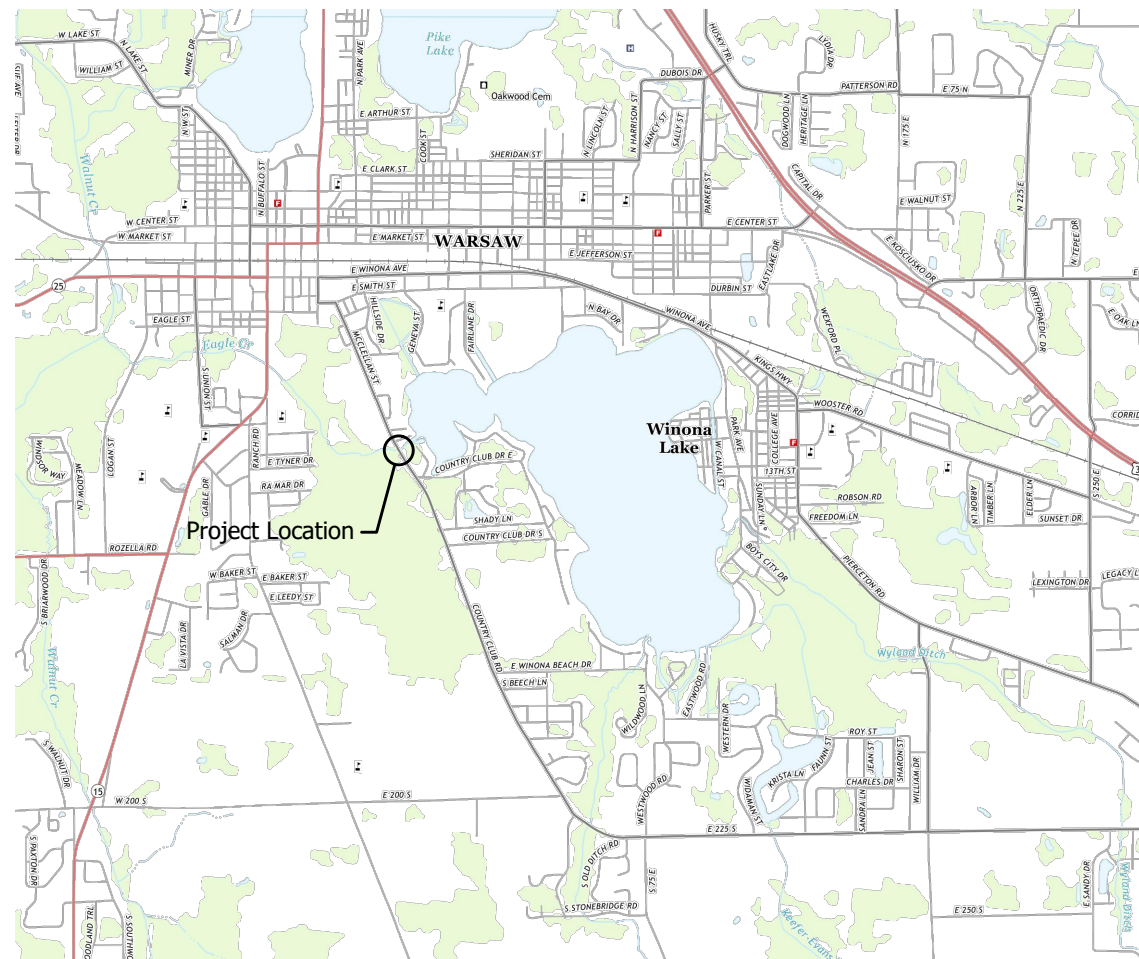
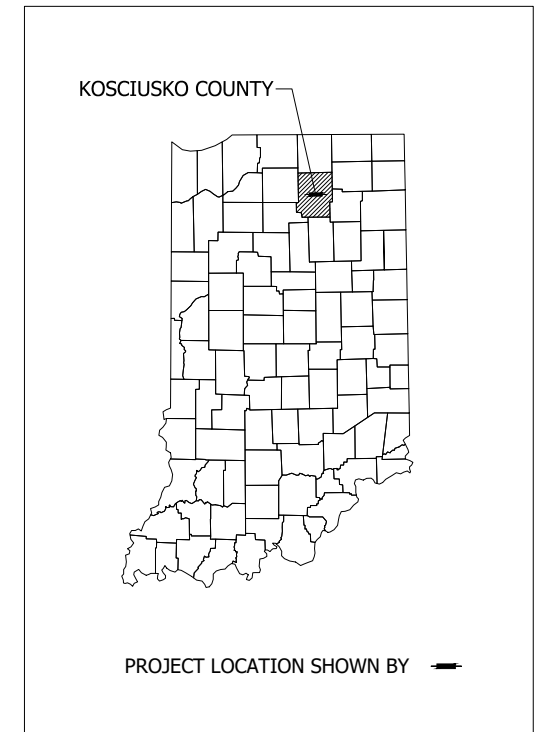
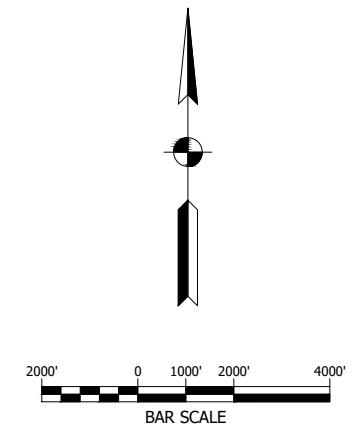


INDIANA DEPARTMENT OF ADMINISTRATION (IDOA)
 INDIANA DEPARTMENT OF NATURAL RESOURCES (IDNR)
 DIVISION OF WATER

PROJECT No. DEL2006321280
 WINONA - OUTLET STRUCTURE REPAIR
 WAYNE TWP., KOSCIUSKO COUNTY, INDIANA
 SECTION 17, T-32N, R-6E



LOCATION MAP
 KOSCIUSKO COUNTY



DRAWING INDEX	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	EXISTING SITE PLAN AND GENERAL NOTES
3	EXISTING SITE PICTURES
4	PROPOSED SITE PLAN AND ELEVATION
5	OUTLET STRUCTURE SECTIONS
6	EXISTING STRUCTURE AND REMOVAL DETAILS
7	PROPOSED STRUCTURE
8-11	CROSS SECTIONS

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 LAWSON-FISHER ASSOCIATES P.C.
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 SOUTH BEND, INDIANA 46601
 PH. (574) 234-3167

AMANDA BUOREAU
 REGISTERED PROFESSIONAL ENGINEER
 No. 11800816
 STATE OF INDIANA

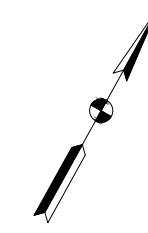
Bryan P. Co 10/10/19
 SIGNATURE DATE
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 SIGNATURE DATE

BRIGAN P. CLEVER
 REGISTERED PROFESSIONAL ENGINEER
 No. 1100676
 STATE OF INDIANA

INDIANA DEPARTMENT OF NATURAL RESOURCES
 WINONA LAKE
 OUTLET STRUCTURE REPAIR
 TITLE SHEET

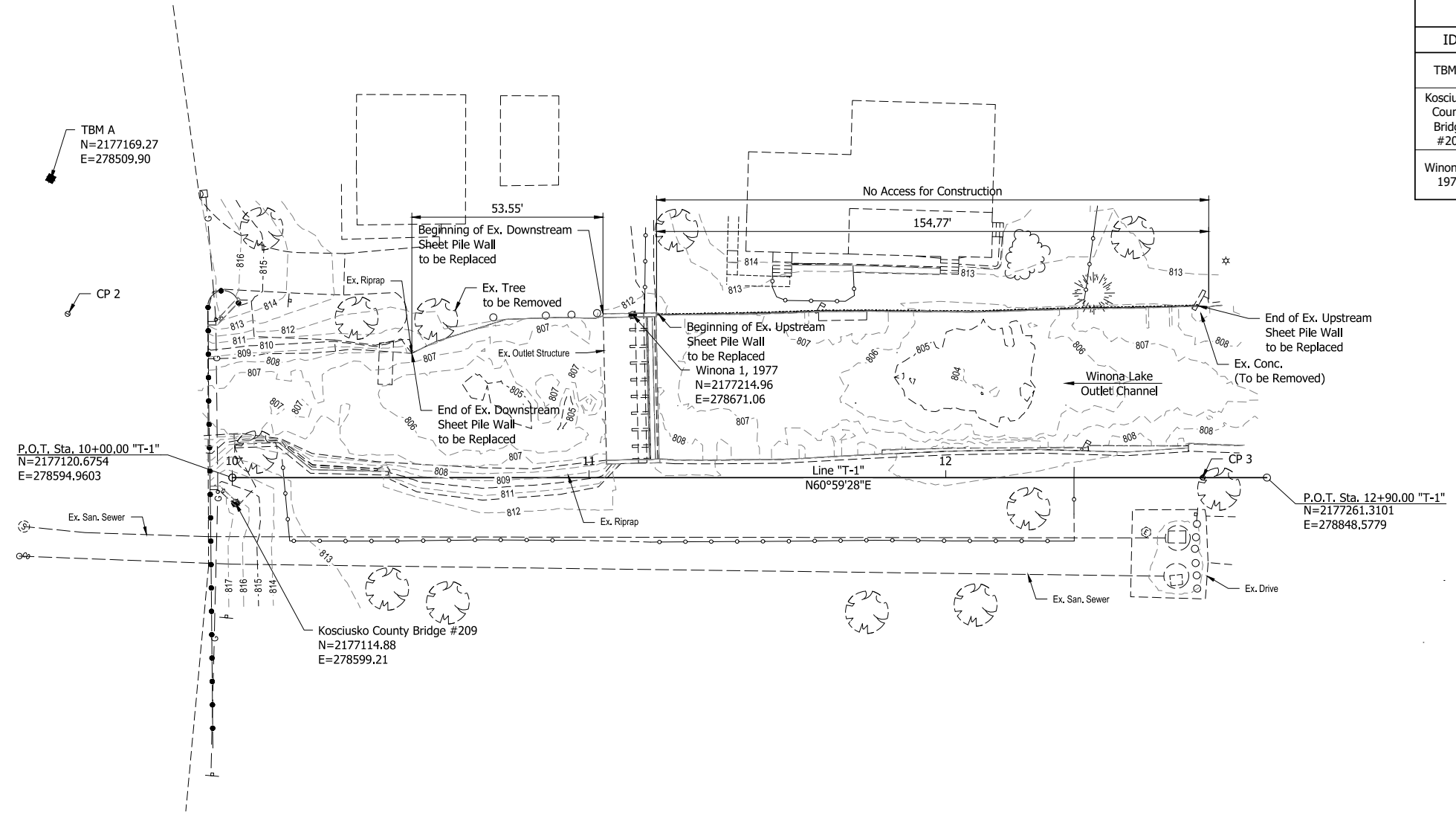
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DRAWN: BJS	SURVEY BOOK	SHEETS
CHECKED: ARB	DATE OCTOBER 2019	1 OF 11

GDH - 10/10/2019 7:56 AM - U:\2018\201835 idnr winona otf\Cad\Plan_Set\183500WR_SS01.dwg (EXIST. SITE PLAN)



HORIZONTAL CONTROL (InSPC - East Zone U.S. FEET)			
ID	NORTHING	EASTING	MARKER
CP1	2176762.4911	278797.9676	½"x18" Rebar w/ Green Cap Stamped "LAWSON FISHER"
CP2	2177138.3996	278532.3547	½"x18" Rebar w/ Green Cap Stamped "LAWSON FISHER"
CP3	2177252.5806	278832.8361	½"x18" Rebar w/ Green Cap Stamped "LAWSON FISHER"

VERTICAL CONTROL (NGVD29)		
ID	ELEVATION	REMARKS
TBM A	817.21	R.R. Spk.; E Face Pwp. 634-749; N.W. Quad. Country Club and Eagle Creek; 1.1' Above Ground Level
Kosciusko County Bridge #209	817.81	Brass Tablet Stamped "Kosciusko County Bridge #209"; S.E. Conc. Wingwall of the Country Club Bridge over Eagle Creek
Winona 1, 1977	813.52	Brass Tablet Stamped "Winona 1 1977"; N.W. Conc. Abutment of the Outlet Structure for Winona Lake; 1.25' Above Ground Level



LEGEND:

EXISTING SYMBOLS	
	Existing Benchmark
	Existing Cleanout
	Existing Control Point
	Existing Coniferous Tree
	Existing Deciduous Tree
	Existing Flag Pole
	Existing Ground Light
	Existing Mailbox
	Existing Post
	Existing Power Pole
	Existing Sanitary Manhole
	Existing Sign - Single Post

EXISTING MISCELLANEOUS LINES

	Existing Top Of Bank
	Existing Fence

- NOTES:**
- Contractor shall maintain the normal seasonal lake level throughout construction.
 - Vertical datum is National Geodetic Vertical Datum of 1929 (NGVD29).
 - Horizontal datum is InSPC - East Zone U.S. Feet.



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STATE OF INDIANA

Bryan P. Elcher
10/10/19
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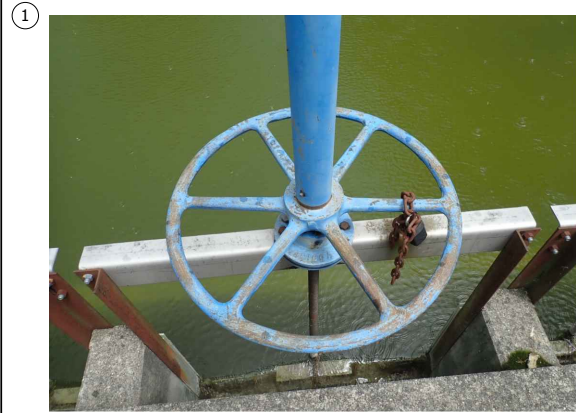
BRECKEN P. ELCHER
REGISTERED PROFESSIONAL ENGINEER
No. 11100676
STATE OF INDIANA

INDIANA DEPARTMENT OF NATURAL RESOURCES
WINONA LAKE
OUTLET STRUCTURE REPAIR

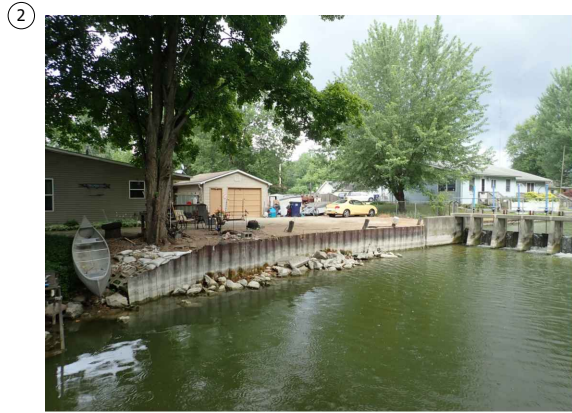
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CHECKED: ARB	DATE OCTOBER 2019	2 OF 11

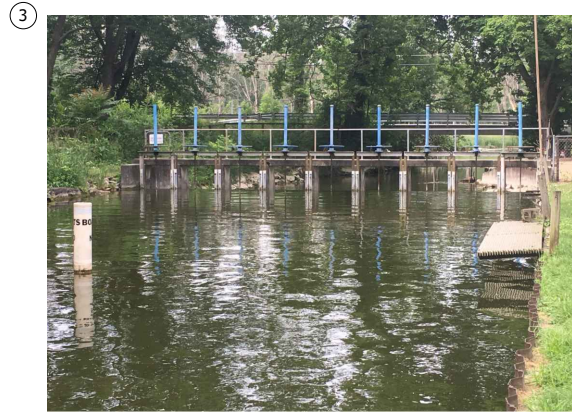
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EXISTING GATE



EXISTING DOWNSTREAM SHEET PILING



EXISTING OUTLET STRUCTURE
LOOKING DOWNSTREAM



EXISTING OUTLET STRUCTURE
LOOKING UPSTREAM



EXISTING UPSTREAM SHEET PILING



EXISTING UPSTREAM SHEET PILING



EXISTING UPSTREAM SHEET PILING

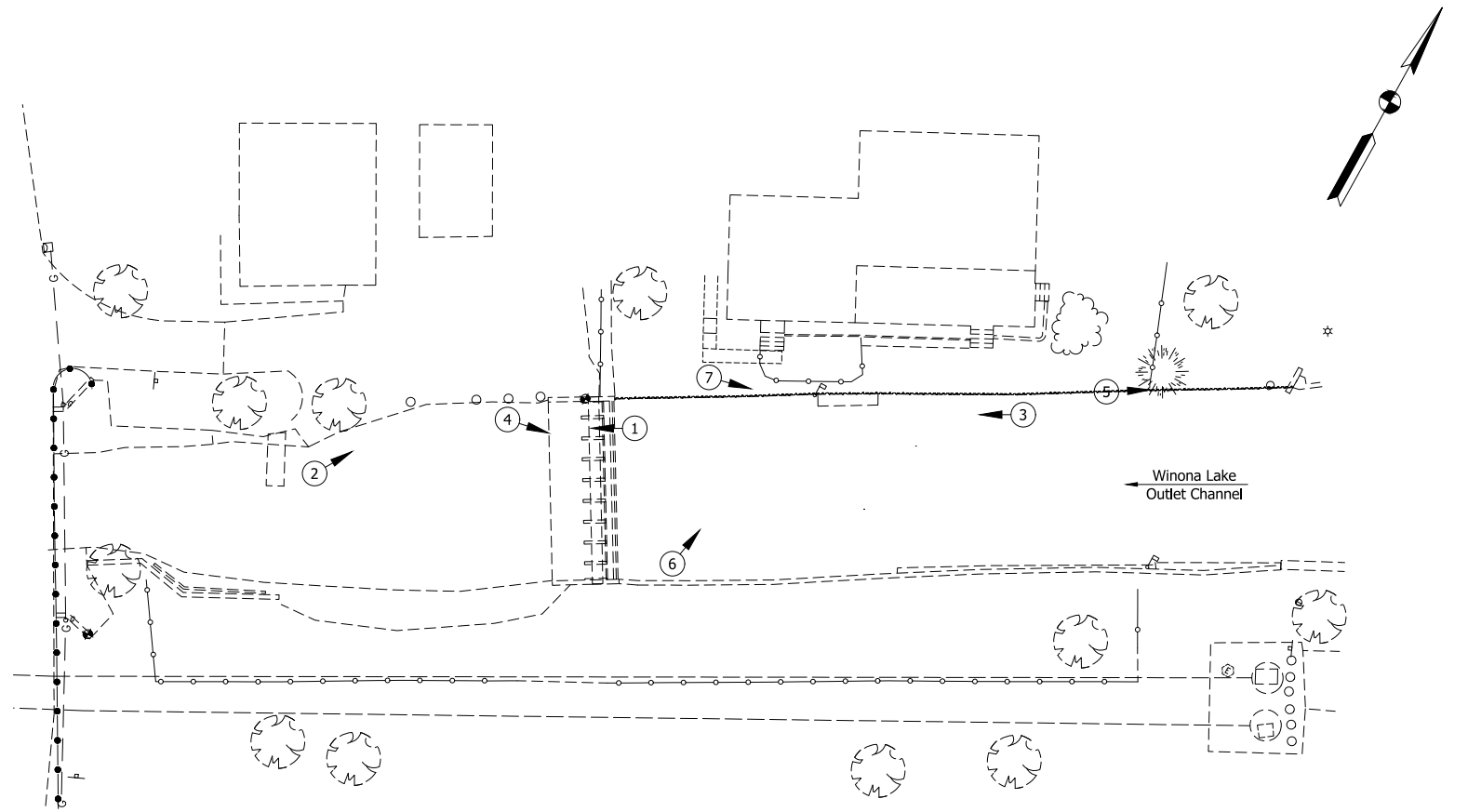


PHOTO ORIENTATION
AND LOCATION MAP

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Bryan P. ...
SIGNATURE DATE 10/10/19

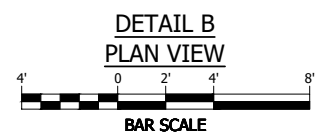
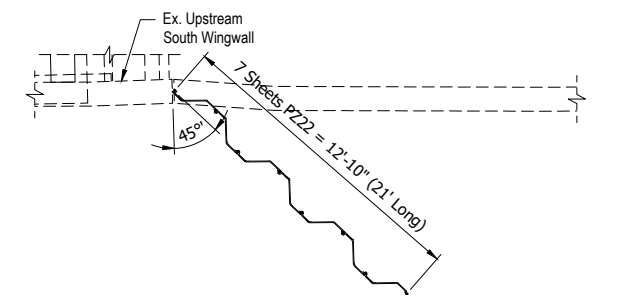
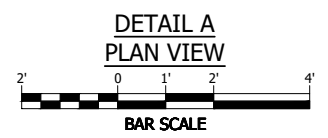
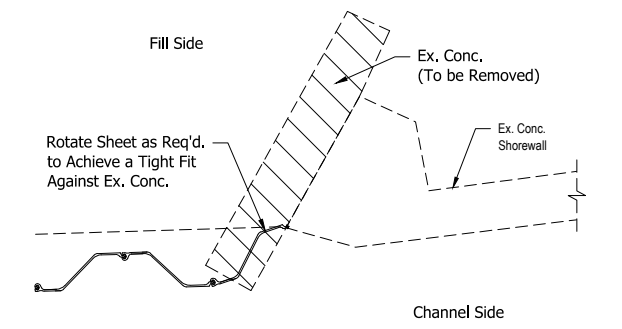
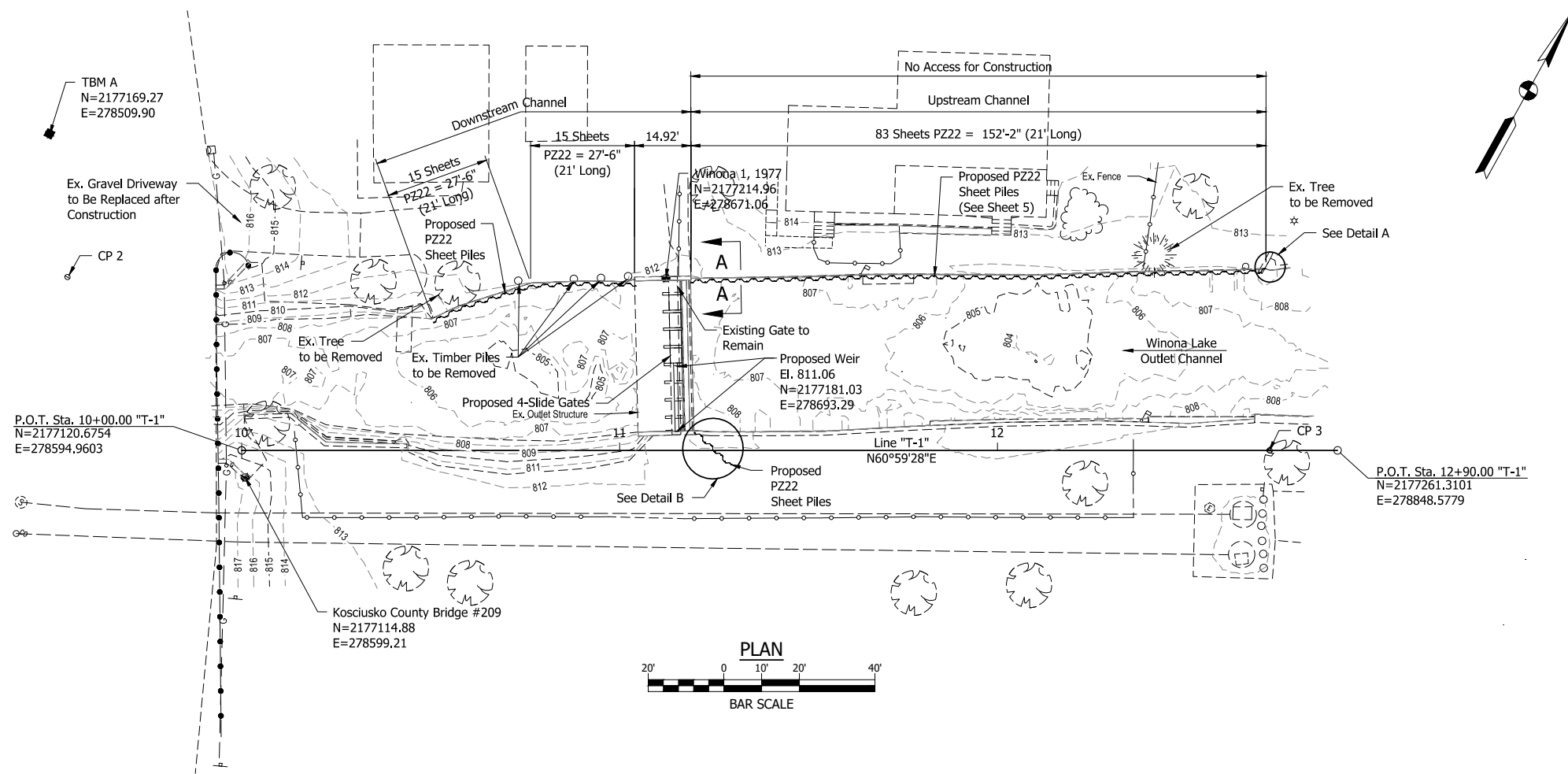
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REGISTERED PROFESSIONAL ENGINEER
No. 1100676
STATE OF INDIANA

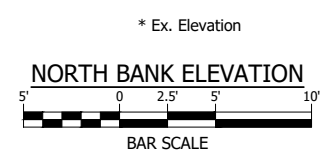
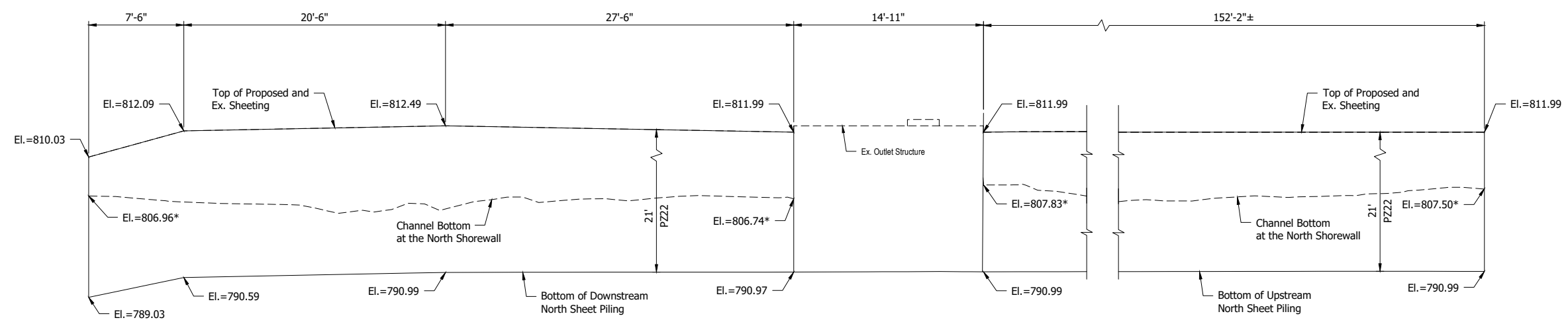
INDIANA DEPARTMENT OF NATURAL RESOURCES
WINONA LAKE
OUTLET STRUCTURE REPAIR
EXISTING SITE PICTURES

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DRAWN: BJS	SURVEY BOOK	SHEETS 3 OF 11
CHECKED: ARB	DATE OCTOBER 2019	

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- CONSTRUCTION SEQUENCE:**
1. Remove enough of existing rubble around existing wingwall to provide a clear area to drive sheet piles.
 2. Drive sheets until the top of the sheets is 6"± below existing grade (El.=812.0±).
 3. Replace rubble and bury the sheets.



- NOTES:**
1. Contractor shall maintain the normal seasonal lake level throughout construction.
 2. Vertical datum is National Geodetic Vertical Datum of 1929 (NGVD29).
 3. Horizontal datum is InSPC - East Zone U.S. Feet.
 4. Contractor shall verify all dimensions and elevations.
 5. No sediment to leave site.

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No. 11800816
STATE OF INDIANA

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10/10/19
DATE

[Signature]
10/10/19
DATE

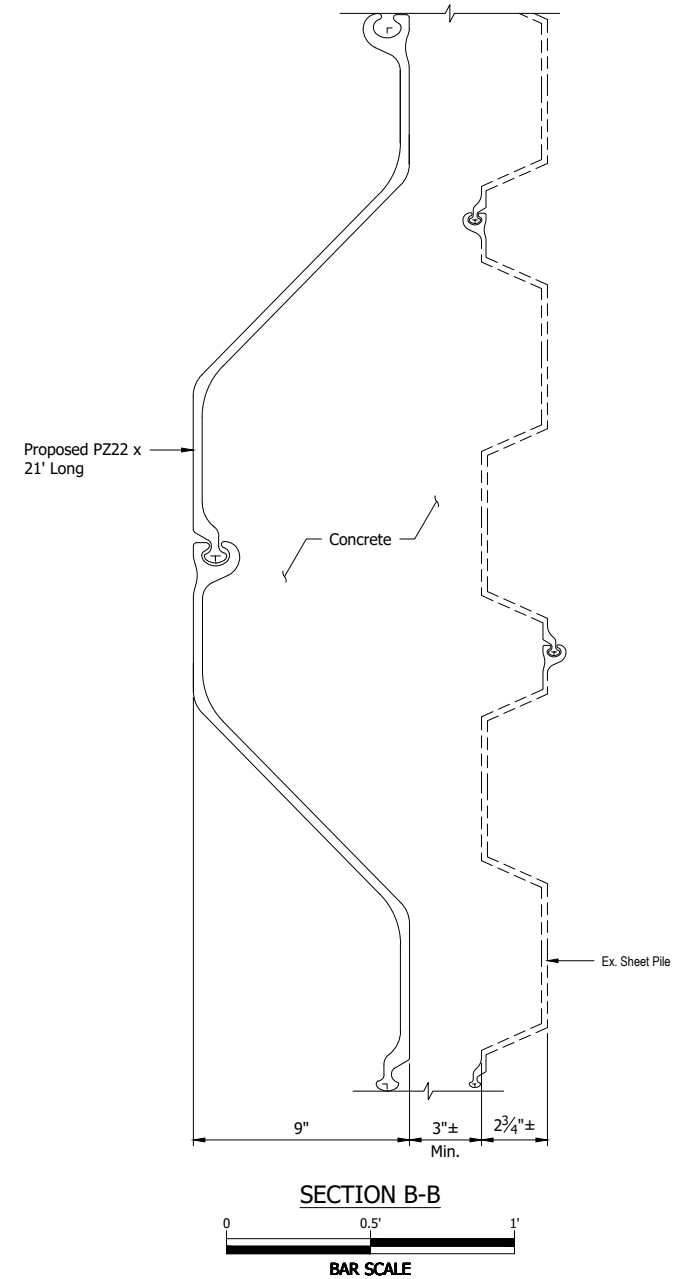
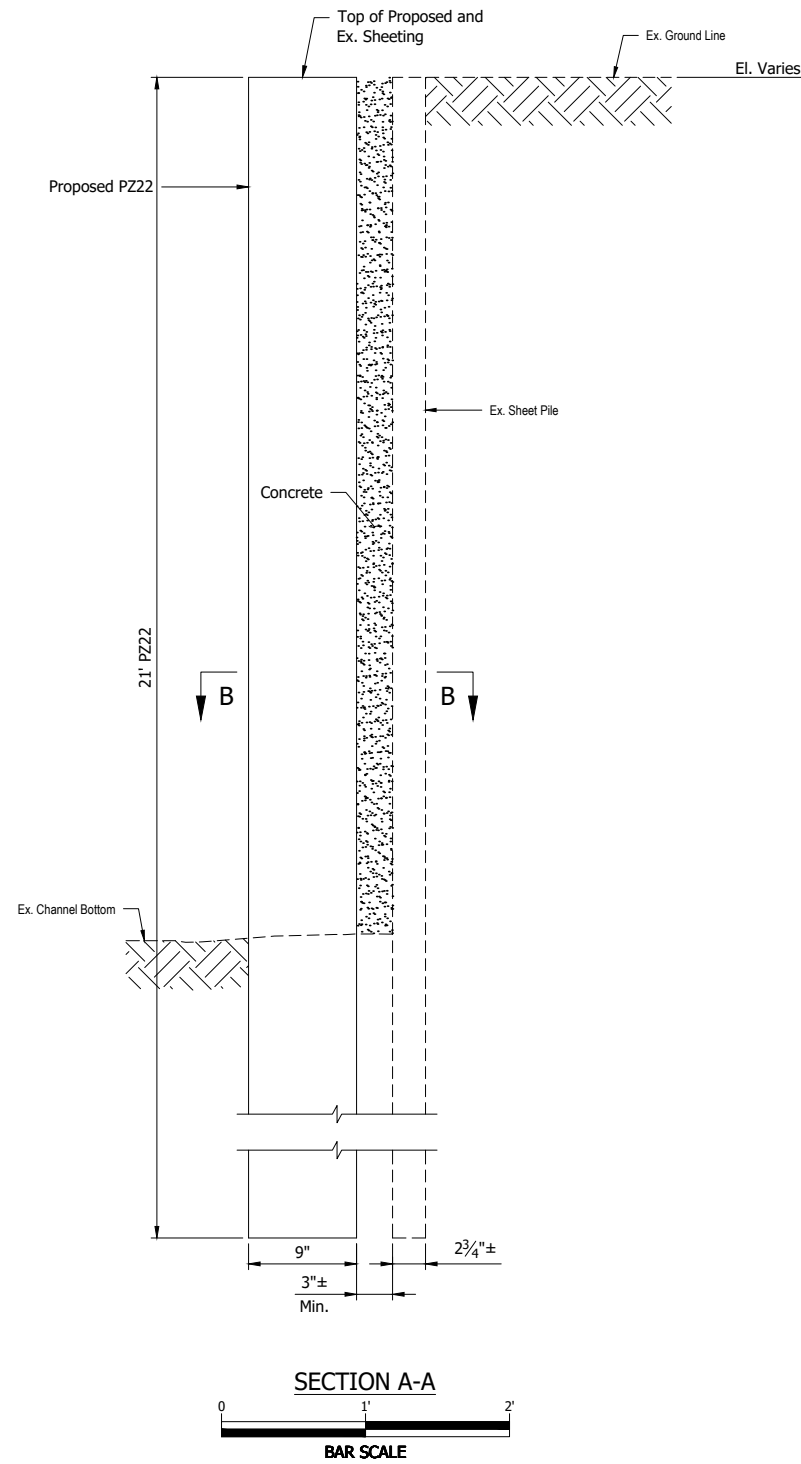
BRECKEN P. ELLIOTT
REGISTERED PROFESSIONAL ENGINEER
No. 1100676
STATE OF INDIANA

INDIANA DEPARTMENT OF NATURAL RESOURCES
WINONA LAKE
OUTLET STRUCTURE REPAIR

PROPOSED SITE PLAN
AND ELEVATION

REVISIONS	HORIZONTAL SCALE AS NOTED VERTICAL SCALE	PROJECT NUMBER 201835.00
DRAWN: BJS	SURVEY BOOK	SHEETS
CHECKED: MW	DATE OCTOBER 2019	4 OF 11

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DESIGN STRESSES

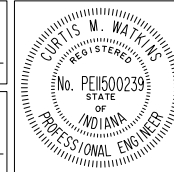
$f_y = 60,000$ psi (Reinforcement)
 $F_y = 50,000$ psi (Sheeting, ASTM A572)
 $F_{allow} = 32,000$ psi (Sheeting, ATM A572)

NOTES:

1. Contractor shall begin construction at the existing control structure, driving the first sheet pile of the upstream section tight against the existing east wing wall, and driving the first sheet pile of the downstream section tight against the existing west wing wall.
2. Vertical datum is National Geodetic Vertical Datum of 1929 (NGVD29).

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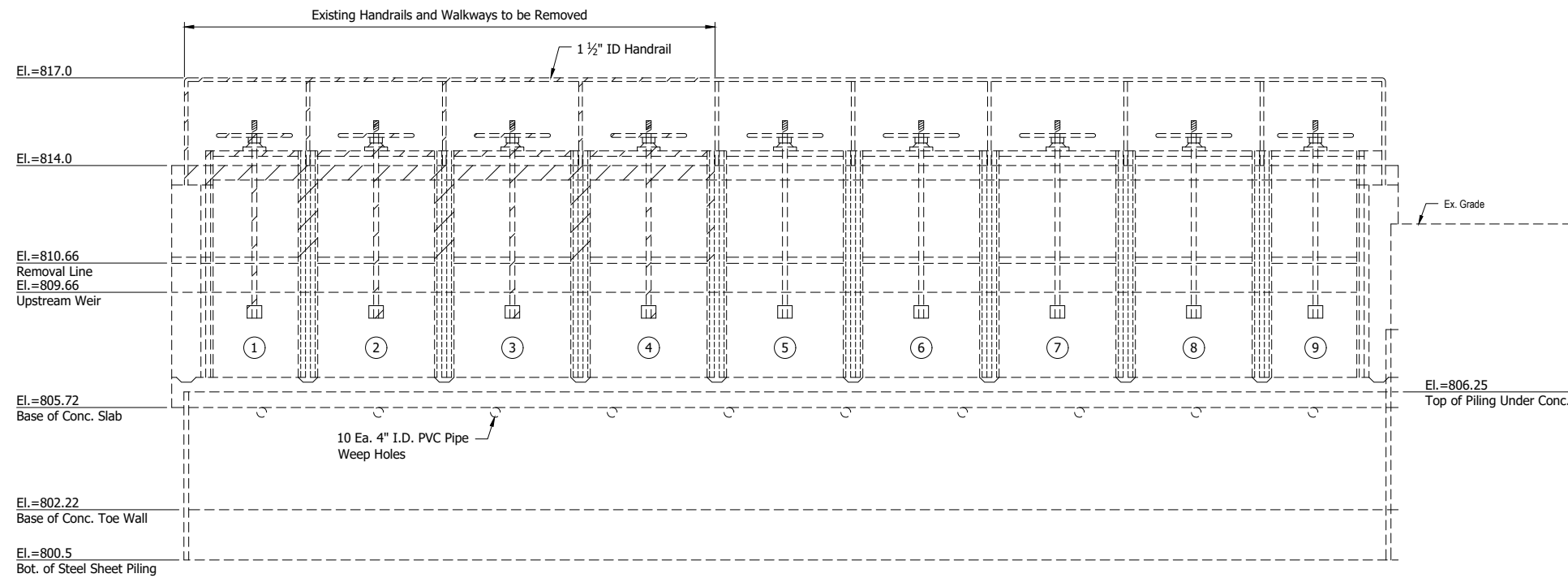
C. M. Watkins
 SIGNATURE
 10/10/19
 DATE



INDIANA DEPARTMENT OF NATURAL RESOURCES
 WINONA LAKE
 OUTLET STRUCTURE REPAIR
 OUTLET STRUCTURE SECTIONS

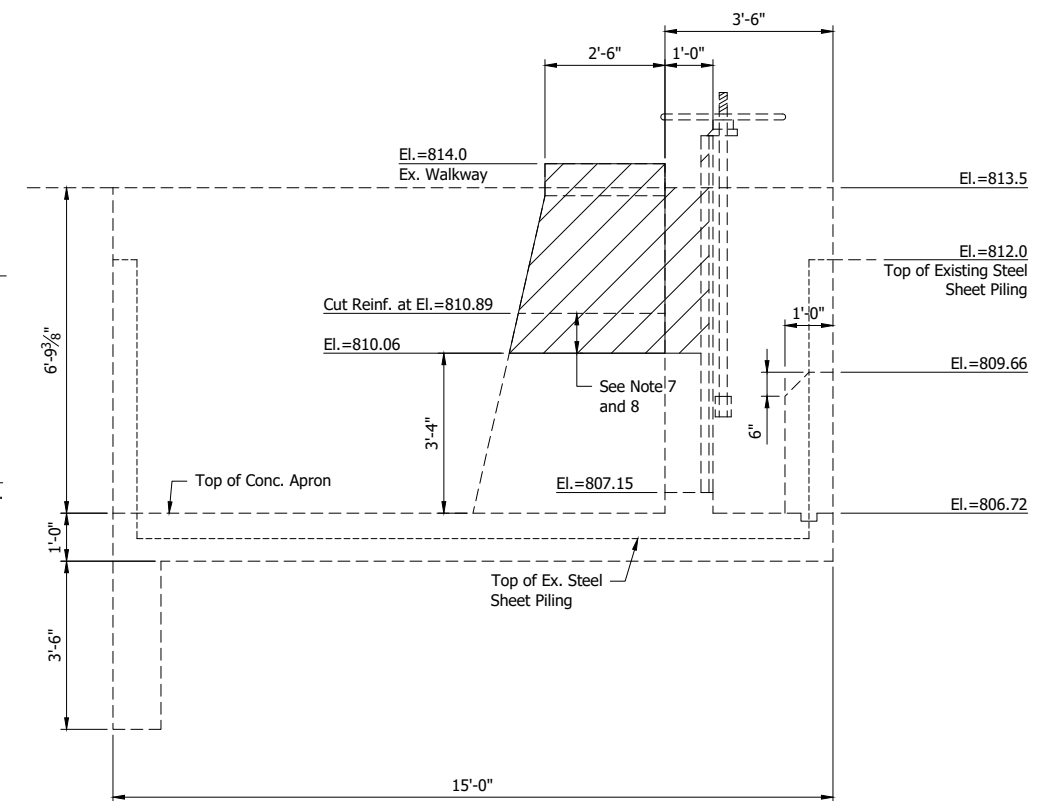
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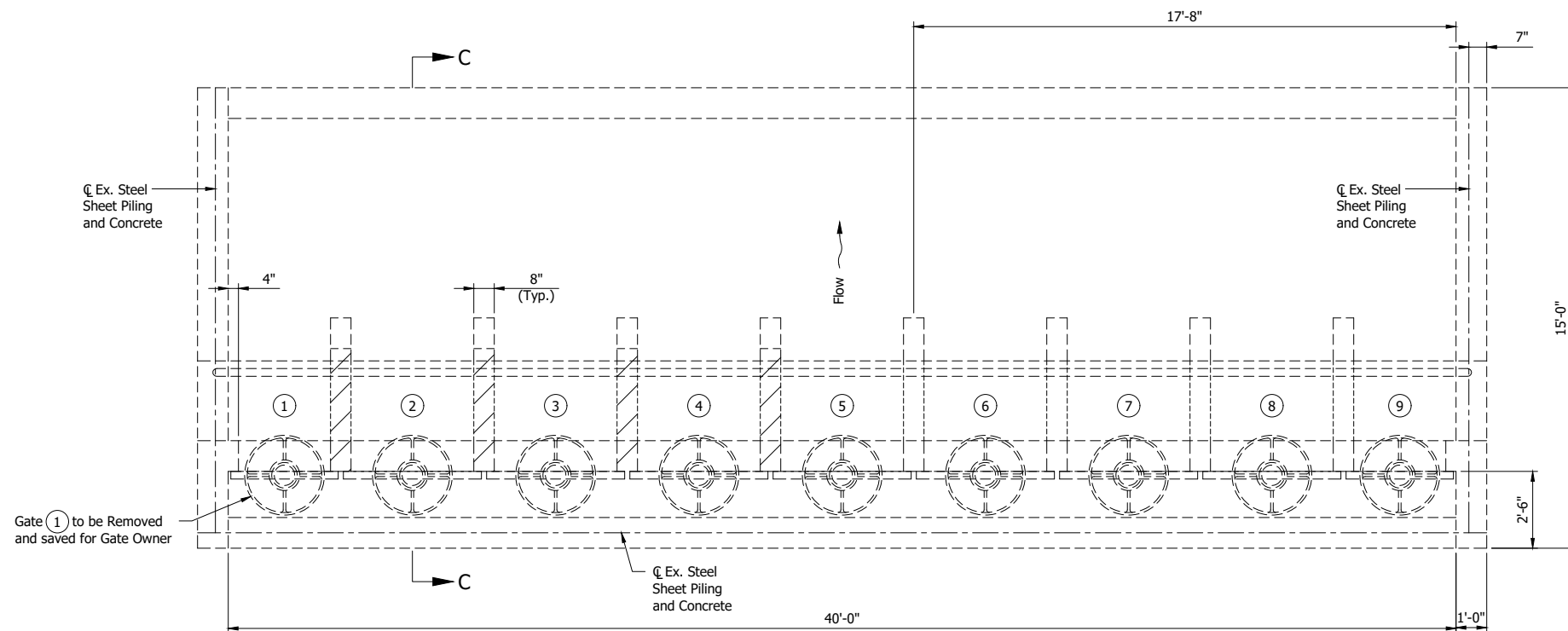


ELEVATION - LOOKING DOWNSTREAM

- Gates ① and ⑨ are 3.1 ft. Wide and 3.71 ft. High.
- Gates ② through ⑧ are 4 ft. Wide and 3.71 ft. High.
- Summer Legal Lake Level = 811.06 ft.
- Winter Legal Lake Level = 810.06 ft.



SECTION C-C



NOTE:
Removal of gates not shown in this view for clarity.



LEGEND

- Concrete to be Removed From Existing Dividers Between Gates 1 and 2, 2 and 3, and 3 and 4

NOTES:

1. Contractor shall maintain the normal seasonal lake level throughout construction.
2. Vertical datum is National Geodetic Vertical Datum of 1929 (NGVD29).
3. Horizontal datum is InSPC - East Zone U.S. Feet.
4. Information obtained from plan set dated August 30, 1976 prepared by IDNR and Lawson-Fisher 2018 field survey.
5. Contractor shall verify all dimensions and elevations.
6. (#) Denotes bay/gate number.
7. Pneumatic hammers, up to a maximum of 45 Lb may be used for all removal areas between elevation 810.89 and elevation 810.06.
8. Existing reinforcement shall be cleaned and incorporated into the new construction.

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AMANDA BUOREAU
REGISTERED PROFESSIONAL ENGINEER
No. 11800816
STATE OF INDIANA

Benson
SIGNATURE DATE 10/10/19

for Be
SIGNATURE DATE 10/10/19

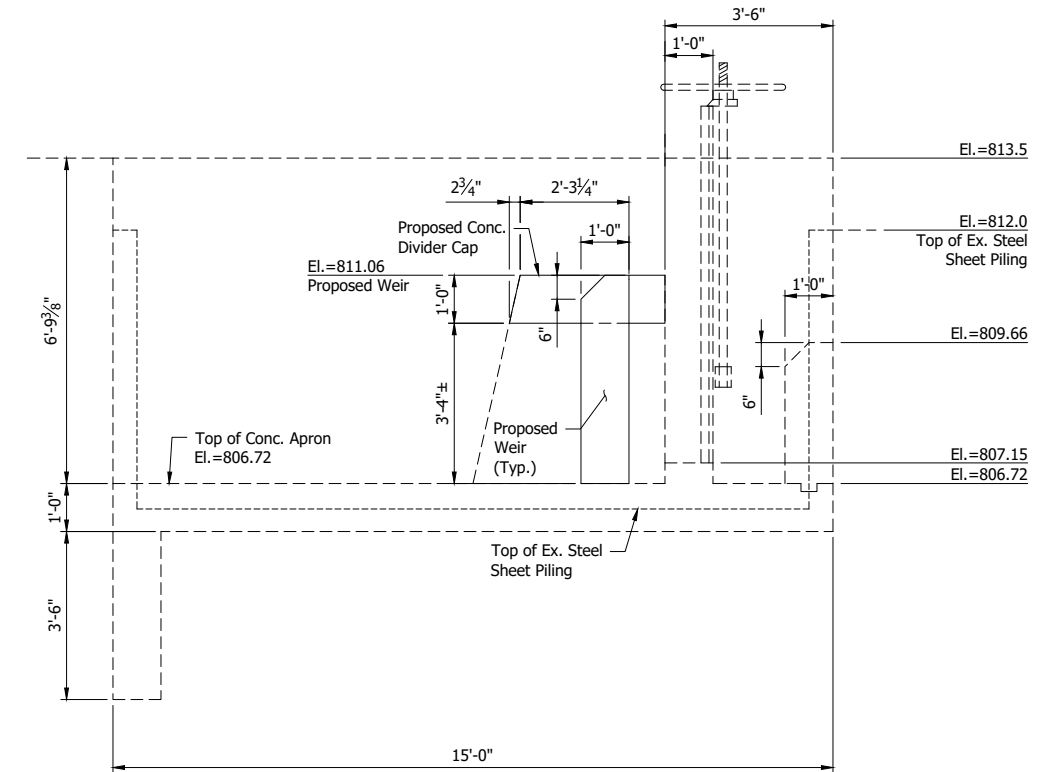
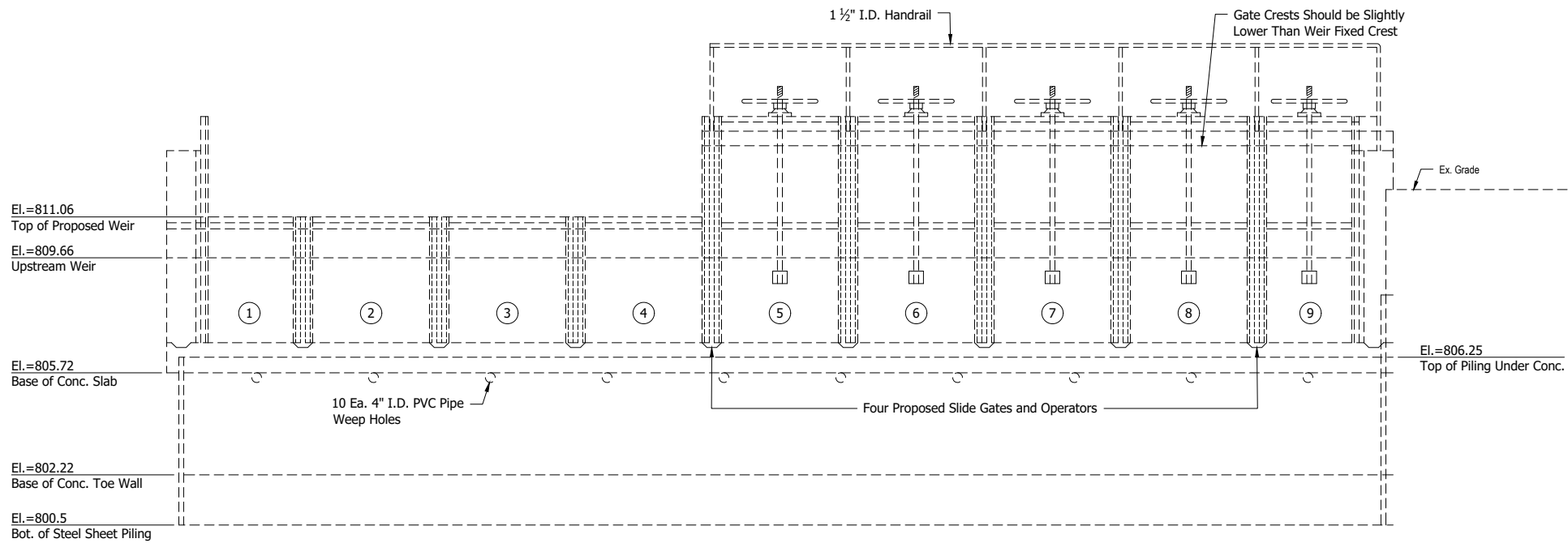
BRIGGAN P.
REGISTERED PROFESSIONAL ENGINEER
No. 1100676
STATE OF INDIANA

INDIANA DEPARTMENT OF NATURAL RESOURCES
WINONA LAKE
OUTLET STRUCTURE REPAIR

EXISTING STRUCTURE
AND REMOVAL DETAILS

REVISIONS	HORIZONTAL SCALE AS NOTED	PROJECT NUMBER 201835.00
	VERTICAL SCALE	
DRAWN: BJS	SURVEY BOOK	SHEETS
CHECKED: ARB	DATE OCTOBER 2019	6 OF 11

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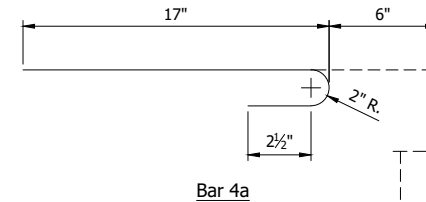
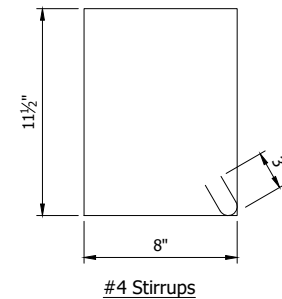


- Summer Legal Lake Level = 811.06 ft.
- Winter Legal Lake Level = 810.06 ft.

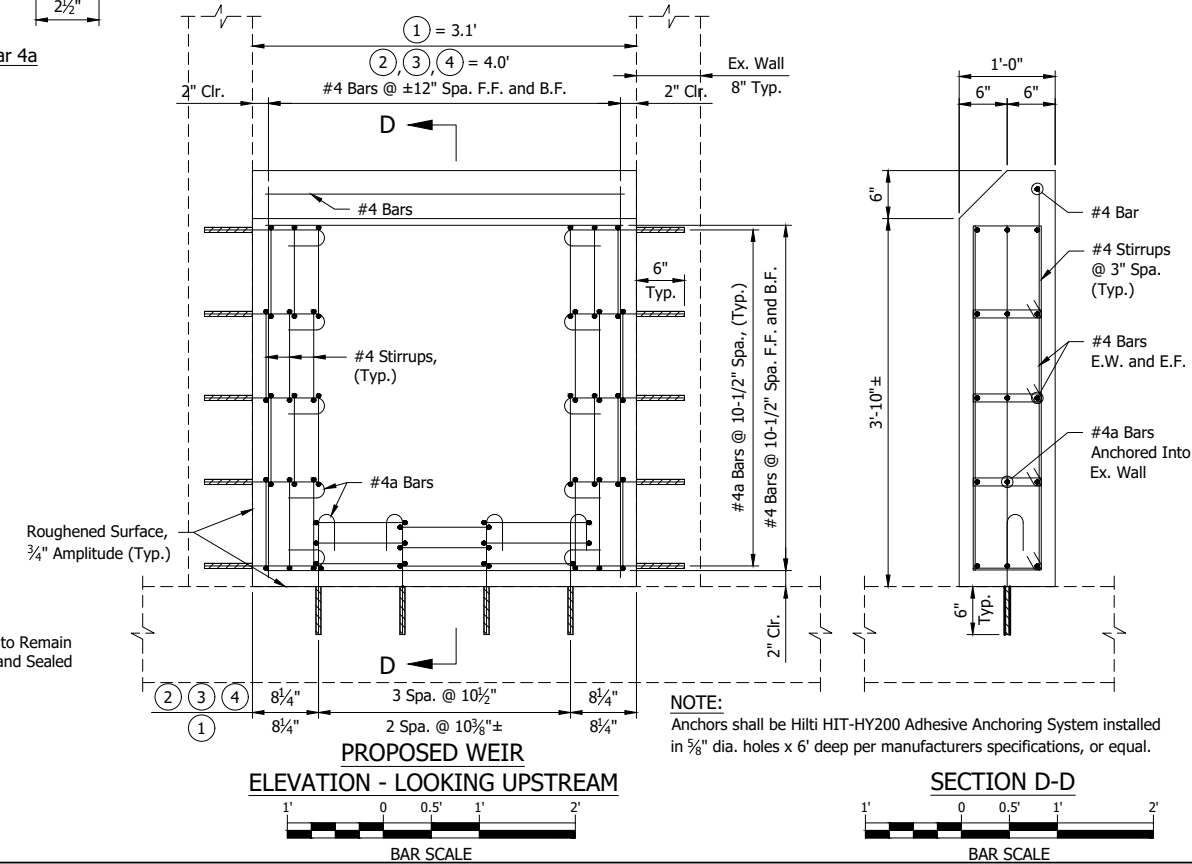
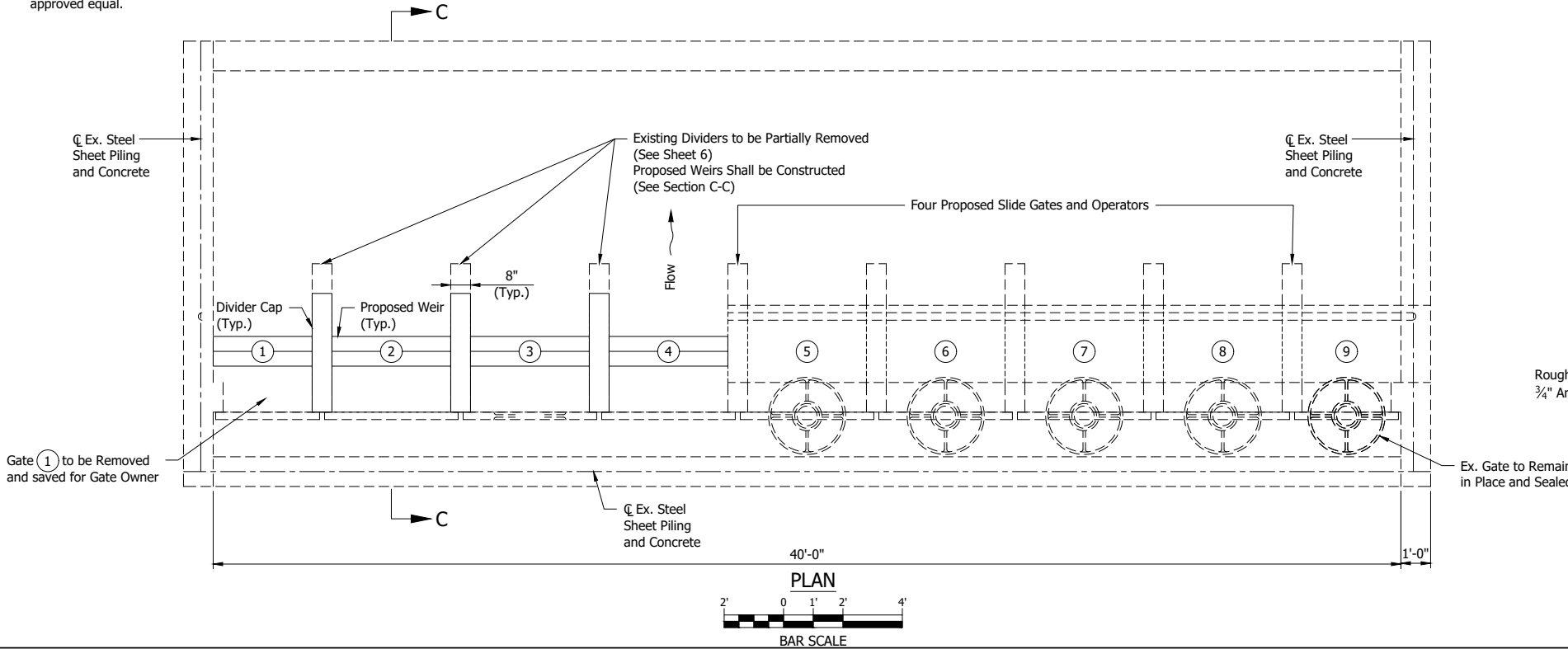
NOTES:

1. Contractor shall maintain the normal seasonal lake level throughout construction.
2. Vertical datum is National Geodetic Vertical Datum of 1929 (NGVD29).
3. Horizontal datum is InSPC - East Zone U.S. Feet.
4. Information obtained from plan set dated August 30, 1976 prepared by IDNR and Lawson-Fisher 2018 field survey.
5. Contractor shall verify all dimensions and elevations.
6. (#) Denotes bay/gate number.
7. Slide gates shall be Waterman SS-250 series fabricated slide gate, or approved equal.

ELEVATION - LOOKING DOWNSTREAM



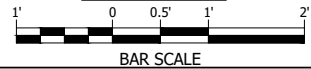
SECTION C-C



PROPOSED WEIR ELEVATION - LOOKING UPSTREAM



SECTION D-D



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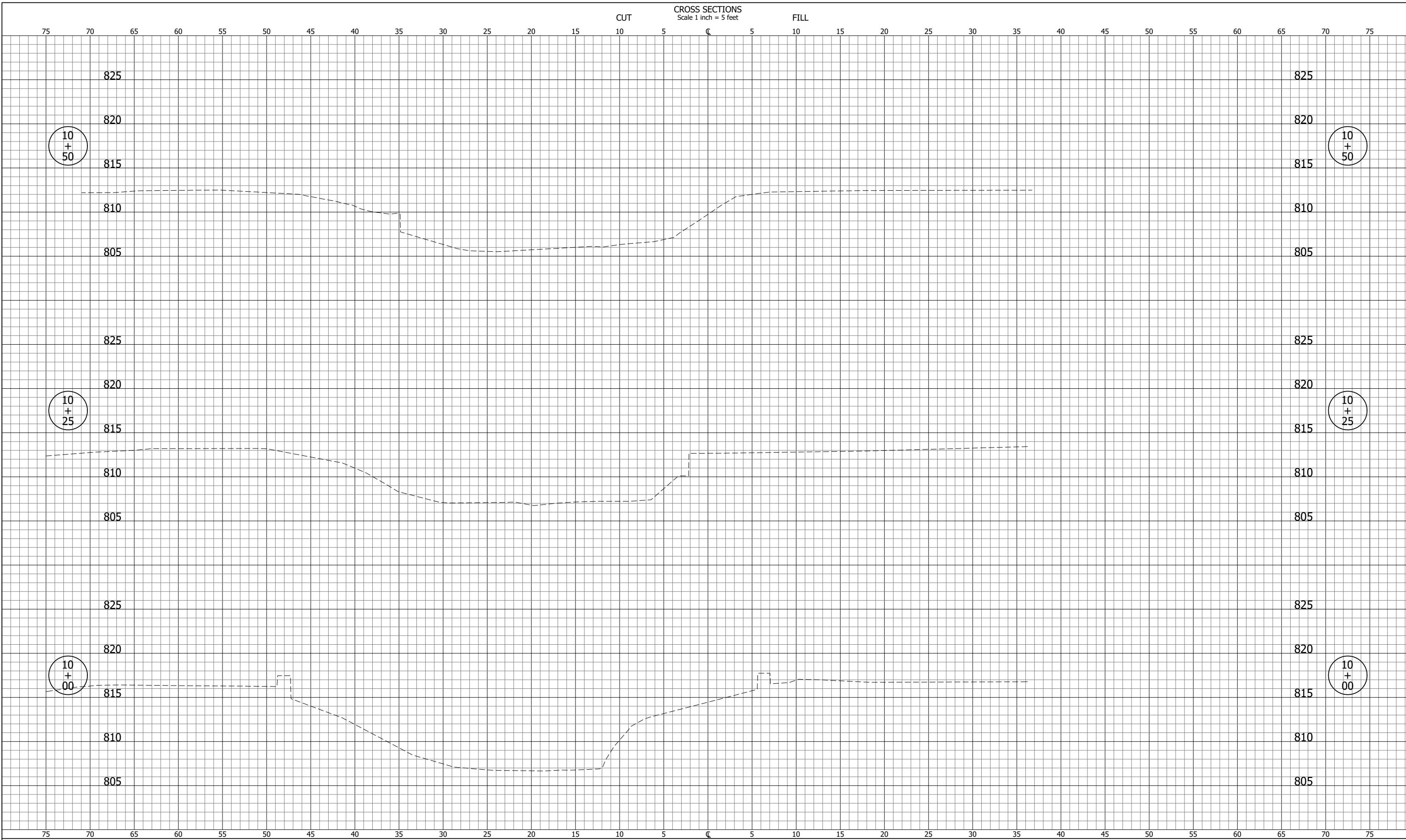
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SIGNATURE DATE 10/10/19

CURTIS M. WATKINS
REGISTERED PROFESSIONAL ENGINEER
No. PE1500239
STATE OF INDIANA

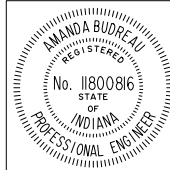
INDIANA DEPARTMENT OF NATURAL RESOURCES
WINONA LAKE
OUTLET STRUCTURE REPAIR
PROPOSED STRUCTURE

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DRAWN: BJS	SURVEY BOOK	SHEETS 7 OF 11
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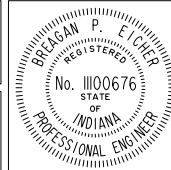


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Amanda Boudreau
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for Be
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INDIANA DEPARTMENT OF NATURAL RESOURCES
 WINONA LAKE
 OUTLET STRUCTURE REPAIR

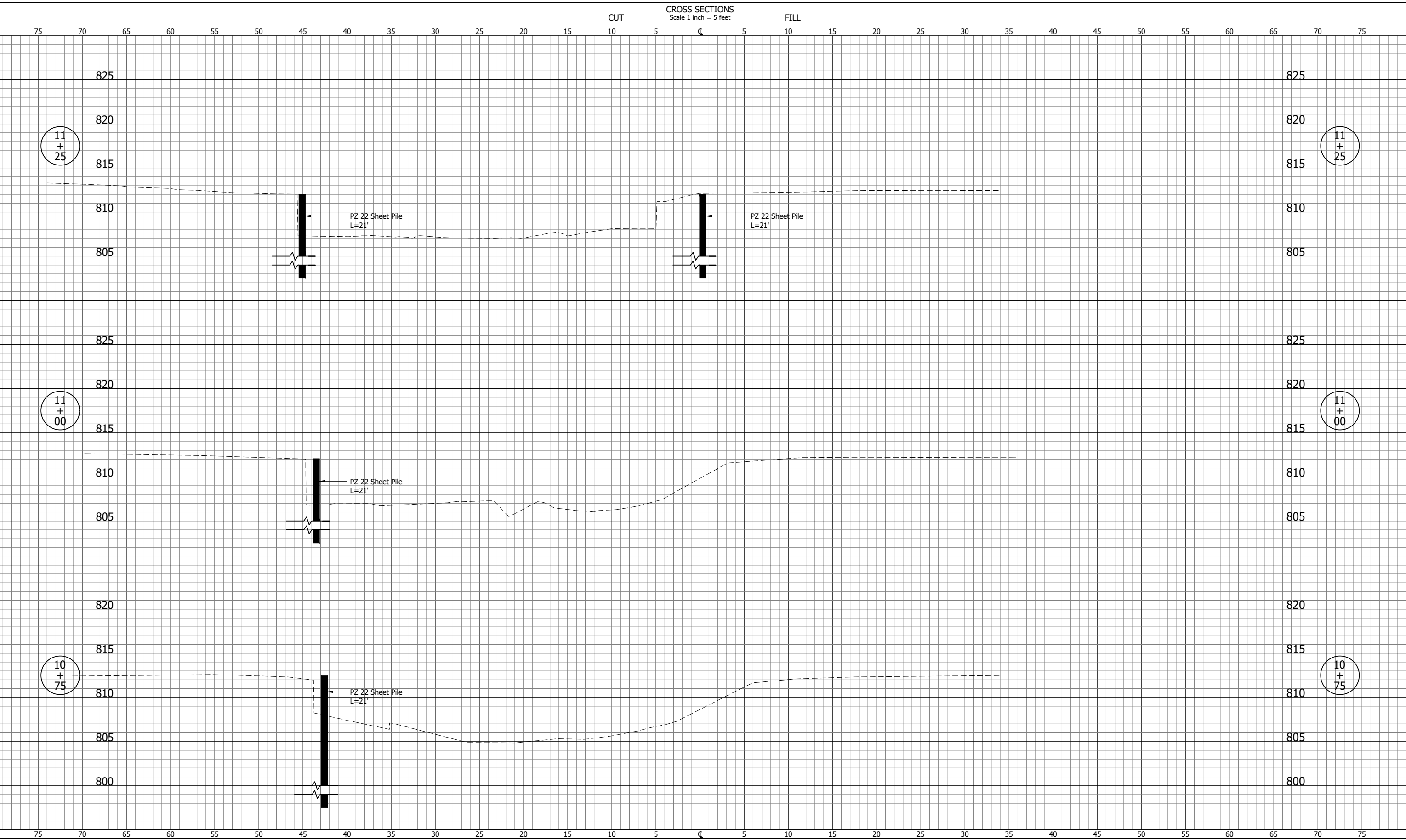
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REVISIONS

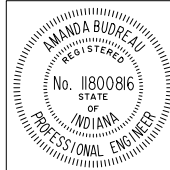
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VERTICAL SCALE 1" = 5'
SURVEY BOOK
DATE OCTOBER 2019

PROJECT NUMBER 201835.00	
SHEETS	8 OF 11

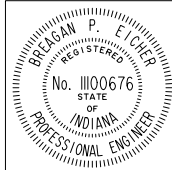
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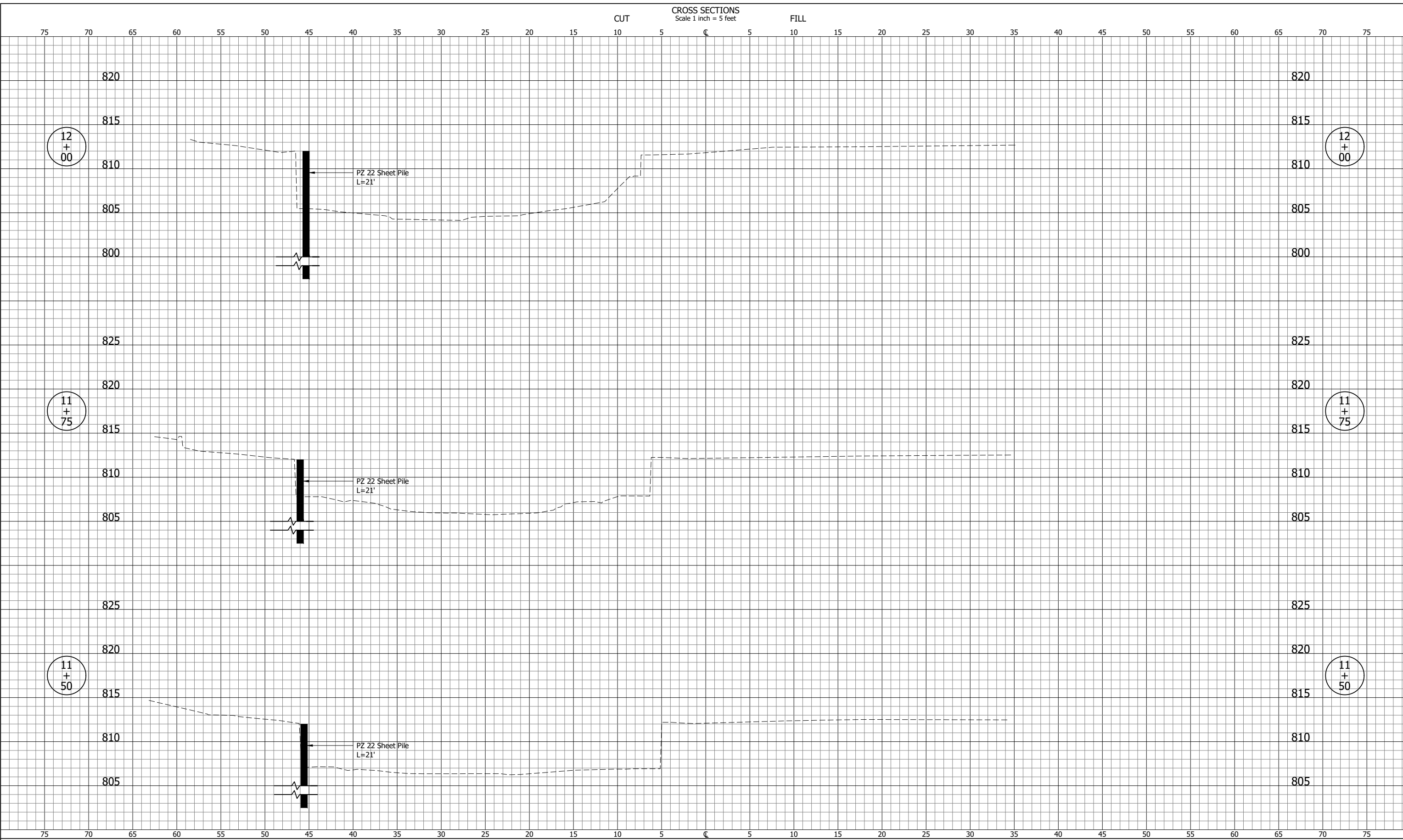
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 WINONA LAKE
 OUTLET STRUCTURE REPAIR
 CROSS SECTIONS
 LINE "T-1"

REVISIONS
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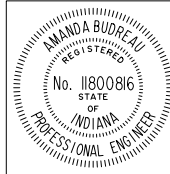
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DATE OCTOBER 2019

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SHEETS 9 OF 11

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[Signature] 10/10/19
 SIGNATURE DATE



INDIANA DEPARTMENT OF NATURAL RESOURCES
 WINONA LAKE
 OUTLET STRUCTURE REPAIR

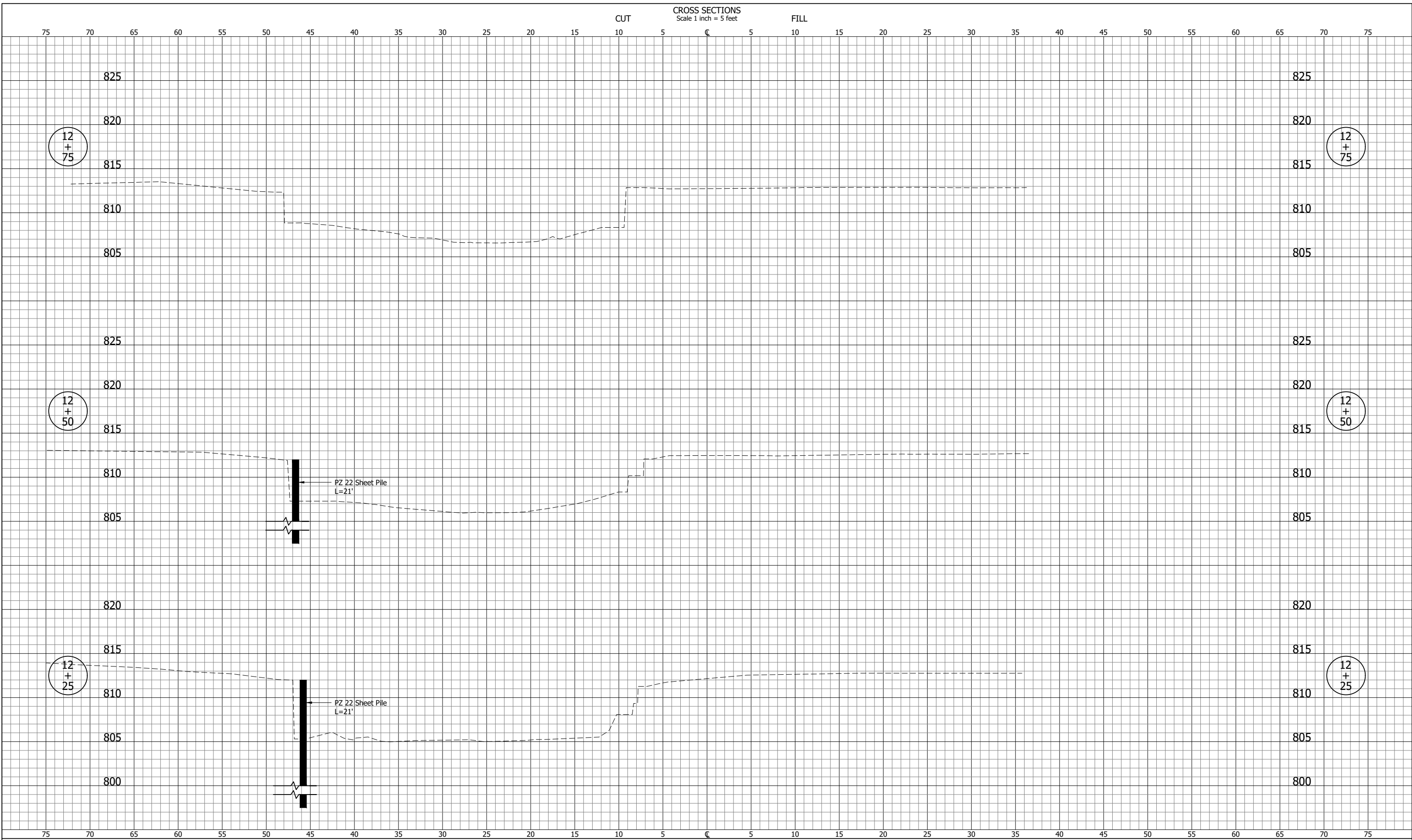
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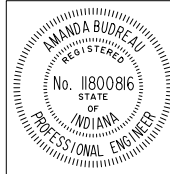
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DATE OCTOBER 2019

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SHEETS 10 OF 11

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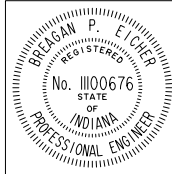


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WINONA LAKE
OUTLET STRUCTURE REPAIR

**CROSS SECTIONS
LINE "T-1"**

REVISIONS
DRAWN: BJS
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HORIZONTAL SCALE 1" = 5'
VERTICAL SCALE 1" = 5'
SURVEY BOOK
DATE OCTOBER 2019

PROJECT NUMBER 201835.00
SHEETS 11 OF 11