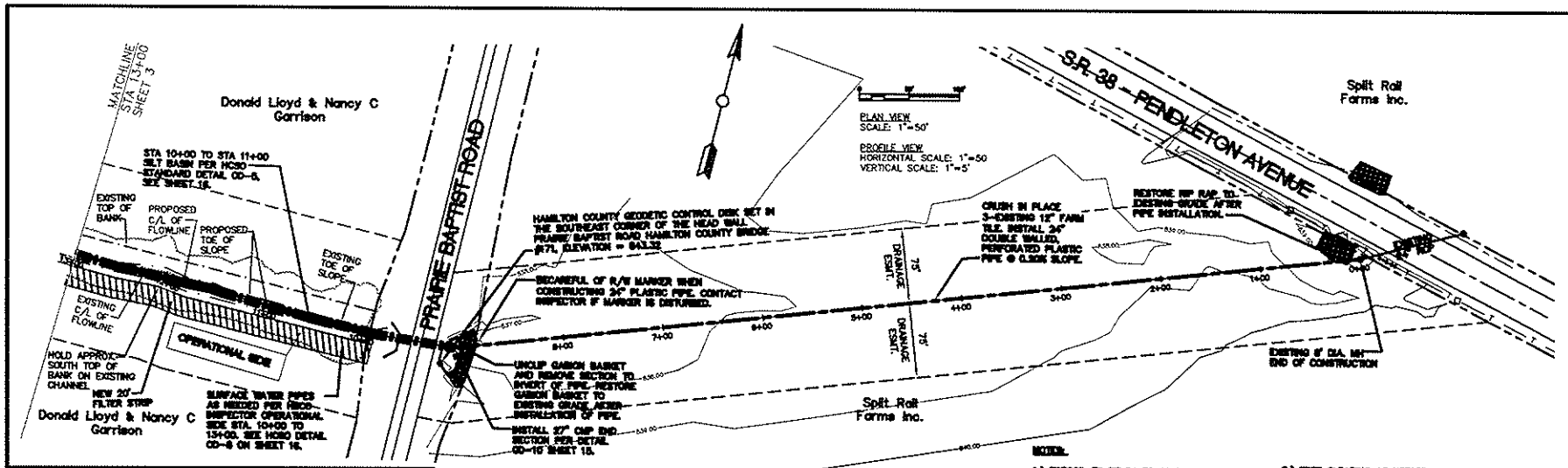
**Channel Crossing Replacements**

| Station | Existing | Replacement | Length | Rip Rap both ends cf | Tons | Bedding Tons |
|---|---|---|---|---|---|---|
| 123+25 | cattle crossing | rip rap | *40 | N/A | 150 | 50 |

* This length included in the bend protection at station 121+85 to 124+25

**Existing Channel Inlet Extensions**

| Station | Existing Inlet | Extended with | Length of Extension LF |
|---|---|---|---|
| 45+66 | 8 in clay | 10 " cmp | 20 |
| 49+66 | 6 in plastic | 8 " cmp | 20 |
| 52+87 | 6 in clay | 8 " cmp | 20 |
| 94+44 | 4 in PVC | 6 " cmp | 20 |
| 97+36 | 6 in PVC | 8 " cmp | 20 |
| 97+37 | 4 in PVC | 6 " cmp | 20 |
| 104+70 | 6 in clay | 8 " cmp | 20 |
| 111+18 | 8 in PVC | 10 " cmp | 20 |
| 117+54 | 8 in PVC | 10 " cmp | 20 |
| 117+57 | 12 in PVC | 14 " cmp | 20 |
| 117+65 | 8 in PVC | 10 " cmp | 20 |
| 123+85 | 10 in PVC | 12 " cmp | 20 |
| 123+89 | 12 in PVC | 14 " cmp | 20 |
| 130+87 | 8 in clay | 10 " cmp | 20 |
| 131+07 | 6 in PVC | 8 " cmp | 20 |
| 136+09 | 4 in plastic | 6 " cmp | 20 |
| 139+91 | 4 in plastic | 6 " cmp | 20 |
| 141+76 | 6 in clay | 8 " cmp | 20 |
| 155+03 | 6 in plastic | 8 " cmp | 20 |
| 161+68 | 4 in clay | 6 " cmp | 20 |
| | | total | 400 |




NOTES:

1.) TOPSOIL TO BE SAVED PRIOR TO EXCAVATION FOR PIPE INSTALLATION. TOPSOIL TO BE REPLACED OVER PIPE AFTER BACKFILL OF TRENCH AND GRADED TO MATCH NATURAL DRAINAGE PATTERN.

2.) ALL FIELD TILE THAT CONNECTS TO THE 3 - EXISTING 12" FARM TILES WILL BE TIED INTO THE PROPOSED 24" DOUBLE WALL PERFORATED PIPE.

3.) TREE CLEARING AS NEEDED PER HCSO DETAIL CD-3 SHEET 15. CONTRACTOR TO COORDINATE WITH HCSO INSPECTOR.

4.) RESTORE SURFACE FLOW ACROSS SPLIT RAIL FARMS INC.

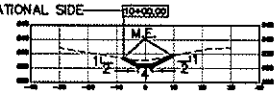
5.) HAMILTON COUNTY SURVEYOR'S OFFICE INSPECTOR TO COORDINATE FENCE REMOVAL, FENCE REPLACEMENT AND GATES WITH PROPERTY OWNERS.

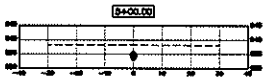
## LEGEND

- PROPOSED TOP OF BANK
- PROPOSED TOE OF SLOPE
- PROPOSED FLOW LINE
- 20' FILTER STRIP
- RIP RAP
- ROCK LINED CHUTE
- GUY WIRE
- POWER POLE
- BENCH MARK
- LIGHT POLE
- OVERHEAD POWER LINE
- UNDERGROUND TELEPHONE
- PROPERTY LINE
- FENCE LINE
- WOOD FENCE LINE
- EXISTING TOP OF BANK
- EXISTING TOE OF SLOPE
- EXISTING FLOW LINE
- EXISTING TREE LINE
- EXISTING ELECTRIC LINE

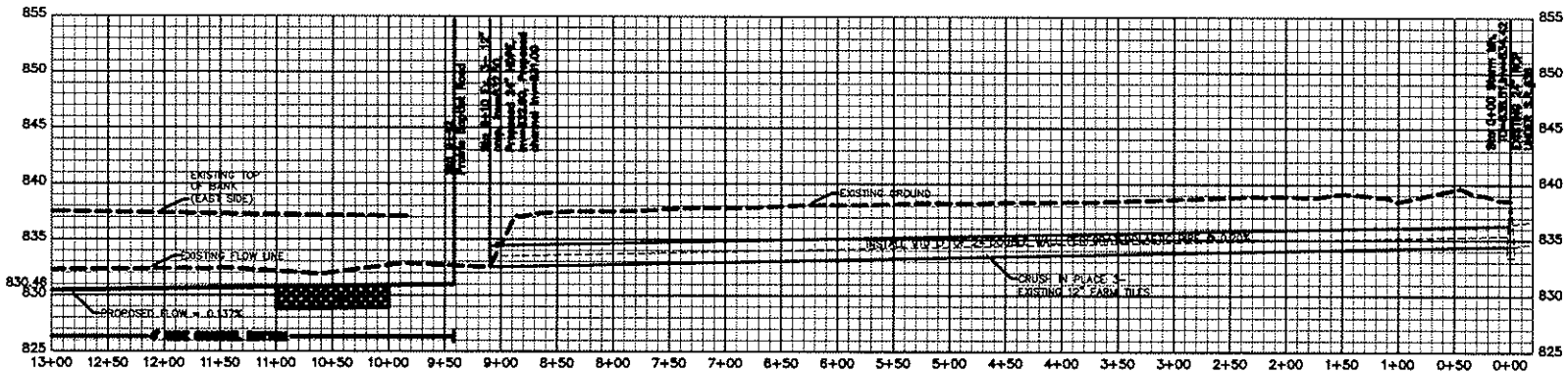
EXISTING GROUND
PROPOSED GROUND

OPERATIONAL SIDE 10+00.00





CROSS SECTION VIEW SCALE: 1"=20'





HAMILTON COUNTY, INDIANA
HAMILTON COUNTY SURVEYOR'S OFFICE
HAMILTON COUNTY GOVERNMENT AND JUDICIAL CENTER
ONE HAMILTON COUNTY SQUARE, SUITE 188
NOBLESVILLE, IN 46060
PHONE: (317) 776-8395
FAX: (317) 776-9628
SURVEYOR@HAMILTONCOUNTY.IN.GOV


PROJECT NO.: WATERSHED #5
FIELD BK#: JKN
DRAWN BY: BJS
CHECKED BY: CLK
DATE: 10/20/05

REVISIONS: BY: BJS
REVISIONS: DATE:
REVISIONS: DATE:

CERTIFIED BY:

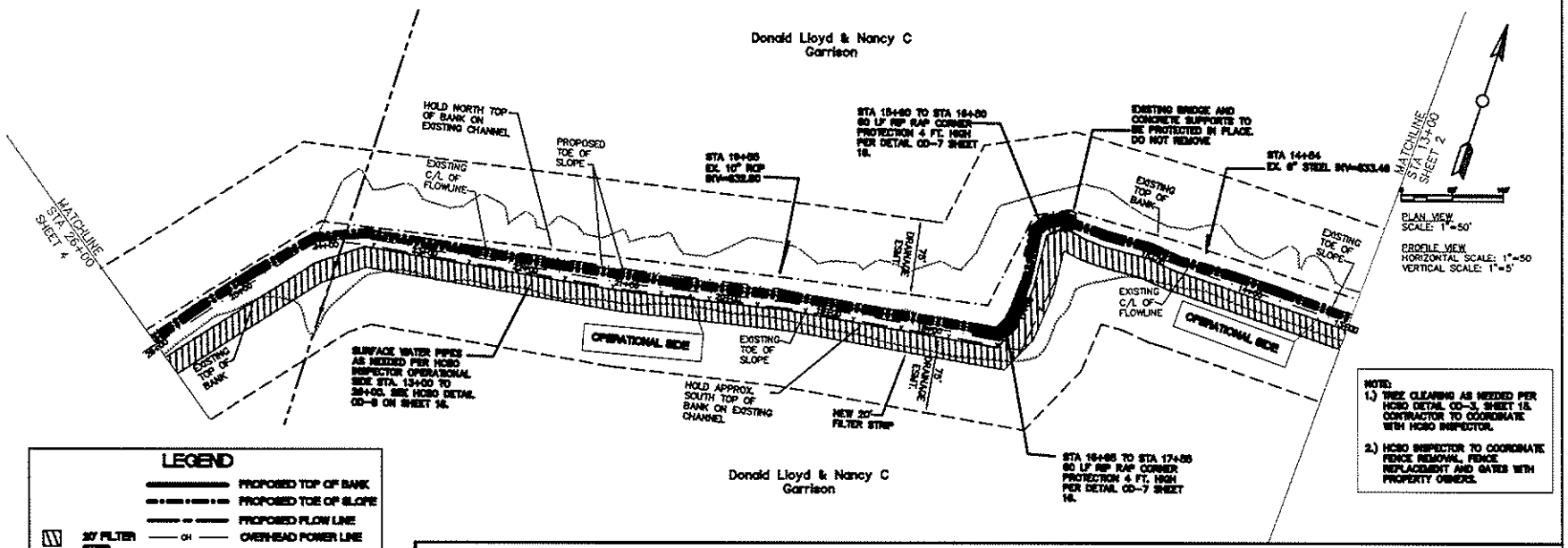
CHRISTIE L. KALLIO, P.E.

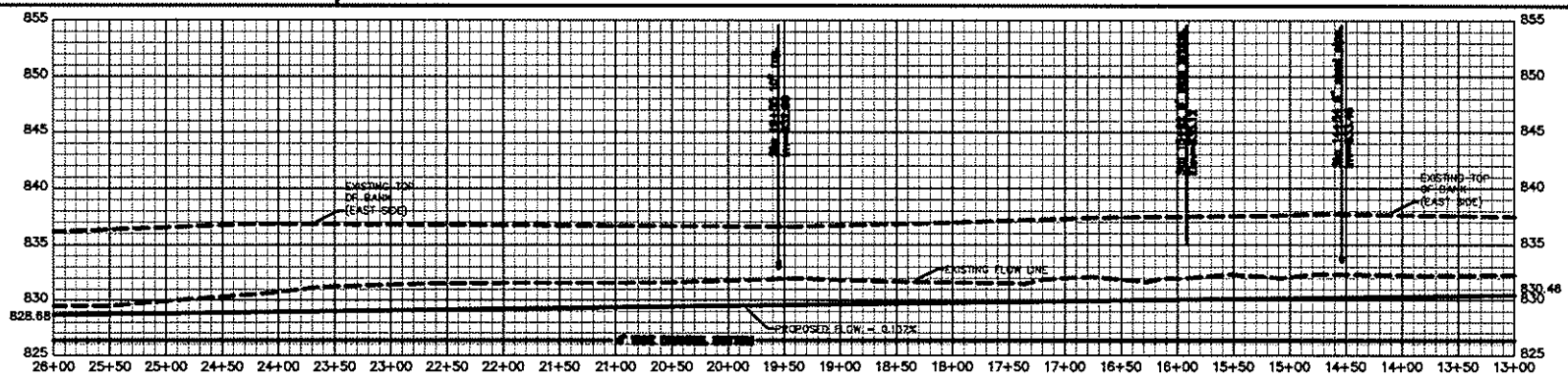
PROJECT NAME: SAND CREEK DRAIN MAINTENANCE

PLAN AND PROFILE SHEET

FLOT DATE:

SHEET NO. 2 OF 17





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NOBLESVILLE, IN 46060
PHONE: (317) 776-8495
FAX: (317) 776-9628
SURVEYOR@HAMILTONCOUNTY.IN.GOV


PROJECT NO. | BY: | DATE: | REVISIONS:
WATERSHED NO. | RJS | DATE | REVISIONS:
FIELD BY: JNN
DRAWN BY: RJS
CHECKED BY: FLK
DATE: MAY/2010

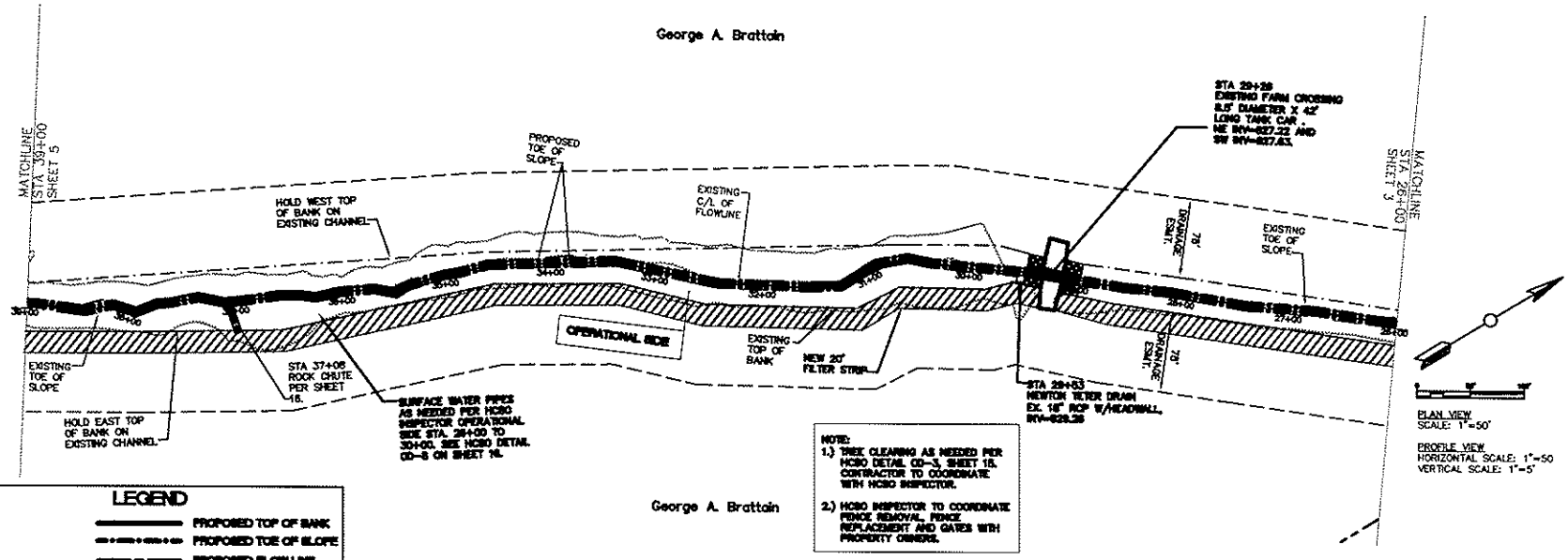
CERTIFIED BY:
CHRISTIC L. KALIJO, P.E.

PROJECT NAME: SAND CREEK DRAIN MAINTENANCE

PLAN AND PROFILE SHEET

PLOT DATE:

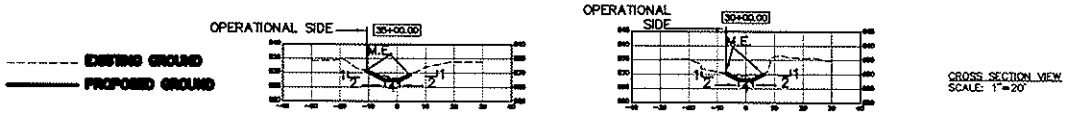
SHEET NO. 3 OF 17



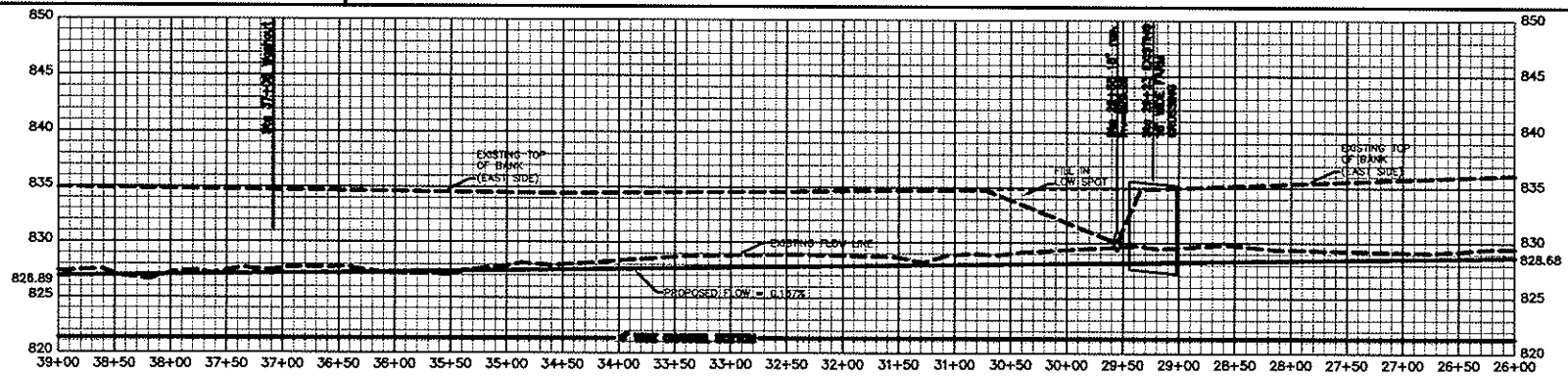

NOTE:
1.) TREE CLEARING AS NEEDED PER HCSO DETAIL CD-3, SHEET 15. CONTRACTOR TO COORDINATE WITH HCSO INSPECTOR.
2.) HCSO INSPECTOR TO COORDINATE FENCE REMOVAL, FENCE REPLACEMENT AND GATES WITH PROPERTY OWNERS.

## LEGEND

- PROPOSED TOP OF BANK
- PROPOSED TOE OF SLOPE
- PROPOSED FLOW LINE
- 20' FILTER STRIP
- OVERHEAD POWER LINE
- RIP RAP
- UNDERGROUND TELEPHONE
- ROCK LINED CHUTE
- PROPERTY LINE
- GUY WIRE
- FENCE LINE
- POWER POLE
- WOOD FENCE LINE
- BENCH MARK
- EXISTING TOP OF BANK
- LIGHT POLE
- EXISTING TOE OF SLOPE
- EXISTING FLOW LINE
- EXISTING TREE LINE
- EXISTING ELECTRIC LINE




CROSS SECTION VIEW
SCALE: 1"=20'





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NOBLESVILLE, IN 46060
PHONE: (317) 776-8495
FAX: (317) 776-9828
SURVEYOR@HAMILTONCOUNTY.IN.GOV


| REVISIONS | DATE | BY |
|---|---|---|
| REVISIONS | DATE | R.J.S |

PROJECT NO.
WATERSHED NO.
DESIGNED JRM
DRAWN RJS
CHECKED BY CLK
DATE 10/05/06

CERTIFIED BY:
CHRISTIE L. KALLIO, P.E.

PROJECT NAME: SAND CREEK DRAIN MAINTENANCE

PLAN AND PROFILE SHEET

PLOT DATE:

SHEET NO.
4 OF 17

NOTE:
1.) TREE CLEARING AS NEEDED PER HCSO DETAIL CD-3, SHEET 15. CONTRACTOR TO COORDINATE WITH HCSO INSPECTOR.
2.) HCSO INSPECTOR TO COORDINATE FENCE REMOVAL, FENCE REPLACEMENT AND GATES WITH PROPERTY OWNERS.

MATCHLINE STA. 52+00 SHEET 6

STA 48+98 EX. 6" CPP INV=826.97 EXTEND TILE PER HCSO STANDARD DETAIL O-1, SEE SHEET 15.

Forest View Farms Inc.

EXISTING C/L OF FLOWLINE

HOLD NORTH TOP OF BANK ON EXISTING CHANNEL

Wyant Family Enterprise LLC

George A. Brattain

STA 44+95 EX. 6" CMP INV=827.82

PROPOSED TOE OF SLOPE

EXISTING TOP OF BANK

MATCHLINE STA. 39+00 SHEET 4

Kreagcroft Incorporated

EXISTING TOE OF SLOPE

EXISTING TOE OF SLOPE

NEW 20' FILTER STRIP

EXISTING TOP OF BANK

STA 46+81 EX. 6" CMP INV=827.91

STA 46+98 EX. 6" CLAY INV=826.83 EXTEND TILE PER HCSO STANDARD DETAIL O-1, SEE SHEET 15.

STA 44+95 EX. 10" CMP INV=827.00

OPERATIONAL SIDE

EXISTING C/L OF FLOWLINE

HOLD SOUTH TOP OF BANK ON EXISTING CHANNEL

SURFACE WATER PIPES AS NEEDED PER HCSO INSPECTOR OPERATIONAL SIDE STA. 39+00 TO 52+00. SEE HCSO DETAIL CD-8 ON SHEET 16.

Forest View Farms Inc.

Kreagcroft Incorporated

George A. Brattain

PLAN VIEW
SCALE: 1"=50'

PROFILE VIEW
HORIZONTAL SCALE: 1"=50
VERTICAL SCALE: 1"=5'

## LEGEND

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- PROPOSED TOE OF SLOPE
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- LIGHT POLE
- EXISTING TOE OF SLOPE
- EXISTING FLOW LINE
- EXISTING TREE LINE
- EXISTING ELECTRIC LINE

EXISTING GROUND
PROPOSED GROUND

OPERATIONAL SIDE 50+00.00 — M.E.

OPERATIONAL SIDE 45+00.00 — M.E.

OPERATIONAL SIDE 40+00.00 — M.E.

CROSS SECTION VIEW
SCALE: 1"=20'

845 840 835 830 825.11 825 820 815

EXISTING TOP OF BANK (EAST SIDE)

EXISTING FLOW LINE

PROPOSED FLOW = 0.137%

EXISTING TOP OF BANK (EAST SIDE)

826.89

52+00 51+50 51+00 50+50 50+00 49+50 49+00 48+50 48+00 47+50 47+00 46+50 46+00 45+50 45+00 44+50 44+00 43+50 43+00 42+50 42+00 41+50 41+00 40+50 40+00 39+50 39+00


HAMILTON COUNTY, INDIANA
HAMILTON COUNTY SURVEYOR'S OFFICE
HAMILTON COUNTY GOVERNMENT AND JUDICIAL CENTER
ONE HAMILTON COUNTY SQUARE, SUITE 188
NOBLESVILLE, IN 46060
PHONE: (317) 776-8395
FAX: (317) 776-9628
SURVEYOR@HAMILTONCOUNTY.IN.GOV


| | | |
|---|---|---|
| PROJECT NO. | | |
| DY: | DATE: | REVISIONS: |
| R.J.S. | DATE: | REVISIONS: |
| FIELD BY: JKM | | |
| DRAWN BY: RJS | | |
| CHECKED BY: CLK | | |
| DATE: 10/28/08 | | |

CERTIFIED BY:

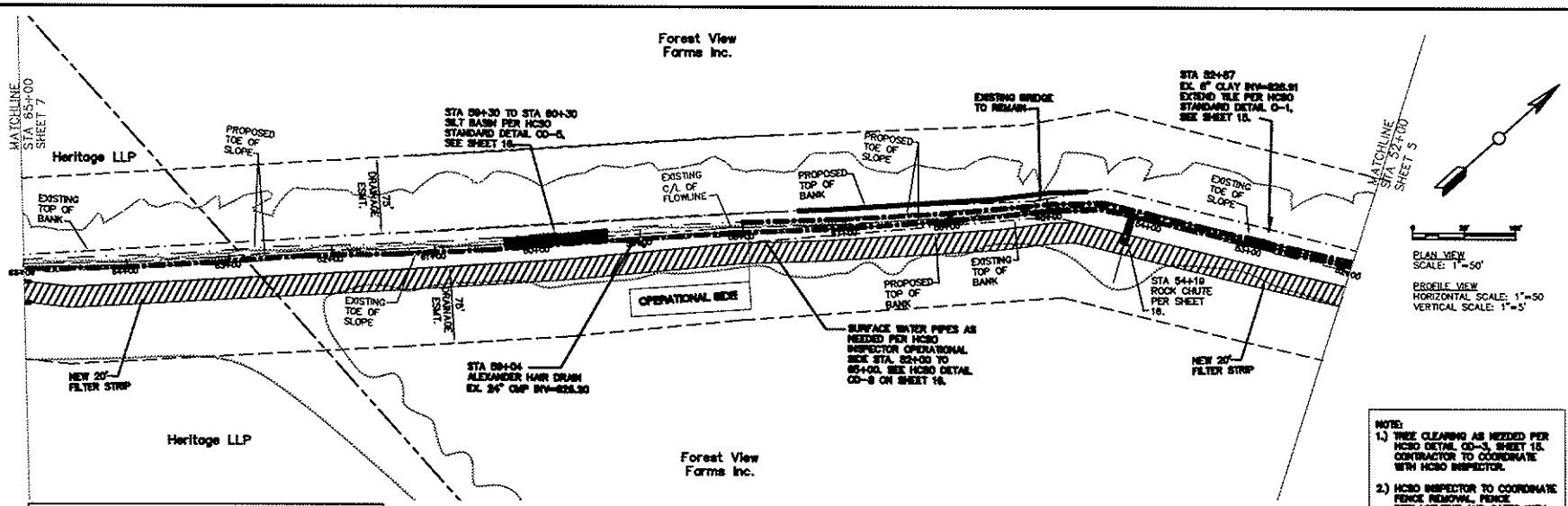
CHRISTIE L. KALLIO, P.E.

PROJECT NAME:
SAND CREEK DRAIN MAINTENANCE

PLAN AND PROFILE SHEET

PLOT DATE:

SHEET NO.
5 OF 17



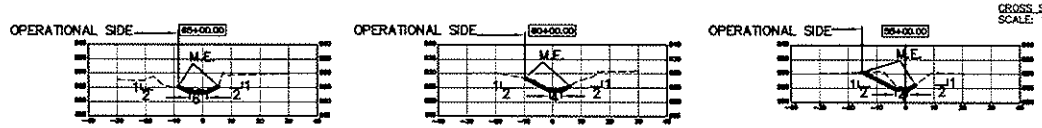

NOTE:
1.) TREE CLEARING AS NEEDED PER HCSO DETAIL CD-3, SHEET 15. CONTRACTOR TO COORDINATE WITH HCSO INSPECTOR.
2.) HCSO INSPECTOR TO COORDINATE FENCE REMOVAL, FENCE REPLACEMENT AND GATES WITH PROPERTY OWNERS.

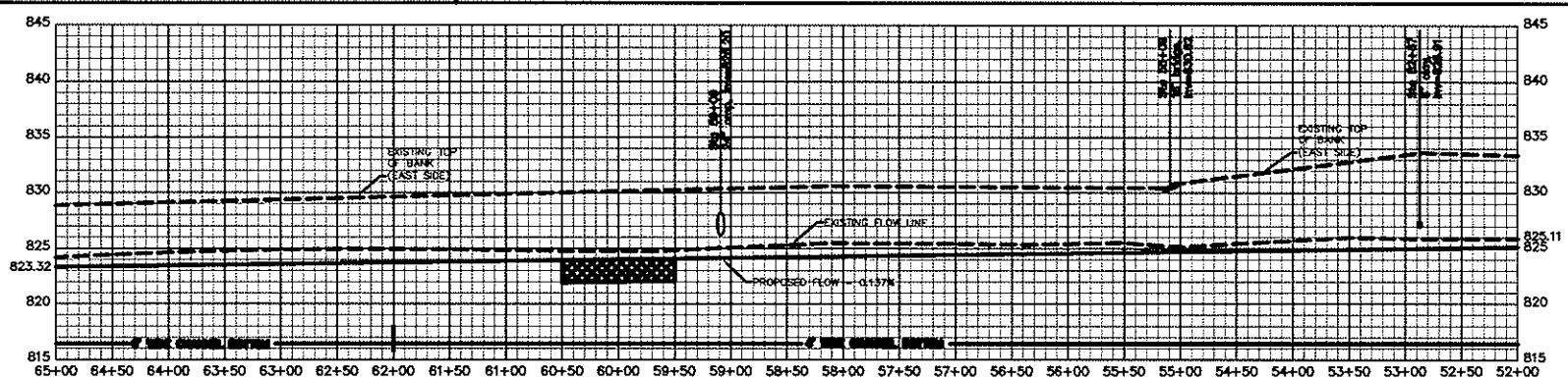
## LEGEND

- PROPOSED TOP OF BANK
- PROPOSED TOE OF SLOPE
- PROPOSED FLOW LINE
- 20' FILTER STRIP
- OH — OVERHEAD POWER LINE
- T — UNDERGROUND TELEPHONE
- RIP RAP
- ROCK LINED CHUTE
- PROPERTY LINE
- x — FENCE LINE
- GUY WIRE
- WOOD FENCE LINE
- POWER POLE
- EXISTING TOP OF BANK
- BENCH MARK
- EXISTING TOE OF SLOPE
- EXISTING FLOW LINE
- LIGHT POLE
- EXISTING TREE LINE
- E — EXISTING ELECTRIC LINE

EXISTING GROUND
PROPOSED GROUND

CROSS SECTION VIEW SCALE: 1"=20'





HAMILTON COUNTY, INDIANA
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HAMILTON COUNTY GOVERNMENT AND JUDICIAL CENTER
ONE HAMILTON COUNTY SQUARE, SUITE 158
NOBLESVILLE, IN 46060
PHONE: (317) 776-8495
FAX: (317) 776-9928
SURVEYOR@HAMILTONCOUNTY.IN.GOV


| | |
|---|---|
| PROJECT NO. | WATERSHED #3 |
| FIELD BY: | JKM |
| DRAWN BY: | RJS |
| CHECKED BY: | CLK |
| DATE: | JAN-06-06 |
| BY: | RJS |
| DATE: | |
| REVISIONS: | |
| REVISIONS: | |

CERTIFIED BY:

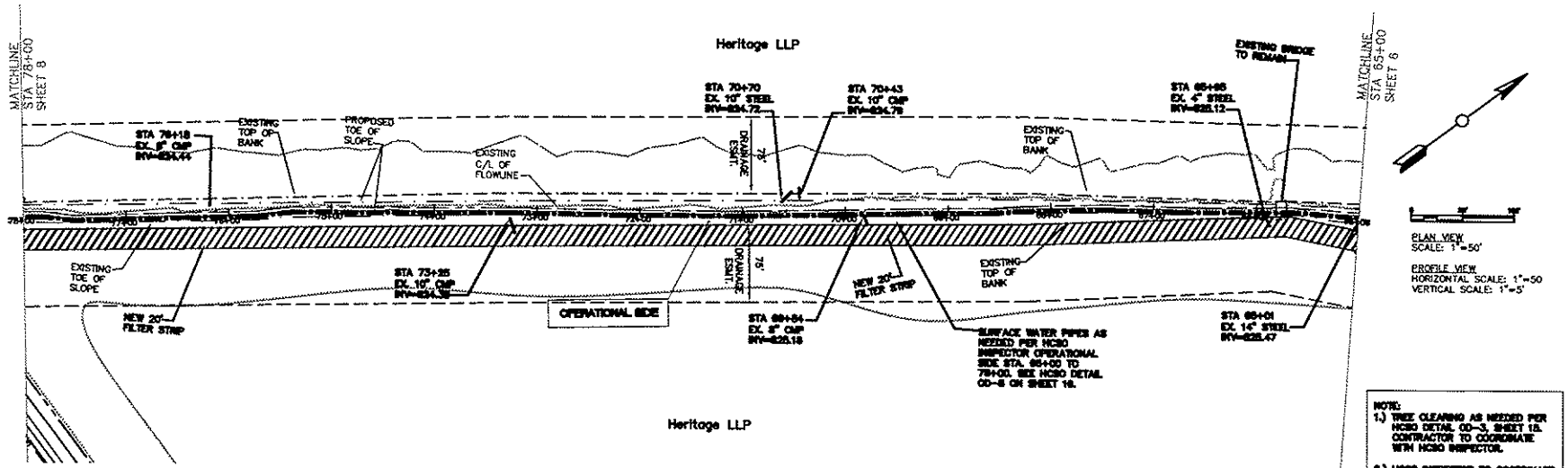
CHRISTIE L. KALLIO, P.E.

PROJECT NAME: SAND CREEK DRAIN MAINTENANCE

PLAN AND PROFILE SHEET

PLOT DATE:

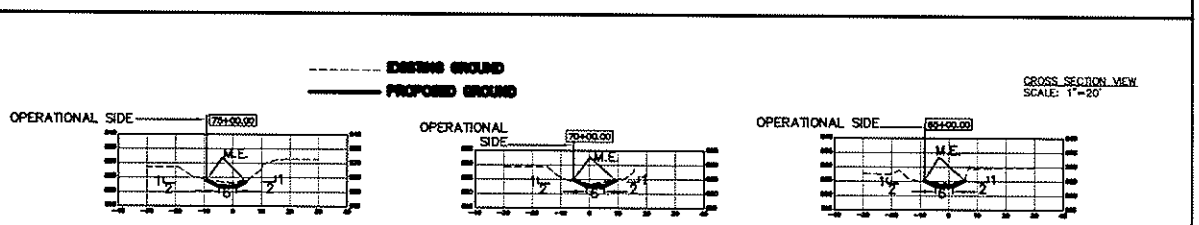
SHEET NO. 6 OF 17

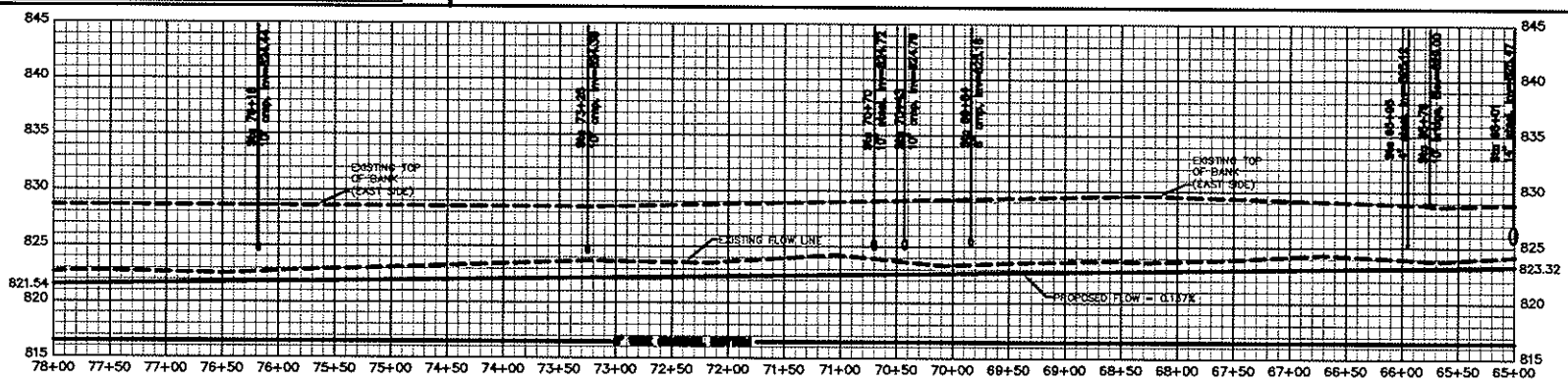



NOTE:
1.) TREE CLEARING AS NEEDED PER HCSO DETAIL CD-3, SHEET 15. CONTRACTOR TO COORDINATE WITH HCSO INSPECTOR.
2.) HCSO INSPECTOR TO COORDINATE FENCE REMOVAL, FENCE REPLACEMENT AND GATES WITH PROPERTY OWNERS.

## LEGEND

- PROPOSED TOP OF BANK
- PROPOSED TOE OF SLOPE
- PROPOSED FLOW LINE
- 20' FILTER STRIP
- OH — OVERHEAD POWER LINE
- RIP RAP
- T — UNDERGROUND TELEPHONE
- ROCK LINED CHUTE
- PROPERTY LINE
- x — FENCE LINE
- GUY WIRE
- WOOD FENCE LINE
- POWER POLE
- EXISTING TOP OF BANK
- BENCH MARK
- EXISTING TOE OF SLOPE
- LIGHT POLE
- EXISTING FLOW LINE
- EXISTING TREE LINE
- E — EXISTING ELECTRIC LINE





HAMILTON COUNTY, INDIANA
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PHONE: (317) 776-8495
FAX: (317) 776-9628
SURVEYOR@HAMILTONCOUNTY.IN.GOV


| PROJECT NO. | WATERSHED NO. | FIELD BOY | 2014 |
|---|---|---|---|
| | | DRAWN BY | RJS |
| | | CHECKED BY | CLK |
| | | DATE | 10/20/14 |

| REVISIONS: | DATE: | BY: |
|---|---|---|
| REVISIONS: | DATE: | RJS |

certified by:

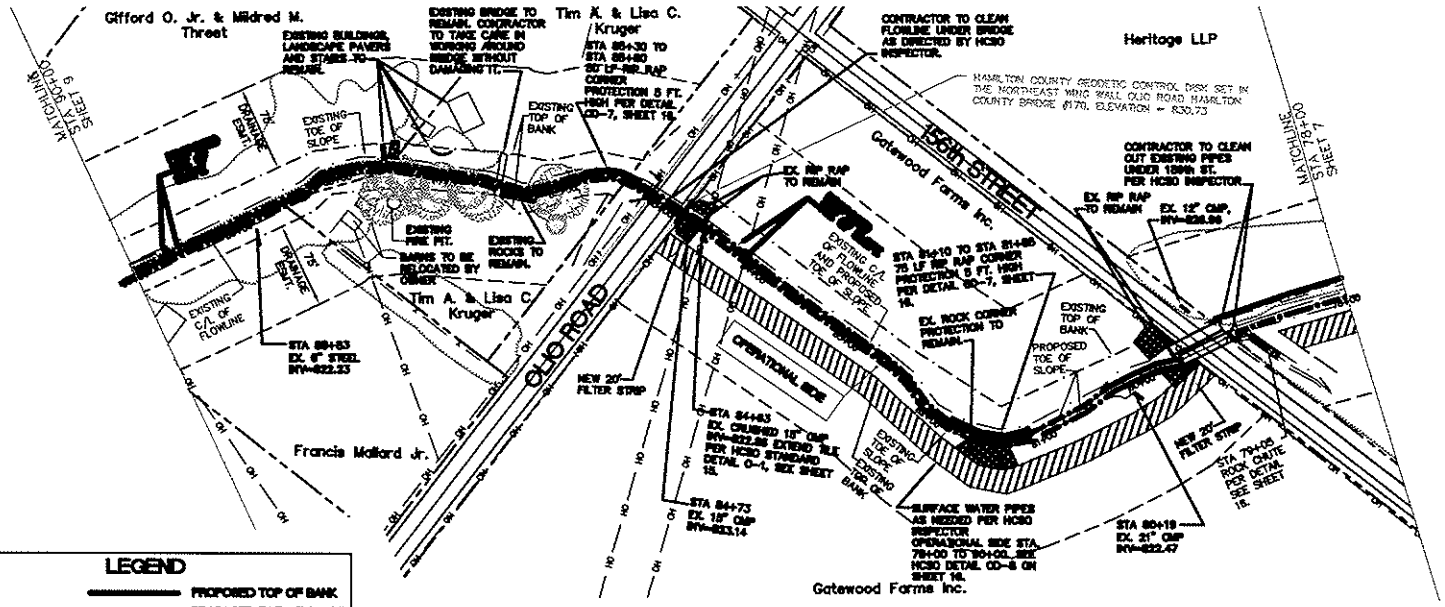
CHRISTIE L. KALLIO, P.E.

PROJECT NAME: SAND CREEK DRAIN MAINTENANCE

PLAN AND PROFILE SHEET

PLOT DATE:

SHEET NO.
7 OF 17




NOTE:
1.) TREE CLEARING AS NEEDED PER HCSO DETAIL CD-3, SHEET 15. CONTRACTOR TO COORDINATE WITH HCSO INSPECTOR.
2.) HCSO INSPECTOR TO COORDINATE FENCE REMOVAL, FENCE REPLACEMENT AND GATES WITH PROPERTY OWNERS.

## LEGEND

- PROPOSED TOP OF BANK
- PROPOSED TOE OF SLOPE
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- 20' FILTER STRIP
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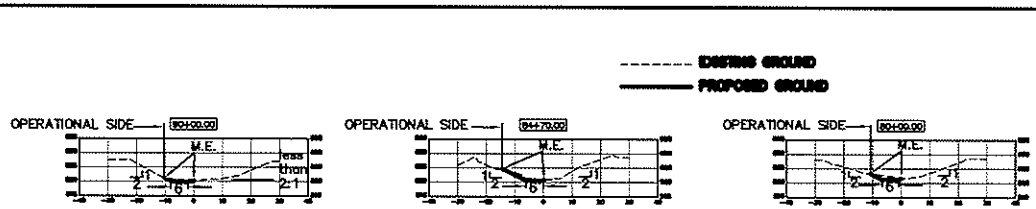
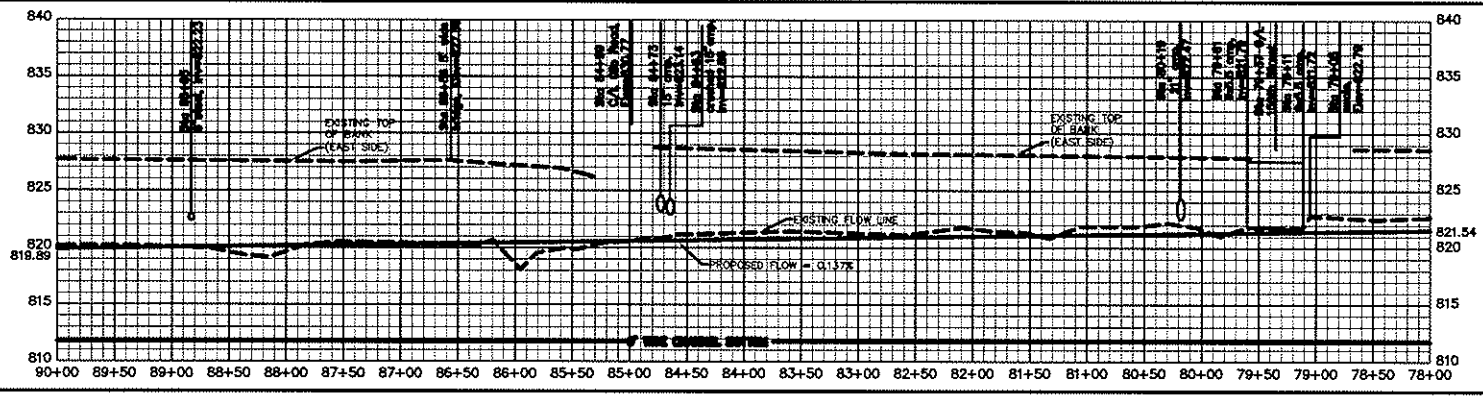
- RIP RAP
- UNDERGROUND TELEPHONE
- ROCK LINED CHUTE
- PROPERTY LINE
- GUY WIRE
- FENCE LINE
- POWER POLE
- WOOD FENCE LINE
- BENCH MARK
- EXISTING TOP OF BANK
- EXISTING TOE OF SLOPE
- LIGHT POLE
- EXISTING FLOW LINE
- EXISTING TREE LINE
- EXISTING ELECTRIC LINE





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SURVEYOR@HAMILTONCOUNTY.IN.GOV


| | |
|---|---|
| PROJECT #: | WATERSHED 308 |
| FIELD BY: | JRM |
| DRAWN BY: | RGS |
| CHECKED BY: | CLK |
| DATE: | 09/08/06 |
| BY: | RGS |
| DATE: | |
| REVISIONS: | |
| REVISIONS: | |
| DATE: | |

CERTIFIED BY:

CHRISTIE L. KALLIO, P.E.

PROJECT NAME: SAND CREEK DRAIN MAINTENANCE

PLAN AND PROFILE SHEET

PLOT DATE:

SHEET NO. 8 OF 17

NOTE:
1.) TREE CLEARING AS NEEDED PER HCSO DETAIL CD-3, SHEET 15. CONTRACTOR TO COORDINATE WITH HCSO INSPECTOR.
2.) HCSO INSPECTOR TO COORDINATE FENCE REMOVAL, FENCE REPLACEMENT AND GATES WITH PROPERTY OWNERS.

Harger Farms Inc.

Francis Mallard Jr.

Gifford O. Jr. & Mildred M. Threet

CHANNEL DREDGING NOT REQUIRED FROM STATION 97+00 TO 103+00. REMOVE FALLEN TREES AND DEBRIS.

STA 97+38 EX. 6" PVC INV=618.86 EXTEND TILE PER HCSO STANDARD DETAIL D-1, SEE SHEET 15.

STA 97+37 EX. 4" PVC INV=620.30' EXTEND TILE PER HCSO STANDARD DETAIL D-1, SEE SHEET 15.

STA 95+74 EX. 18" CMP INV=621.43'

STA 93+64 EX. 6" STEEL INV=624.40

STA 94+44 EX. 4" PVC INV=623.48 EXTEND TILE PER HCSO STANDARD DETAIL D-1, SEE SHEET 15.

STA 95+00 EX. 12" CMP INV=620.67

STA 97+75 TO STA 98+25 50 LF RIP RAP CORNER PROTECTION 5 FT. HIGH PER DETAIL CD-7, SHEET 16.

STA 95+35 ROCK CHUTE PER DETAIL SEE SHEET 16.

SURFACE WATER PIPES AS NEEDED PER HCSO INSPECTOR OPERATIONAL. SEE STA. 90+00 TO 103+00. SEE HCSO DETAIL CD-6 ON SHEET 16.

PROPOSED TOE OF SLOPE

EXISTING TOP OF SLOPE

EXISTING C/L OF FLOWLINE

EXISTING TOP OF BANK

OPERATIONAL SIDE

NEW 20' FILTER STRIP

MATCHLINE STA. 103+00 SHEET 10

Stephen L. & Cathleen D. Neal

Paul L. & Nancy Radcliff

Ronald Glenn & Patricia J. Ogborn Trustee of Ogborn Family Revocable Trust

DRAINAGE ESMT.

75'

MATCHLINE STA. 90+00 SHEET 8

PLAN VIEW
SCALE: 1"=50'

PROFILE VIEW
HORIZONTAL SCALE: 1"=50
VERTICAL SCALE: 1"=5'

## LEGEND

- PROPOSED TOP OF BANK
- PROPOSED TOE OF SLOPE
- PROPOSED FLOW LINE
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- RIP RAP
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- PROPERTY LINE
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- FENCE LINE
- POWER POLE
- WOOD FENCE LINE
- BENCH MARK
- EXISTING TOP OF BANK
- LIGHT POLE
- EXISTING TOE OF SLOPE
- EXISTING FLOW LINE
- EXISTING TREE LINE
- EXISTING ELECTRIC LINE

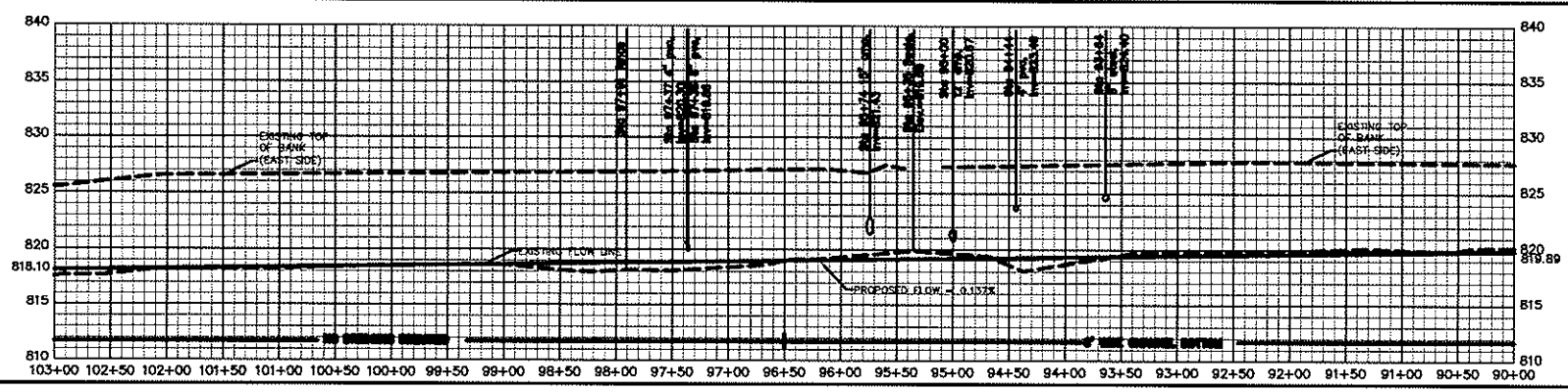
EXISTING GROUND
PROPOSED GROUND

CROSS SECTION VIEW
SCALE: 1"=20'

OPERATIONAL SIDE 100+00.00
PROPOSED FLOW LINE MATCHES EXISTING FLOW LINE

OPERATIONAL SIDE 95+00.00
M.E.

OPERATIONAL SIDE 90+00.00
M.E.
less than 2:1





HAMILTON COUNTY, INDIANA
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NOBLESVILLE, IN 46060
PHONE: (317) 776-8495
FAX: (317) 776-9628
SURVEYOR@HAMILTONCOUNTY.IN.GOV


| REVISIONS: | DATE: | BY: | PROJECT NO. |
|---|---|---|---|
| REVISIONS: | DATE: | RJS | WATERSHED NO. |

FIELD BY: JKM
DRAWN BY: RJS
CHECKED BY: CLK
DATE: 10/05/07

CERTIFIED BY:

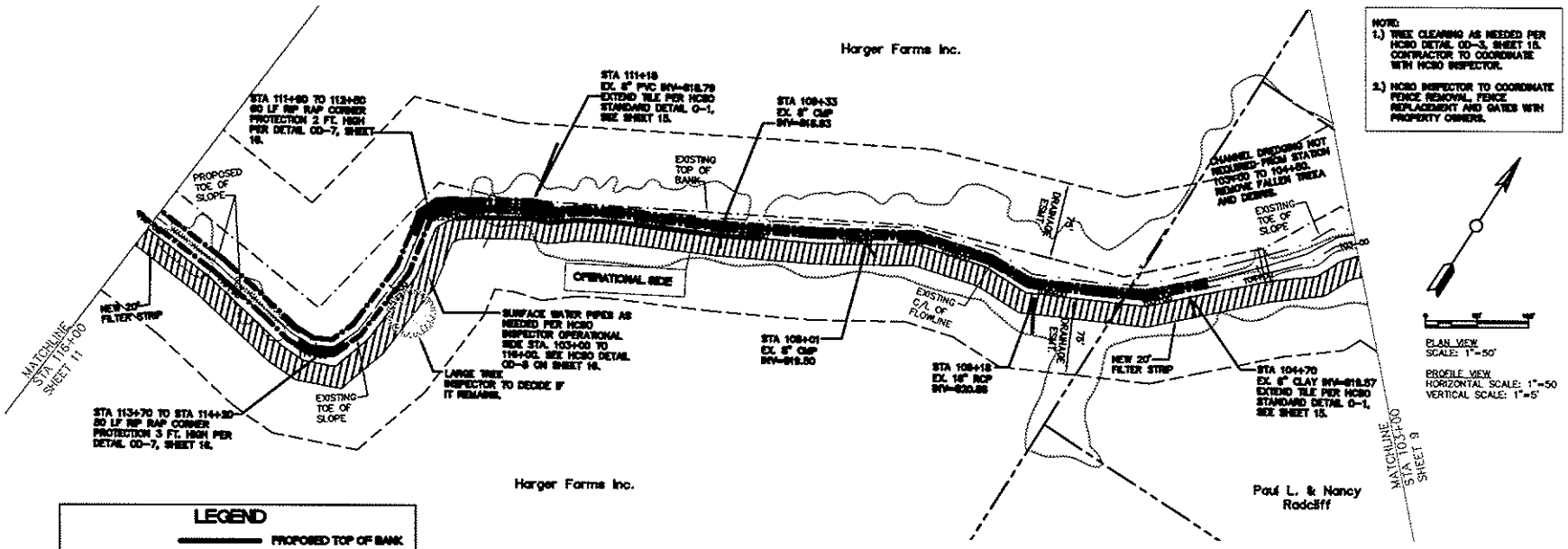
CHRISTIE L. KALLIO, P.E.

PROJECT NAME: SAND CREEK DRAIN MAINTENANCE

PLAN AND PROFILE SHEET

FOR DATE:

SHEET NO.
9 OF 17




## LEGEND

- PROPOSED TOP OF BANK
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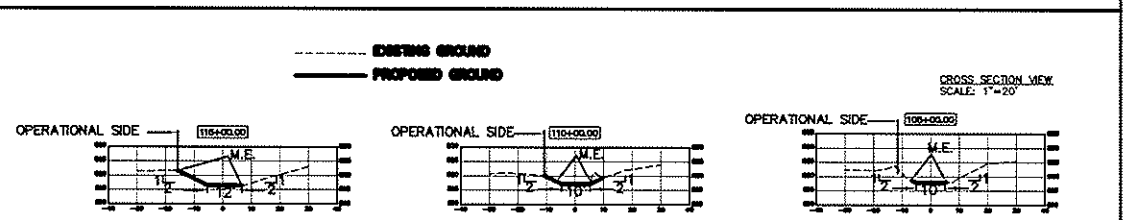
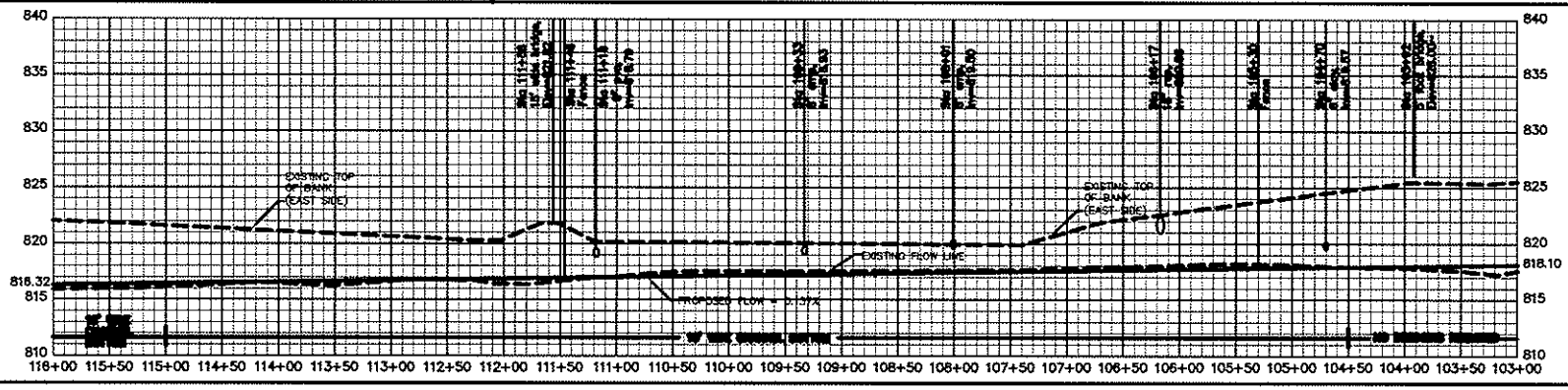
- LIGHT POLE
- EXISTING TOE OF SLOPE
- EXISTING FLOW LINE
- EXISTING TREE LINE
- EXISTING ELECTRIC LINE





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PHONE: (317) 776-8495
FAX: (317) 776-9628
SURVEYOR@HAMILTONCOUNTY.IN.GOV


| PROJECT TYPE: | WATERSHED WQ | BY: | RAS |
|---|---|---|---|
| FIELD BY: | JKM | DATE: | DATE: |
| DRAWN BY: | RAS | REVISIONS: | REVISIONS: |
| CHECKED BY: | CLK | | |
| DATE: | 04/06/11 | | |

CERTIFIED BY

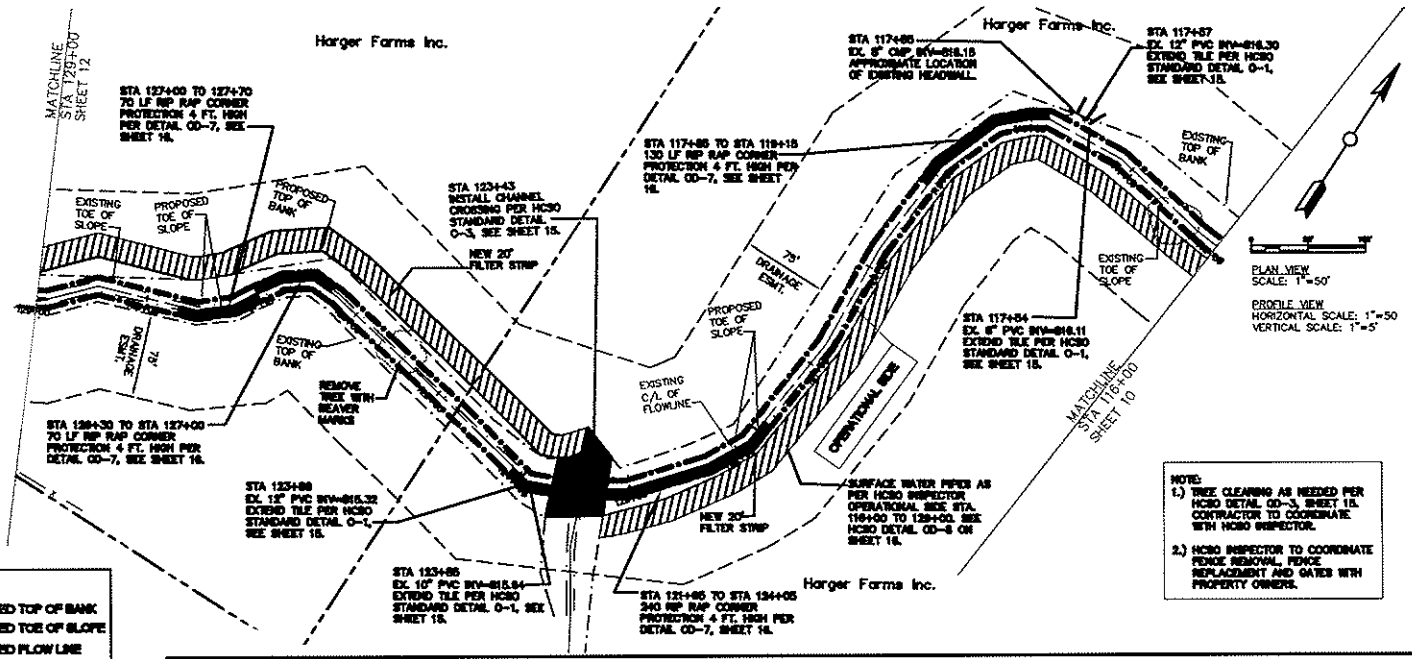
CHRISTIE L. KALIJO, P.E.

PROJECT NAME: SAND CREEK DRAIN MAINTENANCE

PLAN AND PROFILE SHEET

PLOT DATE:

SHEET NO. 10 OF 17




NOTE:
1.) TREE CLEARING AS NEEDED PER HCSO DETAIL OD-3, SHEET 15. CONTRACTOR TO COORDINATE WITH HCSO INSPECTOR.
2.) HCSO INSPECTOR TO COORDINATE FENCE REMOVAL, FENCE REPLACEMENT AND GATES WITH PROPERTY OWNERS.

## LEGEND

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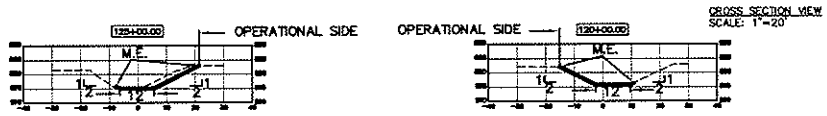


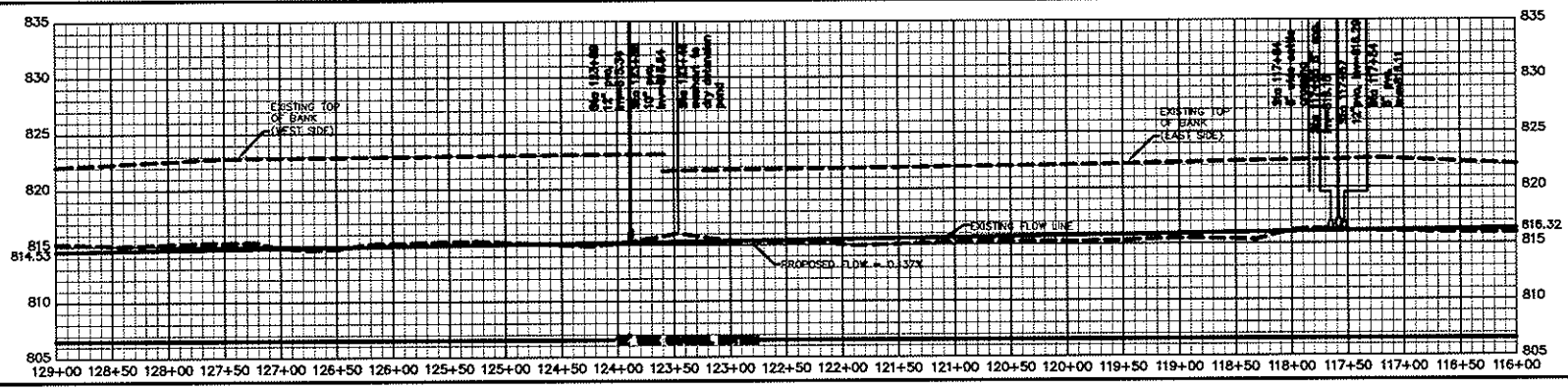



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NOBLESVILLE, IN 46060
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FAX: (317) 776-9628
SURVEYOR@HAMILTONCOUNTY.IN.GOV


| PROJECT NO. | WATERSHED NO. |
|---|---|
| FIELDWORK | JRM |
| DRAWN BY | RAS |
| CHECKED BY | CLK |
| DATE | 12/05/06 |

| REVISIONS: | DATE: | BY: |
|---|---|---|
| REVISIONS: | DATE: | RAS |

CERTIFIED BY:

CHRISTIE L. KALLIO, P.E.

PROJECT NAME:
SAND CREEK DRAIN MAINTENANCE

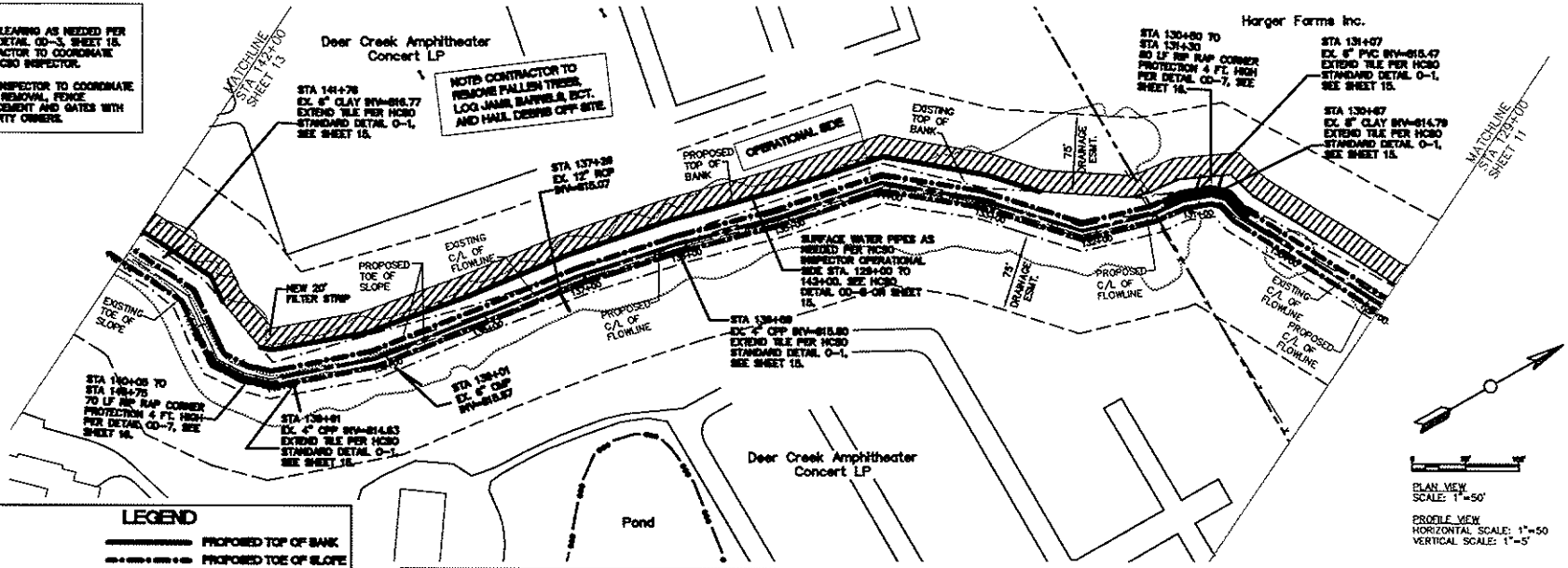
PLAN AND PROFILE SHEET

FIRST DATE:

SHEET NO.
11 OF 17

NOTE:
1.) TREE CLEARING AS NEEDED PER HCSO DETAIL OD-3, SHEET 15. CONTRACTOR TO COORDINATE WITH HCSO INSPECTOR.

2.) HCSO INSPECTOR TO COORDINATE FENCE REMOVAL, FENCE REPLACEMENT AND GATES WITH PROPERTY OWNERS.




## LEGEND

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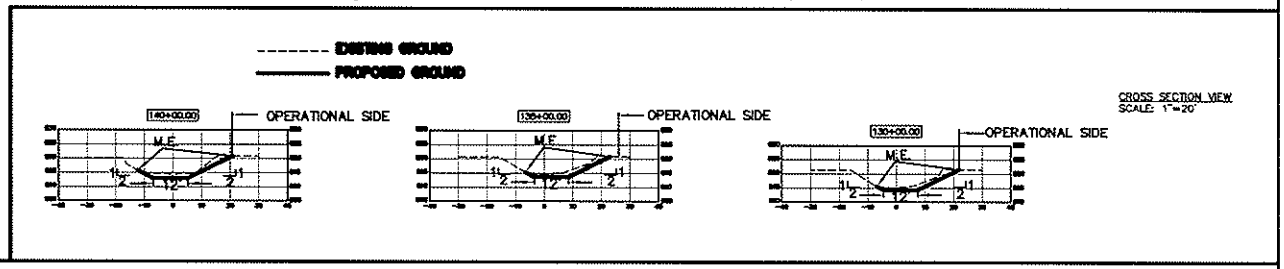
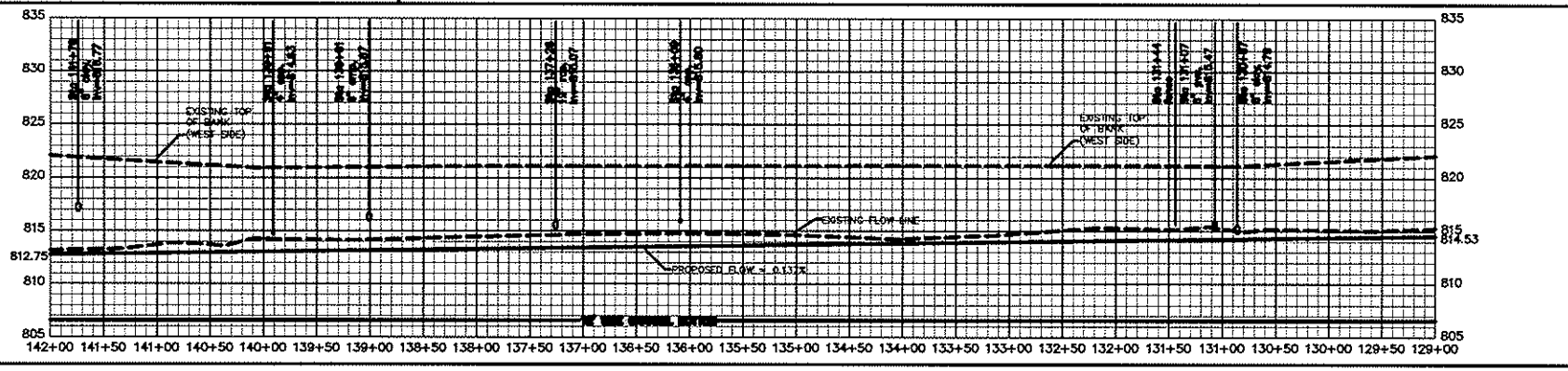
- EXISTING ELECTRIC LINE





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PHONE: (317) 776-8495
FAX: (317) 776-9928
SURVEYOR@HAMILTONCOUNTY.IN.GOV


PROJECT NO: WATERSHED NO.
DESIGNED: JCS
DRAWN: BJS
CHECKED: CLK
DATE: NOV-00-NE
BY: BJS
DATE:
REVISIONS:
REVISIONS:

CERTIFIED BY:
CHRISTIE L. KALLIO, P.E.

PROJECT NAME: SAND CREEK DRAIN MAINTENANCE

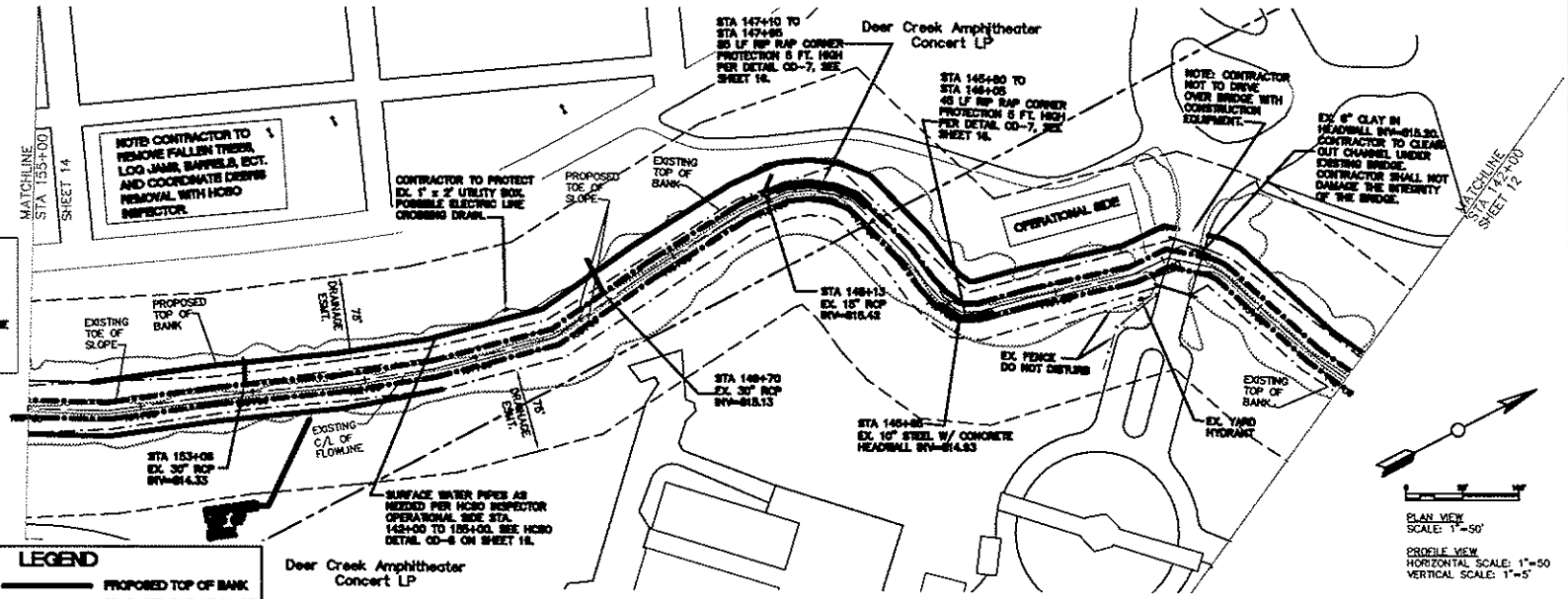
PLAN AND PROFILE SHEET

REV. DATE:

SHEET NO. 12 OF 17

NOTE:
1.) TREE CLEARING AS NEEDED PER HCSO DETAIL CD-3, SHEET 15. CONTRACTOR TO COORDINATE WITH HCSO INSPECTOR.

2.) HCSO INSPECTOR TO COORDINATE FENCE REMOVAL, FENCE REPLACEMENT AND GATES WITH PROPERTY OWNERS.




PLAN VIEW
SCALE: 1"=50'

PROFILE VIEW
HORIZONTAL SCALE: 1"=50
VERTICAL SCALE: 1"=5'

## LEGEND

- PROPOSED TOP OF BANK
- PROPOSED TOE OF SLOPE
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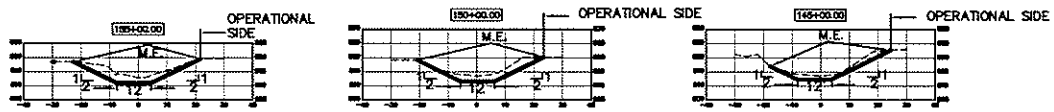
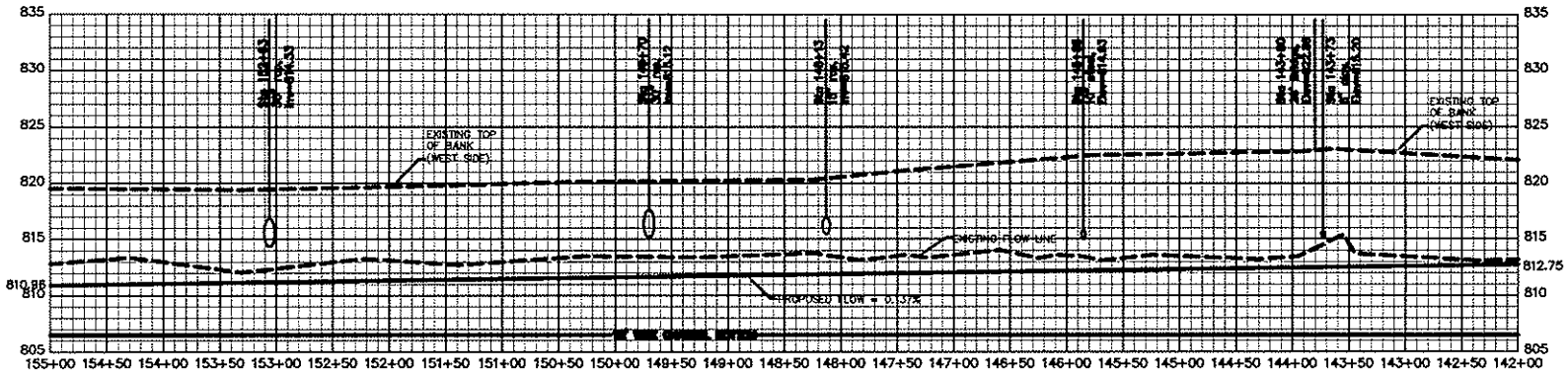
- LIGHT POLE
- EXISTING TREE LINE
- E — EXISTING ELECTRIC LINE

EXISTING GROUND
PROPOSED GROUND




CROSS SECTION VIEW
SCALE: 1"=20'





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HAMILTON COUNTY GOVERNMENT AND JUDICIAL CENTER
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NOBLESVILLE, IN 46060
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FAX: (317) 776-9628
SURVEY@HAMILTONCOUNTY.IN.GOV


| | |
|---|---|
| PROJECT NO. | WATERSHED NO. |
| FIELD BY: | JKS |
| DRAWN BY: | RJS |
| CHECKED BY: | TLK |
| DATE: | 04/09/08 |

| REVISIONS | DATE | BY |
|---|---|---|
| REVISIONS | DATE | RJS |

CERTIFIED BY:

CHRISTIE L. KALLIO, P.E.

PROJECT NAME: SAND CREEK DRAIN MAINTENANCE

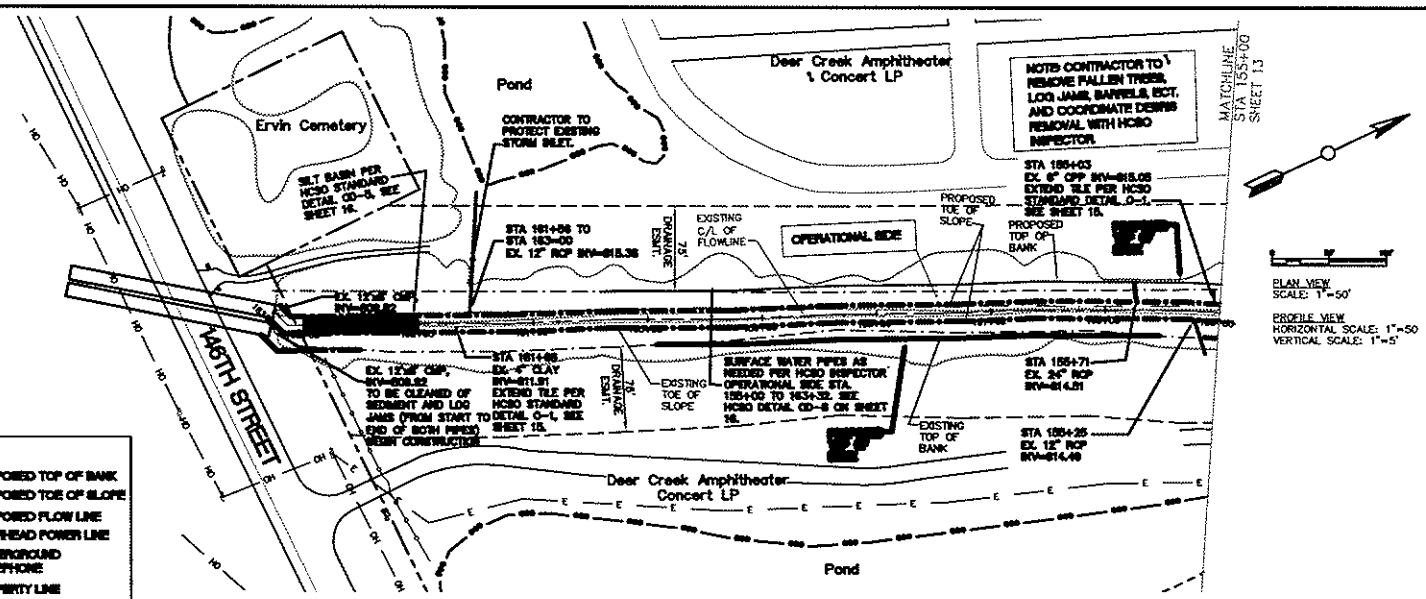
PLAN AND PROFILE SHEET

PLOT DATE:

SHEET NO.
13 OF 17

NOTE:
1.) TREE CLEARING AS NEEDED PER HCSO DETAIL CD-3, SHEET 15. CONTRACTOR TO COORDINATE WITH HCSO INSPECTOR.

2.) HCSO INSPECTOR TO COORDINATE FENCE REMOVAL, FENCE REPLACEMENT AND GATES WITH PROPERTY OWNERS.



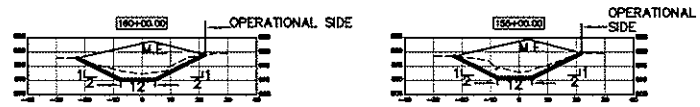

PLAN VIEW
SCALE: 1"=50'

PROFILE VIEW
HORIZONTAL SCALE: 1"=50
VERTICAL SCALE: 1"=5'

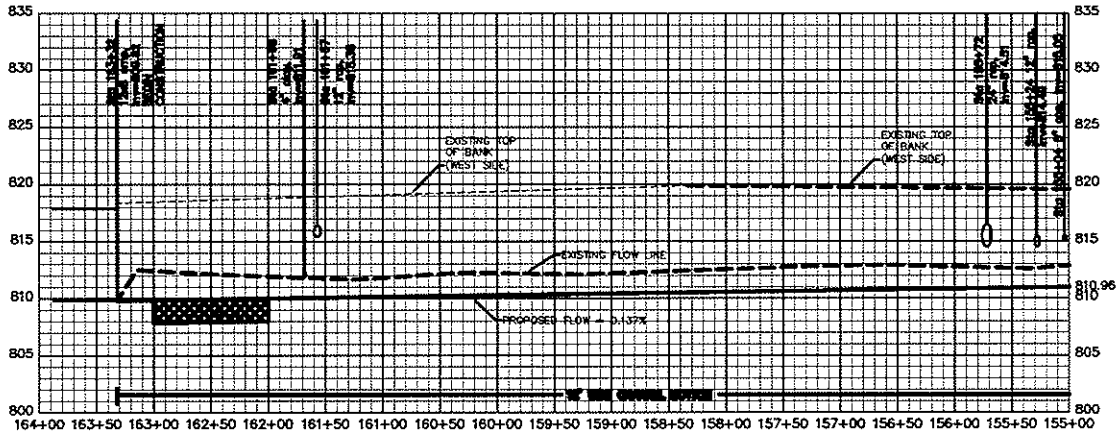
## LEGEND

- PROPOSED TOP OF BANK
- PROPOSED TOE OF SLOPE
- PROPOSED FLOW LINE
- 30' FILTER STRIP
- OVER-HEAD POWER LINE
- RIP RAP
- UNDERGROUND TELEPHONE
- ROCK LINED CHUTE
- PROPERTY LINE
- GUY WIRE
- FENCE LINE
- POWER POLE
- WOOD FENCE LINE
- BENCH MARK
- EXISTING TOP OF BANK
- LIGHT POLE
- EXISTING TOE OF SLOPE
- EXISTING FLOW LINE
- EXISTING TREE LINE
- EXISTING ELECTRIC LINE

EXISTING GROUND
PROPOSED GROUND




CROSS SECTION VIEW
SCALE: 1"=20'





HAMILTON COUNTY, INDIANA
HAMILTON COUNTY SURVEYOR'S OFFICE
HAMILTON COUNTY GOVERNMENT AND JUDICIAL CENTER
ONE HAMILTON COUNTY SQUARE, SUITE 188
NOBLESVILLE, IN 46060
PHONE: (317) 776-8395
FAX: (317) 776-9928
SURVEYOR@HAMILTONCOUNTY.IN.GOV


| PROJECT NO. | WATERSHED NO. | TITLE BY: | JGM |
|---|---|---|---|
| BY: | RJS | DRAWN BY: | RJS |
| DATE: | DATE: | CHECKED BY: | CLK |
| REVISIONS: | REVISIONS: | DATE: | MM-DD-YR |

CERTIFIED BY:

CHRISTIE L. KALLIO, P.E.

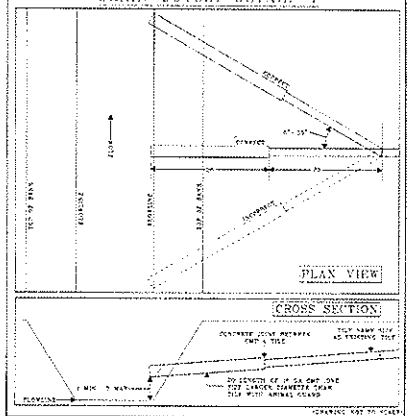
PROJECT NAME:
SAND CREEK DRAIN MAINTENANCE

PLAN AND PROFILE SHEET

SHEET NO.
14 OF 17

OFFICE OF THE HAMILTON COUNTY SURVEYOR

DRAIN OUTLET DETAIL #1




HAMILTON COUNTY SURVEYOR'S OFFICE

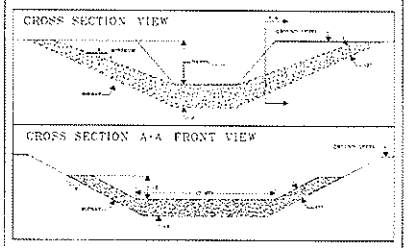
APPROVED _____ DATE

REVISED 1 JAN 2000

STANDARD PLAN O-1

OFFICE OF THE HAMILTON COUNTY SURVEYOR

CHANNEL FORD CROSSING DETAIL




RIP-RAP SHALL BE D GRADED RIP-RAP

NOTE TOP COAT RIPRAP WITH #2 STONE TO SMOOTH SURFACE

(DRAWING NOT TO SCALE)

HAMILTON COUNTY SURVEYOR'S OFFICE

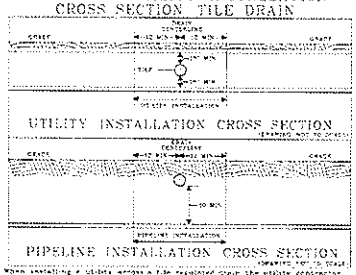
APPROVED _____ DATE

REVISED 1 JAN 2000

STANDARD PLAN C-3

OFFICE OF THE HAMILTON COUNTY SURVEYOR

PIPELINE & UTILITY INSTALLATION CROSS SECTION TILE DRAIN




HAMILTON COUNTY SURVEYOR'S OFFICE

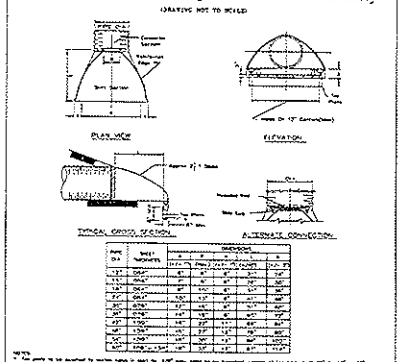
APPROVED _____ DATE

REVISED 1 JAN 2000

STANDARD PLAN C-5

OFFICE OF THE HAMILTON COUNTY SURVEYOR

For Use on CMP in Agricultural Areas Only



HAMILTON COUNTY SURVEYOR'S OFFICE

Metal End Section

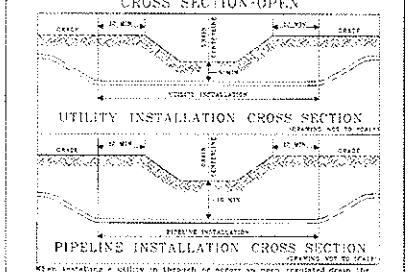
APPROVED _____ DATE

REVISED 2 DEC 2004

STANDARD PLAN OD-10

OFFICE OF THE HAMILTON COUNTY SURVEYOR

PIPELINE & UTILITY INSTALLATION CROSS SECTION-OPEN




HAMILTON COUNTY SURVEYOR'S OFFICE

APPROVED _____ DATE

REVISED 1 JAN 2000

STANDARD PLAN C-6

OFFICE OF THE HAMILTON COUNTY SURVEYOR

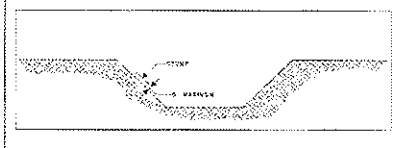
CLEARING SPECIFICATIONS

WHAT TO CLEAR

1. Clear all woody vegetation including willows brush briars and cattails
2. Clear both ditch banks to the top of the bank. Clear the ditch bottom and remove all debris and obstructions within the channel
3. On the working side clear only enough room to complete the intended operation such as spreading spoil or installing an erosion control structure. If more than 75 feet is needed the Hamilton County Surveyor must be contacted before additional clearing can be done

OTHER NOTES

1. Cut trees as shown in the diagram below. Cut the stump flush with the ground no more than 6 inches high. Cut the stump at the same angle as the ditch bank
2. Paint stumps with an approved EPA brush killer according to the contract specifications
3. Remove stumps if the bank is excessive or for proper channel alignment




(DRAWING NOT TO SCALE)

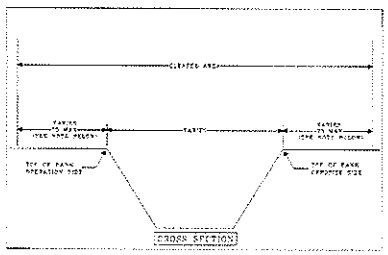
HAMILTON COUNTY SURVEYOR'S OFFICE

APPROVED _____ DATE

REVISED 1 JAN 2000

STANDARD PLAN OD-1

OFFICE OF THE HAMILTON COUNTY SURVEYOR




CLEARING

CLEARING IS TO BE DONE FROM TOP OF BANK TO TOP OF BANK ....FEET ON THE OPERATION SIDE AND ... FEET ON THE OPPOSITE SIDE

(DRAWING NOT TO SCALE)

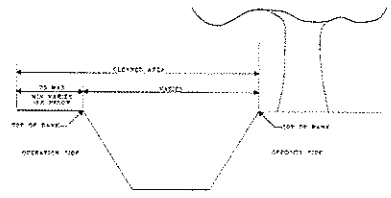
HAMILTON COUNTY SURVEYOR'S OFFICE

APPROVED _____ DATE

REVISED 1 JAN 2000

STANDARD PLAN OD-2

OFFICE OF THE HAMILTON COUNTY SURVEYOR




CLEARING
CONSERVATION ALTERNATE

CLEARING UNDER THIS PLAN SHALL BE DONE FROM THE TOP OF BANK TO TOP OF BANK AND ....FEET ON THE OPERATION SIDE OF THIS DITCH

CLEAR ALL DEAD TREES AND TREES LEANING AT 45° OR GREATER WITHIN A FEET OF TOP OF BANK ON OPPOSITE SIDE OF DITCH

(DRAWING NOT TO SCALE)

HAMILTON COUNTY SURVEYOR'S OFFICE

APPROVED _____ DATE

REVISED 1 JAN 2000

STANDARD PLAN OD-3


HAMILTON COUNTY, INDIANA
HAMILTON COUNTY SURVEYOR'S OFFICE
HAMILTON COUNTY GOVERNMENT AND
JUDICIAL CENTER
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PHONE: (317) 776-8495
FAX: (317) 776-9928
SURVEYOR@HAMILTONCOUNTY.IN.GOV


| | |
|---|---|
| PROJECT NAME: | SAND CREEK DRAIN MAINTENANCE |
| | HAMILTON COUNTY STANDARD DETAILS |
| PLOT DATE: | |

SHEET NO.
15 OF 17

CHRISTIE L. KALLIO, P.E.

CERTIFIED BY:

REVISIONS: DATE: BY:

PROJECT #: WATERSHED #:

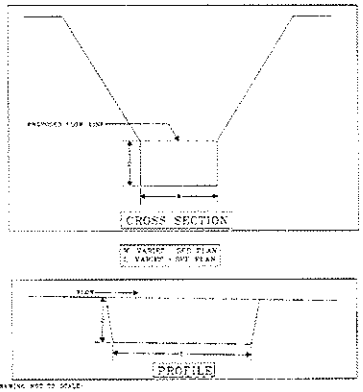
FIELD BY: JKN
DRAWN BY: RGS
CHECKED BY: CLK
DATE: MAY 2010

S:\E-Serv\Projects\Legal Drains\Sand Creek\Details.dwg

May 27, 2010-12:16pm

OFFICE OF THE HAMILTON COUNTY SURVEYOR

## SILT BASIN




DRAWING NOT TO SCALE

HAMILTON COUNTY SURVEYOR'S OFFICE

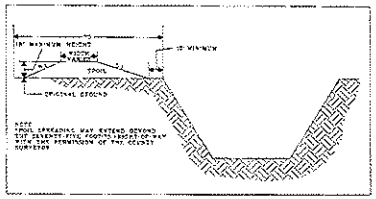
REVISED JUNE 2000

APPROVED KENTON C. WARD HAMILTON COUNTY SURVEYOR DATE

STANDARD PLAN OD-5

OFFICE OF THE HAMILTON COUNTY SURVEYOR

## SPOIL SPREADING




All spoils shall be placed on the operation side of the ditch as designated by the Surveyor. The finished spoil shall be left in a smooth manner so that maintenance equipment used to maintain the regulated drain and any average row crop farm tractor can be driven over all parts of it with a reasonable degree of safety and the finished spoil bank shall be left in a tillable manner without debris including brush, logs, excavated stumps or rocks of 1/3 of cubic foot or larger, that will interfere with farm and maintenance equipment and filter strip placement.

DRAWING NOT TO SCALE

HAMILTON COUNTY SURVEYOR'S OFFICE

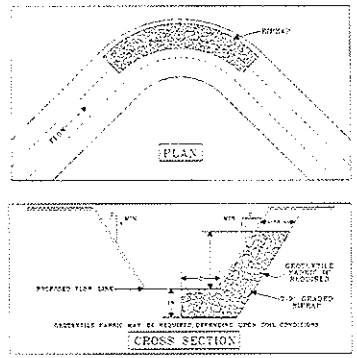
REVISED JANUARY 2000

APPROVED KENTON C. WARD HAMILTON COUNTY SURVEYOR DATE

STANDARD PLAN OD-6

OFFICE OF THE HAMILTON COUNTY SURVEYOR

## CORNER PROTECTION




DRAWING NOT TO SCALE

HAMILTON COUNTY SURVEYOR'S OFFICE

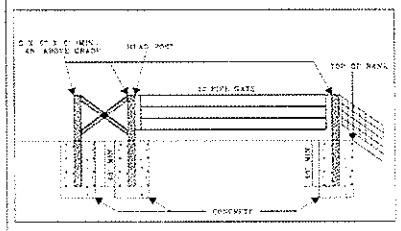
REVISED JAN 2000

APPROVED KENTON C. WARD HAMILTON COUNTY SURVEYOR DATE

STANDARD PLAN OD-7

OFFICE OF THE HAMILTON COUNTY SURVEYOR

## GATE




DRAWING NOT TO SCALE

HAMILTON COUNTY SURVEYOR'S OFFICE

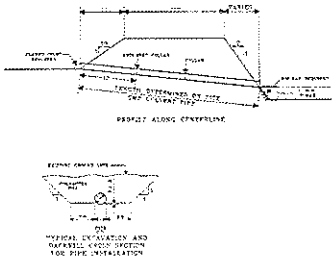
REVISED JAN 2000

APPROVED KENTON C. WARD HAMILTON COUNTY SURVEYOR DATE

STANDARD PLAN M-8

OFFICE OF THE HAMILTON COUNTY SURVEYOR

## SURFACE WATER PIPE




### DETAIL OF MATERIALS

1. PIPE NON PERFORATED CORRUGATED METAL CULVERT PIPE
2. END SECTIONS STANDARD METAL FLARED END SECTION
3. ANTI-SEEP COLLAR 4 X 4 METAL OR POURED CONCRETE, SET BETWEEN THE CORRUGATIONS OF THE PIPE

DRAWING NOT TO SCALE

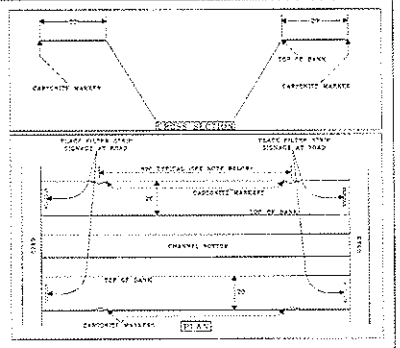
HAMILTON COUNTY SURVEYOR'S OFFICE

REVISED JUNE 2000

APPROVED KENTON C. WARD HAMILTON COUNTY SURVEYOR DATE

STANDARD PLAN OD-8

OFFICE OF THE HAMILTON COUNTY SURVEYOR




## FILTER STRIP

PLANT, MOWN GRASS AND FREE OF OBSTANCE BETWEEN ROADS IS LESS THAN 400 FEET PLACE ONE SIGN IN CENTER POINT OF THE FILTER STRIP BETWEEN ROADS

IF THE CONSERVATION ALTERNATE IS USED FOR DRAINING WATER, PROP WILL BE ON TERRACES FOR ONLY

DRAWING NOT TO SCALE

HAMILTON COUNTY SURVEYOR'S OFFICE

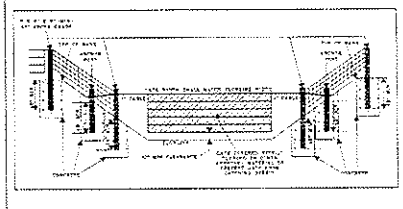
REVISED JANUARY 2000

APPROVED KENTON C. WARD HAMILTON COUNTY SURVEYOR DATE

STANDARD PLAN OD-9

OFFICE OF THE HAMILTON COUNTY SURVEYOR

## FLOODGATE



DRAWING NOT TO SCALE

HAMILTON COUNTY SURVEYOR'S OFFICE

REVISED JAN 2000

APPROVED KENTON C. WARD HAMILTON COUNTY SURVEYOR DATE

STANDARD PLAN M-7

RIPRAP GRADATION

| | |
|---|---|
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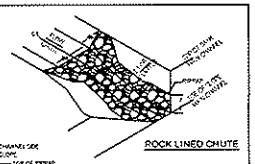
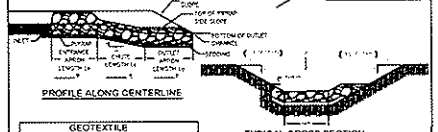
| | |

BEDDING GRADATION

| | |
|---|---|
| | |
| | |




ROCK LINED CHUTE




GEOTEXTILE

| | |
|---|---|
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| | |
| | |
| | |

TYPICAL CROSS SECTION

NOTE:
1. THE CHUTE SLOPE (S) SHALL NOT BE STEEPER THAN 3:1
2. THE SIDES SLOPES (S) SHALL NOT BE STEEPER THAN 2:1
3. THE ENTRANCE APRON WIDTH SHALL VARY UNIFORMLY FROM (W) TO (B)
4. GEOTEXTILE FABRIC MAY BE USED IN LIEU OF BEDDING
5. AFTER PLACEMENT OF RIPRAP, SPREADING ROLLER SHALL REPAIR TREATMENTS OF BEDDING MATERIAL OVER RIPRAP SURFACE OF THE CHUTE TO FILL THE VOIDS IN THE RIPRAP AND COMPACT RIPRAP WITH CONSTRUCTION EQUIPMENT A MIXTURE OF SOIL AND STEEMAN WILL SPREAD OVER THE RIPRAP
6. THE OUTLETS SHALL NOT BE ROUTED THROUGH THE STRUCTURE

| CONSTRUCTION DATA | STATION | | | |
|---|---|---|---|---|
| ROCK LINED CHUTE STATION | 10+00 | 14+00 | 19+00 | 20+00 |
| CHUTE SLOPE (S) | 3 | 3 | 3 | 3 |
| SIDE SLOPE (S) | 2 | 2 | 2 | 2 |
| ENTRANCE LENGTH (L) | 8 | 8 | 8 | 8 |
| CHUTE LENGTH (L) | 8 | 30 | 30 | 10 |
| OUTLET LENGTH (L) | 4 | 4 | 4 | 4 |
| ENTRANCE WIDTH (W) | 13 | 13 | 13 | 13 |
| CHUTE WIDTH (W) | 10 | 10 | 10 | 10 |
| OUTLET WIDTH (W) | 13 | 13 | 13 | 13 |
| BOTTOM WIDTH (B) | 4 | 4 | 4 | 4 |
| ENTRANCE BW (B) | 10 | 8 | 10 | 10 |
| RIPRAP THICKNESS | 18 | 18 | 18 | 18 |
| BEDDING THICKNESS | 6 | 6 | 6 | 6 |


HAMILTON COUNTY, INDIANA
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PHONE: (317) 776-8495
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SURVEYOR@HAMILTONCOUNTY.IN.GOV


| | |
|---|---|
| PROJECT NO: | |
| DATE/ISSUED FOR: | |
| FIELD BY: | ARCH |
| DRAWN BY: | RJS |
| CHECKED BY: | CLR |
| DATE: | MAY 2010 |

| REVISIONS | DATE | BY: |
|---|---|---|
| | | |

CERTIFIED BY:

CHRISTIE L. KALLIO, P.E.

PROJECT NAME:
SAND CREEK DRAIN MAINTENANCE

HAMILTON COUNTY STANDARD DETAILS

PLOT DATE:

SHEET NO.
16 OF 17

May 27, 2010-12:20pm

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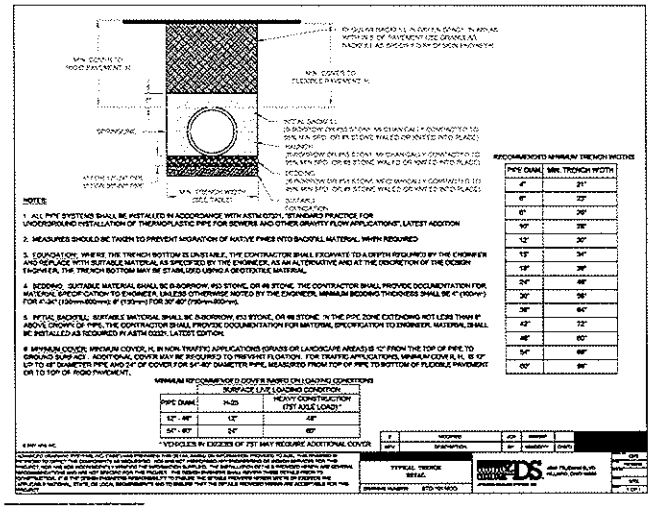



NOTES:

1. ALL PVC SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST EDITION.

2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.

3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER, AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.

4. BEDDING: SUITABLE MATERIAL SHALL BE B-BORROW, #10 STONE, OR #8 STONE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER, UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-900mm).

5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE B-BORROW, #10 STONE, OR #8 STONE. IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE, THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.

6. MINIMUM COVER, MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 54"-60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.

MINIMUM RECOMMENDED COVER BASED ON LOADING CONDITIONS

| PIPE DIAM. | SURFACE LIVE LOADING CONDITION: H-25 | HEAVY CONSTRUCTION (787 AXLE LOADS)* |
|---|---|---|
| 12" - 48" | 12" | 48" |
| 54" - 60" | 24" | 60" |

* VEHICLES IN EXCESS OF 787 MAY REQUIRE ADDITIONAL COVER

RECOMMENDED MINIMUM TRENCH WIDTHS

| PIPE DIAM. | MIN. TRENCH WIDTH |
|---|---|
| 4" | 21" |
| 6" | 22" |
| 8" | 26" |
| 10" | 28" |
| 12" | 30" |
| 15" | 34" |
| 18" | 36" |
| 24" | 48" |
| 30" | 56" |
| 36" | 64" |
| 42" | 72" |
| 48" | 80" |
| 54" | 88" |
| 60" | 96" |

| # | REVISIONS | JCK | DESIGNED | |
|---|---|---|---|---|
| APV | DRAWN BY | BY | CHECKED BY | DATE |

TYPICAL TRENCH DETAIL

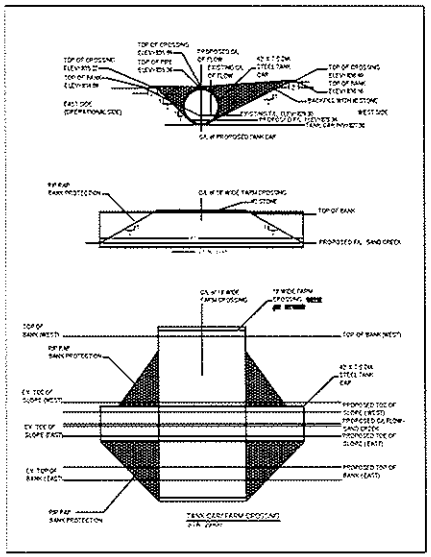
DRAWING NUMBER: STD-TR-1003

AMERICAN DESIGNS

JOHN TALBERT ELIAS
HILLIARD, OHIO 43026

SCALE: NTS

SHEET: 1 OF 1




May 27, 2010-12:31pm

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| REVISIONS: | DATE: | BY: | PROJECT #: |
|---|---|---|---|
| REVISIONS: | DATE: | BLG | WATERSHED #: |

FIELD BY: AAN
DRAWN BY: BLG
CHECKED BY: CLK
DATE: MAY 2010

CERTIFIED BY:

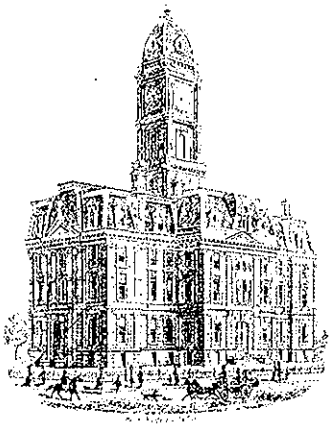
CHRISTIE L. KALLIO, P.E.

PROJECT NAME:
SAND CREEK DRAIN MAINTENANCE

HAMILTON COUNTY STANDARD DETAILS

PLOT DATE:

SHEET NO.
17 OF 17



SURVEYOR'S OFFICE

# Hamilton County

*Kenton C. Ward, CFM*
*Surveyor of Hamilton County*
*Phone (317) 776-8495*
*Fax (317) 776-9628*

*Suite 188*
*One Hamilton County Square*
*Noblesville, Indiana 46060-2230*

August 13, 2010

Ms. Sarah McKeown
Project Manager
Indianapolis Regulatory Office
Louisville District, USACE

RE: ID No. LRL-2010-529-sjm – Sand Creek Maintenance Project –
Hamilton County Indiana Surveyor's Office

Dear Ms. McKeown:

This is in regard to your letter dated June 29, 2010 concerning your request for a wetland delineation for the area of the proposed excavation and maintenance activities along 15,332 linear feet of Sand Creek.

Per your email dated June 24, 2010, the Hamilton County Surveyor's Office stopped work on the maintenance project north of the Verizon Music Center, pending the results of the wetlands delineation.

The wetlands delineation for this area has been prepared by Sarah Wright of Christopher B. Burke Engineering LTD. Attached is a copy for your review. The executive summary indicates that six (6) wetland sites were delineated within the project area.

The Hamilton County Surveyor's Office has reviewed the six (6) wetland sites as they relate to the proposed construction plans for the Sand Creek regulated drain maintenance.

We would like to proceed as follows:

Description: Site 3 – 0.101 acres – Palustrine Emergent

Action: Site 3 is located on the non-operational side of the Sand Creek excavation. The contractor will not be allowed to impact this wetland area. There will be no impact to site 3. See notes on revised sheet 6 (attached).

Description: Site 4 - 0.485 acres – Palustrine forested.

Action: Site 4 is located on the non-operational side of the Sand Creek excavation. The contractor will not be allowed to impact this wetland area. There will be no impact to site 4. See notes on revised sheet 5 (attached).

Description: Site 1 - 0.024 Palustrine Emergent
Site 2 - 0.002 Palustrine Emergent
Site 5 – 0.016 Palustrine Emergent
Site 6 – 0.044 Palustrine Emergent
Total 0.086 acres

Action: Site 1, 2, 5 and 6 are located in or near the flowline of the proposed channel dredging. It will be very difficult to work around these areas and maintain the positive grade of the proposed flowline maintenance on Sand Creek. See notes on revised sheets 3 and 4 (attached).

The Hamilton County Surveyor's Office (HCSO) requests that this project be allowed to impact sites 1, 2, 5, and 6 totaling 0.086 acres of Palustrine Emergent wetland. HCSO will maintain sites 3 and 4, a total of 0.586 acres.

Thank you, Sarah, for your expedited attention to this project. The County has our contractor standing by to complete the project. If you have questions please call me at 317-776-8495 or email christie.kallio@hamiltoncounty.in.gov.

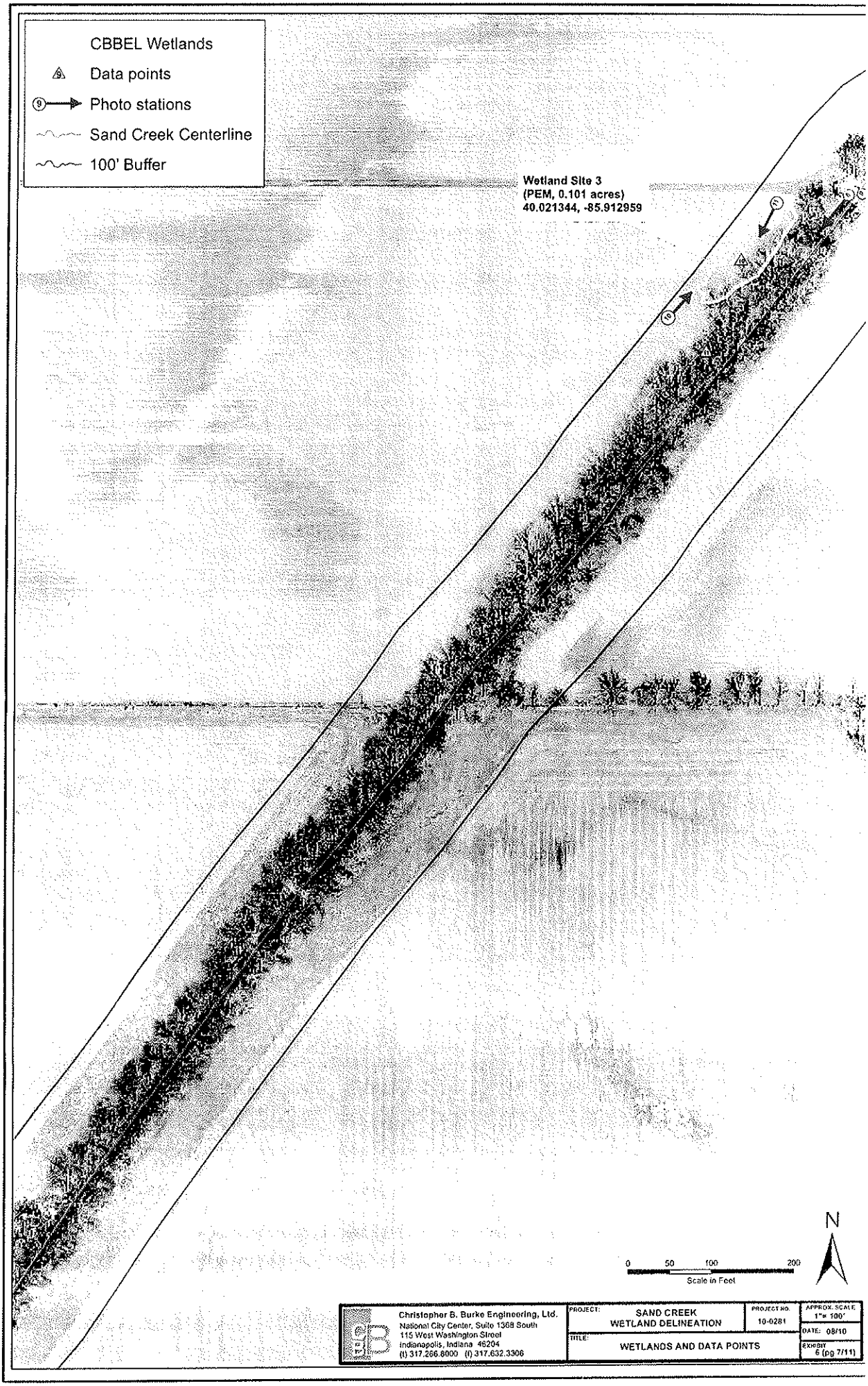
Best Regards,

Christie Kallio

Christie Kallio P.E.
Project Engineer
Hamilton County Surveyor's Office

CK/pll

Cc: Brad Baldwin, IDEM with enclosures




Christopher B. Burke Engineering, Ltd.
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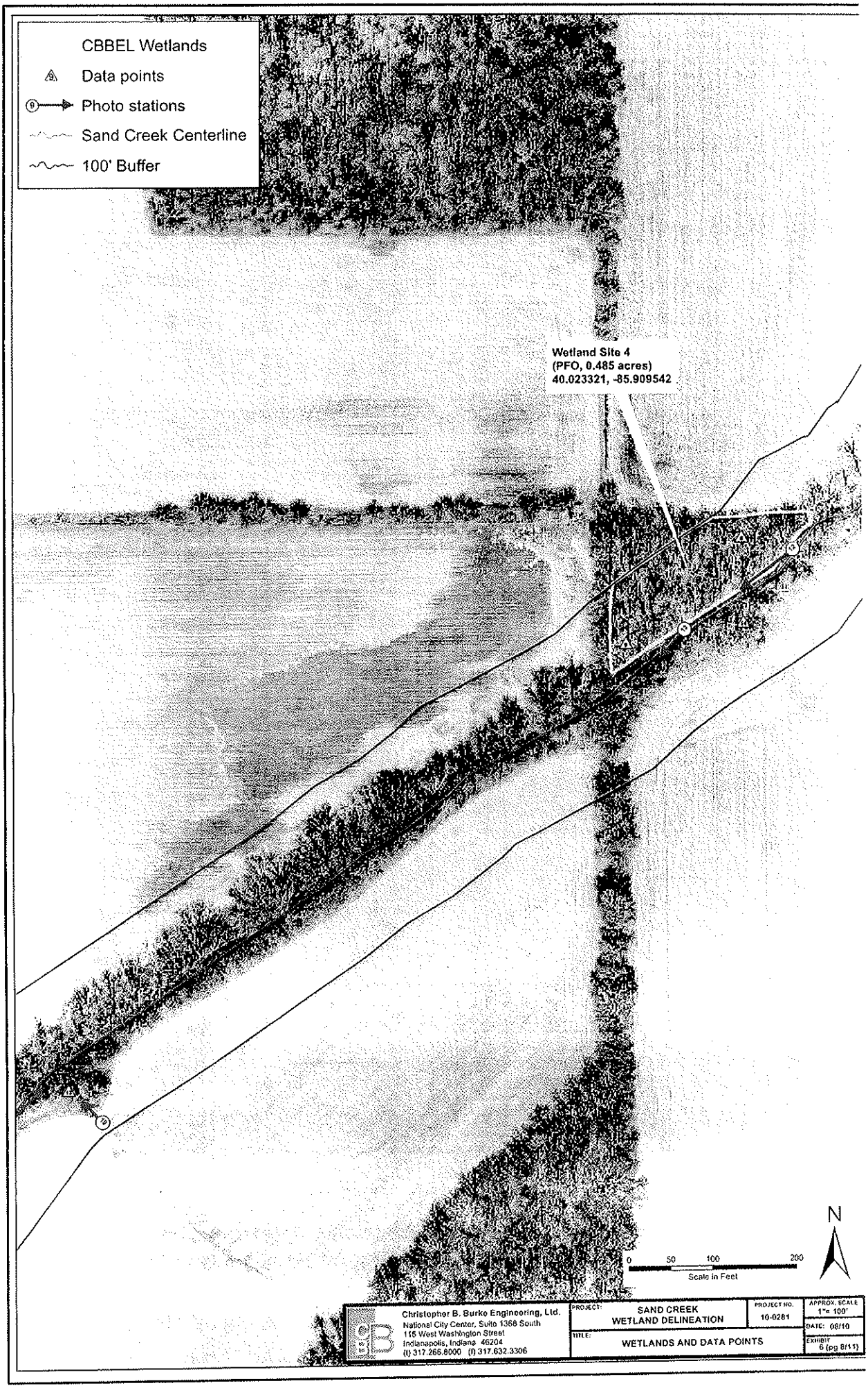
115 West Washington Street
Indianapolis, Indiana 46204
(t) 317.266.8000 (f) 317.632.3306

| | | | |
|---|---|---|---|
| PROJECT: SAND CREEK WETLAND DELINEATION | PROJECT NO. 10-0281 | APPROX. SCALE 1"= 100' | |
| | | DATE: 08/10 | |
| TITLE: WETLANDS AND DATA POINTS | | EXHIBIT 6 (pg 7/11) | |

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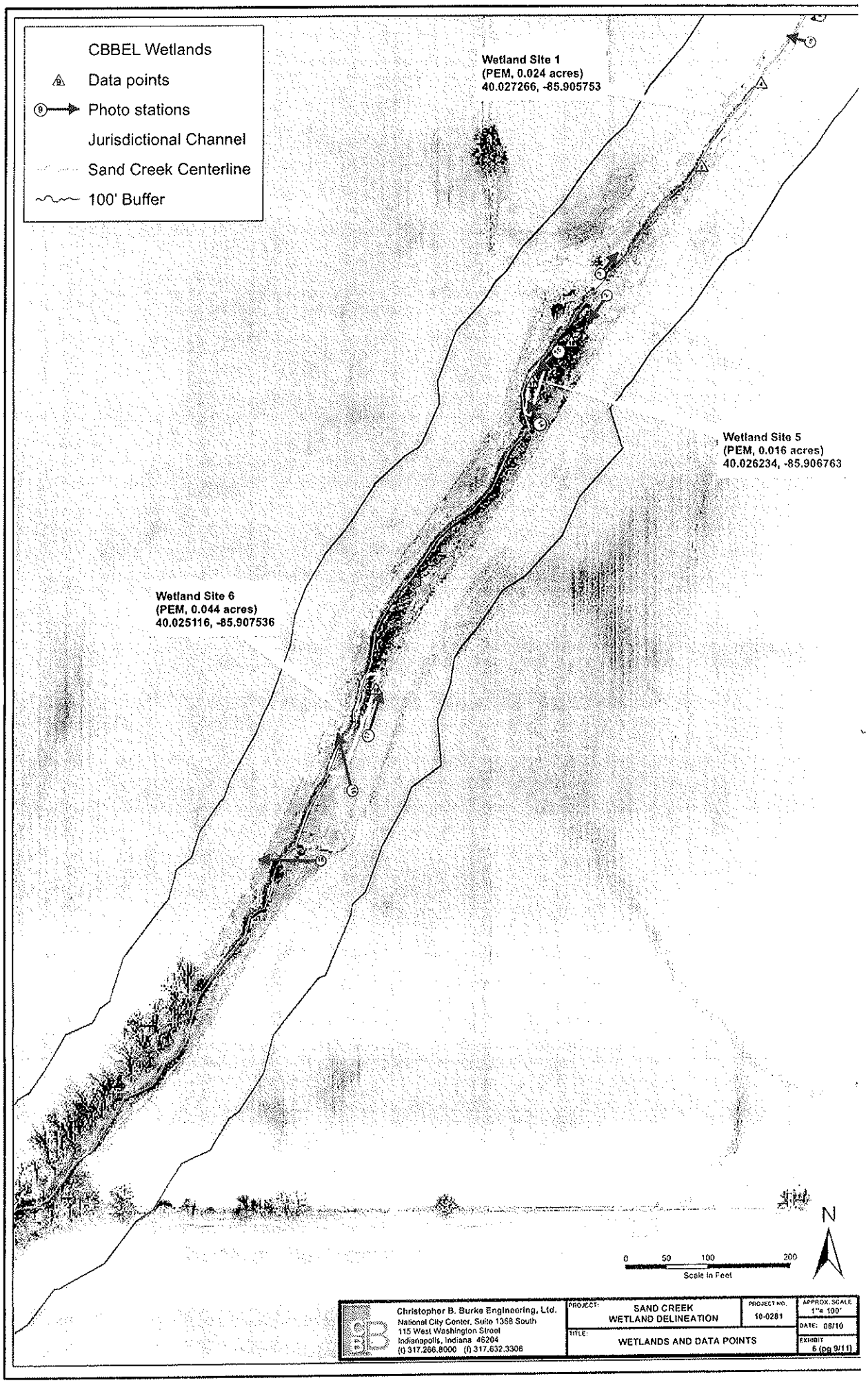
| PROJECT: SAND CREEK WETLAND DELINEATION | PROJECT NO. 10-0281 | APPROX. SCALE 1"= 100' | |
| TITLE: WETLANDS AND DATA POINTS | | DATE: 08/10 | EXHIBIT 6 (pg 8/11) |


CBBEL Wetlands
Data points
Photo stations
Jurisdictional Channel
Sand Creek Centerline
100' Buffer
Wetland Site 1
(PEM, 0.024 acres)
40.027266, -85.905753
Wetland Site 5
(PEM, 0.016 acres)
40.026234, -85.906763
Wetland Site 6
(PEM, 0.044 acres)
40.025116, -85.907536
N
0 50 100 200
Scale in Feet
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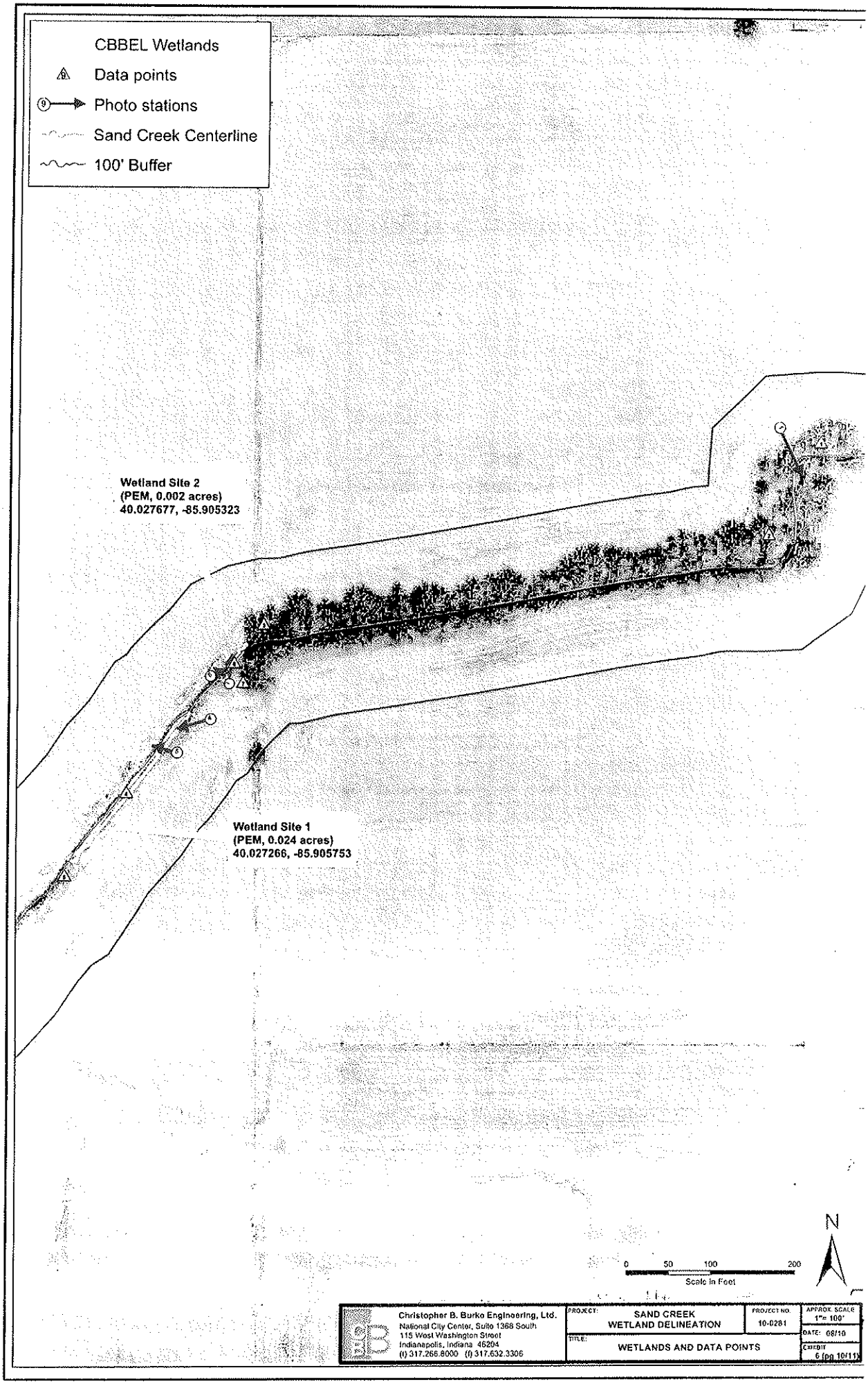
PROJECT NO. 10-0281
APPROX. SCALE 1"= 100'
DATE: 08/10
TITLE: WETLANDS AND DATA POINTS
EXHIBIT 6 (pg 9/11)

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