

**ADDENDUM NO. 1  
TO THE  
DRAWINGS AND SPECIFICATIONS  
FOR THE INDIANA DEPARTMENT OF ADMINISTRATION  
CIKANA STATE FISH HATCHERY WATER LINE & DRAIN PIPE IMPROVEMENTS  
PROJECT NO. 300DM-55012-01**

**ISSUED FROM:** COMMONWEALTH ENGINEERS, INC.  
7256 Company Drive  
Indianapolis, IN 46237

**ISSUE DATE:** April 20, 2020

**BID DATE:** April 30, 2020

This **Addendum No. 1** to the drawings and specifications shall supplement, amend and become a part of the bidding documents, plans and specifications. All bids and construction contracts shall be based on these modifications to the original contract documents.

**ITEM NO. 1 GENERAL**

- A. Attached as a courtesy, please find a copy of the pre-bid meeting sign-in sheet, pre-bid meeting agenda and minutes.
- B. Please find attached hereto, a copy of the Erosion Control Plan Permit Exhibits which shall herewith supplement, amend, and become a part of the bidding documents. The Contractor shall adhere to all applicable requirements of the Construction Permit.

**ITEM NO. 2 CONSTRUCTION PLANS**

- A. **MODIFY** Sheet PS8 as follows:
  - 1. Remove the "See Well Connection Detail" note from the existing north unit well.
  - 2. Contractor shall replace the existing pipe through the valve vault with ductile iron restrained joint pipe. Downstream of the vault, the pipe may be changed to PVC.
  - 3. Contractor shall replace existing 8" isolation valve with new 8" gate valve in valve vault.
- B. **ADD** to Sheet PS8 as follows:
  - 1. Add the following text: "General Note: The contractor is responsible for installing new fill lines through pond liners and sealing around new and the opening left from the removed existing pipe for Ponds #10, #12, and #13."

- C. **CLARIFY** the work around the wells on Sheets PS8, PS 18, and PS25 as follows:
1. Contractor is responsible for temporary removal of chain link fence around existing well on this sheet while water main is being replaced. Contractor is also responsible for re-installing chain link fence once work around the well is complete.
- D. **CLARIFY** well valve vaults on Sheets PS8, PS 16, PS 18, and PS25 as follows:
1. Well discharge lines do appear to go straight through the center of each concrete valve vault rather than through one side as shown for some locations.
- E. **ADD** to Sheets PS9 and PS10 as follows:
1. Add the following text: "General Note: The bottom of each newly graded pond shall consist of a 12" thick clay layer that extends to the toe of each levee slope. This applies to Ponds #2, #3, #4-5 and #6-7." This clay liner shall be integrated into the liner required for the levees.
- F. **MODIFY** Sheet PS16 as follows:
1. Delete text in Detail G that reads: "NEW 8" MAIN TO BE INSTALLED THROUGH VALVE VAULT. INSTALL NEW ISOLATION VALVE. MODIFY STRUCTURE AS NEEDED TO ACCOMMODATE NEW PIPE." and replace the following:  
  
"NEW 4" MAIN TO BE INSTALLED THROUGH THE VALVE VAULT. INSTALL NEW 4" GATE ISOLATION VALVE. MODIFY STRUCTURE AS NEEDED TO ACCOMMODATE NEW PIPE. THE PIPE FOLLOWING THE VALVE VAULT SHALL TRANSITION FROM 4" TO 8" PIPE"
  2. Add the following text to Detail G:  
  
"THE PIPE MATERIAL FROM THE EXISTING WELL TO AND INCLUDING THE VALVE VAULT FOR EACH WELL SHALL BE DUCTILE IRON AS DESCRIBED IN THE SPECIFICATIONS. THE WATER PIPE MATERIAL FOLLOWING THE VALVE VAULT SHALL BE PVC OR HDPE AS DESCRIBED THE SPECIFICATIONS."
- G. **MODIFY** Sheet PS18 as follows:
1. Delete text in Detail M that reads "REPLACE ISOLATION VALVE" and replace with the following text:  
  
"REPLACE EXISTING 8" BUTTERFLY ISOLATION VALVE WITH 8" GATE VALVE"

2. Add the following text to Detail M:

“THE PIPE MATERIAL FROM THE EXISTING WELL TO AND INCLUDING THE VALVE VAULT FOR EACH WELL SHALL BE DUCTILE IRON AS DESCRIBED IN THE SPECIFICATIONS. THE WATER PIPE MATERIAL FOLLOWING THE VALVE VAULT SHALL BE PVC OR HDPE AS DESCRIBED THE SPECIFICATIONS.”

H. **MODIFY** Sheet PS-25 as follows:

1. Delete text in Detail DD that reads: “REPLACE ISOLATION VALVE.” and replace the following:

“REPLACE EXISTING 8” BUTTERFLY ISOLATION VALVE WITH 8” GATE VALVE”

2. ADD the following text to Detail DD:

“THE PIPE MATERIAL FROM THE EXISTING WELL TO AND INCLUDING THE VALVE VAULT FOR EACH WELL SHALL BE DUCTILE IRON AS DESCRIBED IN THE SPECIFICATIONS. THE WATER PIPE MATERIAL FOLLOWING THE VALVE VAULT SHALL BE PVC OR HDPE AS DESCRIBED THE SPECIFICATIONS.”

I. **MODIFY** Sheet PS-26 as follows:

1. Remove the text on the Plan View regarding the 8” elbow that reads “Capable of 90° Range of Motion”. The Contractor shall coordinate with the Owner water fill lines to ensure correct alignment. The fill line does not need to be capable of movement after installation.
2. Remove the three sections of text reading “Sch. 40 P.V.C”. This pipe material shall correspond to pipe rated for a minimum of 160 psi. Schedule PVC shall not be allowed.
3. Add to Notes: “3. All water supply pipe material shall conform to the details in the Workmanship and materials and the Details Specifications.”
4. Note the 8” cap with screen shall conform to the requirements of Cikana personnel. Assume an 8-inch solid male plug for bidding

J. **MODIFY** Sheets PS-26 and S2-1 and as follows:

1. Note there shall be a penetration for the 12-inch drain line through both the kettle wall and the sluice gate wall. The wall penetrations through the concrete shall be installed in accordance with the WM and Detailed Specifications.

K. **MODIFY** MD1:

1. The following shall apply to the “Trench Detail for Water Main”:

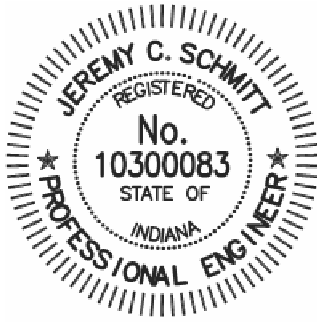
- a. Bedding shall be Class I, this is equivalent to No. 8 stone.
- b. Initial backfill shall be Class II, this is equivalent to sand or B-borrow.
- c. Final backfill for trenches located in levees shall be Class IV, which is typically the native material according to the soil borings.
- d. Final backfill for trenches outside the levees shall be as indicated on MD1.

**ITEM NO. 3 PART 8 – DETAILED SPECIFICATIONS**

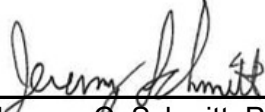
- A. Add the following text to DS-08 Section 3.03 F 1. “The Contractor shall install a lateral seal (i.e. Top Hat, T-liner, etc.) for each pond lateral.”

**ITEM NO. 4 CONTRACTOR QUESTIONS**

- Q1. Is the Contractor responsible for repairing the pond liners in the North Unit?
  - A1. This is addressed in Item No. 2B.
- Q2. Will the Contractor have to adhere to any American Iron and Steel Requirements?
  - A2. Yes, the Contractor is required to adhere to the Domestic Steel Affidavit in the Contract Documents. The Contractor shall adhere to the definitions in Indiana Code IC 5-16-8-1 and the conditions in code IC 5-16-8-2.
- Q3. Will the Contractor be required to hire a geotechnical engineer licensed in the state of Indiana?
  - A3. The Contractor is not required to have a licensed geotechnical engineer onsite for the duration of the project, HOWEVER, the contractor shall still adhere to the compaction and testing procedures as described in WM-03.
- Q4. What pipe material is required for installation on the existing water wells?
  - A4. The pipe material from the existing well to and through the valve vault for each well shall be ductile iron as described in WM-14. The water pipe material following the valve vault shall be PVC or HDPE as described in WM-14 and DS-06.
- Q5. What is the size of the eastern-most water well waterline in the East Unit (Well No. 1)?
  - A5. This is addressed in Item No. 2F.



**CERTIFIED BY:**

  
\_\_\_\_\_  
Jeremy C. Schmitt, P.E.  
Registered P.E. No. 10300083  
State of Indiana

Attachments:

1. Pre-Bid Meeting Sign-In Sheet, Pre-Bid Meeting Agenda and Minutes
2. Erosion Control Plan Permit Exhibits

<b>Indiana Dept. of Administration Cikana State Fish Hatchery Water Line and Drain Pipe Improvements</b>	<b>April 16, 2020 10:00 AM EDT Cikana State Fish Hatchery 2650 State Road 44 Martinsville, IN 46151</b>
<b>PROJECT NO. #300DM-55012-01</b>	
<b>Meeting called by: DAPW/DNR/CEI</b>	<b>Type of meeting: PRE-BID MEETING</b>
<b>MEETING SUMMARY</b>	

- A. Sign Attendance Sheet: See attached sign-in sheet
- B. Introduction of Responsible Personnel
  - 1. Owner: State of Indiana / Department of Administration, Public Works Div.
    - a. Property Manager Jeff Malwitz, DNR (765) 342-5527 X 105
    - b. Assistant Property Manager Andy Richards, DNR (765) 342-5527 X 106
    - c. Project Manager Michael Chapman, DAPW (317) 234-0250
    - d. San. Section Chief Michael Mathias, DNR (317) 232-4155
    - e. San. Section Engineer Todd Stearns
  - 2. Engineer: Commonwealth Engineers, Inc. Ph: (317) 888-1177  
Fax: (317) 887-8641
    - a. Project Manager Jeremy C. Schmitt Cell: (317) 509-7116
- C. Project Overview
 

Project is split into two units: North and East. Main scope items are as follows:

  - 1. Water line replacement
  - 2. Drain pipe rehabilitation
  - 3. Pond/Levee grading
  - 4. Concrete kettles
  - 5. Headwall replacement/additions
- D. General Comments
  - 1. Bidding Information
    - a. Bid Date and Time: **1:31 P.M. (Indianapolis Time), April 30, 2020.**

(Bid Desk, Department of Administration, Public Works Division, 402 W. Washington St., Room W467, Indianapolis, Indiana, 46204)

NOTE: Bidders should anticipate mailing in bids for this project due to the Governor's Stay-at-Home Executive Order extension to May 1.

- b. Project Schedule & Time for Completion
  - 1) DS-01 Construction Sequencing
  - 2) Anticipated Notice to Proceed by **June 1, 2020**
  - 3) Interim Substantial Completion (North Unit) by **September 30, 2020**
  - 4) Second Mobilization approximately four (4) weeks after North Unit complete
  - 5) Substantial Completion due by **April 30, 2021**
  - 6) Final Completion due by **May 30, 2021**
- c. MBE/WBE Goal (7% MBE / 5% WBE) – See listing on IDOA website (This is a goal.)
- d. Permits: IDEM 401 (Headwall construction) and Rule 5 Erosion Control
- e. Utilities: The contractor is responsible for locating and contacting 811 IUPPS. Almost all utilities are private utilities owned by Cikana. Cikana staff will aid in utility location as much as possible using knowledge and plans. The ability of Cikana staff to pothole existing utilities will be very limited and should not be expected. Contractor is responsible for locating utilities. Utilities in project area will include water main, storm drains, and power 120/220 V power for the wells and remote electrical outlets.
- f. Traffic Control: All work will take place on the Cikana properties. Traffic control requirements will be minimal. No traffic control is anticipated for the North Unit. Access will need to be maintained to the office and maintenance buildings located on the East Unit during construction. Occasional driveway closures may be allowed as long as they are coordinated in advance with Cikana personnel.

NOTE: INDOT has started the I-69 extension work on nearby SR 37. There may be a few times when access to SR 44 from SR 37 or to the North Unit driveway off of SR 37 is limited. Closures are not anticipated on SR 37 until early 2021. However, please be aware of the adjacent INDOT work taking place.
- g. Safety and Health Requirements: It is the contractor's responsibility to comply with all OSHA requirements. Do not leave open trenches at the end of a shift without enclosing the area with safety fence.
- h. Wage Scale - none
- i. Field Office – not required. If contractor desires to have a field office during the work, Cikana can work with them to identify a location. Temporary utilities would still be contractor's responsibility.
- j. Right-of-way/ Easements – all work will take place on property owned by DNR.

- k. Project Manual Description: Broken into 3 parts:
  - i. Pre-Bid/Bid/Pre-Contract/Contract – Part A
  - ii. List of Drawings – Part B
  - iii. Workmanship/Materials and Detailed Specs – Part C

The Detailed Specifications are specific to each project component and may reference the Workmanship and Materials for general material and installation details. The Detailed Specifications supersede the Workmanship and Materials Specifications of the Contract where the provisions of these Parts are in conflict

2. Addenda

- a. Pre-Bid meeting attendees list and summary will be provided via Addendum.
- b. Questions shall be received in writing by **10:00 AM EDT on Wednesday, April 22** to allow for a final Addendum to be published by on Thursday, April 23.

3. Specific Issues

- a. North Unit must be functionally completed prior to construction beginning in the East Unit. Contractors must allow Owner a minimum of four (4) weeks to transfer fish from the East Unit to the North Unit after the North Unit work is complete. This transfer is weather sensitive and must be able to take place in October 2020.
- b. Two mobilizations are anticipated due to the need for transferring fish from the East Unit to the North Unit. The cost of these will be provided by bidders using a form to be provided with the first addendum.
- c. There should be no need to import typical soils for the pond/levee grading. Excess soils and organic soils from ponds can be placed on the North Unit site where designated. Topsoil shall be removed and stockpiled prior to placing excess soil. Once grading operations are complete, topsoil shall be spread across the excess soil.
- d. East Unit ponds 12, 15, and 22 are expected to have water throughout the construction period. Construction will have to proceed assuming these ponds still have water.
- e. CIPP lining of North Unit will not require bypass pumping.
- f. CIPP lining of East Unit is not anticipated to require bypass pumping. However, Contractor shall coordinate sequencing of lining to ensure hatchery operations can be accommodated. Drain lines are normally only used while ponds are being drained, which only is needed occasionally.
- g. Seals such as top hats are required between main drain lines and lateral pond drain lines.
- h. Water lines are not in constant use and switching over from existing to new shall be coordinated with Cikana personnel.

4. Bid Proposal Documents

- a. Base Bid is Lump Sum



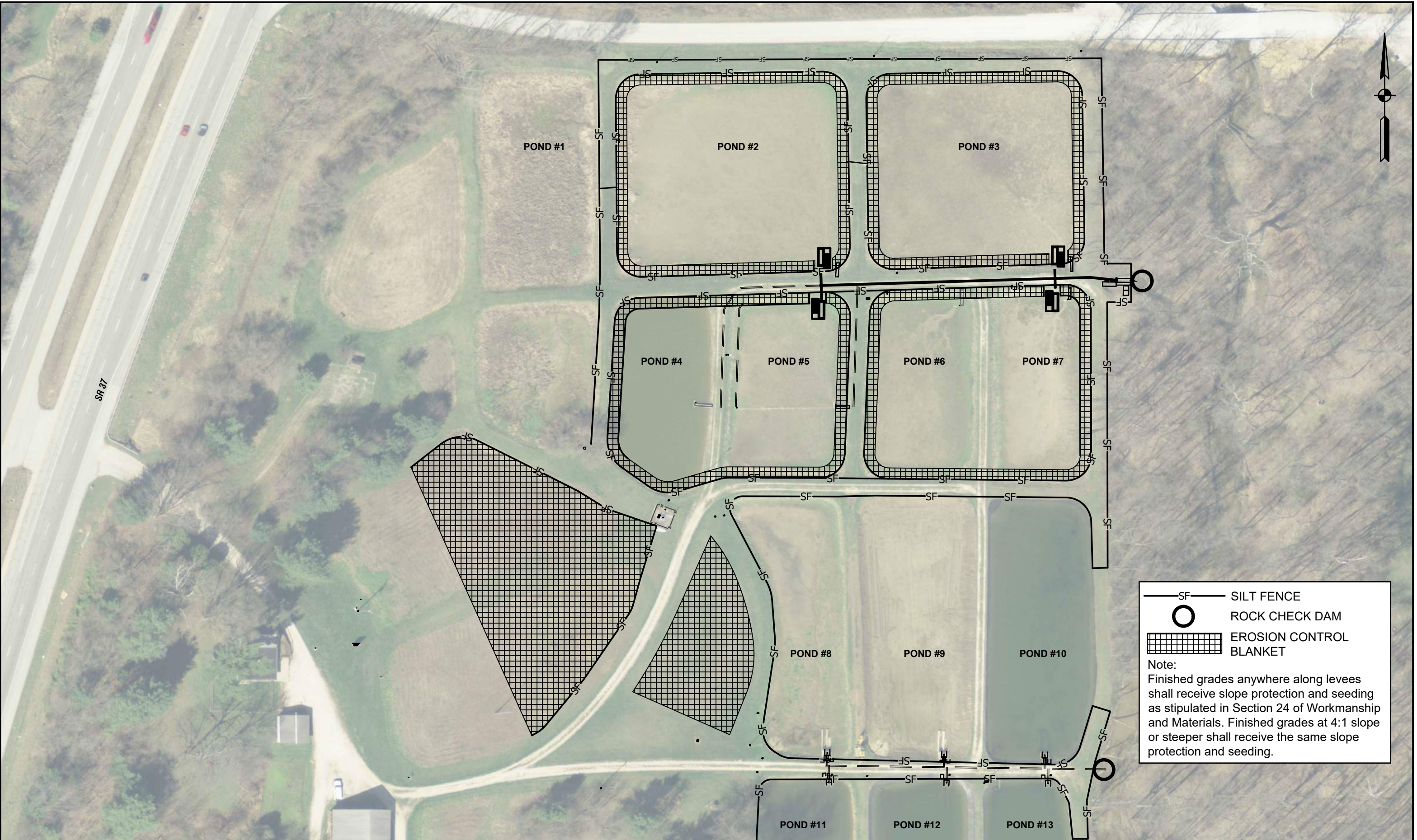
- b. Three (3) Mandatory Alternates described in DS-10
    - MA #1 – Replace drain line from Str 6 to Outlet instead of lining
    - MA #2 - Replace drain line from Str 8 to Outlet instead of lining
    - MA #3 - Full CIPP liner from Str 5 to Str 6 instead of partial liners
5. Items to Be Submitted with Bid:
- a. See Instructions to Bidders Page 5 of 6
  - b. If a contractor is not pre-qualified in one of the categories on the Notice to Bidders, then they will need to request a special meeting and reference the project number and bid opening date. There is no guarantee that their request will be reviewed prior to the bid opening.
    - 1) Note: The Contractor must submit an employee drug testing plan in accordance with the Instructions to Bidders; otherwise the bid will be rejected. (This includes all subcontractors.)
  - c. Contractor and subcontractors shall be enrolled and verified in E-verify program, Contractor to provide form with bid.
- E. Other Comments
- 1. Erosion control:
    - a. The erosion control plan permit application with erosion control items will be provided with the first addendum. Contractor is required to adhere to standard erosion control practices, even if not specifically shown on the contract documents.
- F. Questions
- 1. Q: Can the CIPP lining contractor do the work under one mobilization?  
A: Yes. CIPP lining proposed for the North Unit can be done under the same mobilization as the East Unit. Therefore, the North Unit scope of work which must be completed prior to the East Unit work starting does not have to include the CIPP lining of the North Unit.
  - 2. Q: What is to be done with low quality organic soil anticipated to be found on the bottoms of the ponds?  
A: There is sufficient area to stockpile these spoils on the North Unit site. Stockpile areas are shown on the plans. Contractor shall be responsible for seeding and mulching all stockpile areas. North Unit ponds have been cleaned in the past by Cikana staff, so these layers are not anticipated to be thick.
  - 3. Q: What are the typical work hours allowed?  
A: Typical work hours are to be coordinated with Cikana personnel. At a minimum, contractor shall be allowed to work from 8 am to 5 pm each day.
  - 4. Q: What is the engineer's estimate for this project?  
A: \$1.5 to \$1.8 million.

**STATE OF INDIANA DEPARTMENT OF ADMINISTRATION  
PUBLIC WORKS DIVISION  
PROJECT NO. 300DM-55012-01  
WATER LINE AND DRAIN PIPE IMPROVEMENTS  
CIKANA STATE FISH HATCHERY  
April 16, 2020 @ 10:00 a.m. (EDT)**

**SIGN-IN SHEET**

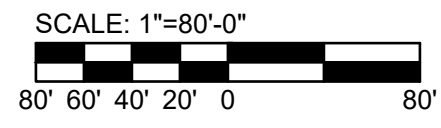
<b>Printed Name</b>	<b>Representing</b>	<b>Phone Number/E-Mail</b>
Jeremy Schmitt	Commonwealth Engineers, Inc.	317-888-1177 / <a href="mailto:jschmitt@contactcei.com">jschmitt@contactcei.com</a>
Michel Mathias	DNR	317-232-4155 / <a href="mailto:mmathias@dnr.in.gov">mmathias@dnr.in.gov</a>
Jeff Malwitz	DNR	765-342-5527 / <a href="mailto:jmalwitz@dnr.in.gov">jmalwitz@dnr.in.gov</a>
Andy Richards	DNR	765-342-5527 / <a href="mailto:arichards@dnr.in.gov">arichards@dnr.in.gov</a>
Jon Stalker	ISI	812-865-3309 / <a href="mailto:jstalker@infrastructuresystems.com">jstalker@infrastructuresystems.com</a>
Jeff Meinders	C&H/M	812-654-2030 / <a href="mailto:chm.excavating@gmail.com">chm.excavating@gmail.com</a>
Adams Sparks	Mitchell & Stark	812-525-9836 / <a href="mailto:adam@mitchellstark.com">adam@mitchellstark.com</a>
Troy Martin	King's Trucking & Excavating	812-522-6973 / <a href="mailto:troy@kingstrucking.net">troy@kingstrucking.net</a>
Monte Striegel	Striegel Design & Construction	812-528-1095 / <a href="mailto:montestriegel@yahoo.com">montestriegel@yahoo.com</a>
Todd Stearns	DNR	/ <a href="mailto:tstearns@dnr.in.gov">tstearns@dnr.in.gov</a>
Darren McClellan	Jerry Aigner Construction	812-305-3886 / <a href="mailto:darrnm@aignerconstruction.com">darrnm@aignerconstruction.com</a>
Jordan Aigner	Jerry Aigner Construction	812-897-5813 / <a href="mailto:jordana@aignerconstruction.com">jordana@aignerconstruction.com</a>
Andrew Graves	Graves Plumbing	812-659-3138 / <a href="mailto:andrew@gravesplumbing.net">andrew@gravesplumbing.net</a>
Mike Chapman (by phone)	DAPW	317-234-0250 / <a href="mailto:mchapman@idoa.in.gov">mchapman@idoa.in.gov</a>

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	SILT FENCE
	ROCK CHECK DAM
	EROSION CONTROL BLANKET

Note:  
Finished grades anywhere along levees shall receive slope protection and seeding as stipulated in Section 24 of Workmanship and Materials. Finished grades at 4:1 slope or steeper shall receive the same slope protection and seeding.



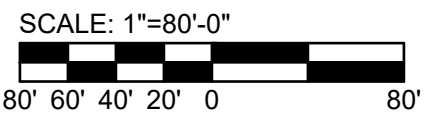
INDIANA DEPARTMENT OF  
ADMINISTRATION PUBLIC WORKS DIVISION  
CIKANA STATE FISH HATCHERY  
EROSION CONTROL  
EXHIBIT 1

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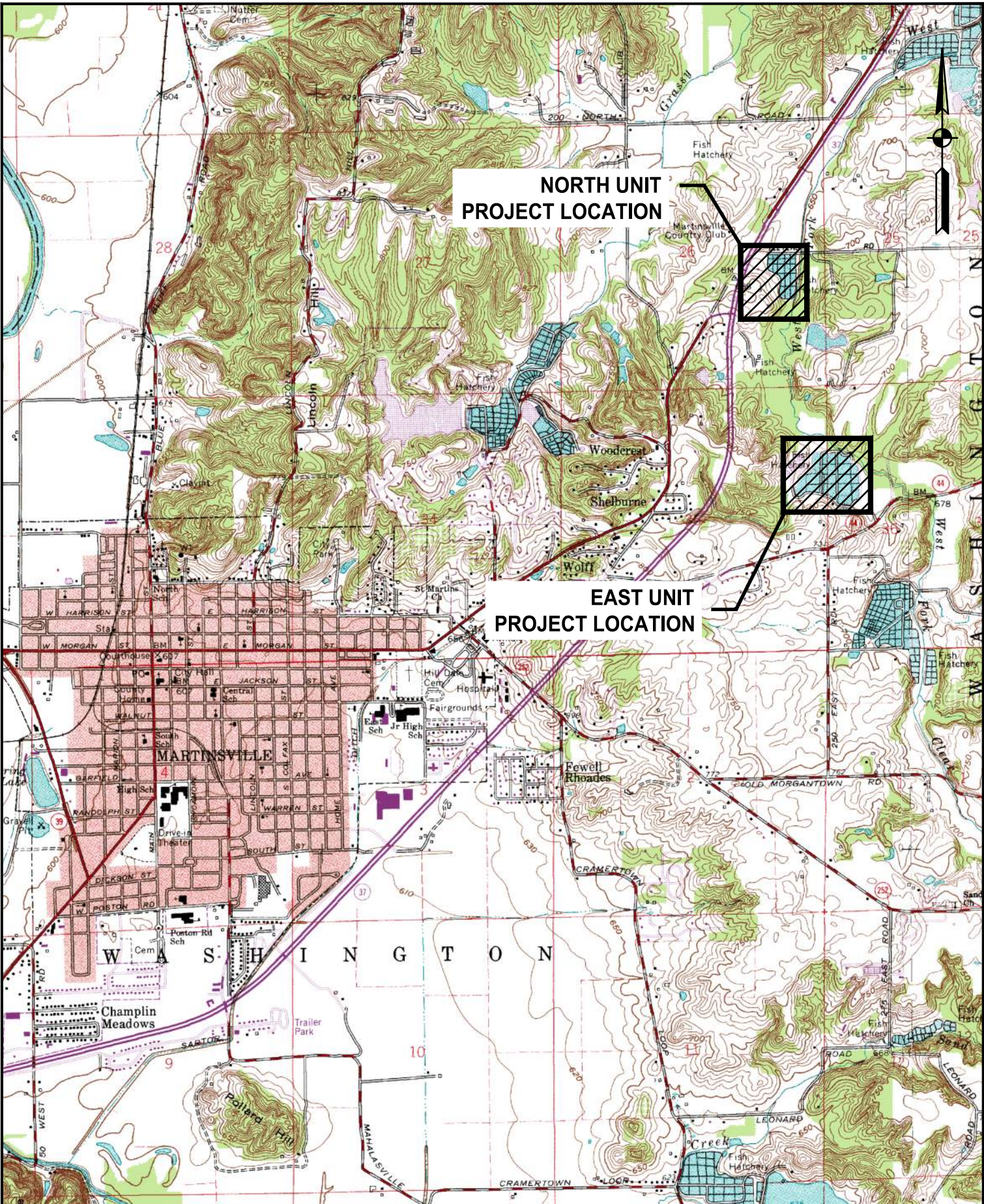
—SF— SILT FENCE  
 ○ ROCK CHECK DAM

Note:  
 Finished grades anywhere along levees shall receive slope protection and seeding as stipulated in Section 24 of Workmanship and Materials. Finished grades at 4:1 slope or steeper shall receive the same slope protection and seeding.



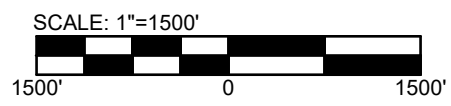
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 CIKANNA STATE FISH HATCHERY  
 EROSION CONTROL  
 EXHIBIT 1

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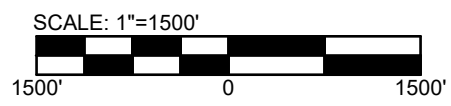
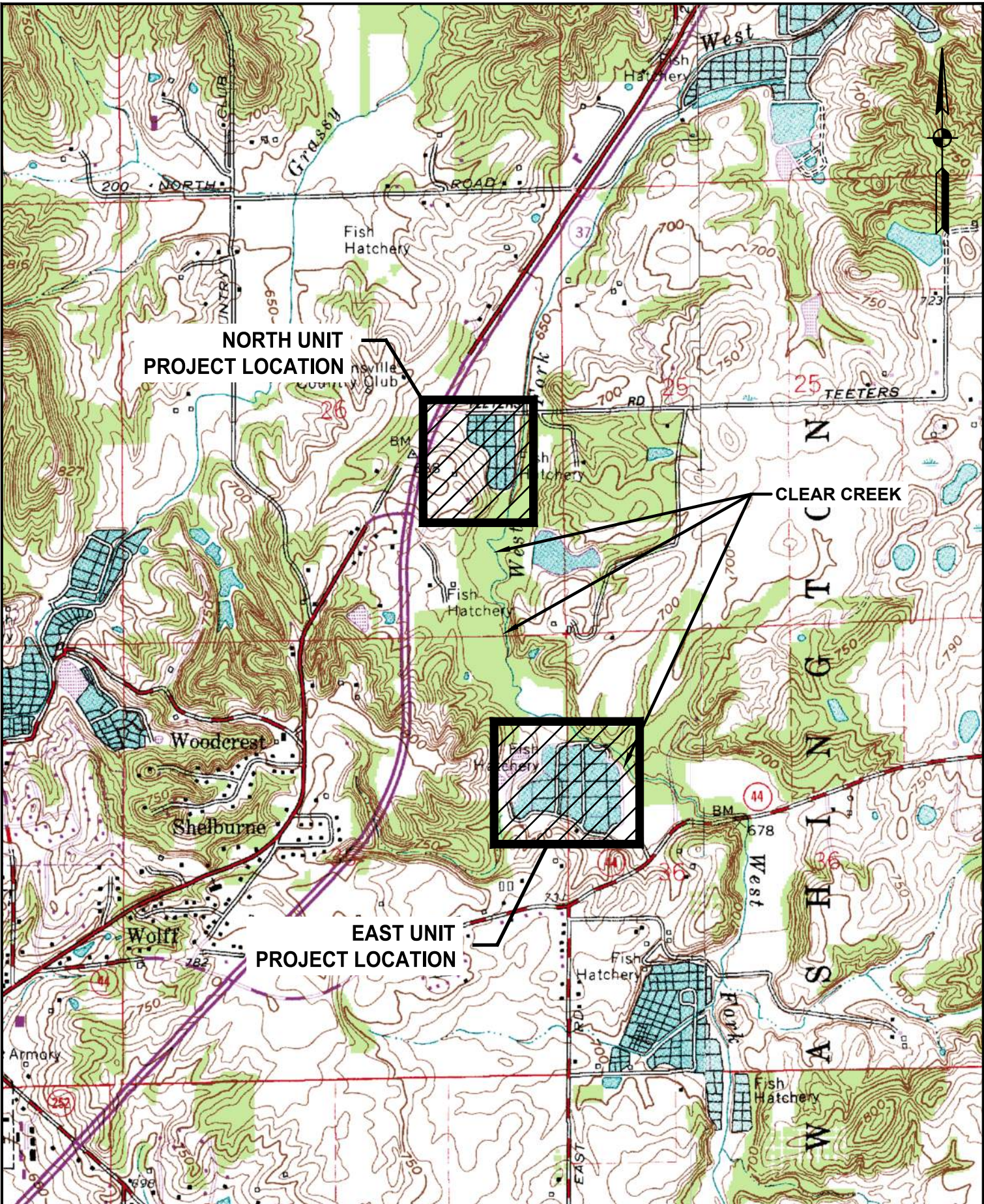
**NORTH UNIT  
PROJECT LOCATION**

**EAST UNIT  
PROJECT LOCATION**



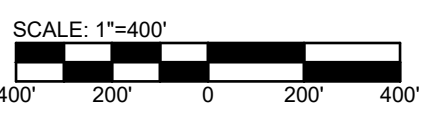
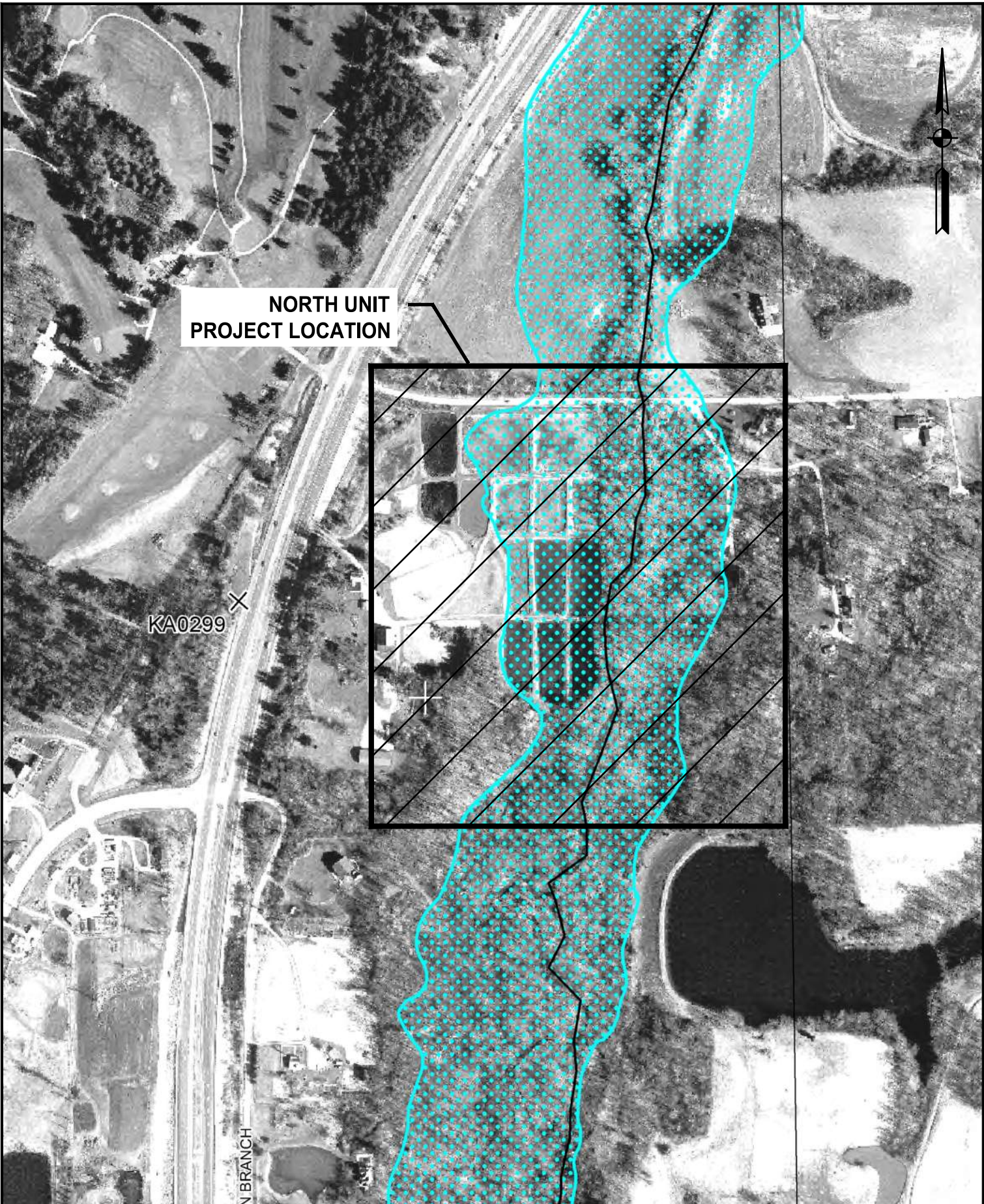
INDIANA DEPARTMENT OF ADMINISTRATION PUBLIC WORKS DIVISION
CIKANA STATE FISH HATCHERY
EROSION CONTROL EXHIBIT 2

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INDIANA DEPARTMENT OF  
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CIKANA STATE FISH HATCHERY  
EROSION CONTROL  
EXHIBIT 3



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ADMINISTRATION PUBLIC WORKS DIVISION

CIKANA STATE FISH HATCHERY

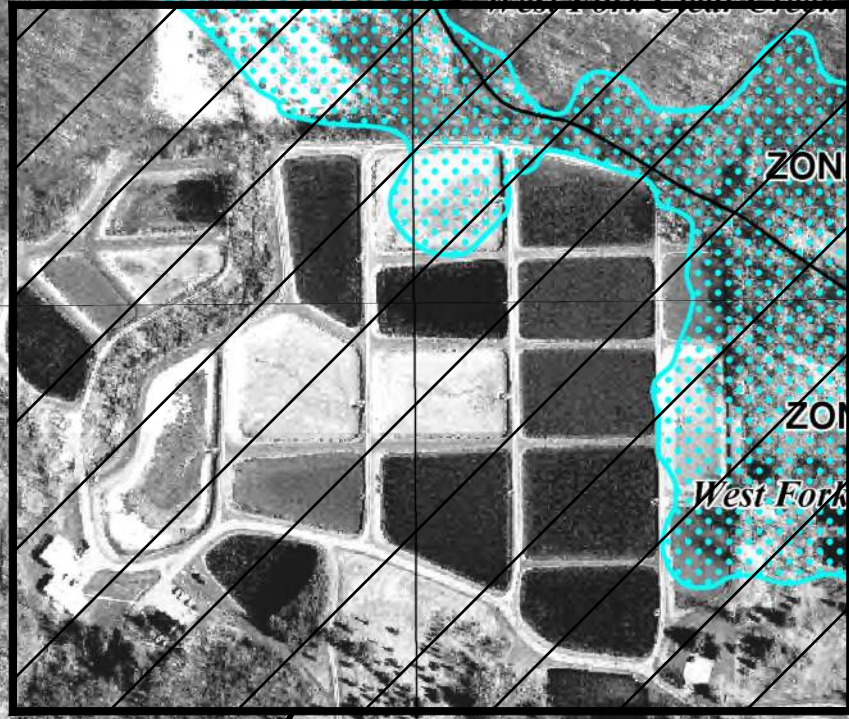
EROSION CONTROL  
EXHIBIT 4

MORGAN COUNTY  
UNINCORPORATED AREAS  
180176



36

*West Fork Clear Creek*



ZONE A

ZONE A

*West Fork Clear Creek*

44

**EAST UNIT  
PROJECT LOCATION**

SPRUCE COURT

LAURELWOOD DR.

36

SCALE: 1"=400'



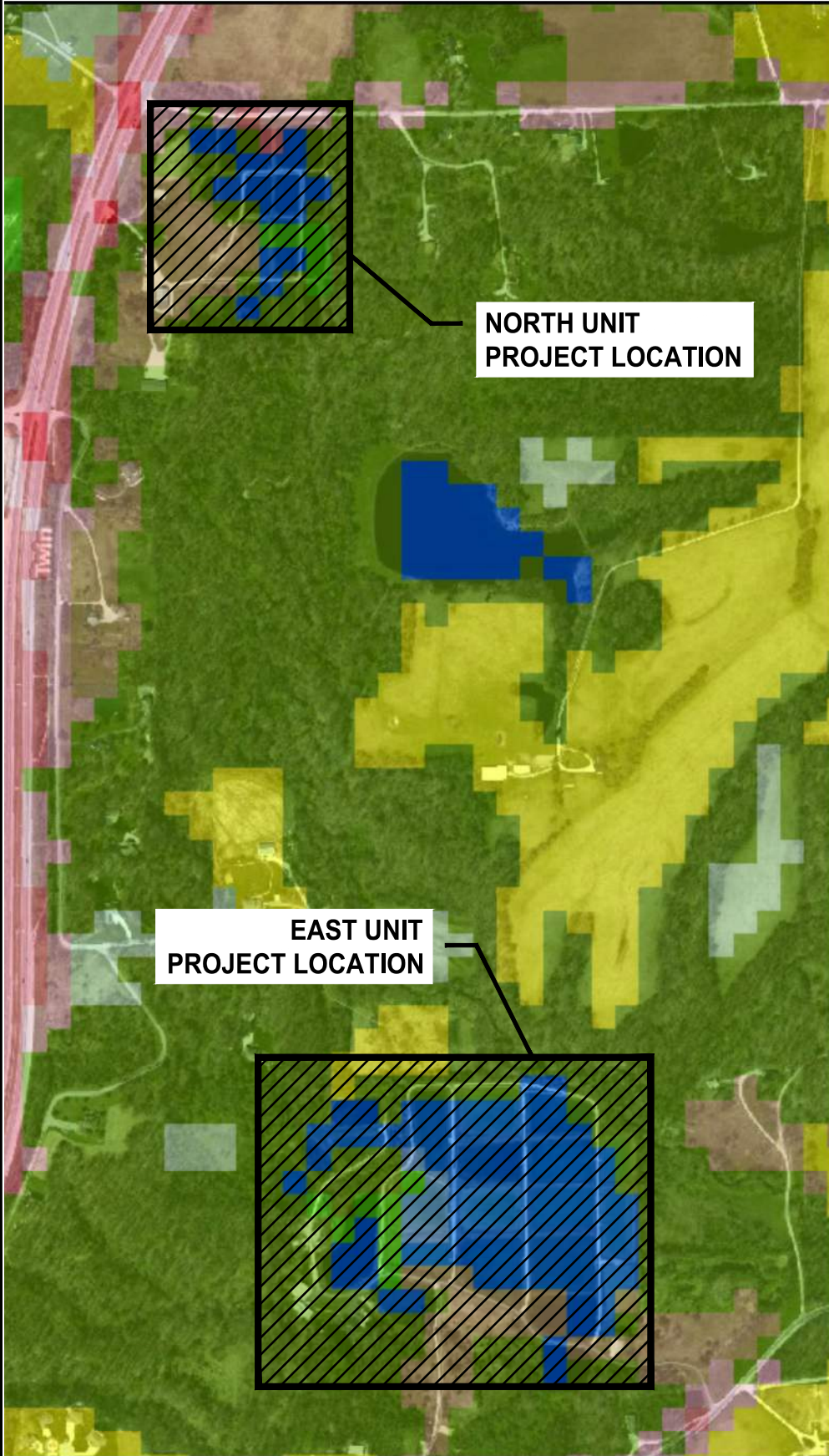
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ADMINISTRATION PUBLIC WORKS DIVISION

CIKANA STATE FISH HATCHERY

EROSION CONTROL  
EXHIBIT 4





**NORTH UNIT  
PROJECT LOCATION**

**EAST UNIT  
PROJECT LOCATION**

**Legend**

**Land Cover 2011 (USGS)**

-  11 - Open Water
-  21 - Developed, Open Space
-  22 - Developed, Low Intensity
-  23 - Developed, Medium Intensity
-  24 - Developed, High Intensity
-  31 - Barren Land
-  41 - Deciduous Forest
-  42 - Evergreen Forest
-  43 - Mixed Forest
-  52 - Shrub/Scrub
-  71 - Grasslands/Herbaceous
-  81 - Pasture/Hay
-  82 - Cultivated Crops
-  90 - Woody Wetlands
-  95 - Emergent Herbaceous Wetlands



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INDIANA DEPARTMENT OF  
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CIKANA STATE FISH HATCHERY

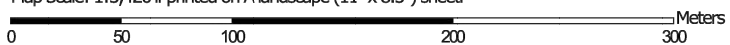
EROSION CONTROL  
EXHIBIT 5

Soil Map—Morgan County, Indiana  
(East Unit)



Soil Map may not be valid at this scale.

Map Scale: 1:3,420 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

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 **Natural Resources  
Conservation Service**

INDIANA DEPARTMENT OF  
ADMINISTRATION PUBLIC WORKS DIVISION


CIKANA STATE FISH HATCHERY

EROSION CONTROL  
EXHIBIT 6.1

Soil Map—Morgan County, Indiana  
(East Unit)

**MAP LEGEND**

**Area of Interest (AOI)**

 Area of Interest (AOI)




















**Soils**

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

**Special Point Features**






-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features

**Water Features**

 Streams and Canals

**Transportation**

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

**Background**

 Aerial Photography

**MAP INFORMATION**

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL:  
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Morgan County, Indiana  
Survey Area Data: Version 25, Sep 16, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 24, 2014—Mar 20, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



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## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
ChF	Chetwynd loam, 18 to 80 percent slopes	4.4	9.5%
EsC2	Elkinsville silt loam, 6 to 12 percent slopes, eroded	6.0	13.1%
PkD	Parke silt loam, 12 to 18 percent slopes	3.7	8.0%
W	Water	26.9	58.9%
Wa	Wakeland silt loam	4.8	10.5%
<b>Totals for Area of Interest</b>		<b>45.8</b>	<b>100.0%</b>



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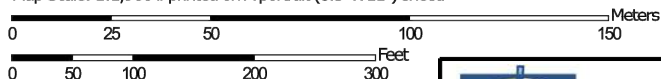
C:\Users\mwagner\Documents\PROJECTS\CIKANA\EXHIBITS\Exhibit 6\_2.dwg PRINTED: 4/14/2020 4:46 PM BY: Mark Wagner

### Soil Map—Morgan County, Indiana (North Unit)



Soil Map may not be valid at this scale.

Map Scale: 1:1,900 if printed on A portrait (8.5" x 11") sheet.



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Soil Map—Morgan County, Indiana  
(North Unit)


**MAP LEGEND**

**Area of Interest (AOI)**

 Area of Interest (AOI)


**Soils**


 Soil Map Unit Polygons


 Soil Map Unit Lines

 Soil Map Unit Points

**Special Point Features**

 Blowout

 Borrow Pit

 Clay Spot


 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water


 Perennial Water

 Rock Outcrop


 Saline Spot

 Sandy Spot

 Severely Eroded Spot


 Sinkhole

 Slide or Slip

 Sodic Spot


 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

**Water Features**

 Streams and Canals


**Transportation**

 Rails


 Interstate Highways

 US Routes

 Major Roads

 Local Roads

**Background**

 Aerial Photography

**MAP INFORMATION**

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

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Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL:  
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

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Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
ChF	Chetwynd loam, 18 to 80 percent slopes	0.5	3.1%
PkD	Parke silt loam, 12 to 18 percent slopes	3.7	22.7%
PpB2	Pike silt loam, 2 to 6 percent slopes, eroded	1.3	7.9%
W	Water	8.8	53.6%
Wa	Wakeland silt loam	2.1	12.7%
<b>Totals for Area of Interest</b>		<b>16.4</b>	<b>100.0%</b>



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