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
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. 

VERTICAL CONTROL (NGVD29)

<table>
<thead>
<tr>
<th>ID</th>
<th>ELEVATION</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>TBM A</td>
<td>817.21</td>
<td>R.R. Spk.; E Face Pwp. 634-749; N.W. Quad. Country Club and Eagle Creek; 1.1' Above Ground Level</td>
</tr>
<tr>
<td>Kosciusko County Bridge #209</td>
<td>817.81</td>
<td>Brass Tablet Stamped &quot;Kosciusko County Bridge #209&quot;; S.E. Conc. Wingwall of the Country Club Bridge over Eagle Creek</td>
</tr>
<tr>
<td>Winona 1, 1977</td>
<td>813.52</td>
<td>Brass Tablet Stamped &quot;Winona 1 1977&quot;; N.W. Conc. Abutment of the Outlet Structure for Winona Lake; 1.25' Above Grade Level</td>
</tr>
</tbody>
</table>

HORIZONTAL CONTROL (InSPC - East Zone U.S. FEET)

<table>
<thead>
<tr>
<th>ID</th>
<th>NORTHING</th>
<th>EASTING</th>
<th>MARKER</th>
</tr>
</thead>
<tbody>
<tr>
<td>CP1</td>
<td>2176762.49</td>
<td>278797.96</td>
<td>&quot;x18&quot; Rebar w/ Green Cap Stamped &quot;LAWSON FISHER&quot;</td>
</tr>
<tr>
<td>CP2</td>
<td>2177138.39</td>
<td>278532.35</td>
<td>&quot;x18&quot; Rebar w/ Green Cap Stamped &quot;LAWSON FISHER&quot;</td>
</tr>
<tr>
<td>CP3</td>
<td>2177252.58</td>
<td>278832.84</td>
<td>&quot;x18&quot; Rebar w/ Green Cap Stamped &quot;LAWSON FISHER&quot;</td>
</tr>
</tbody>
</table>
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
EXISTING UPSTREAM SHEET PILING

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
EXISTING UPSTREAM SHEET PILING

PHOTO ORIENTATION
AND LOCATION MAP
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.

**NOTES:**

**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.

**DETAIL B**

**PLAN VIEW**

- Channel Bottom at the North Shorewall
- Bottom of Downstream North Sheet Piling
- El. = 790.99

**NORTH BANK ELEVATION**

- Top of Proposed and Ex. Sheeting
- El. = 812.99

**DETAIL A**

**PLAN VIEW**

- Channel Bottom at the North Shorewall
- Bottom of Upstream North Sheet Piling
- El. = 790.99

**NORTH BANK ELEVATION**

- Top of Proposed and Ex. Sheeting
- El. = 812.46

- Ex. Elevation

- **EXISTING**
  - Example Conc. (To be Removed)
  - Ex. Conc.
  - Shorewall
  - Channel Side
  - Fill Side

- **PROPOSED**
  - Proposed for Construction
  - Proposed for Removal
  - Proposed for Installation
  - Proposed for Foundation

- **CONSTRUCTION**
  - 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.
  - Contractor shall verify all dimensions and elevations.
  - No sediment to leave site.

- **EXISTING**
  - Example Conc. (To be Removed)
  - Ex. Conc.
  - Shorewall
  - Channel Side
  - Fill Side

- **PROPOSED**
  - Proposed for Construction
  - Proposed for Removal
  - Proposed for Installation
  - Proposed for Foundation

- **CONSTRUCTION**
  - 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.
  - Contractor shall verify all dimensions and elevations.
  - No sediment to leave site.
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).

DESIGN STRESSES:
- $f_y = 60,000$ psi (Reinforcement)
- $f_y = 50,000$ psi (Sheeting, ASTM A572)
- $f_{max} = 32,000$ psi (Sheeting, ASTM A572)
Existing Handrails and Walkways to be Removed

- 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.

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.
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.

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

NOTE:
Removal of gates not shown in this view for clarity.
**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.
5. Contractor shall verify all dimensions and elevations.
6. (1) Denotes bays/gates number.
7. Slide gates shall be Waterman SS-250 series fabricated slide gate, or approved equal.

---

**ELEVATION - LOOKING DOWNSTREAM**

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

---

**ELEVATION - LOOKING UPSTREAM**

- Existing Dividers to be Partially Removed
- Gates (1) to be Removed and Sold to Gate Owner
- Ex. Gate to Remain in Place and Sealed

---

**SECTION C-C**

- #4 Stirrups
- #4a Bars
- #4 Stirrups, (Typ.)
- #4 Bars
- #4 Bars, (Typ.)
- #4 Bar
- Existing Dividers to be Partially Removed
- Proposed Weir
- Proposed Weir
- Ex. Steel Sheet Piling and Concrete

---

**SECTION D-D**

- #4 Bars
- #4 Bars
- #4 Bars
- Ex. Gate to Remain in Place and Sealed

---

**SIGNATURE**

**DRAWN:**

**CHECKED:**

**DATE:**

**VERTICAL SCALE**

**HORIZONTAL SCALE**

**REVISIONS**

**OF SHEETS**

---

**LAWSON-FISHER ASSOCIATES P.C.**

---

**INDIANA DEPARTMENT OF NATURAL RESOURCES**

---

**WINONA LAKE OUTLET STRUCTURE REPAIR**

---

**PROPOSED STRUCTURE**

---

**PH. (574) 234-3167**

**525 W. WASHINGTON AVENUE**

**SOUTH BEND, INDIANA  46601**

---