INDIANA DEPARTMENT OF ADMINISTRATION
PUBLIC WORKS DIVISION
MORGAN COUNTY, INDIANA

CIKANA STATE FISH HATCHERY
WATER LINE AND DRAIN PIPE IMPROVEMENTS
APRIL, 2020

GENERAL LOCATION MAP
1. The location, size, and approximate elevation of existing utilities, whose shown on the drawings, were obtained from the survey and owner knowledge and shall be field located by contractor prior to construction. Utility services are shown as located by survey. Accuracy and accuracy of the utility locations shown is not warranted to be performed by contractor at no additional cost to owner.

2. Contractor to protect, relocate, etc, any existing utilities and services as required for installation of the proposed utilities. All costs shall be the contractors responsibility unless reflected otherwise in the plans and specifications.

3. Contractor to maintain 0'-6" horizontal and 1'-0" vertical separation between existing (including service laterals & water mains in accordance with IDEM requirements unless specifically noted otherwise in the plans). Contractor to provide a means to protect existing utilities from damage during construction.

4. Contractor to follow with all pertinent and applicable requirements, including but not limited to Indiana Department of Environmental Management, Indiana Department of Transportation & other applicable local, state & federal agencies.

5. Contractor to provide and maintain all necessary ditch control in existing and proposed ditches, culverts, storm pipes & drainage structures to prevent damage by erosion.

6. All existing landscaping, bushes, decorative trees and other existing topographic features to be protected and replaced if damaged by construction activities. All work necessary to be performed by contractor at no additional cost to owner.

7. Contractor to protect and repair all damaged field and drainage tile encountered during construction.

8. Contractor to field adjust manhole & structure top of center (VC), as necessary for proper final grades and drainage. VC is determined by the engineer. Note that final VC elevation will be determined in the field by the contractor and must be based on the structure installation. Contractor shall be responsible for confirming existing elevations and ordering manholes with fluidity for adjustment.

9. Contractor shall use no excavations open overnight unless adequately protected by equipment, barricades, safety fence, and warning lights.

10. All property and right-of-way lines shown are approximate and shall not be deemed as exact locations unless otherwise noted. Information was obtained through Indiana online GIS websites.

11. Contractor shall maintain 10'-0" horizontal and 1'-0" vertical separation between services (including service laterals & water mains in accordance with IDEM requirements unless specifically noted otherwise in the plans). Otherwise, manholes and water mains shall be 3'-0" minimum.

12. Contractor is responsible for locating and verifying locations of all existing utilities near all proposed work activities. If utility contact occurs, contractor shall be responsible for correction.

13. All exposed process piping (excluding air piping) shall be heat traced and insulated. Refer to electrical drawings and detailed specifications for additional details.

14. Existing utility information shown in drawings meets "ASCE 38-02" Quality Level C, unless otherwise noted.
### SURVEY INFORMATION

<table>
<thead>
<tr>
<th>IDENTIFIER</th>
<th>NORTH COORDINATE</th>
<th>EAST COORDINATE</th>
<th>ELEVATION</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>CP #10</td>
<td>153074.786</td>
<td>3150346.565</td>
<td>CAPPED REBAR</td>
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<td>TBM #5002</td>
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<td>463.99</td>
<td>CUT NORTHWEST CORNER SLAB</td>
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</table>

### SURVEY CONTROL COORDINATES:

- **HORIZONTAL**
  - US State plane coordinates: NAD83 (North American Datum)
    - Indiana West Zone (1302)

- **VERTICAL**
  - USGS 1988 NAVD (North American Vertical Datum)-per GPS observations (not verified by physical location of published USGS monuments)

### SURVEY NORTH

**POND #1**

**POND #2**

**POND #3**

**POND #4**

**POND #5**

**POND #6**

**POND #7**

**POND #8**

**POND #9**

**POND #10**

**POND #11**

**POND #12**

**POND #13**

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  - USGS 1988 NAVD (North American Vertical Datum)-per GPS observations (not verified by physical location of published USGS monuments)
GENERAL NOTES:
1. SEE GRADING PLANS FOR POND CHANGES.
2. PONDS #6 AND #7 TO BE CHANGED TO ONE POND (#6-7).
3. CONSTRUCTION SHALL BE RESPONSIBLE FOR LAYING THE LATERALS USING CIPP IMPROVEMENTS AND TANKS.
4. EXISTING DRIB LINES TO BE REMOVED.
5. SEE NOTE 4
6. EXISTING DRAIN TO BE ABANDONED.
7. REMOVE DOCK.
EXISTING GRADE
PROFILE LINE "A"

PROPOSED GRADE

HEADWALL
STA=10+00.00
INV IN=651.00
INV OUT=651.00
RIM=658.23

ST-11
STA=10+56.56
INV IN=651.35
INV OUT=651.25
RIM=658.23

ST-10
STA=12+72.23
INV OUT=652.35
RIM=660.22

645
650
655
660
665
GENERAL NOTES:

1. SEE SHEET 32 FOR HEADWALL DETAILS.

2. CLEARING REQUIRED TO ACCESS MATERIALS FOR LINES C, D, E, F, AND G IS THE CONTRACTOR'S RESPONSIBILITY.

3. CONTRACTOR SHALL BE RESPONSIBLE FOR LINING THE LATERALS WHERE CIPP IMPROVEMENTS ARE TAKING PLACE AS INDICATED ON THIS SHEET.

LEGEND

- LINE WITH CIPP
## STRUCTURE DATA TABLE

<table>
<thead>
<tr>
<th>Structure No.</th>
<th>Unit</th>
<th>Status</th>
<th>TDC (ft)</th>
<th>Upstream Str.</th>
<th>Downstream Str.</th>
<th>Drain Line</th>
<th>Invert (ft)</th>
<th>Down Stream Pipe Length (ft)</th>
<th>Pipe Diam. (in)</th>
<th>Pipe Material</th>
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<tbody>
<tr>
<td>1</td>
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<td>694.00</td>
<td>N/A</td>
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<td>SE: 683.87</td>
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<td>2</td>
<td>East</td>
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<td>1</td>
<td>Outlet</td>
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<td>N: Unknown</td>
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<td>W: Unknown</td>
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<td>6</td>
<td>J</td>
<td>N: 667.84</td>
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<td>15</td>
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<td>East</td>
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<td>3, 5</td>
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<td>L, K</td>
<td>N: 665.57</td>
<td>S: 665.56</td>
<td>W: 665.59</td>
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<td>Outlet</td>
<td>L</td>
<td>N: 665.36</td>
<td>E: 665.91</td>
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<td>W: 666.09</td>
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<td>7</td>
<td>L, M, N</td>
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<td>S: 666.78</td>
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<td>10</td>
<td>North</td>
<td>New</td>
<td>660.22</td>
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<td>11</td>
<td>A</td>
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<td>E: 652.35</td>
<td>S: 654.52</td>
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<tr>
<td>11</td>
<td>North</td>
<td>New</td>
<td>658.23</td>
<td>10</td>
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<td>N: 653.57</td>
<td>E: 653.25</td>
<td>S: 653.57</td>
<td>W: 653.35</td>
</tr>
</tbody>
</table>
GENERAL NOTES:

THIS SHEET PROVIDED FOR USE AS POTENTIAL LOCATION FOR EXCESS POND SOIL STOCKPILE.
LEVEE TYPE "A" CROSS SECTION
LINE "C" FROM Sta. 10+35 TO STA. 11+90
LINE "F" FROM Sta. 12+00 TO STA. 14+50
Scale: 1/4"=1'-0"

LEVEE TYPE "B" CROSS SECTION
LINE "C" FROM Sta. 12+20 TO STA. 14+00
LINE "F" FROM Sta. 10+30 TO STA. 12+00
Scale: 1/4"=1'-0"

LEVEE TYPE "C" CROSS SECTION
LINE "H" FROM Sta. 10+10 TO STA. 12+25
LINE "E" FROM Sta. 10+10 TO STA. 12+25
LINE "5" FROM Sta. 11+20 TO STA. 14+80
Scale: 1/4"=1'-0"

LEVEE TYPE "D" CROSS SECTION
LINE "A" FROM Sta. 10+30 TO STA. 14+25
LINE "E" FROM Sta. 12+25 TO STA. 14+25
LINE "1" FROM Sta. 10+30 TO STA. 14+70
LINE "5" FROM Sta. 10+25 TO STA. 11+20
Scale: 1/4"=1'-0"
NOTE:
1. ALL WATER PIPE TO BE RESTRAINED JOINT.
2. GRADING ADJACENT TO CONCRETE STAIRS SHALL MATCH STAIR SLOPE TO PREVENT A FALL HAZARD.
3. ALL WALL THICKNESSES SHOWN ARE APPROXIMATE. ACTUAL WALL THICKNESS SHALL MATCH STRUCTURAL DRAWINGS.
4. THE WEIR SLOT INVERTS SHALL MATCH THE BOTTOM EMBANKMENT SLOPE FOR EACH OF THE PROPOSED NEW KETTLES PROPOSED.
5. THE KETTLE SHALL BE SET INTO THE EMBANKMENT SUCH THAT APPROXIMATELY 4-6 INCHES OF WALL SHALL BE EXPOSED ABOVE GRADE.
1. **Initial Backfill** stops at a point 12" above the top of the pipe.
2. **Cardboard** shall be placed against undisturbed earth or rock edge of pavement.
3. **Backfill** falls under the jurisdiction of the Indiana Department of Transportation (INDOT).
4. **Initial Backfill** stops at a point 12" above the top of the pipe.
ASPHALT PAVEMENT RESTORATION - DETAIL

SECTION AA

PLAN VIEW

NEW STONE ACCESS ROAD DETAIL

SURFACE RESTORATION DETAIL FOR ASPHALT PAVEMENT, ROAD

SURFACE RESTORATION DETAIL FOR GRAVEL PAVEMENT, ROAD

CONCRETE WASHOUT DETAIL

EROSION CONTROL BLANKET

1. FENCES SHOULD BE INSTALLED PRIOR TO SOIL DISTURBANCE.
2. FENCES SHALL BE SYNCHRONIZED ON AN "AS NEEDED" BASIS AROUND THE SOIL AREA.
3. FENCES SHALL ALSO BE INSTALLED AROUND THE SOIL AREA.
4. THE FENCE MATERIAL SHALL BE DURABLE AND EASY TO INSTALL. CONSTRUCTION, TRANSPORTATION, STORAGE, OR INSTALLATION.
5. THE FENCE SHALL BE STAPLED TO THE SOIL.

FENCE POST AND TRENCH SIDE

FILTER FABRIC - APPLETON TRAFFIC FABRIC - POSTS - DRAINS - GROOVE.png

SILT FENCE DETAIL

NOT TO SCALE

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1. All work shall be performed without damage to adjacent retained work. Adequate protection of areas nearby work on structural concrete shall be used during all operations. Special curing boxes are not permitted for these test cylinders. The ratio of Type F shall be used. Concrete mixes using fly ash shall be proportioned to account for the properties of the fly ash concrete thus resulting. The ratio of water to cement will be kept at 0.45. Water shall not be added to the concrete at the job site. The Contractor is responsible for certifying that the concrete mixes were designed by a licensed engineer in accordance with the latest edition of the following codes: ACI 318, ACI 350R, ACI 350, ACI 211.1 Appendix 5 (Mass Concrete Mix Design), ACI 207.1R (Mass Concrete) and Environmental Engineering Concrete Structures (ACI 350R) by the American Welding Society Standard D1.4. Electrodes for shop and field welding of reinforcement bars shall be labeled with the manufacturer’s name, the grade, the nominal size, and the type of electrode. The object of the joints provided in the structure is to allow movement. Movements due to creep and shrinkage will persist. The object of the joints provided in the structure is to allow movement. Movements due to creep and shrinkage may be noticeable at joints up to two years after construction, beyond which movements due to variations in temperature will persist. The cracks formed are normally cosmetic. The concrete maintains its serviceability and strength requirements. It is designed for the in-service stresses imposed on the concrete elements. Reinforced concrete sections shall be considered to be in columns when they are 10 inches in thickness or less and the load is not to be sustained by the surrounding concrete. The permitted vertical stress at the center of gravity of a reinforced concrete member is 0.50 kips per square inch. All formed surfaces not exposed to public view shall receive a finish which conform to the latest editions of ACI 302.1R and ACI 304R (Guide for Measuring, Accepting, and Placing Concrete). The cracks formed are normally cosmetic. The concrete maintains its serviceability and strength requirements. It is designed for the in-service stresses imposed on the concrete elements. Reinforced concrete sections shall be considered to be in columns when they are 10 inches in thickness or less and the load is not to be sustained by the surrounding concrete. The permitted vertical stress at the center of gravity of a reinforced concrete member is 0.50 kips per square inch. All formed surfaces not exposed to public view shall receive a finish which conform to the latest editions of ACI 302.1R and ACI 304R (Guide for Measuring, Accepting, and Placing Concrete). Finishing of slab surfaces shall conform to the latest editions of ACI 302.1R and ACI 304R (Guide for Measuring, Accepting, and Placing Concrete). Finishing of slab surfaces shall conform to the latest editions of ACI 302.1R and ACI 304R (Guide for Measuring, Accepting, and Placing Concrete). Finishing of slab surfaces shall conform to the latest editions of ACI 302.1R and ACI 304R (Guide for Measuring, Accepting, and Placing Concrete). Finishing of slab surfaces shall conform to the latest editions of ACI 302.1R and ACI 304R (Guide for Measuring, Accepting, and Placing Concrete).
1. See the S1-series sheets for general structural notes and typical structural details.

2. General contractor to coordinate all opening, pipe sleeves, embedded items, handrails, grating, etc. with the process drawings.

3. All dimensions and elevations shall be verified prior to fabrication, construction or erection. The general contractor shall assume responsibility for any discrepancies.

4. See site plan for all final grade elevations.

5. Maintain structural slab thicknesses at all floor slopes and depressions.