INTERCEPTOR TRENCH
CONCEPTUAL DESIGN
BENNETT'S DUMP
BLOOMINGTON, INDIANA

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Site Address:
2090 Harter Valley Road
Bloomington, Indiana 47404

Engineer:
Jim Ekedahl, P.E.

Structural Engineer:
Robert Mohlin, P.E.
LEGEND:

- Existing Monitoring Well
- Existing Piezometer Location
- Springs
- Submersible Pump Vault
- Interceptor Trench Cleanout
- Interceptor Trench Monitoring Point
- Filter Tubes
- Utility Pole

- Silt Fence
- Conveyance Pipe
- Spring Surface flow
- Discharge Pipe
- Proposed Chain-Link Fence
- Existing Chain-Link Fence

Notes:

1. Contractor is responsible to review all notes and specifications prior to commencement of construction activities.

2. Contractor responsible for permits required from Federal, State, and local regulatory agencies. All permits shall be approved prior to construction activities.

3. The site is subject to inspection by United States Environmental Protection Agency (U.S. EPA), Indiana Department of Environmental Management (IDEM), and local agencies. All work performed shall meet local, state, and federal regulations.

4. Contractir responsible for verifying field elevations prior to work commencement. Two survey control points are located at the project site. Points are in the State Plane coordinate system, Indiana West NAD 83, US survey feet as follows:

   - BD-382
     - Description: MagNail
     - Easting: 3100682.59
     - Northing: 1436414.92
     - Elevation: 744.56
     - Elevation: 742.00

   - BD-385 (See Sheet C-003)
     - Description: Rebar
     - Northing: 1436411.92
     - Easting: 3100847.59
     - Elevation: 744.56
     - Elevation: 740.06

5. Contractor responsible for verifying locations of underground utilities located within the project area.

6. Electrical service is not available at the site.

7. Excavated soils and rock from interceptor trench, utility trench, and foundation excavation areas shall be stockpiled nearby. Excavated topsoil (0- to 6-inch depth) shall be segregated from other overburden materials. Remaining (non-topsoil) overburden soils shall be segregated from weathered bedrock, to the extent practicable, in stockpiles of 120 cubic yards or less. See specification sections 02 60 00 - Contaminated Site Material Removal and 31 00 00 - Earthwork requirements for managing excavation spoils. Spills with PCB concentrations of 50 ppm or greater shall be disposed of at the Heritage Environmental Services landfill in Roachdale, IN.

8. Any existing wells or piezometers encountered in the trench locations shall be removed and associated construction materials disposed of off site in accordance with federal, state, and local regulations.

9. In the event that excavations need to be dewatered during construction, Contractor shall be responsible for pumping excavation water to mobile storage tanks to be provided by the owner.

10. A pilot interceptor trench currently exists at the location of the Mid-North interceptor trench. This pilot shall be removed and replaced with a new permanent interceptor trench. As-built information for the pilot interceptor trench is provided in Appendix G of the Design Report for Bennett’s Dump OU-2.

11. A metal V-notch weir currently exists at the location of the Middle Spring interceptor trench. This weir shall be removed and stored for future use.

12. Contractor shall restore trench excavation areas to match existing adjacent grade.

References:

1. Base map provided by CBS Corporation via electronic mail from Mr. Ray Taylor dated January 19, 2016.

2. Potentiometric surface contours provided by PSARA Technologies, Inc. via electronic mail from Mr. Patrick Kneip, P.E. dated June 10, 2016.

Seed and Mulching Information:

1. Any disturbed area on which activity has ceased and which will remain exposed for more than 45 days shall be seeded and mulched within 7 days of last activity. During non-germinating periods, mulch shall be applied at the recommended rates.

2. Until the site is stabilized, all erosion and sedimentation controls shall be maintained properly per Specification Section 31 25 00 - Erosion and Sedimentation Controls. Maintenance shall include inspections of all erosion and sediment control after each storm event and on a weekly basis. All preventative and maintenance work, including clean out, repair, replacement, regrading, reseeding, remulching, and blanket replacement, shall be performed as soon as practical after identification of damage.

Seeding and Mulching Information:

- Seeding (March 18, 2015) - March 18, 2015
- Landfill in Roachdale, IN.
- Existing Piezometer Location
- Existing Monitoring Well
- Submersible Pump Vault
- Springs
- Interceptor Trench
- Interceptor Trench Cleanout
- Interceptor Trench Monitoring Point
- Filter Tubes
- Utility Pole
- Silt Fence
- Conveyance Pipe
- Spring Surface flow
- Discharge Pipe
- Proposed Chain-Link Fence
- Existing Chain-Link Fence
- Potentiometric Surface Contour - March 18, 2015

Elevation: 740.06
Easing: 3100847.59
Northing: 1436414.92
Elevation: 744.56
Elevation: 740.06

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- Base map provided by CBS Corporation via electronic mail from Mr. Ray Taylor dated January 19, 2016.

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Notes:

1. The Middle Spring interceptor trench shall consist of three sections. The first will extend from TW-4 (Northing: 1436288.89; Easting: 3100534.55) 25-feet to the southeast, parallel to the general flow of Stout's Creek. The second leg will be perpendicular to the first leg and will extend in the flow direction of Middle Spring into the head of the spring. The third leg will turn 40-degrees to the northeast from the first leg at the location of TW-4 and be 25-feet in length. The third leg of the trench will terminate approximately 5-feet northwest of GP-11.

2. As a contingency for artesian conditions at the Middle Spring area that may otherwise cause temporary sump overflow, a buried drain will be installed through the concrete manhole section at elevation 730-feet and terminate approximately 60 feet west of the sump with an invert elevation 729-feet. The drain pipe shall consist of 6-inch diameter, solid-wall HDPE.

3. All elevation data is based on the ground surface elevations at temporary well TW-4 and pre-design investigation borings PDI-1 through PDI-3, as well as geologic conditions encountered at these locations. The bottom of the trench shall be placed directly on top of competent bedrock and shall slope toward the pump vault. In cases where bedrock does not slope toward the pump vault location, rockwork may be required to create a minimum 0.5 percent slope, or the sump location may be modified at the direction of the Engineer.

4. Clay and gravel backfill elevations may need to be field adjusted to ensure the capture of Middle Spring.

5. Refer to Drawings C-007 and C-008 for additional construction details.
Notes:

1. The Mid-North Interceptor Trench shall be a 20-foot long trench parallel to the flow of Stout's Creek. The pump vault shall be located on the south end of the trench. PDI-4 (Northing: 1436404.19; Easting: 3100504.39) is located at the south end of the sump. As shown on the Site Plan, the trench will extend through piezometer TPZ-5 (Northing: 1436416.341; Easting: 3100501.401).

2. All elevation data is based on the ground surface elevations at temporary well TW-1, temporary piezometer TPZ-5, pre-design investigation boring PDI-4, and geologic conditions encountered at each of these locations. The bottom of the trench shall be placed directly on top of competent bedrock and shall slope toward the pump vault. In cases where bedrock does not slope toward the pump vault location, rockwork may be required to create a gradual slope, or the sump location may be modified at the discretion of the engineer.

3. Pump vault location shown is subject to change pending results of an additional boring near the southern terminus of the interceptor trench.

4. Refer to Drawings C-007 and C-008 for additional construction details.
Notes:
1. The North Area Interceptor Trench shall be 40-feet in length and extend through the locations of TW-2 (Northing: 1436481.06; Easting: 3100479.39) and TW-3 (Northing: 1436500.66; Easting: 3100483.02). The pump vault shall be located on the south end of the trench.

2. All elevation data is based on the ground surface elevations at temporary wells TW-2 and TW-3, piezometer PZ-9, and geoprobe boring GP-25, as well as geologic conditions encountered at each of these locations. The bottom of the trench shall be placed directly on top of competent bedrock and shall slope toward the pump vault. In cases where bedrock does not slope toward the pump vault location, rockwork may be required to create a gradual slope, or the sump location may be modified at the direction of the engineer.

3. Refer to Drawings C-007 and C-008 for additional construction details.
Notes:

1. Geological conditions including depths of weathered and competent bedrock are based upon subsurface evaluations at specific locations and times. Conditions may vary, including undulations of competent bedrock, requiring modifications during construction and shall be subject to approval by Engineer. If nodules of bedrock exist within the trench locations, rockwork may be required to facilitate a minimum 0.5% slope of the pipe toward the pump vault.

2. Geotextile fabric shall be draped over the sides of the trench prior to backfill and shall completely encapsulate the gravel fill. Edges shall be overlapped a minimum of 1 foot.

3. Clay shall be placed in 1-foot loose lifts and compacted to 95% maximum density of the Standard Proctor. Backfill shall be excavation spoils that are free of debris and rock over 2-inches maximum dimension and approved by the Engineer. Compaction testing may be requested.

4. 6-inch diameter slotted corrugated plastic piping shall be installed in the trench after placement of geotextile and prior to backfill. Pipe shall be single wall corrugated pipe constructed of high-density polyethylene (HDPE). It shall conform to AASHTO M294 type C specifications. Perforated piping shall have 1.5 to 3.5 square inches of opening per foot. Sections of pipe shall be joined together with connectors of the same material.

5. Gravel fill shall be clean and between 0.5 and 1.5-inches in diameter. The initial gravel lift shall be evenly placed to 12 inches above the pipe prior to placement of subsequent lifts.

6. Pipe trench shall be approximately 36-inches wide. Excavations at sump locations will be at least 72-inches wide. If at any time an excavation needs to be wider than specified to facilitate work, Contractor shall obtain Engineer approval. Excavations over 4-feet below grade shall be sloped or stepped back or a trench box must be utilized to meet OSHA regulations. Install orange construction/safety fencing to limit access to open excavations.