ADDENDUM NO. 1

April 14, 2023

COLUMBIA ELEMENTARY SCHOOL & LANDIS ELEMENTARY SCHOOL - SITE IMPROVEMENTS - BID PACKAGE #2
Logansport, IN 46947

TO: ALL BIDDERS OF RECORD

This Addendum forms a part of and modifies the Bidding Requirements, Contract Forms, Contract Conditions, the Specifications, and the Drawings dated March 27, 2023 by Gibraltar Design. Acknowledge receipt of the Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of Page ADD 1-1 and attached Addendum No. 1 from Gibraltar Design dated April 13, 2023, consisting of 67 pages and 7 drawings.

ADDENDUM ONE

Addendum One (AD.01) to the drawings and specifications prepared by Gibraltar Design and The Skillman Corporation for **Columbia Elementary School and Landis Elementary School Site Improvements** for **Logansport Community School Corporation**, Logansport, Indiana.

All Contractors bidding on this project shall read all of the items covered below and shall comply with all of the requirements as set forth, including any necessary refinements or additions generated by this Addendum and required by the intent of the original contract documents. All Contractors shall acknowledge on their bid form that they have received this Addendum and include the appropriate content of same within their bid proposal.

SPECIFICATIONS

1. **Specification Section 31 25 00 Erosion and Sediment Control**
   A. At the end of the section add Appendix 1 and Appendix 2 as follows:
      1. Appendix 1 –
         a. Construction / Stormwater Pollution Prevention Plan
            Landis Elementary School Site Improvement
      2. Appendix 2 –
         a. Construction / Stormwater Pollution Prevention Plan
            Columbia Elementary School Site Improvement

DRAWINGS

2. **Sheet C-107**
   A. Refer to revised full size drawing sheet, included in this addendum, for the following revisions:
      1. Added construction entrance servicing Alternate 2 and 3 locations.
      2. Added erosion control filter tube around Alternate 1 detention pond outlet pipe.
3. **Sheet C-201**
   A. Refer to revised full size drawing sheet, included in this addendum, for the following revisions:
      1. Revised light pole to remain in place near existing west driveway.
      2. Revised removal limits of sidewalk and curb on eastern portion of the site.

4. Sheet C-202

A. Refer to revised full size drawing sheet, included in this addendum, for the following revisions:

1. Revised sidewalk and curb replacement limits along eastern portion of the project.
2. Revised parking lot layout.
3. Revised dimensions of east driveway.
4. Added (39B) to the legend: "Stripe, Solid, Yellow, Paint, 4 in."

5. Sheet C-203

A. Refer to revised full size drawing sheet, included in this addendum, for the following revisions:

1. Added emergency overflow spillway elevations on the west side of the detention pond.
2. Revised detention pond volume requirements table.
3. Revised grading near east driveway
4. Revised grading along revised portions of the parking lot.
5. Added grading to the proposed curb and sidewalk along eastern portion of the project.

6. Sheet C-205

A. Refer to revised full size drawing sheet, included in this addendum, for the following revisions:

1. Added Erosion Control Note 5 regarding permanent inlet protection baskets.
2. Added callouts at locations of proposed permanent inlet protection baskets.

7. Sheet ES-202

A. Refer to revised full size drawing sheet, included in this addendum, for the following revisions:

1. Clarifying circuit numbers for the site lighting.
2. Modifying site plan notes.

8. Sheet E-601

A. Refer to revised full size drawing sheet, included in this addendum, for the following revisions:

1. Modifying Fixture Schedules.
2. Adding Panelboard Schedules for Landis Elementary School.
3. Modifying Relay Schedule.

Pages 1 through 3, inclusive, Specification Section 31 25 00 and Seven (7) full-size Drawings constitute the total makeup of **Addendum One**.

GIBRALTAR DESIGN

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CONSTRUCTION / STORMWATER POLLUTION PREVENTION PLAN

COLUMBIA ELEMENTARY SCHOOL SITE IMPROVEMENT

LOGANSPORT COMMUNITY SCHOOL CORPORATION

14-DIGIT HYDROLOGIC UNIT CODE: 05120104070070

LATITUDE / LONGITUDE: 40°45'46.61"N / 86°22'17.06"W

CITY OF LOGANSPORT, CASS COUNTY, INDIANA

PREPARED BY:

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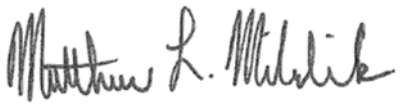
Your Vision ◆ Our Focus

A1. Index:

Appendices: HUC14 Map, FIRMette Map, Soils Map, and Plans

SWPPP Prepared by:



Matthew L. Mihalik
April 4, 2023

A2. A vicinity map depicting the project site location in relationship to recognizable local landmarks, towns, and major roads:

See attached Vicinity Map Exhibit.

A3. Project nature and purpose:

This project shall install new playground areas, parking, and driveway improvements to the existing Columbia Elementary School.

A4. Latitude and longitude to the nearest fifteen (15) seconds:

Latitude / Longitude: 40°45'46.61"N / 86°22'17.06"W

A5. Legal Description:

Located in Section 25, Township 27N, Range 1E

A6. Plat:

See attached Plans for property limits.

A7. Boundaries of the one hundred (100) year floodplains, floodway fringes, and floodways:

As shown on the included National Flood Insurance Program FIRMette map from panel 18017C0163C, the project is located in Zone X – Area of Minimal Flood Hazard.

A8. Land use of all adjacent properties:

The property is bordered on by residential homes on the west, east, and south. To the north is a wooded area with additional residential homes beyond.

A9. Identification of a U.S. EPA approved or established TMDL:

None.

A10. Receiving waters:

The stormwater runoff ultimately discharges to Eel River – Horney Creek.

A11. Identification of discharges to a water on the current 303(d) list of impaired waters and the pollutant(s) for which it is impaired:

No discharges directly to the waterways will result from this project. The Eel River is on the current 303(d) list of impaired waters with identified issues being PCBs.

A12. Soils map of the predominate soil types:

See included soils map and descriptions generated from the Web Soil Survey website.

A13. Identification and location of all known wetlands, lakes, and water courses on or adjacent to the project site (construction plan, existing site layout) :

None on or near the site.

A14. Identification of any other state or federal water quality permits or authorizations that are required for construction activities:

None associated with this project. As a note, the demolition of the 6th grade academy building is located on the same site. An NOI is being file with IDEM for activities associated with that project (application HPS-HZ4P-XGEBE, SWPPP reviewed and approved by IDEM). NOI application will be completed upon local public notice publication in local newspaper scheduled for Friday April 6, 2023.

A15. Identification and delineation of existing cover, including natural buffers:

Existing vegetation cover includes grass lawns and some sparse trees.

A16. Existing site topography at an interval appropriate to indicate drainage patterns:

See existing plan sheets for topography of existing site.

A17. Location(s) where run-off enters the project site:

The natural topography of the surrounding area generally drains from north of the site south through the site. Runoff may enter the site from the north and northeast sections of the property.

The site is bordered on the west and south by public roads, which collect and convey runoff, preventing any from entering from either of those directions.

Directly east of the site is residential homes. This land drains south / southeast; partially entering the site. Any runoff entering the site from this area is collected by onsite drainage located in the parking lot.

A18. Location(s) where run-off discharges from the project site prior to land disturbance:

All site runoff is either collected by on-site drainage structures which conveys runoff to the municipal storm sewer system or sheet drains toward Third Street or Columbia Street, where it is collected by the municipal storm water collection system.

A19. Location of all existing structures on the project site:

See existing site plan and plat of survey documents. Note that the 6th grade academy building located on the southwest corner of the property is to be demolished as part of a separate project.

A20. Existing permanent retention or detention facilities, including manmade wetlands, designed for the purpose of stormwater management:

None exist on site.

A21. Locations where stormwater may be directly discharged into ground water, such as abandoned wells, sinkholes, or karst features:

There are presently no known discharges to groundwater on the site and the proposed construction should not result in discharges to groundwater.

A22. Size of the project area expressed in acres:

The project site is approximately 3.20 Acres.

A23. Total expected land disturbance expressed in acres:

The approximate disturbed area of the site is 2.48Acres.

A24. Proposed final topography:

See attached grading plan for final site topography.

A25. Locations and approximate boundaries of all disturbed areas:

See attached site plan. Project shall cover large courtyard area and the area of the demolished 6th grade academy building.

A26. Locations, size, and dimensions of all stormwater drainage system such as culverts, stormwater sewer, and conveyance channels:

See included plans for locations of existing facilities, demolitions, and proposed site improvements.

No culverts located on site.

A27. Locations of specific points where stormwater and non-stormwater discharges will leave the project site:

Runoff from disturbed areas shall be collected on site and conveyed to the proposed detention pond. All existing site runoff not associated with the improvements is either collected on-site by storm sewer structures and discharged to the local storm sewer

system or sheet flows off site into either Columbia Avenue or Third Street, where it is collected by the local storm sewer system.

A28. Location of all proposed site improvements, including roads, utilities, lot delineation and identification, proposed structures, and common areas:

See attached site plan. There will be a parking lot, student pick-up and drop-off lanes, and proposed playground areas in the center of the proposed site. Driveways connecting to Third Street to the west and the existing parking lot to the east will be constructed as well.

A29. Location of all on-site and off-site soil stockpiles and borrow areas:

None anticipated at this time. Any stock piles deemed necessary in the future shall be located as site construction dictates. These stock piles shall be protected from runoff by silt worms surrounding the pile.

No off site borrow areas planned with this project.

A30. Construction support activities that are expected to be part of the project:

None anticipated.

A31. Location of any in-stream activities that are planned for the project including, but not limited to, stream crossings and pump arounds:

None.

B1. Description of potential pollutant sources associated with the construction activities:

The proposed site improvements will generate potential pollutants during construction operation that could enter adjacent drainage ways. Potential pollutant sources that may generate pollutants on the project include, but are not limited to, exposed soil locations and stored construction equipment and vehicles that may be leaking oil and fuels. Pollutants generated from these sources include, but are not limited to, gasoline and diesel fuel, oil and grease, fertilizers, antifreeze, rubber fragments, metals, excess concrete washout and unprotected soils. During demolition of the school, additional pollutants may be in the form of construction refuse, such as pipe or brick shavings from saw cutting, and general litter (cardboard, product wrappers, etc).

B2. Stable construction entrance locations and specifications:

Stabilized construction entrance shall be provided at the location shown on the Erosion Control Plan at the driveway off of Third Street and at the east entrance off of the parking lot. See plan details for entrance specifications and requirements.

B3. Specifications for temporary and permanent stabilization:

Seasonal stabilization chart provided on Erosion Control Plan and Detail sheets. The permanent stabilization shall be grass seed over top soil. No slopes greater than 4:1 are in the proposed disturbed area, so no erosion control blankets will be necessary.

All permanent stabilization shall be installed per INDOT Standard Specification Section 621. Permanent seeding shall be INDOT Type U with mulching material installed per Section 621.

B4. Sediment control measures for concentrated flow areas:

The proposed parking lot will sheet drain to a curb cut opening at the southwest corner. There, the proposed restoration area shall be reinforced with VMAX SC250 permanent blanket by Rollmax or approved equal.

B5. Sediment control measures for sheet flow areas:

Areas of sheet flow will be protected by silt fencing or filter tube as shown on the Erosion Control Plan. These disturbed areas of sheet flow shall be stabilized with top soil and seed upon completion of grading activity, or shall be temporarily seeded if left idle for 7 days.

Inlet protection shall be installed on all open-grated structures (existing and proposed).

B6. Runoff control measures:

N/A

B7. Storm water outlet protection specifications:

All outlets shall be protected by riprap as shown on the details pages.

B8. Grade Stabilization structure locations and specifications:

N/A

B9. Dewatering applications and management methods:

Ground water is not expected to be encountered on site. Should it become necessary, contractor to utilize and maintain pump discharge filter bags for pumping of sediment laden water from dewatering operations. All equipment necessary for dewatering, including filter bags, shall be installed, operated and maintained until all work subject to damage by the water has been completed. All excavation dewatering, including use and maintenance of pump discharge filter bags, shall be incidental to the contract.

B10. Measures utilized for work within waterbodies:

N/A

B11. Monitoring and maintenance guidelines for each proposed stormwater quality measure:

The Contractor will provide said services. The Contractor will perform inspections to monitor and maintain the erosion and sedimentation control measures on a weekly basis and after all storm events with a half inch or greater amount of rainfall. Contractor to maintain a record log of all inspections performed, including any corrective actions taken to clean, repair or replace the temporary erosion and sedimentation control measures.

Throughout the entire construction of project, up to final completion, the weekly erosion and sedimentation control measure maintenance shall include:

INLET PROTECTION

**Remove any deposited sediment from inlet filter baskets inlet protection once the level of sediment reaches half the storage height of the control measure, or more often if excessive sedimentation is experienced. Remove grate from drainage structure and collect debris from filter basket either manually or by vacuuming. If a layer of clogging silt remains on inside of filter basket bag, flush with water for optimal filtration. All sediment removed shall be properly disposed of and not allowed to enter the storm sewer system.

**If any inlet filter basket develop holes, fail to pass water or become ineffective for any reason, replace the affected control measure, or portion thereof.

**After permanent stabilization is achieved, remove the inlet filter baskets inlet protection and any sediment deposits.

CONSTRUCTION ENTRANCE

**Inspect entrance pad and sediment disposal area weekly, after storm events, or heavy use.

**Reshape pad as needed for drainage and runoff control.

**Top dress with clean stone as needed.

**Immediately remove mud and sediment tracked or washed onto public roads by brushing, scraping and/or sweeping. Flushing should only be used if the water is conveyed into a sediment trap or basin.

**Repair any broken road pavement immediately.

TOPSOIL AND SEEDING

**Install topsoil, seed, fertilizer and mulching material in accordance with specifications after rough grading is complete and no future disturbance is expected.

**Provide maintenance watering as necessary until seed is adequately established and accepted by Owner; re-seed areas if necessary.

SILT FENCE AND FILTER TUBE

**Inspect weekly or after any storm event of ½" or greater. Remove and dispose of any accumulated soil or debris. Repair any torn or distressed portions of silt fence fabric. Replace any damaged stakes.

SELF INSPECTION REPORTS

**Site Contractor shall maintain a log with a self-inspection report of all on-site erosion control measures throughout the construction process. These reports will be completed weekly and after a rain event of greater than one-half inch. The reports shall be made available upon request by Town of Porter, IDEM, or any other inspecting agency within 24 hours.

**Self inspection reports shall be completed by a person certified in inspection of construction sites for sediment/erosion control.

B12. Sequence describing storm water quality measure implementation relative to land disturbing activities:

This section includes recommended sequencing of the installation of erosion and sedimentation control measures. The Contractor shall submit an amended Erosion Control Plan in accordance with the Indiana Construction General Permit to completely cover the Contractor's actual sequencing of operations, including any desired changes to the sequencing listed herein.

Erosion and sedimentation control measures shall be installed by the Contractor in accordance with the plans, Indiana Storm Water Quality Manual and applicable requirements of Indiana Construction General Permit by personnel trained in erosion control practices. The Contractor shall be proactive in ensuring that the requirements of Indiana Construction General Permit are met. The sequencing provided herein shall serve as a guideline for storm water quality measure implementation, but should not be interpreted to be the only basis for implementation of storm water quality measures for the project site. The Contractor shall implement any additional measures required by the local Soil and Water Conservation District (SWCD), City of Logansport, and IDEM, and any additional measures necessary to adequately prevent polluted storm water runoff. The Contractor's plan for construction sequencing should minimize the areas subject to erosion at any given time. The plan should focus on finishing grades in disturbed areas and stabilizing those areas with temporary or permanent seeding as soon as possible to minimize erosion.

IOSHA requirements will be followed for MSDS Requirements and spill contamination. In the event of a spill or leak, the Contractor will follow proper procedures to minimize exposure.

a. Install all perimeter silt fence and filter tubes surrounding the existing building as shown on the Erosion Control Plans prior to any demolition or land disturbing activity. Silt fence shall remain in place throughout demolition until permanent stabilization achieved.
b. Install all drop inlet protection baskets as shown on the Erosion Control Plans prior to any demolition or land disturbing activity. These shall remain in place throughout demolition until permanent stabilization achieved.
c. Install construction entrances at locations shown on Erosion Control Plan.
d. Contractor to utilize and maintain pump discharge filter bags for pumping of sediment laden water from dewatering operations if dewatering is necessary. All equipment necessary for dewatering, including filter bags, shall be installed, operated and maintained until all work subject to damage by the water has been completed. All excavation dewatering, including use and maintenance of pump discharge filter bags, shall be incidental to the contract. Note that ground water is not anticipated to be reached during excavation operations.
e. Install riprap outlet protection on all flared end sections in the proposed detention pond upon installation of the end sections.
f. Permanent topsoil and seeding of all disturbed areas shall take place upon completion of grading activities. If topsoil and seeding must be delayed or the site left idle for 7 or more days, a temporary seed mixture shall be planted.
g. Temporary surface stabilization of any disturbed locations in non-paved areas to be accomplished by temporary seeding (when subsequent disturbance is anticipated and areas are idle for 7 or more days) or permanent sodding/nursery (when areas are finish-graded). Exposed soil areas that generate excessive dust shall be sprayed down with water trucks as required.
h. All temporary erosion and sedimentation control measures are to be regularly monitored and maintained by the Contractor until permanent surface stabilization has been accomplished.
i. All temporary erosion and sedimentation control measures are to be removed by the Contractor once permanent surface stabilization has been accomplished.
j. Any off-site locations used by contractors for dumping spoil material shall be required to follow any above processes to prevent runoff at any proposed dumping site. These measures may include, but are not limited to, silt fence perimeter fence around stock piles and temporary or permanent seeding on stock piles or other disturbed areas if left idle for 7 days or more. Note that no off-site work is anticipated.
k. All dumpsters and trash enclosures on site shall be set up in a manner which prevents materials from blowing out of the container and prevents rainwater from entering and carrying sediment laden runoff out of the container. This can be achieved with a lid, tarp, or other effective method.

B13. Erosion and sediment control specifications for individual building lots:

N/A

B14. Material handling and spill prevention and spill response plan meeting the requirements in 327 IAC 2-6.1:

See item B15 below for a list of materials that can reasonably be expected on site. Contractor shall have trained individuals prepared to address any releases.

Materials stored on site shall be kept in accordance with MSDS sheets and standard construction practices. No materials shall be left open when not in use.

Contractor shall report any releases in accordance with 327 IAC 2-6.1.

B15. Material handling and spill prevention and spill response plan meeting the requirements in 327 IAC 2-6.1:

The Contractor and all subcontractors will be responsible to implement practices for the prevention of pollutants reaching drainage ways that flow off-site. Prevention should include, but not be limited to, material handling and storage, clean up of pollutant at time of detection and regular maintenance of erosion practices.

Contractor personnel on-site who are involved in fuel transfer, maintenance and other related activities that may involve toxic and/or hazardous materials shall be trained in event of accidental spillage. General contractor shall provide documentation that the personnel on-site are OSHA trained for these types of events.

Throughout the construction of this project there are a number of materials expected to be handled on the site that may be subject to spills. In order to stop these materials from entering into the soils, storm sewers and ground waters of the project, the on-site handling of soils will be limited to the excavation, loading, and spreading. The Contractor will minimize the disturbance of excavated soils by minimizing the number of times the soil is handled. If a spill occurs, the following measures will be taken for the associated material:

MATERIAL HANDLING & SPILL PREVENTION

**Material handling and spill prevention for all materials listed, anticipated to be used and any other pollutants not described but associated with land disturbance and construction activities shall be provided by all project Contractors and subcontractors. The Contractor and all subcontractors shall refer to the Material Safety Data Sheet (MSDS) for information on the proper storage, use, and clean-up methods for all materials anticipated to be on the project site.

**All required materials for spill clean up and disposal of all onsite materials shall be kept on site in a project trailer with easy access for all users of associated materials.

**All disposals of spilled materials shall be done in accordance with Federal, State and Local waste disposal regulations. The Contractor and all subcontractors shall be responsible for any and all spills associated with their work.

OIL, GREASE AND OTHER HYDROCARBONS

**Spills if possible should be contained at time of detection. Removal shall be done mechanically or wipe up or absorbed on suitable material and shovel up. Disposal should be in accordance with Federal, State and Local waste disposal regulations. Handling and storage of any oil, grease or other hydrocarbons shall be done in tightly closed containers, in a dry cool place away from any heat or ignition sources.

GASOLINE AND DIESEL FUEL

**Spills if possible should be contained at the time of detection. Remove any source of heat and ignition, such as engines and power tools. Clean up spill area by use of sand or other absorbent, scrape up and place in appropriate containers for disposal. Disposal should be in accordance with Federal, State and Local waste disposal regulations. Handling and storage of any gasoline and diesel fuel shall be done in tightly closed containers, in a dry cool place away from any heat or ignition sources.

**Fuel storage on the project site shall be avoided if possible to aid in the prevention of spills. Tanker trucks should be used for the fueling of large construction equipment.

ANTIFREEZE

**Spills if possible should be contained at time of detection. Shut off source or leak, dike and contain spill area. Remove spills promptly by use of shovel, vacuum trucks or pump, and store into clean empty storage drums. Trace residue can be soaked with water, but do not flush to sewer or surface water. Disposal should be in accordance with Federal, State and Local waste disposal regulations. Handling and storage of any antifreeze shall be done in tightly closed containers, in a dry cool place away from any heat or ignition sources.

RUBBER FRAGMENTS AND METALS

**All materials shall be swept up and disposed of as regular trash or reclaimed for scrap value in accordance with Federal, State and Local waste disposal regulations. Handling and storage of rubber, metals and trash shall be placed in a refuse area until such time of appropriate disposal.

FERTILIZER

**All excess spills of material shall be swept or soaked up and placed in a suitable waste disposal container. When possible, the excess material should be recycled. Minor spills should be flushed with water, avoiding contamination of any streams and waterways. Disposal should be in accordance with Federal, State and Local waste disposal regulations. Handling and storage of any fertilizer shall be done in tightly closed containers or bags, in a dry cool place.

GRIT, WEARING OF ROAD SURFACE

**All materials shall be swept up and disposed of as regular trash or reclaimed for scrap value in accordance with Federal, State and Local waste disposal regulations. Handling and storage of grit shall be placed in a refuse area until such time of appropriate disposal.

PROCEDURES IN CASE OF SPILL

**If a large spill occurs, the following procedures will be followed to minimize exposure of the material:

a. Take immediate measures to control and contain the spill to prevent release into sewers or surfaces.
b. Notify the Local Fire Department immediately at 9-1-1.
c. Notify the Federal Emergency Spill Hotline at 1-800-424-8802 within 2 hours if the amount is above a reportable quantity or any amount enters a waterway or storm sewer.
d. Notify the Indiana Emergency Response Hotline at 1-888-233-7745.
e. Isolate and contain the hazardous spill areas with absorbent pads, booms and pillows.
f. Use spill kits to absorb liquids.
g. For larger spills, dispatch vacuum tankers and/or emergency response team.
h. Deny entry to all unauthorized personnel.
i. Do not allow anyone unqualified to touch the spilled material.
j. Stay upwind and keep out of low areas.
k. Keep combustibles away from spilled material.
l. Take any other appropriate actions.

C1. Description of pollutants and their sources associated with the proposed land use:

No new types of pollutants not already present on site are anticipated upon completion of this project.

Pollutants produced can include waste, litter, or engine fluid from cars or trucks parking at the facility.

C2. Description of proposed post construction stormwater quality measures:

The project will utilize a three methods of clarifying water runoff. First, inlet insert baskets shall be maintained permanently in the proposed open-grated inlet structures. Second, areas sheet draining into the proposed detention pond must pass over grassy areas (filter strip) providing sediment removal. The final step is handled in the detention pond, where runoff will pool and allow TSS to settle out of the runoff.

C3. Plan details for each stormwater measures:

All disturbed areas that are not being paved or covered with concrete shall be seeded with seeding in accordance with the project specifications and covered with mulching material.

C4. Sequence describing stormwater quality measure implementation:

Permanent stabilization in non-paved and non-gravel areas will be accomplished by seeding all disturbed areas as soon as possible following final grading of these areas.

As mentioned in item B4, VMAX SC250 permanent blanket by Rollmax or approved equal shall be installed prior to permanent seeding at the curb opening located at the southwest corner of the proposed parking lot.

C5. Description of maintenance guidelines for proposed post construction water quality measures:

The Contractor will be responsible for the maintenance of seeded areas as required by specification. Once all seeded areas have been accepted by the Owner, the Owner will take responsibility for maintaining all lawn areas and the detention ponds.

Grass Lawn:

Post construction maintenance of the ponds shall include the following:

1. Regular lawn maintenance: This includes mowing the grass to maintain vegetation height and re-seeding areas where grass vegetation is damaged or dies.

Inlet Insert Baskets:

Post construction maintenance of the ponds shall include the following:

1. Site owner shall inspect the insert baskets once a month and remove any built up sediment. Additional inspections/cleaning may be needed during times where repeated heavy storms occur.

Riprap outlet protection:

Post construction maintenance of the ponds shall include the following:

1. Site owner shall inspect at least once every 6 months. Clean any accumulated sediment, trash, or other material such as grass clippings.

C6. Entity that will be responsible for operation and maintenance of the post-construction stormwater measures:

The Logansport Community School Corporation will own and operate the proposed school facility and the site.

CONSTRUCTION / STORMWATER POLLUTION PREVENTION PLAN

LANDIS ELEMENTARY SCHOOL SITE IMPROVEMENT

LOGANSPORT COMMUNITY SCHOOL CORPORATION

14-DIGIT HYDROLOGIC UNIT CODE: 05120101180040

LATITUDE / LONGITUDE: 40°45'2.17"N / 86°19'42.91"W

CITY OF LOGANSPORT, CASS COUNTY, INDIANA

PREPARED BY:

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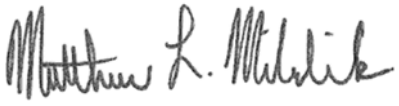
Your Vision ◆ Our Focus

A1. Index:

Appendices: HUC14 Map, FIRMette Map, Soils Map, and Plans

SWPPP Prepared by:



Matthew L. Mihalik
April 11, 2023

A2. A vicinity map depicting the project site location in relationship to recognizable local landmarks, towns, and major roads:

See attached Vicinity Map Exhibit.

A3. Project nature and purpose:

This project is broken down into three alternatives. All to none of them may be constructed based on bidding results. If all the alternate bid options are chosen to be constructed, the total land disturbance will be 2.12 acres.

- Alternate 1 (0.97 Acres): Bus entrance improvements and parking lot expansion. This will create a new driveway entrance onto the large parking lot to the southwest of Landis Elementary School. Two playground areas would be removed and site lighting would be adjusted to accommodate the new parking area.
- Alternate 2 (0.36 Acres): Parent pick-up/drop-off driveway on the southwest side of the school building. This would add concrete sidewalk and an asphalt driveway for parents to pick-up and drop-off children at the school.
- Alternate 3 (0.79 Acres): Playground removal and replacement. This will remove the existing playground equipment south of the existing elementary school and add new hard and soft play surfaces and future playground equipment.

A4. Latitude and longitude to the nearest fifteen (15) seconds:

Latitude / Longitude: 40°45'2.17"N / 86°19'42.91"W

A5. Legal Description:

Located in Section 29, Township 27N, Range 2E

A6. Plat:

See attached Plans for property limits.

A7. Boundaries of the one hundred (100) year floodplains, floodway fringes, and floodways:

As shown on the included National Flood Insurance Program FIRMette map from panel 18017C0164C and 18017C0252C, the project is located in Zone X – Area of Minimal Flood Hazard.

A8. Land use of all adjacent properties:

The property is bordered on the south and west by the Logansport High School and athletic fields, to the east by residential homes, and to the north by the Logansport Junior High School

A9. Identification of a U.S. EPA approved or established TMDL:

The Wabash River, whose pollutants include E. coli, Nutrients, Impaired Biotic Communities, Dissolved Oxygen, and pH.

A10. Receiving waters:

The stormwater runoff ultimately discharges to the Wabash River – Biddle Island.

A11. Identification of discharges to a water on the current 303(d) list of impaired waters and the pollutant(s) for which it is impaired:

No discharges directly to the waterways will result from this project. The Wabash River is on the current 303(d) list of impaired waters with identified issues being PCBs, Bacteria and other microbes, Nitrogen and/or Phosphorus.

A12. Soils map of the predominate soil types:

See included soils map and descriptions generated from the Web Soil Survey website.

A13. Identification and location of all known wetlands, lakes, and water courses on or adjacent to the project site (construction plan, existing site layout) :

None on or near the site.

A14. Identification of any other state or federal water quality permits or authorizations that are required for construction activities:

None associated with this project.

A15. Identification and delineation of existing cover, including natural buffers:

Existing vegetation cover includes grass lawns and some sparse trees.

A16. Existing site topography at an interval appropriate to indicate drainage patterns:

See existing plan sheets for topography of existing site.

A17. Location(s) where run-off enters the project site:

Runoff may enter the site from the south, as the existing baseball field is elevated above the project site.

Otherwise, the only runoff that enters the site is from direct rainfall onto the site.

A18. Location(s) where run-off discharges from the project site prior to land disturbance:

The area to the south of the elementary school (proposed Alternate 3 area) is collected by on-site drainage structures which drain to a detention pond area on the northwest portion of the school site.

The area to the north and west of the school building (proposed Alternate 1 and Alternate 2 areas) run off to directly west into the existing parking lot of the high school or directly northwest toward and existing drainage swale which conveys runoff away from the site.

A19. Location of all existing structures on the project site:

See existing site plan sheet C-100.

A20. Existing permanent retention or detention facilities, including manmade wetlands, designed for the purpose of stormwater management:

The area northeast of the existing school building (near the intersection of Lafayette Drive and Landis Lane) appears to be an existing dry detention basin.

A21. Locations where stormwater may be directly discharged into ground water, such as abandoned wells, sinkholes, or karst features:

There are presently no known discharges to groundwater on the site and the proposed construction should not result in discharges to groundwater.

A22. Size of the project area expressed in acres:

The project area is approximately 2.12 Acres if all alternatives are constructed.

A23. Total expected land disturbance expressed in acres:

The approximate disturbed area of the site is 2.12 Acres if all alternatives are constructed.

A24. Proposed final topography:

See attached grading plans C-105 and C-106 for final site topography.

A25. Locations and approximate boundaries of all disturbed areas:

See attached site plans C-102, C-103, and C-104.

A26. Locations, size, and dimensions of all stormwater drainage system such as culverts, stormwater sewer, and conveyance channels:

Proposed downspout extensions are located on the southwest portion of the building shown on page C-103 in the Alternate 2 area.

A proposed storm sewer pipe connection to the existing drainage swale on the north side of Alternate 1 is shown on sheet C-102

A27. Locations of specific points where stormwater and non-stormwater discharges will leave the project site:

The intent of the project is to maintain the current drainage patterns of the site. Below are how each proposed alternate aims to achieve this.

- Alternate 1: proposed runoff will continue to flow toward Lincoln Way by sheet flow. A proposed dry detention area will collect runoff and release toward the existing drainage swale.
- Alternate 2: proposed runoff will continue to drain southwest toward the existing high school parking lot.
- Alternate 3: proposed runoff will continue to drain north toward the building, where it will be collected by on-site drainage structures. These structures ultimately drain to the on-site detention area at the northwest corner of the site (near the intersection of Lafayette Drive and Landis Lane).

A28. Location of all proposed site improvements, including roads, utilities, lot delineation and identification, proposed structures, and common areas:

See attached site plan sheets C-102, C-103, and C-104.

A29. Location of all on-site and off-site soil stockpiles and borrow areas:

None anticipated at this time. Any stock piles deemed necessary in the future shall be located as site construction dictates. These stock piles shall be protected from runoff by silt worms surrounding the pile.

No off site borrow areas planned with this project.

A30. Construction support activities that are expected to be part of the project:

None anticipated.

A31. Location of any in-stream activities that are planned for the project including, but not limited to, stream crossings and pump arounds:

None.

B1. Description of potential pollutant sources associated with the construction activities:

The proposed site improvements will generate potential pollutants during construction operation that could enter adjacent drainage ways. Potential pollutant sources that may generate pollutants on the project include, but are not limited to, exposed soil locations and stored construction equipment and vehicles that may be leaking oil and fuels. Pollutants generated from these sources include, but are not limited to, gasoline and diesel fuel, oil and grease, fertilizers, antifreeze, rubber fragments, metals, excess

concrete washout and unprotected soils. During demolition of the school, additional pollutants may be in the form of construction refuse, such as pipe or brick shavings from saw cutting, and general litter (cardboard, product wrappers, etc).

B2. Stable construction entrance locations and specifications:

Construction entrances shall be installed as shown on sheet C-107. Construction entrances shall only be installed with the corresponding Alternates being constructed.

B3. Specifications for temporary and permanent stabilization:

Seasonal stabilization chart provided on Erosion Control Plan and Detail sheets. The permanent stabilization shall be grass seed over top soil. No slopes greater than 4:1 are in the proposed disturbed area, so no erosion control blankets will be necessary.

All permanent stabilization shall be installed per INDOT Standard Specification Section 621. Permanent seeding shall be INDOT Type U with mulching material installed per Section 621.

B4. Sediment control measures for concentrated flow areas:

No areas of concentrated flow anticipated within the construction limits. All flow anticipated to be sheet flow.

B5. Sediment control measures for sheet flow areas:

Areas of sheet flow will be protected by silt fencing or filter tube as shown on the Erosion Control Plan. These disturbed areas of sheet flow shall be stabilized with top soil and seed upon completion of grading activity, or shall be temporarily seeded if left idle for 7 days.

Inlet protection shall be installed on all open-grated structures as shown on the erosion control plan.

B6. Runoff control measures:

N/A

B7. Storm water outlet protection specifications:

All outlets shall be protected by riprap as shown on the details pages.

B8. Grade Stabilization structure locations and specifications:

N/A

B9. Dewatering applications and management methods:

Ground water is not expected to be encountered on site. Should it become necessary, contractor to utilize and maintain pump discharge filter bags for pumping of sediment laden water from dewatering operations. All equipment necessary for dewatering, including filter bags, shall be installed, operated and maintained until all work subject to damage by the water has been completed. All excavation dewatering, including use and maintenance of pump discharge filter bags, shall be incidental to the contract.

B10. Measures utilized for work within waterbodies:

N/A

B11. Monitoring and maintenance guidelines for each proposed stormwater quality measure:

The Contractor will provide said services. The Contractor will perform inspections to monitor and maintain the erosion and sedimentation control measures on a weekly basis and after all storm events with a half inch or greater amount of rainfall. Contractor to maintain a record log of all inspections performed, including any corrective actions taken to clean, repair or replace the temporary erosion and sedimentation control measures.

Throughout the entire construction of project, up to final completion, the weekly erosion and sedimentation control measure maintenance shall include:

INLET PROTECTION

**Remove any deposited sediment from inlet filter baskets inlet protection once the level of sediment reaches half the storage height of the control measure, or more often if excessive sedimentation is experienced. Remove grate from drainage structure and collect debris from filter basket either manually or by vacuuming. If a layer of clogging silt remains on inside of filter basket bag, flush with water for optimal filtration. All sediment removed shall be properly disposed of and not allowed to enter the storm sewer system.

**If any inlet filter basket develop holes, fail to pass water or become ineffective for any reason, replace the affected control measure, or portion thereof.

**After permanent stabilization is achieved, remove the inlet filter baskets inlet protection and any sediment deposits.

CONSTRUCTION ENTRANCE

**Inspect entrance pad and sediment disposal area weekly, after storm events, or heavy use.

**Reshape pad as needed for drainage and runoff control.

**Top dress with clean stone as needed.

**Immediately remove mud and sediment tracked or washed onto public roads by brushing, scraping and/or sweeping. Flushing should only be used if the water is conveyed into a sediment trap or basin.

**Repair any broken road pavement immediately.

TOPSOIL AND SEEDING

**Install topsoil, seed, fertilizer and mulching material in accordance with specifications after rough grading is complete and no future disturbance is expected.

**Provide maintenance watering as necessary until seed is adequately established and accepted by Owner; re-seed areas if necessary.

SILT FENCE AND FILTER TUBE

**Inspect weekly or after any storm event of ½" or greater. Remove and dispose of any accumulated soil or debris. Repair any torn or distressed portions of silt fence fabric. Replace any damaged stakes.

SELF INSPECTION REPORTS

**Site Contractor shall maintain a log with a self-inspection report of all on-site erosion control measures throughout the construction process. These reports will be completed weekly and after a rain event of greater than one-half inch. The reports shall be made available upon request by Town of Porter, IDEM, or any other inspecting agency within 24 hours.

**Self inspection reports shall be completed by a person certified in inspection of construction sites for sediment/erosion control.

B12. Sequence describing storm water quality measure implementation relative to land disturbing activities:

This section includes recommended sequencing of the installation of erosion and sedimentation control measures. The Contractor shall submit an amended Erosion Control Plan in accordance with the Indiana Construction General Permit to completely cover the Contractor's actual sequencing of operations, including any desired changes to the sequencing listed herein.

Erosion and sedimentation control measures shall be installed by the Contractor in accordance with the plans, Indiana Storm Water Quality Manual and applicable requirements of Indiana Construction General Permit by personnel trained in erosion control practices. The Contractor shall be proactive in ensuring that the requirements of Indiana Construction General Permit are met. The sequencing provided herein shall serve as a guideline for storm water quality measure implementation, but should not be interpreted to be the only basis for implementation of storm water quality measures for the project site. The Contractor shall implement any additional measures required by the

local Soil and Water Conservation District (SWCD), City of Logansport, and IDEM, and any additional measures necessary to adequately prevent polluted storm water runoff. The Contractor's plan for construction sequencing should minimize the areas subject to erosion at any given time. The plan should focus on finishing grades in disturbed areas and stabilizing those areas with temporary or permanent seeding as soon as possible to minimize erosion.

IOSHA requirements will be followed for MSDS Requirements and spill contamination. In the event of a spill or leak, the Contractor will follow proper procedures to minimize exposure.

a. Install all perimeter silt fence and filter tubes surrounding the existing building as shown on the Erosion Control Plans prior to any demolition or land disturbing activity. Silt fence shall remain in place throughout demolition until permanent stabilization achieved.
b. Install all drop inlet protection baskets as shown on the Erosion Control Plans prior to any demolition or land disturbing activity. These shall remain in place throughout demolition until permanent stabilization achieved.
c. Install construction entrances at locations shown on Erosion Control Plan.
d. Contractor to utilize and maintain pump discharge filter bags for pumping of sediment laden water from dewatering operations if dewatering is necessary. All equipment necessary for dewatering, including filter bags, shall be installed, operated and maintained until all work subject to damage by the water has been completed. All excavation dewatering, including use and maintenance of pump discharge filter bags, shall be incidental to the contract. Note that ground water is not anticipated to be reached during excavation operations.
e. Install riprap outlet protection on all flared end sections as shown on the site plan sheet C-102, C-103, and C-104.
f. Permanent topsoil and seeding of all disturbed areas shall take place upon completion of grading activities. If topsoil and seeding must be delayed or the site left idle for 7 or more days, a temporary seed mixture shall be planted.
g. Temporary surface stabilization of any disturbed locations in non-paved areas to be accomplished by temporary seeding (when subsequent disturbance is anticipated and areas are idle for 7 or more days) or permanent sodding/nursery (when areas are finish-graded). Exposed soil areas that generate excessive dust shall be sprayed down with water trucks as required.
h. All temporary erosion and sedimentation control measures are to be regularly monitored and maintained by the Contractor until permanent surface stabilization has been accomplished.
i. All temporary erosion and sedimentation control measures are to be removed by the Contractor once permanent surface stabilization has been accomplished.
j. Any off-site locations used by contractors for dumping spoil material shall be required to follow any above processes to prevent runoff at any proposed dumping site. These measures may include, but are not limited to, silt fence perimeter fence around stock piles and temporary or permanent seeding on stock piles or other disturbed areas if left idle for 7 days or more. Note that no off-site work is anticipated.
k. All dumpsters and trash enclosures on site shall be set up in a manner which prevents materials from blowing out of the container and prevents rainwater from entering and

carrying sediment laden runoff out of the container. This can be achieved with a lid, tarp, or other effective method.

B13. Erosion and sediment control specifications for individual building lots:

N/A

B14. Material handling and spill prevention and spill response plan meeting the requirements in 327 IAC 2-6.1:

See item B15 below for a list of materials that can reasonably be expected on site. Contractor shall have trained individuals prepared to address any releases.

Materials stored on site shall be kept in accordance with MSDS sheets and standard construction practices. No materials shall be left open when not in use.

Contractor shall report any releases in accordance with 327 IAC 2-6.1.

B15. Material handling and spill prevention and spill response plan meeting the requirements in 327 IAC 2-6.1:

The Contractor and all subcontractors will be responsible to implement practices for the prevention of pollutants reaching drainage ways that flow off-site. Prevention should include, but not be limited to, material handling and storage, clean up of pollutant at time of detection and regular maintenance of erosion practices.

Contractor personnel on-site who are involved in fuel transfer, maintenance and other related activities that may involve toxic and/or hazardous materials shall be trained in event of accidental spillage. General contractor shall provide documentation that the personnel on-site are OSHA trained for these types of events.

Throughout the construction of this project there are a number of materials expected to be handled on the site that may be subject to spills. In order to stop these materials from entering into the soils, storm sewers and ground waters of the project, the on-site handling of soils will be limited to the excavation, loading, and spreading. The Contractor will minimize the disturbance of excavated soils by minimizing the number of times the soil is handled. If a spill occurs, the following measures will be taken for the associated material:

MATERIAL HANDLING & SPILL PREVENTION

**Material handling and spill prevention for all materials listed, anticipated to be used and any other pollutants not described but associated with land disturbance and construction activities shall be provided by all project Contractors and subcontractors. The Contractor and all subcontractors shall refer to the Material Safety Data Sheet (MSDS) for information on the proper storage, use, and clean-up methods for all materials anticipated to be on the project site.

**All required materials for spill clean up and disposal of all onsite materials shall be kept on site in a project trailer with easy access for all users of associated materials.

**All disposals of spilled materials shall be done in accordance with Federal, State and Local waste disposal regulations. The Contractor and all subcontractors shall be responsible for any and all spills associated with their work.

OIL, GREASE AND OTHER HYDROCARBONS

**Spills if possible should be contained at time of detection. Removal shall be done mechanically or wipe up or absorbed on suitable material and shovel up. Disposal should be in accordance with Federal, State and Local waste disposal regulations. Handling and storage of any oil, grease or other hydrocarbons shall be done in tightly closed containers, in a dry cool place away from any heat or ignition sources.

GASOLINE AND DIESEL FUEL

**Spills if possible should be contained at the time of detection. Remove any source of heat and ignition, such as engines and power tools. Clean up spill area by use of sand or other absorbent, scrape up and place in appropriate containers for disposal. Disposal should be in accordance with Federal, State and Local waste disposal regulations. Handling and storage of any gasoline and diesel fuel shall be done in tightly closed containers, in a dry cool place away from any heat or ignition sources.

**Fuel storage on the project site shall be avoided if possible to aid in the prevention of spills. Tanker trucks should be used for the fueling of large construction equipment.

ANTIFREEZE

**Spills if possible should be contained at time of detection. Shut off source or leak, dike and contain spill area. Remove spills promptly by use of shovel, vacuum trucks or pump, and store into clean empty storage drums. Trace residue can be soaked with water, but do not flush to sewer or surface water. Disposal should be in accordance with Federal, State and Local waste disposal regulations. Handling and storage of any antifreeze shall be done in tightly closed containers, in a dry cool place away from any heat or ignition sources.

RUBBER FRAGMENTS AND METALS

**All materials shall be swept up and disposed of as regular trash or reclaimed for scrap value in accordance with Federal, State and Local waste disposal regulations. Handling and storage of rubber, metals and trash shall be placed in a refuse area until such time of appropriate disposal.

FERTILIZER

**All excess spills of material shall be swept or soaked up and placed in a suitable waste disposal container. When possible, the excess material should be recycled. Minor spills should be flushed with water, avoiding contamination of any streams and waterways.

Disposal should be in accordance with Federal, State and Local waste disposal regulations. Handling and storage of any fertilizer shall be done in tightly closed containers or bags, in a dry cool place.

GRIT, WEARING OF ROAD SURFACE

**All materials shall be swept up and disposed of as regular trash or reclaimed for scrap value in accordance with Federal, State and Local waste disposal regulations. Handling and storage of grit shall be placed in a refuse area until such time of appropriate disposal.

PROCEDURES IN CASE OF SPILL

**If a large spill occurs, the following procedures will be followed to minimize exposure of the material:

a. Take immediate measures to control and contain the spill to prevent release into sewers or surfaces.
b. Notify the Local Fire Department immediately at 9-1-1.
c. Notify the Federal Emergency Spill Hotline at 1-800-424-8802 within 2 hours if the amount is above a reportable quantity or any amount enters a waterway or storm sewer.
d. Notify the Indiana Emergency Response Hotline at 1-888-233-7745.
e. Isolate and contain the hazardous spill areas with absorbent pads, booms and pillows.
f. Use spill kits to absorb liquids.
g. For larger spills, dispatch vacuum tankers and/or emergency response team.
h. Deny entry to all unauthorized personnel.
i. Do not allow anyone unqualified to touch the spilled material.
j. Stay upwind and keep out of low areas.
k. Keep combustibles away from spilled material.
l. Take any other appropriate actions.

C1. Description of pollutants and their sources associated with the proposed land use:

No new types of pollutants not already present on site are anticipated upon completion of this project.

Pollutants produced can include waste, litter, or engine fluid from cars or trucks parking at the facility.

C2. Description of proposed post construction stormwater quality measures:

The project will utilize two methods of clarifying water runoff. First, areas sheet draining into the proposed detention pond must pass over grassy areas (filter strip) providing sediment removal. Runoff collected on site will drain to the new or existing detention pond for further sediment removal.

C3. Plan details for each stormwater measures:

All disturbed areas that are not being paved or covered with concrete shall be seeded with seeding in accordance with the project specifications and covered with mulching material.

C4. Sequence describing stormwater quality measure implementation:

Permanent stabilization in non-paved and non-gravel areas will be accomplished by seeding all disturbed areas as soon as possible following final grading of these areas.

C5. Description of maintenance guidelines for proposed post construction water quality measures:

The Contractor will be responsible for the maintenance of seeded areas as required by specification. Once all seeded areas have been accepted by the Owner, the Owner will take responsibility for maintaining all lawn areas and the detention ponds.

Grass Lawn:
Post construction maintenance of the ponds shall include the following:

1. Regular lawn maintenance: This includes mowing the grass to maintain vegetation height and re-seeding areas where grass vegetation is damaged or dies.

Inlet Insert Baskets:
Post construction maintenance of the ponds shall include the following:

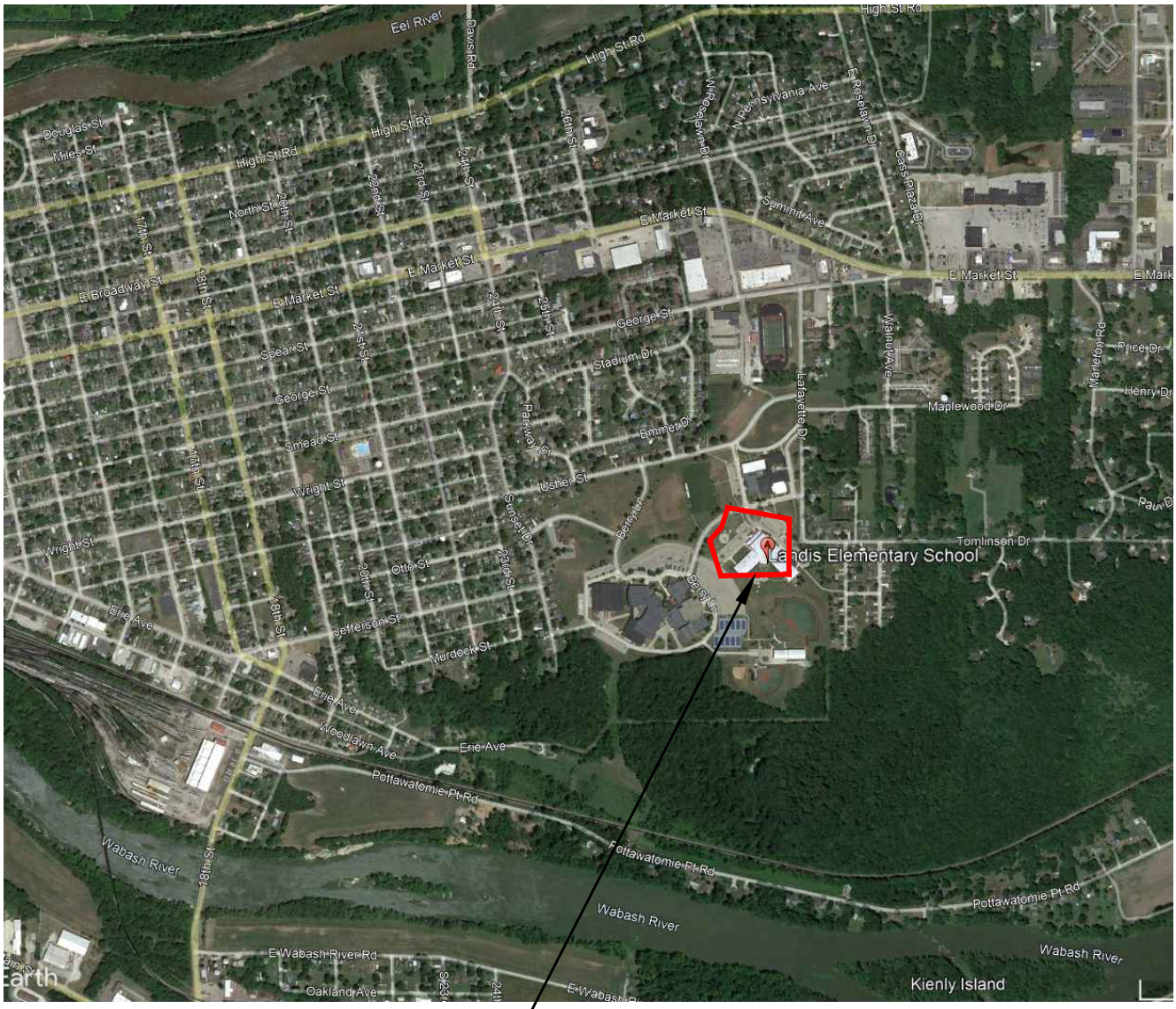
1. Site owner shall inspect the insert baskets once a month and remove any built up sediment. Additional inspections/cleaning may be needed during times where repeated heavy storms occur.

Riprap outlet protection:
Post construction maintenance of the ponds shall include the following:

1. Site owner shall inspect at least once every 6 months. Clean any accumulated sediment, trash, or other material such as grass clippings.

C6. Entity that will be responsible for operation and maintenance of the post-construction stormwater measures:

The Logansport Community School Corporation will own and operate the proposed school facility and the site.



VICINITY MAP

NOT TO SCALE

Customer:	CITY OF LOGANSPORT
Detail Name:	LANDIS E.S. VICINITY MAP
Scale:	N.T.S.
Date and Time:	4/11/23 - 11:00

NIES engineering, inc.
2421 173rd Street, Hammond, Indiana. 46323
Phone: (219) 844 8680 Fax: (219) 844 7754
Your Vision ♦ Our Focus

IDEM: Water Quality In Indiana: I

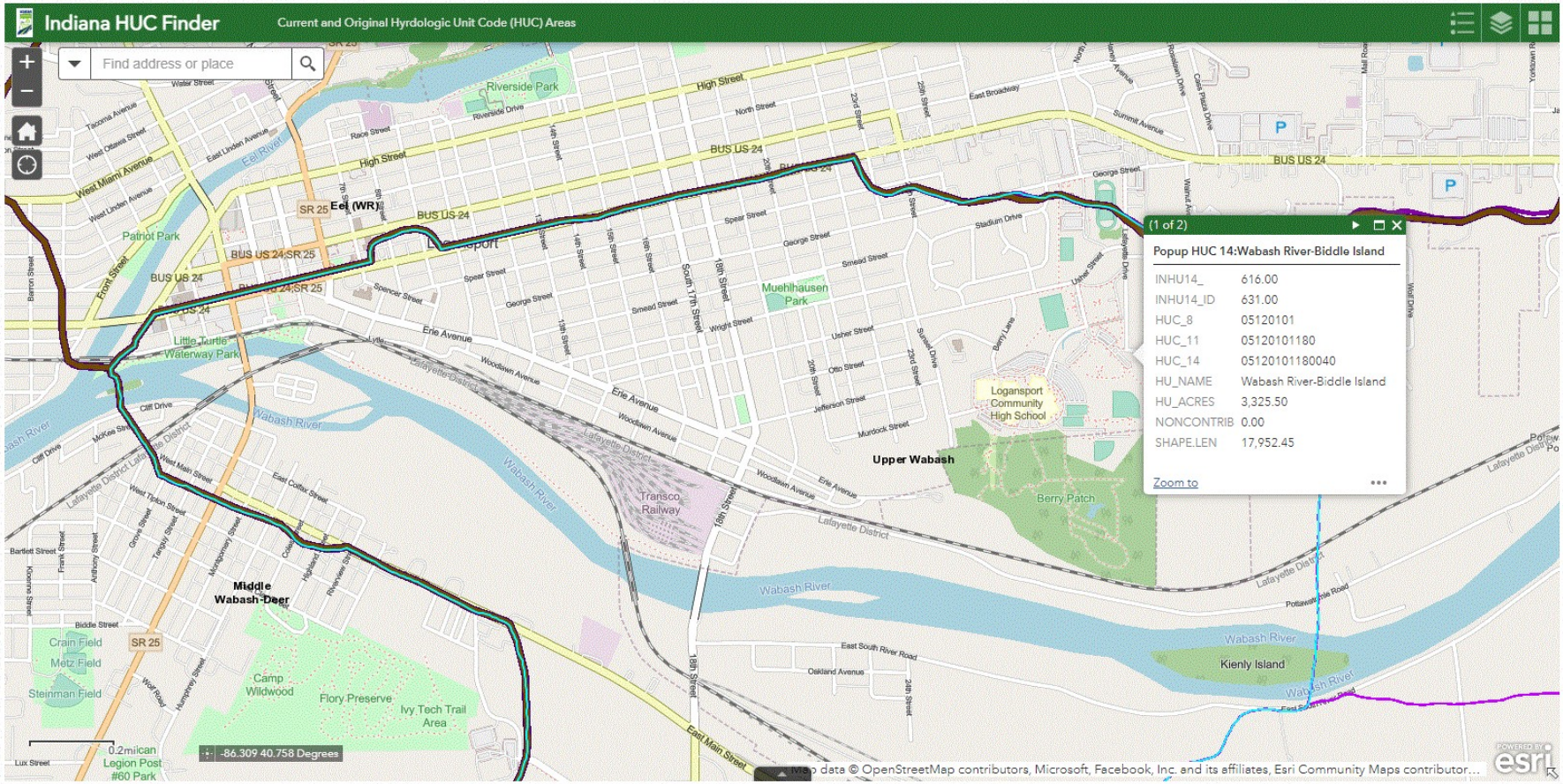
in.gov/idem/cleanwater/resources/indiana-huc-finder/

MENU

Indiana Department of Environmental Management

Search IDEM

Indiana HUC Finder



National Flood Hazard Layer FIRMette

FEMA

86°20'4"W 40°45'15"N

86°19'26"W 40°44'48"N

Feet 1:6,000

0 250 500 1,000 1,500 2,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 — Cross Sections with 1% Annual Chance
- 17.5 — Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

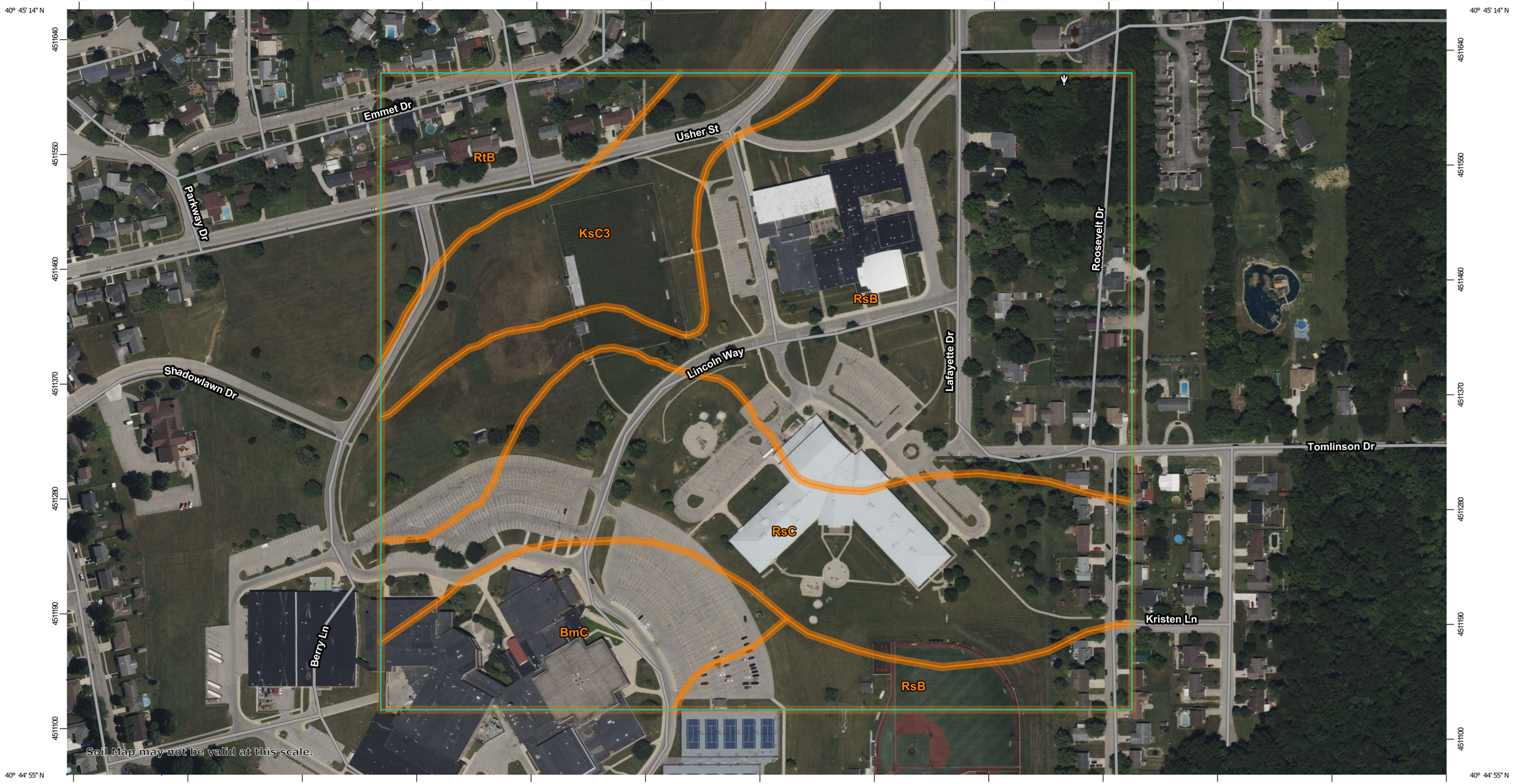
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/11/2023 at 12:21 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Soil Map—Cass County, Indiana



Map Scale: 1:2,920 if printed on B landscape (17" x 11") sheet.

N

Meters: 0 40 80 160 240

Feet: 0 100 200 400 600

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

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: Cass County, Indiana
Survey Area Data: Version 27, Sep 3, 2022

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

Date(s) aerial images were photographed: Jun 16, 2022—Jun 21, 2022

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.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BmC	Bloomfield loamy fine sand, 4 to 12 percent slopes	7.8	10.6%
KsC3	Kosciusko sandy clay loam, 6 to 12 percent slopes, severely eroded	8.1	11.1%
RsB	Riddles silt loam, 2 to 6 percent slopes	33.5	45.8%
RsC	Riddles silt loam, 6 to 12 percent slopes	17.7	24.3%
RtB	Rush silt loam, 2 to 6 percent slopes	6.0	8.1%
Totals for Area of Interest		**73.1**	**100.0%**

Map Unit Description

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named, soils that are similar to the named components, and some minor components that differ in use and management from the major soils.

Most of the soils similar to the major components have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Some minor components, however, have properties and behavior characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. Soils of a given series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Additional information about the map units described in this report is available in other soil reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the soil reports define some of the properties included in the map unit descriptions.

Report—Map Unit Description

Cass County, Indiana

BmC—Bloomfield loamy fine sand, 4 to 12 percent slopes

Map Unit Setting

National map unit symbol: 5g0b
Elevation: 550 to 830 feet

Mean annual precipitation: 35 to 40 inches
Mean annual air temperature: 50 to 55 degrees F
Frost-free period: 150 to 180 days
Farmland classification: Not prime farmland

Map Unit Composition

Bloomfield and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bloomfield

Setting

Landform: Outwash plains, terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Eolian sands

Typical profile

H1 - 0 to 25 inches: loamy fine sand
H2 - 25 to 76 inches: loamy fine sand
H3 - 76 to 80 inches: loamy fine sand

Properties and qualities

Slope: 4 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (2.00 to 20.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 25 percent
Available water supply, 0 to 60 inches: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: A
Ecological site: R111XC001IN - Sand Dune
Other vegetative classification: Trees/Timber (Woody Vegetation)
Hydric soil rating: No

KsC3—Kosciusko sandy clay loam, 6 to 12 percent slopes, severely eroded

Map Unit Setting

National map unit symbol: 5g0r
Elevation: 550 to 830 feet
Mean annual precipitation: 35 to 40 inches

Mean annual air temperature: 50 to 55 degrees F
Frost-free period: 150 to 180 days
Farmland classification: Not prime farmland

Map Unit Composition

Kosciusko, severely eroded, and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kosciusko, Severely Eroded

Setting

Landform: Outwash plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy outwash over sandy and gravelly outwash

Typical profile

H1 - 0 to 4 inches: sandy clay loam
H2 - 4 to 16 inches: gravelly sandy clay loam
H3 - 16 to 32 inches: gravelly sandy loam
H4 - 32 to 60 inches: stratified very gravelly coarse sand to coarse sand

Properties and qualities

Slope: 6 to 12 percent
Depth to restrictive feature: 24 to 40 inches to strongly contrasting textural stratification
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 55 percent
Available water supply, 0 to 60 inches: Low (about 4.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: R111XC010IN - Well Drained Overflow
Other vegetative classification: Trees/Timber (Woody Vegetation)
Hydric soil rating: No

RsB—Riddles silt loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 5g1b
Elevation: 550 to 830 feet

Mean annual precipitation: 35 to 40 inches
Mean annual air temperature: 50 to 55 degrees F
Frost-free period: 150 to 180 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Riddles and similar soils: 90 percent
Minor components: 3 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Riddles

Setting

Landform: Moraines
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loamy till

Typical profile

H1 - 0 to 10 inches: silt loam
H2 - 10 to 54 inches: loam
H3 - 54 to 64 inches: loam
H4 - 64 to 80 inches: loam

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Available water supply, 0 to 60 inches: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Ecological site: F111XC007IN - Glacial Ridge, R111XC010IN - Well Drained Overflow
Other vegetative classification: Trees/Timber (Woody Vegetation)
Hydric soil rating: No

Minor Components

Rensselaer

Percent of map unit: 3 percent
Landform: Depressions

Ecological site: R111XC008IN - Wet Overflow
Other vegetative classification: Mixed/Transitional (Mixed Native Vegetation)
Hydric soil rating: Yes

RsC—Riddles silt loam, 6 to 12 percent slopes

Map Unit Setting

National map unit symbol: 5g1c
Elevation: 550 to 830 feet
Mean annual precipitation: 35 to 40 inches
Mean annual air temperature: 50 to 55 degrees F
Frost-free period: 150 to 180 days
Farmland classification: Not prime farmland

Map Unit Composition

Riddles and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Riddles

Setting

Landform: Moraines
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy till

Typical profile

H1 - 0 to 8 inches: silt loam
H2 - 8 to 43 inches: loam
H3 - 43 to 66 inches: loam
H4 - 66 to 80 inches: loam

Properties and qualities

Slope: 6 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Available water supply, 0 to 60 inches: Moderate (about 8.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: B
Ecological site: F111XC007IN - Glacial Ridge, R111XC010IN - Well Drained Overflow
Other vegetative classification: Trees/Timber (Woody Vegetation)
Hydric soil rating: No

RtB—Rush silt loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 5g1f
Elevation: 550 to 830 feet
Mean annual precipitation: 35 to 40 inches
Mean annual air temperature: 50 to 55 degrees F
Frost-free period: 150 to 180 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Rush and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rush

Setting

Landform: Outwash plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loess over loamy outwash over sandy and gravelly outwash

Typical profile

H1 - 0 to 9 inches: silt loam
H2 - 9 to 27 inches: silty clay loam
H3 - 27 to 54 inches: loam
H4 - 54 to 57 inches: gravelly loam
H5 - 57 to 60 inches: stratified very gravelly coarse sand to sand

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 55 percent
Available water supply, 0 to 60 inches: High (about 10.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Ecological site: R111XC010IN - Well Drained Overflow
Other vegetative classification: Trees/Timber (Woody Vegetation)
Hydric soil rating: No

Data Source Information

Soil Survey Area: Cass County, Indiana
Survey Area Data: Version 27, Sep 3, 2022

Map Unit Description (Brief, Generated)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, provide information on the composition of map units and properties of their components.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

The Map Unit Description (Brief, Generated) report displays a generated description of the major soils that occur in a map unit. Descriptions of non-soil (miscellaneous areas) and minor map unit components are not included. This description is generated from the underlying soil attribute data.

Additional information about the map units described in this report is available in other Soil Data Mart reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the Soil Data Mart reports define some of the properties included in the map unit descriptions.

Report—Map Unit Description (Brief, Generated)

Cass County, Indiana

Map Unit: BmC—Bloomfield loamy fine sand, 4 to 12 percent slopes

Component: Bloomfield (100%)

The Bloomfield component makes up 100 percent of the map unit. Slopes are 4 to 12 percent. This component is on terraces. The parent material consists of eolian sands. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R111CY001IN Sand Dune ecological site. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit: KsC3—Kosciusko sandy clay loam, 6 to 12 percent slopes, severely eroded

Component: Kosciusko, severely eroded (100%)

The Kosciusko, severely eroded component makes up 100 percent of the map unit. Slopes are 6 to 12 percent. This component is on outwash plains. The parent material consists of loamy outwash over sandy and gravelly outwash. Depth to a root restrictive layer, strongly contrasting textural stratification, is 24 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R111CY010IN Well Drained Overflow ecological site. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 40 percent.

Map Unit: RsB—Riddles silt loam, 2 to 6 percent slopes

Component: Riddles (90%)

The Riddles component makes up 90 percent of the map unit. Slopes are 2 to 6 percent. This component is on moraines. The parent material consists of loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R111CY010IN Glacial Ridge, Well Drained Overflow ecological site. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Component: Rensselaer (3%)

Generated brief soil descriptions are created for major soil components. The Rensselaer soil is a minor component.

Map Unit: RsC—Riddles silt loam, 6 to 12 percent slopes

Component: Riddles (100%)

The Riddles component makes up 100 percent of the map unit. Slopes are 6 to 12 percent. This component is on moraines. The parent material consists of loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R111CY010IN Glacial Ridge, Well Drained Overflow ecological site. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

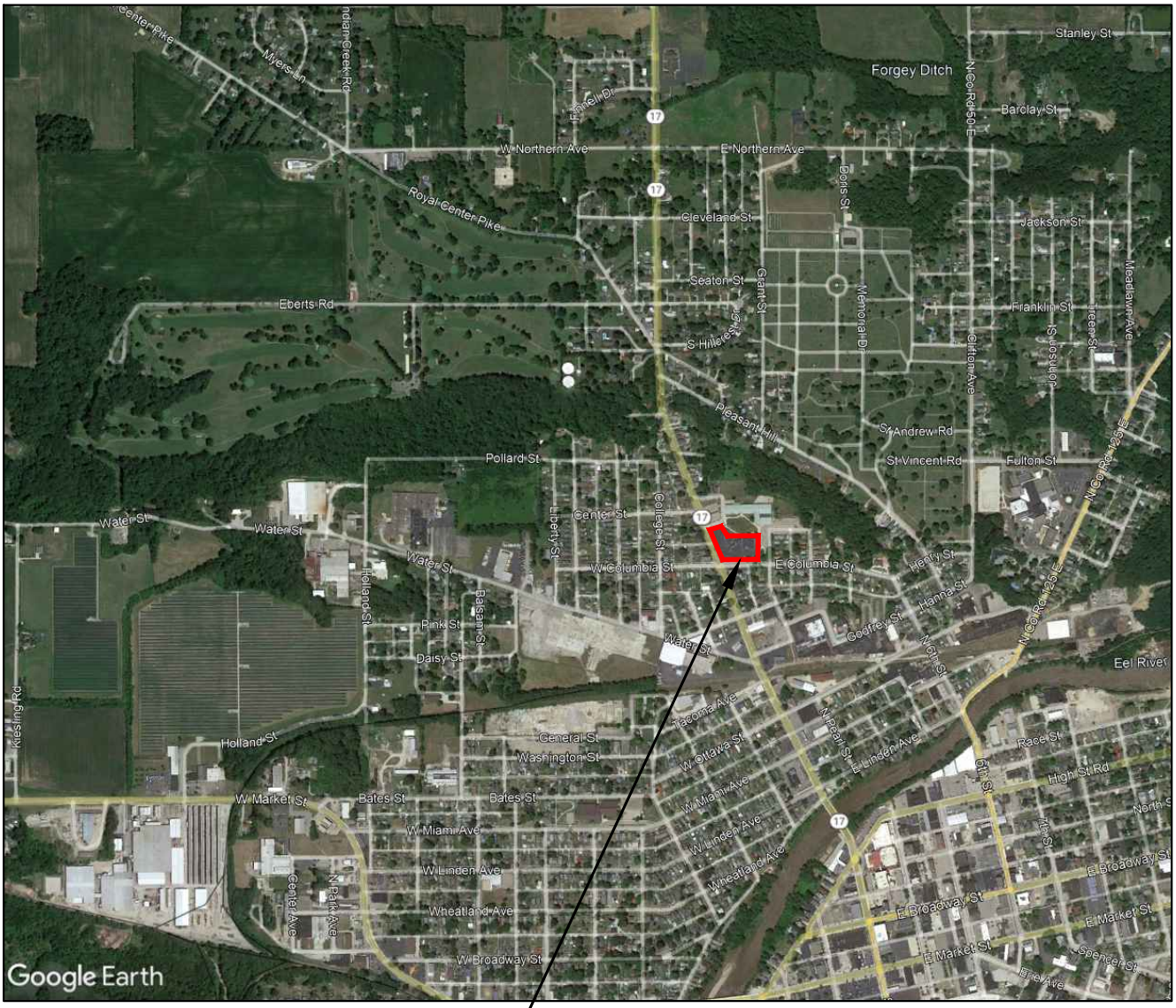
Map Unit: RtB—Rush silt loam, 2 to 6 percent slopes

Component: Rush (100%)

The Rush component makes up 100 percent of the map unit. Slopes are 2 to 6 percent. This component is on outwash plains. The parent material consists of loess over loamy outwash over sandy and gravelly outwash. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R111CY010IN Well Drained Overflow ecological site. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Data Source Information

Soil Survey Area: Cass County, Indiana
Survey Area Data: Version 27, Sep 3, 2022



PROJECT SITE

VICINITY MAP

NOT TO SCALE

Customer:	CITY OF LOGANSPORT
Detail Name:	COLUMBIA E.S. VICINITY MAP
Scale:	N.T.S.
Date and Time:	1/17/23 - 10:00

NIES engineering, inc.
2421 173rd Street, Hammond, Indiana. 46323
Phone: (219) 844 8680 Fax: (219) 844 7754
Your Vision ♦ Our Focus

Subwatersheds - 14-digit Hydrologic Units (1991)

Subwatersheds - 14-digit Hydrologic Units, 1991 - Shows the boundaries of subwatersheds in Indiana (USGS, NRCS)

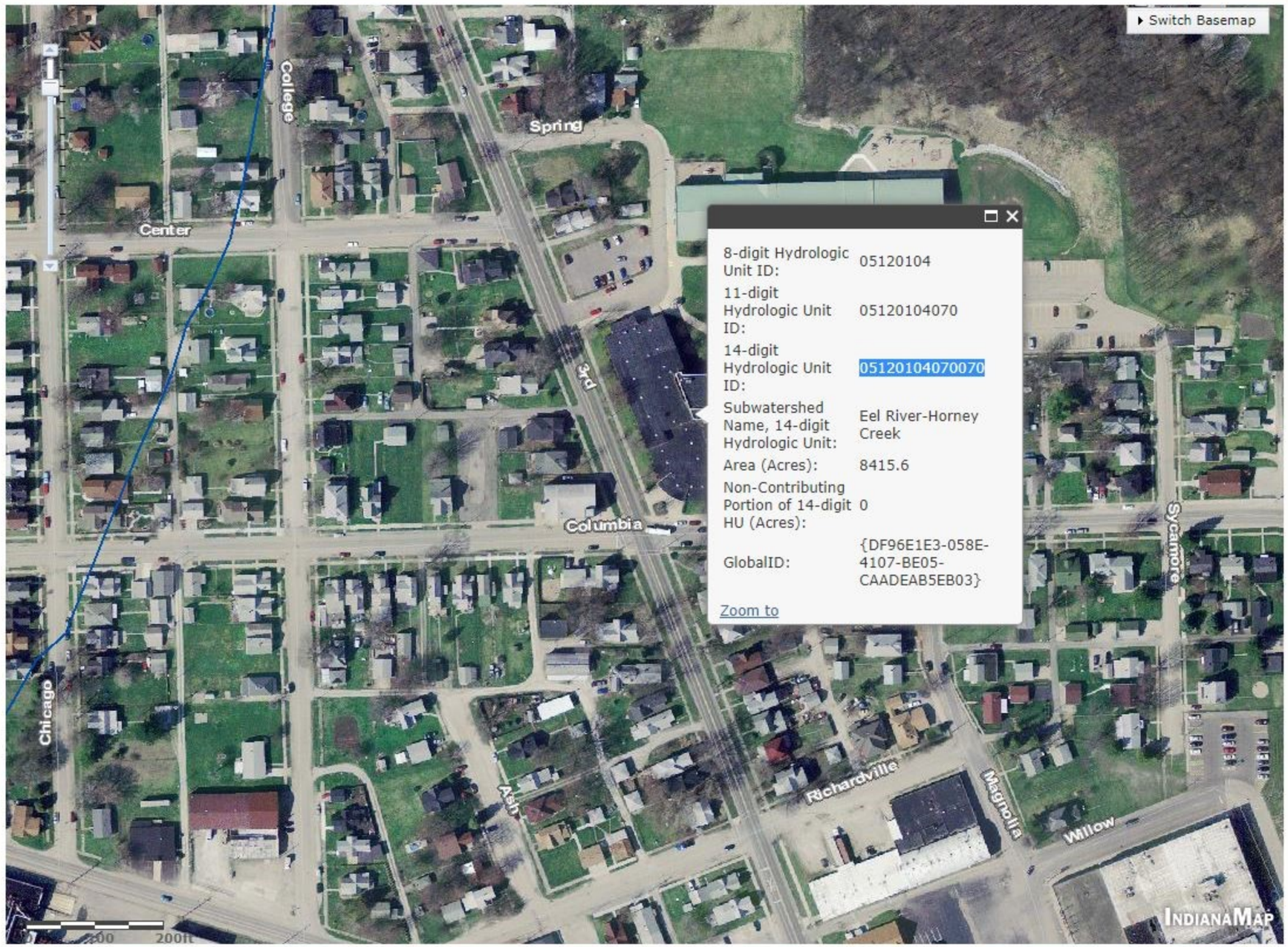
Metadata | Legend

Short description:
Subwatersheds - 14-digit Hydrologic Units, 1991 (1:24,000) Shows the boundaries of subwatersheds in Indiana. Actual hydrologic units often extend beyond the state and county boundaries. The U.S. Geological Survey maintains a set of 1:24,000-scale paper topographic maps with hand-drawn drainage divides for streams with drainage areas greater than 5 square miles. The U.S. Geological Survey digitized these drainage divides. The NRCS assigned each delineated drainage basin a 14-digit hydrologic-unit code (HUC).

Tags:
IndianaMap, IGS, Indiana, HUC, Hydrologic Unit Code, Hydrologic Unit Boundary, Watershed, Hydrology, subwatershed, inlandWaters

Credits:
U.S. Geological Survey
FGDC Metadata:
Watersheds_HUC14.html

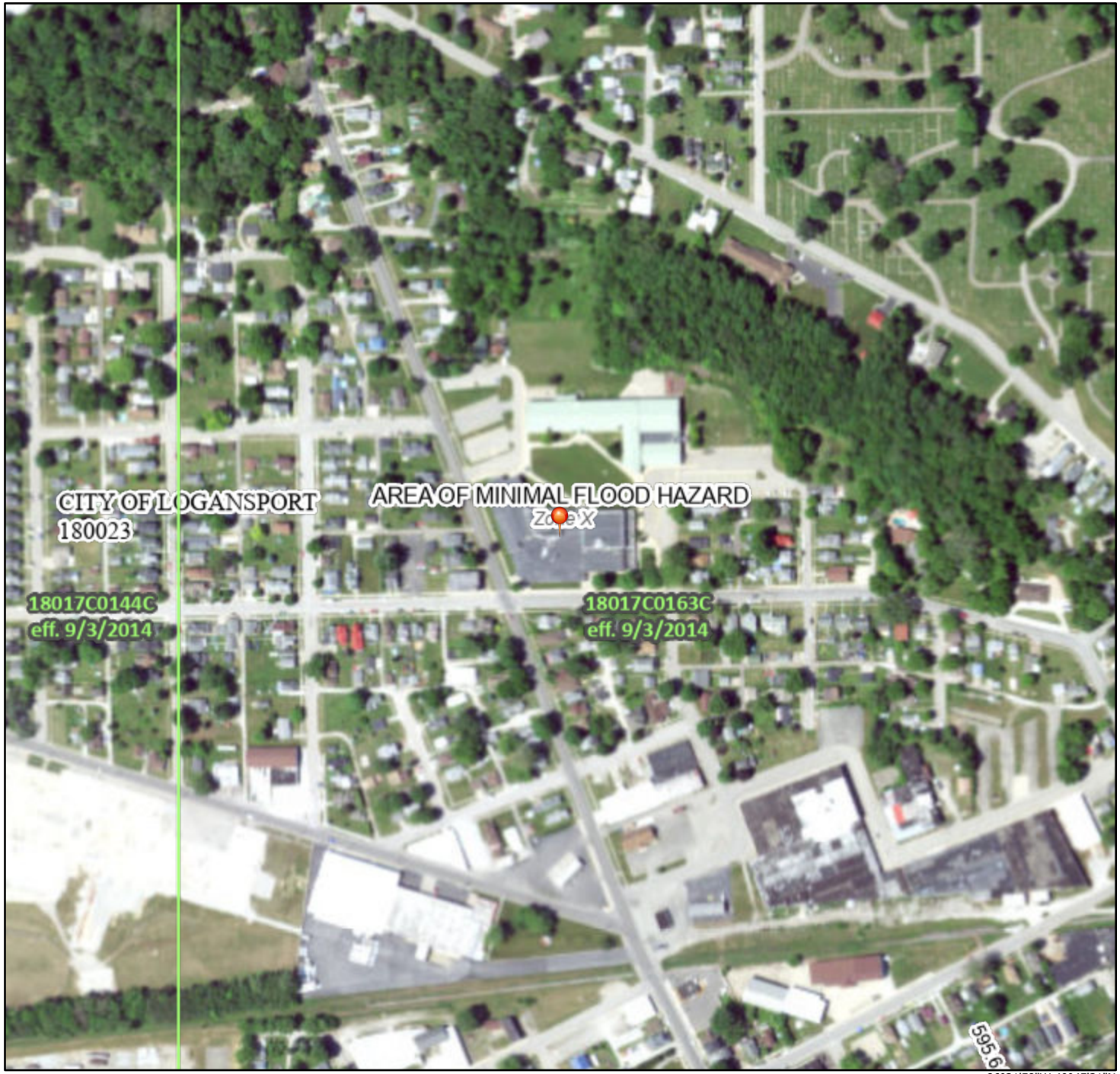
Download: Download a zip file that contains an ESRI Shape File and associated metadata:
Watersheds_HUC14.zip



National Flood Hazard Layer FIRMette

FEMA

86°22'36"W 40°45'59"N



86°21'58"W 40°45'31"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

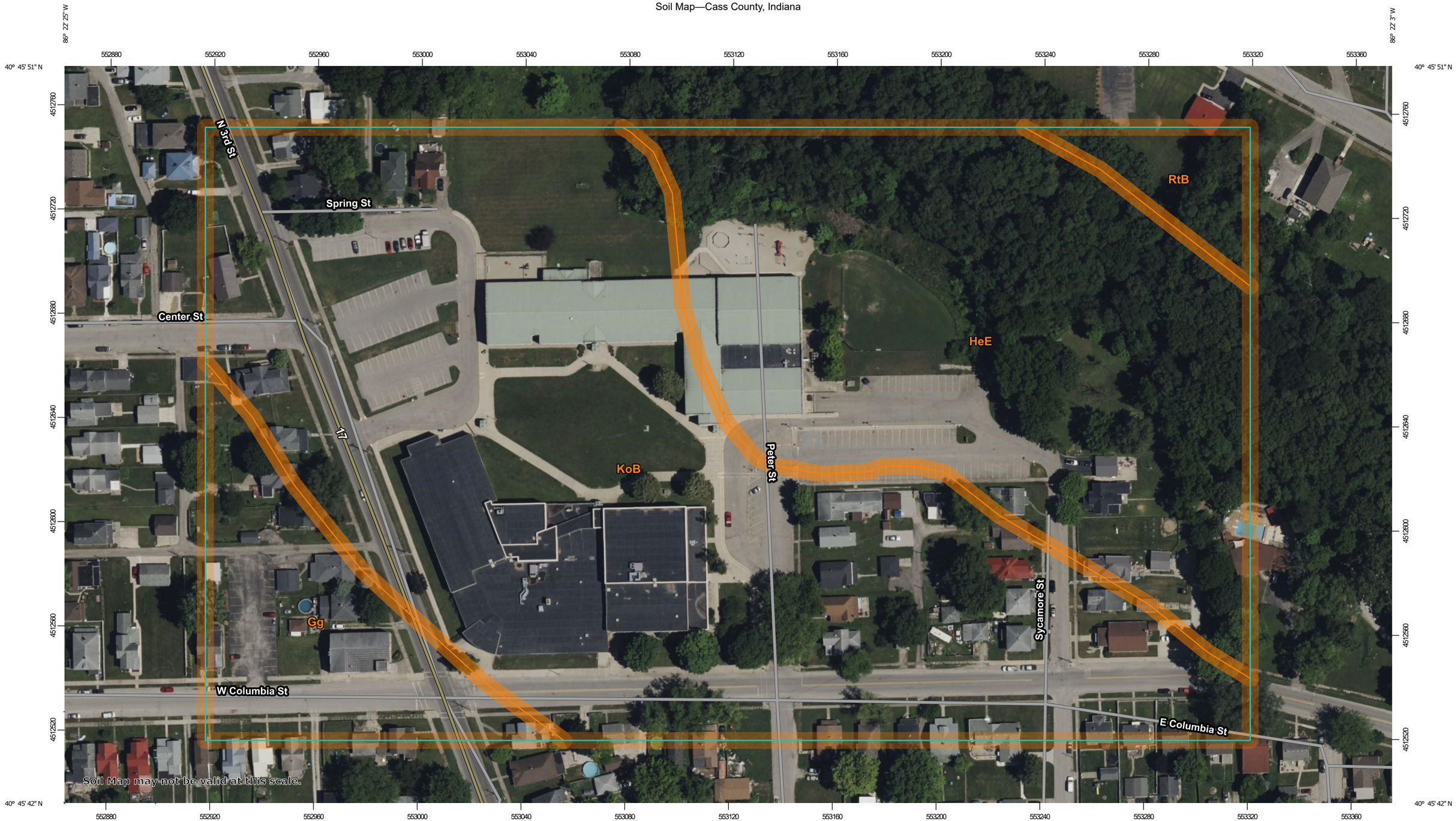
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/17/2023 at 11:45 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Soil Map—Cass County, Indiana



Map Scale: 1:1,380 if printed on B landscape (17" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

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

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: Cass County, Indiana
Survey Area Data: Version 27, Sep 3, 2022

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

Date(s) aerial images were photographed: Jun 16, 2022—Jun 21, 2022

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.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Gg	Gilford loam, gravelly substratum, 0 to 2 percent slopes	2.2	9.3%
HeE	Hennepin loam, 25 to 50 percent slopes	7.6	32.3%
KoB	Kosciusko silt loam, 2 to 6 percent slopes	13.1	55.8%
RtB	Rush silt loam, 2 to 6 percent slopes	0.6	2.6%
Totals for Area of Interest		**23.5**	**100.0%**

Map Unit Description (Brief, Generated)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, provide information on the composition of map units and properties of their components.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

The Map Unit Description (Brief, Generated) report displays a generated description of the major soils that occur in a map unit. Descriptions of non-soil (miscellaneous areas) and minor map unit components are not included. This description is generated from the underlying soil attribute data.

Additional information about the map units described in this report is available in other Soil Data Mart reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the Soil Data Mart reports define some of the properties included in the map unit descriptions.

Report—Map Unit Description (Brief, Generated)

Cass County, Indiana

Map Unit: Gg—Gilford loam, gravelly substratum, 0 to 2 percent slopes

Component: Gilford (84%)

The Gilford component makes up 84 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions on till plains. The parent material consists of loamy outwash over sandy and gravelly outwash. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 6 inches during January, February, March, April, May, October, November, December. Organic matter content in the surface horizon is about 2 percent. This component is in the R111XC002IN Wet Sandy Interdune ecological site. Nonirrigated land capability classification is 3w. This soil meets hydric criteria.

Component: Rensselaer (8%)

Generated brief soil descriptions are created for major soil components. The Rensselaer soil is a minor component.

Component: Ormas (5%)

Generated brief soil descriptions are created for major soil components. The Ormas soil is a minor component.

Component: Morocco (3%)

Generated brief soil descriptions are created for major soil components. The Morocco soil is a minor component.

Map Unit: HeE—Hennepin loam, 25 to 50 percent slopes

Component: Hennepin (90%)

The Hennepin component makes up 90 percent of the map unit. Slopes are 25 to 50 percent. This component is on till plains on till plains. The parent material consists of loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 4 percent. This component is in the F111DY010IN Till Ridge ecological site. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 28 percent.

Component: Miami, eroded (10%)

Generated brief soil descriptions are created for major soil components. The Miami, eroded soil is a minor component.

Map Unit: KoB—Kosciusko silt loam, 2 to 6 percent slopes

Component: Kosciusko (90%)

The Kosciusko component makes up 90 percent of the map unit. Slopes are 2 to 6 percent. This component is on outwash plains. The parent material consists of loamy outwash over sandy and gravelly outwash. Depth to a root restrictive layer, strongly contrasting textural stratification, is 24 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R111CY010IN Well Drained Overflow ecological site. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 40 percent.

Component: Gilford (3%)

Generated brief soil descriptions are created for major soil components. The Gilford soil is a minor component.

Map Unit: RtB—Rush silt loam, 2 to 6 percent slopes

Component: Rush (100%)

The Rush component makes up 100 percent of the map unit. Slopes are 2 to 6 percent. This component is on outwash plains. The parent material consists of loess over loamy outwash over sandy and gravelly outwash. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R111CY010IN Well Drained Overflow ecological site. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Data Source Information

Soil Survey Area: Cass County, Indiana
Survey Area Data: Version 27, Sep 3, 2022

Map Unit Description

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named, soils that are similar to the named components, and some minor components that differ in use and management from the major soils.

Most of the soils similar to the major components have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Some minor components, however, have properties and behavior characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. Soils of a given series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Additional information about the map units described in this report is available in other soil reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the soil reports define some of the properties included in the map unit descriptions.

Report—Map Unit Description

Cass County, Indiana

Gg—Gilford loam, gravelly substratum, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 30kbp
Elevation: 360 to 900 feet

Mean annual precipitation: 34 to 40 inches
Mean annual air temperature: 47 to 50 degrees F
Frost-free period: 140 to 170 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Gilford and similar soils: 84 percent
Minor components: 16 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gilford

Setting

Landform: Depressions
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Loamy outwash over sandy and gravelly outwash

Typical profile

Ap - 0 to 11 inches: loam
Bg1 - 11 to 43 inches: fine sandy loam
Bg2 - 43 to 54 inches: loamy sand
2Cg - 54 to 79 inches: very gravelly coarse sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 25 percent
Available water supply, 0 to 60 inches: Moderate (about 7.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: A/D
Ecological site: R111XC002IN - Wet Sandy Interdune
Other vegetative classification: Mixed/Transitional (Mixed Native Vegetation)
Hydric soil rating: Yes

Minor Components

Rensselaer

Percent of map unit: 8 percent

Landform: Depressions
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R111XC008IN - Wet Overflow, R111XB401IN - Wet Outwash Mollisol
Other vegetative classification: Mixed/Transitional (Mixed Native Vegetation)
Hydric soil rating: Yes

Ormas

Percent of map unit: 5 percent
Landform: Outwash terraces
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: R111XC001IN - Sand Dune
Other vegetative classification: Trees/Timber (Woody Vegetation)
Hydric soil rating: No

Morocco

Percent of map unit: 3 percent
Landform: Drainageways
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: F095XA005WI - Moist Sandy Lowland
Other vegetative classification: Low AWC, adequately drained (G095AY002WI)
Hydric soil rating: No

HeE—Hennepin loam, 25 to 50 percent slopes

Map Unit Setting

National map unit symbol: 2w0vj
Elevation: 510 to 1,150 feet
Mean annual precipitation: 37 to 45 inches
Mean annual air temperature: 48 to 55 degrees F
Frost-free period: 145 to 180 days
Farmland classification: Not prime farmland

Map Unit Composition

Hennepin and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hennepin

Setting

Landform: Till plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy till

Typical profile

A - 0 to 3 inches: loam
Bw - 3 to 14 inches: loam
C - 14 to 60 inches: loam

Properties and qualities

Slope: 25 to 50 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Ecological site: F111XD010IN - Till Ridge
Hydric soil rating: No

Minor Components

Miami, eroded

Percent of map unit: 10 percent
Landform: Recessionial moraines, ground moraines, water-lain moraines
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Head slope, nose slope, side slope, crest, rise
Down-slope shape: Linear, convex
Across-slope shape: Convex, linear
Ecological site: F111XD010IN - Till Ridge
Hydric soil rating: No

KoB—Kosciusko silt loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 5g0q
Elevation: 550 to 830 feet
Mean annual precipitation: 35 to 40 inches
Mean annual air temperature: 50 to 55 degrees F
Frost-free period: 150 to 180 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Kosciusko and similar soils: 90 percent
Minor components: 3 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kosciusko

Setting

Landform: Outwash plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loamy outwash over sandy and gravelly outwash

Typical profile

H1 - 0 to 8 inches: silt loam
H2 - 8 to 20 inches: gravelly sandy clay loam
H3 - 20 to 36 inches: gravelly sandy loam
H4 - 36 to 60 inches: stratified very gravelly coarse sand to coarse sand

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: 24 to 40 inches to strongly contrasting textural stratification
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 55 percent
Available water supply, 0 to 60 inches: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: R111XC010IN - Well Drained Overflow

Other vegetative classification: Trees/Timber (Woody Vegetation)
Hydric soil rating: No

Minor Components

Gilford

Percent of map unit: 3 percent
Landform: Depressions
Ecological site: R111XC002IN - Wet Sandy Interdune
Other vegetative classification: Mixed/Transitional (Mixed Native Vegetation)
Hydric soil rating: Yes

RtB—Rush silt loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 5g1f
Elevation: 550 to 830 feet
Mean annual precipitation: 35 to 40 inches
Mean annual air temperature: 50 to 55 degrees F
Frost-free period: 150 to 180 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Rush and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rush

Setting

Landform: Outwash plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loess over loamy outwash over sandy and gravelly outwash

Typical profile

H1 - 0 to 9 inches: silt loam
H2 - 9 to 27 inches: silty clay loam
H3 - 27 to 54 inches: loam
H4 - 54 to 57 inches: gravelly loam
H5 - 57 to 60 inches: stratified very gravelly coarse sand to sand

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)

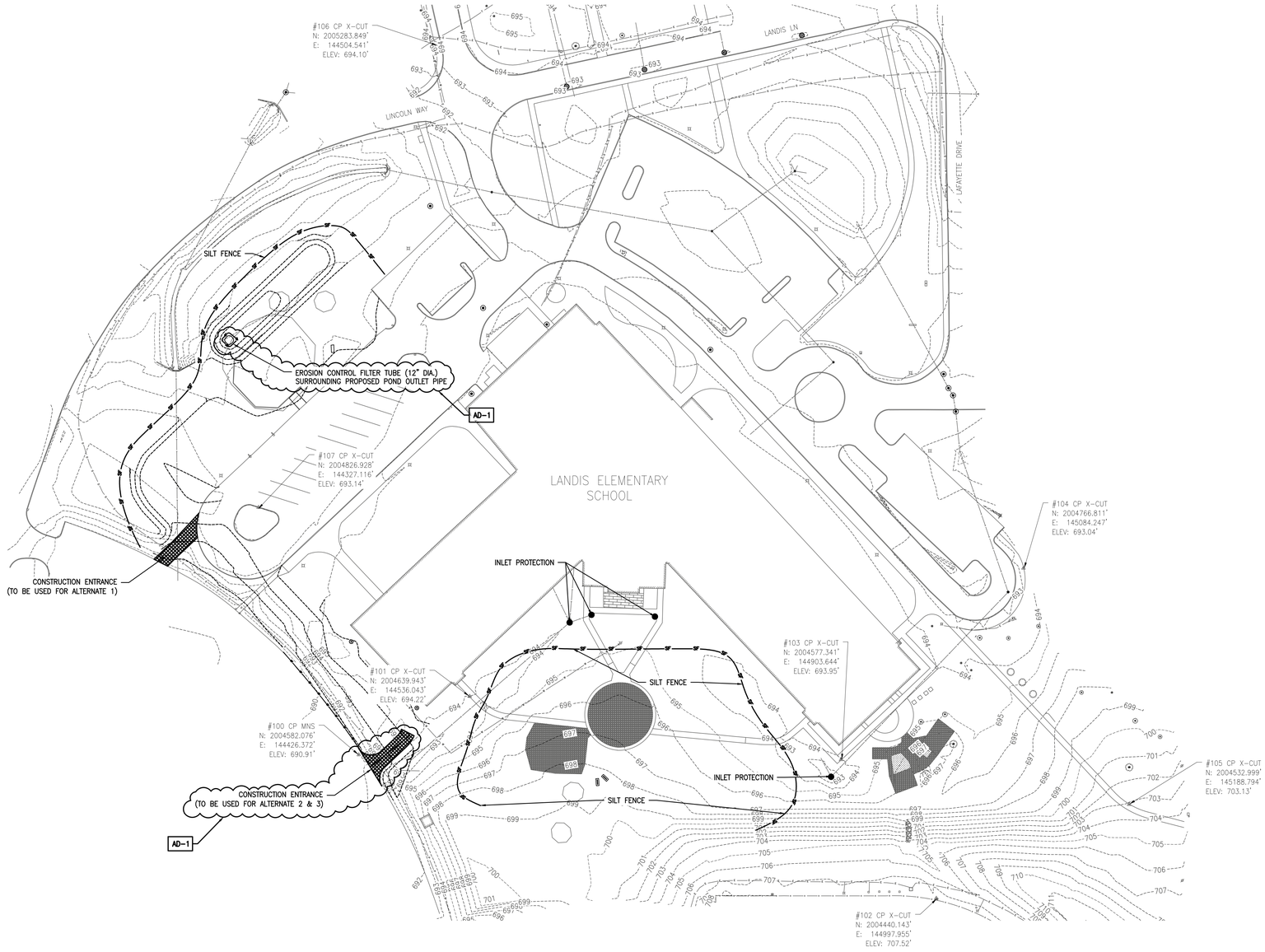
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 55 percent
Available water supply, 0 to 60 inches: High (about 10.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Ecological site: R111XC010IN - Well Drained Overflow
Other vegetative classification: Trees/Timber (Woody Vegetation)
Hydric soil rating: No

Data Source Information

Soil Survey Area: Cass County, Indiana
Survey Area Data: Version 27, Sep 3, 2022



50' 0 25' 50' 100'

1" = 50'-0"

LEGEND

EXISTING TREE	EXISTING GUY WIRE	G G G	EXISTING GAS
EXISTING FIRE HYDRANT	EXISTING LIGHT POLE	T T T	EXISTING TELEPHONE
EXISTING WATER VALVE	EXISTING TELEPHONE BOX	TV TV TV	EXISTING CABLE TV
EXISTING BUFFALO BOX	EXISTING SIGN	E E E	EXISTING ELECTRICAL
EXISTING MAN HOLE	CONTROL POINT	OH OH OH	EXISTING OVERHEAD ELECTRIC
EXISTING CATCH BASIN	PROPERTY CORNER	P P P	EXISTING PIPELINE
EXISTING INLET			EXISTING SANITARY
EXISTING UTILITY POLE			EXISTING STORM

W W		EXISTING WATERMAIN
x x x		EXISTING CHAIN LINK FENCE
		EXISTING TREE LINE
SF SF SF		SILT FENCE
		RIGHT-OF-WAY
		PROPERTY LINE / BUILDING LINE
		SECTION LINE

GENERAL EROSION CONTROL NOTES:

1. INLET PROTECTION SHALL BE INSTALLED AT LOCATIONS SHOWN.
2. FILTER TUBES (12" DIAMETER), SUCH AS SILT WORM OR APPROVED EQUAL, MAY BE USED AS AN ALTERNATIVE TO SILT FENCE.
3. DISTURBED AREAS LEFT IDLE FOR 7 DAYS OR MORE SHALL HAVE TEMPORARY SEEDING INSTALLED FOR GROUND STABILIZATION. DUMPSTER FOR DEMOLITION DEBRIS SHALL BE LOCATED AROUND SITE AS REQUIRED.
4. ALL DUMPSTERS AND TRASH ENCLOSURES ON SITE SHALL BE SET UP IN A MANNER WHICH PREVENTS MATERIALS FROM BLOWING OUT OF THE CONTAINER AND PREVENTS RAINWATER FROM ENTERING AND CARRYING SEDIMENT LADEN RUNOFF OUT OF THE CONTAINER. THIS CAN BE ACHIEVED WITH A LID, TARP, OR OTHER EFFECTIVE METHOD.

ADDENDUM 1 REVISIONS:

1. ADDED CONSTRUCTION ENTRANCE SERVICING ALTERNATE 2 AND 3 LOCATIONS.
2. ADDED EROSION CONTROL FILTER TUBE AROUND ALTERNATE 1 DETENTION POND OUTLET PIPE.

GIBRALTAR DESIGN
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PROJECT
COLUMBIA ES & LANDIS ES - SITE IMPROVEMENTS
LOGANSPORT COMMUNITY SCHOOL CORPORATION
LOGANSPORT, INDIANA

NIES engineering, inc.
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PROJECT 23-123
DATE 03/27/23
COORDINATED BY MLM
DRAWN BY MLM
CHECKED BY MLM

MATTHEW L. MINALIK REGISTERED NO.11500308 STATE OF INDIANA PROFESSIONAL ENGINEER
3/27/23

REVISIONS

MARK	DATE	ISSUED FOR
AD-01	04/13/23	ADDENDUM 1

DRAWING
EROSION CONTROL
LANDIS ES

PROJECT
COLUMBIA ES & LANDIS ES - SITE IMPROVEMENTS

GIBRALTAR DESIGN

SHEET
C-107

Wednesday, 4/12/2023 - 8:20 AM - LAST SAVED BY:MMINALIK
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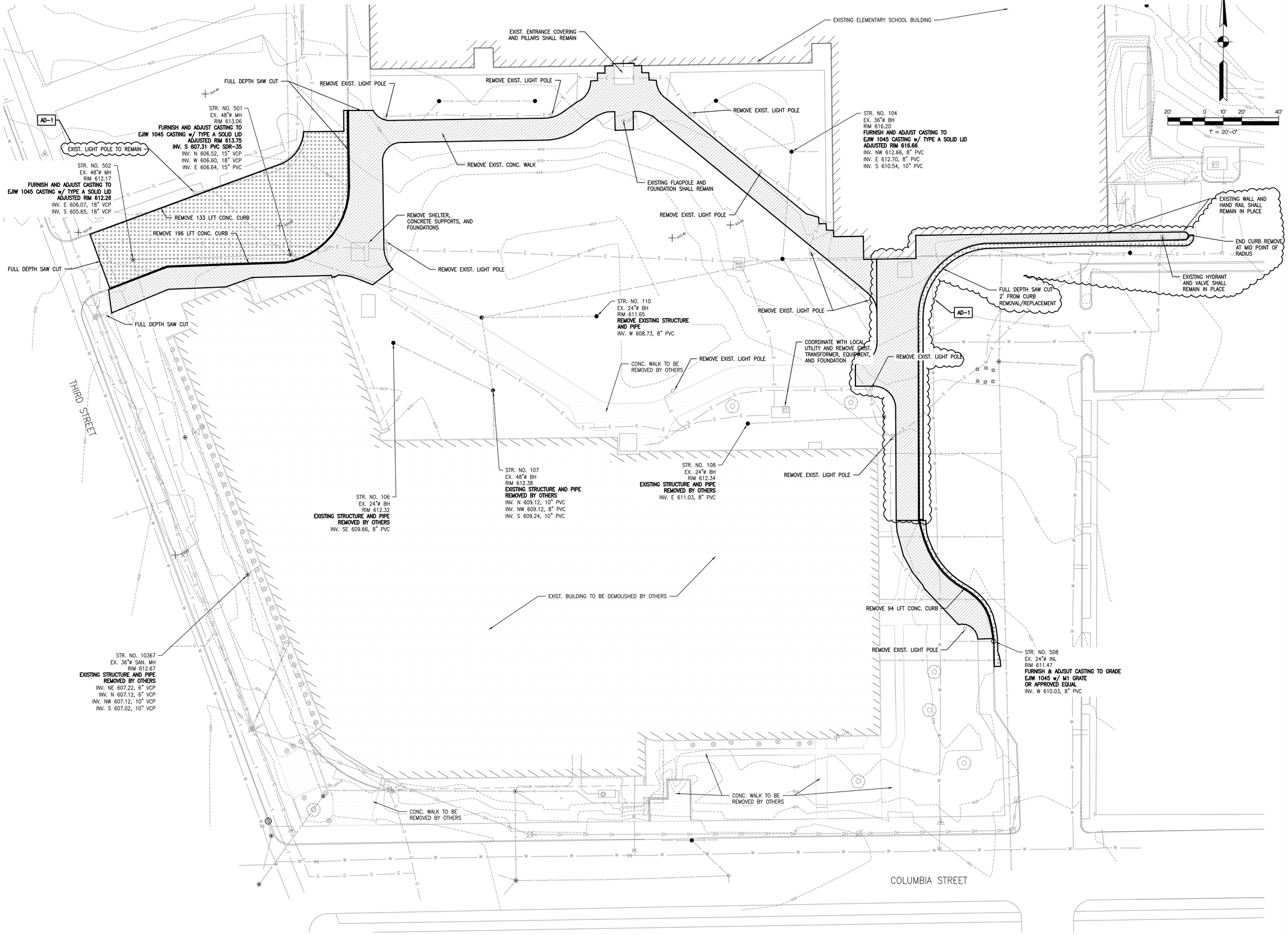

LEGEND

EXISTING TREE	EXISTING GUY WIRE	G G G	EXISTING GAS
EXISTING FIRE HYDRANT	EXISTING LIGHT POLE	T T	EXISTING TELEPHONE
EXISTING WATER VALVE	EXISTING TELEPHONE BOX	TV TV TV	EXISTING CABLE TV
EXISTING BUFFALO BOX	EXISTING SIGN	E E E	EXISTING ELECTRICAL
EXISTING MAN HOLE	CONTROL POINT	OH OH OH	EXISTING OVERHEAD ELECTRIC
EXISTING CATCH BASIN	PROPERTY CORNER	P P P	EXISTING PIPELINE
EXISTING INLET			EXISTING SANITARY
EXISTING UTILITY POLE			EXISTING STORM
		W W	EXISTING WATERMAIN
		x x x	EXISTING CHAIN LINK FENCE
			EXISTING TREE LINE
		SF SF SF	SILT FENCE
			RIGHT-OF-WAY
			PROPERTY LINE / BUILDING LINE
			SECTION LINE

GENERAL DEMOLITION NOTES:

1. EXISTING 6TH GRADE ACADEMY BUILDING, UTILITIES, SIDEWALKS, AND LANDSCAPING ARE TO BE REMOVED BY OTHERS UNDER A SEPARATE CONTRACT. COORDINATION BETWEEN CONTRACTORS FOR THIS SEPARATE PROJECT MAY BE NECESSARY.
2. PAVEMENT ADJACENT TO CURB REMOVALS AND PROPOSED CURB SHALL BE SAW CUT TO FULL DEPTH 2' FROM EDGE OF THE CONCRETE CURB.
3. SIDEWALK THAT IS REMOVED SHALL BE SAW CUT TO FULL DEPTH. WHERE ADJACENT TO SIDEWALK THAT IS TO REMAIN, SAW CUT SHALL BE MADE ALONG EXISTING CONTROL OR EXPANSION JOINTS WHERE POSSIBLE.

ADDENDUM 1 REVISIONS:

1. REVISED LIGHT POLE NEAR EXISTING WEST DRIVEWAY TO REMAIN.
2. REVISED REMOVAL LIMITS OF SIDEWALK AND CURB ON EASTERN PORTION OF SITE.

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PROJECT 23-123
DATE 03/27/23
COORDINATED BY MLM
DRAWN BY MLM
CHECKED BY MLM

MATTHEW L. MIHALIK REGISTERED PROFESSIONAL ENGINEER NO. 11500308 STATE OF INDIANA 3/27/23

REVISIONS

MARK	DATE	ISSUED FOR
AD-01	04/13/23	ADDENDUM 1

DRAWING
DEMOLITION PLAN
COLUMBIA ES

PROJECT
COLUMBIA ES & LANDIS ES - SITE IMPROVEMENTS

SHEET
C-201

Thursday, 4/13/2023 - 11:00 AM - LAST SAVED BY:MMIHALIK
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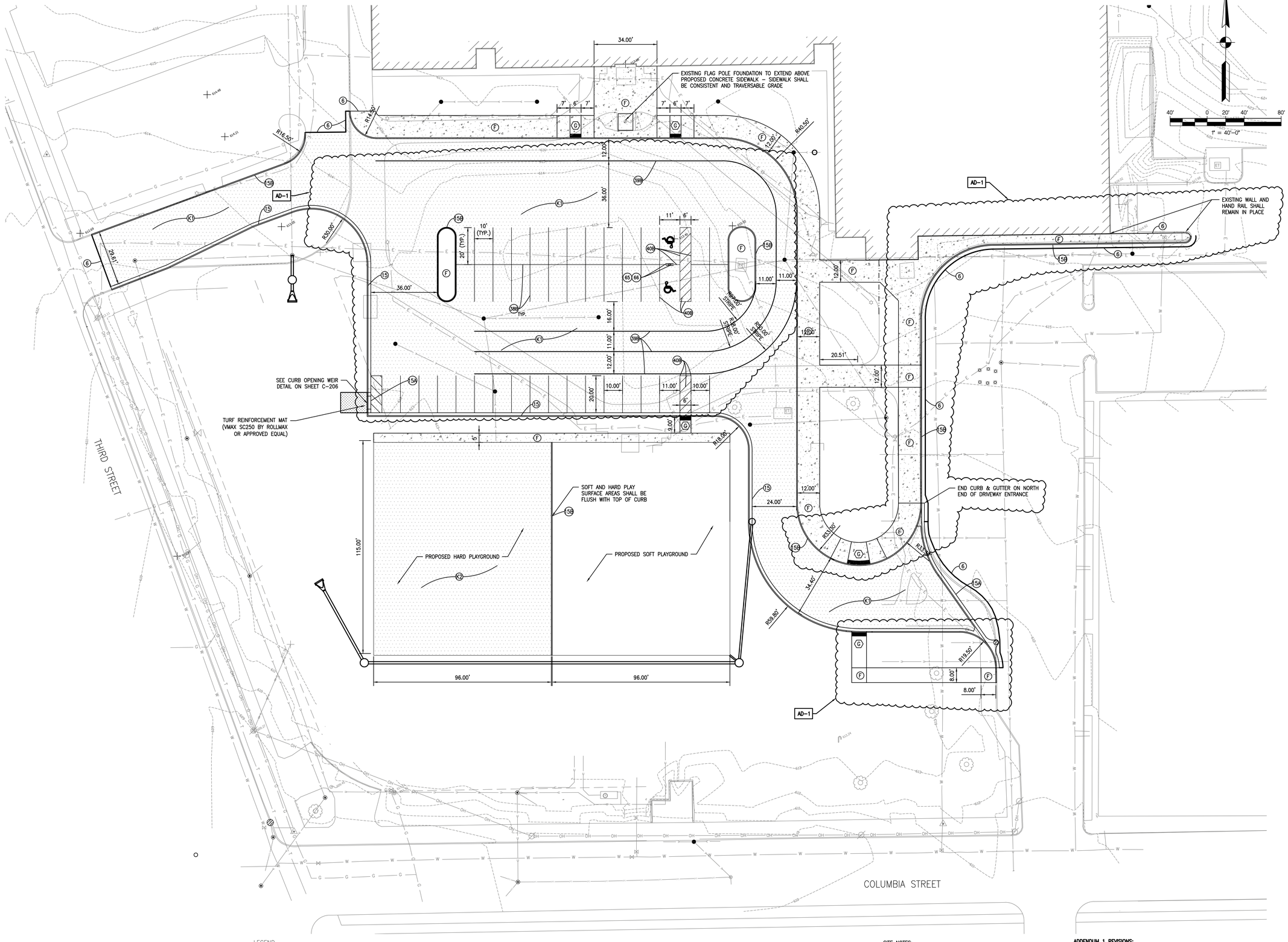

LEGEND

EXISTING TREE	EXISTING GUY WIRE	G G G	EXISTING GAS
EXISTING FIRE HYDRANT	EXISTING LIGHT POLE	T T T	EXISTING TELEPHONE
EXISTING WATER VALVE	EXISTING TELEPHONE BOX	TV TV TV	EXISTING CABLE TV
EXISTING BUFFALO BOX	EXISTING SIGN	E E E	EXISTING ELECTRICAL
EXISTING MAN HOLE	CONTROL POINT	OH OH OH	EXISTING OVERHEAD ELECTRIC
EXISTING CATCH BASIN	PROPERTY CORNER	P P P	EXISTING PIPELINE
EXISTING INLET			EXISTING SANITARY
EXISTING UTILITY POLE			EXISTING STORM

W W W	EXISTING WATERMAIN		
x x x	EXISTING CHAIN LINK FENCE		
	EXISTING TREE LINE		
SF SF SF	SILT FENCE		
	RIGHT-OF-WAY		
	PROPERTY LINE / BUILDING LINE		
	SECTION LINE		

(C)	CONCRETE PAVEMENT, 6" THICK
(F)	CONCRETE SIDEWALK, 5" THICK
(C)	CONCRETE CURB RAMP, 6" THICK
(K1)	REGULAR DUTY PAVEMENT SECTION
(K2)	PLAYGROUND PAVEMENT SECTION
(6)	SAW CUT, FULL DEPTH
(15)	CONCRETE CURB AND GUTTER
(15A)	DEPRESSED CURB AND GUTTER
(15B)	CONCRETE BARRIER CURB
(15C)	DEPRESSED CONCRETE BARRIER CURB

(38B)	STRIPE, SOLID, WHITE, PAINT, 4"
(39B)	STRIPE, BASHER (2' LINE, 4' SKIP), WHITE, PAINT, 4"
(39B)	STRIPE, SOLID, YELLOW, PAINT, 4"
(40B)	STRIPE, SOLID, BLUE PAINT, 4"
(65)	R7-8, SIGN, "RESERVED PARKING", 12"X18"
(66)	R7-8B, SIGN, "VAN ACCESSIBLE", 12"X6"
	PAVEMENT MESSAGE, ADA PARKING SYMBOL, PAINT, BLUE

AD-1

SITE NOTES:
1. ALL RADIUS DIMENSIONS ARE TO BACK OF CURB UNLESS OTHERWISE NOTED.
2. ALL DISTURBED AREAS NOT COVERED BY CONCRETE, ASPHALT, OR OTHER NOTED LANDSCAPING SHALL BE RESTORED WITH 4" TOP SOIL AND MULCHED SEEDING, INDOT TYPE U OR APPROVED EQUAL. THESE AREAS SHALL BE BROUGHT TO GRADE (MINUS 4") WITH SUITABLE FILL MATERIAL.
3. INTERIOR OF CURB ISLANDS SHOWN IN THE PARKING LOTS SHALL BE COVERED BY TOP SOIL AND MULCHED SEEDING.
4. INSTALL ½" PREFORMED EXPANSION MATERIAL BETWEEN ALL NEW CONCRETE AND EXISTING CONCRETE.

ADDENDUM 1 REVISIONS:
1. REVISED SIDEWALK AND CURB LOCATIONS AND LIMITS ALONG EASTERN PORTION OF THE PROJECT.
2. REVISED PARKING LOT LAYOUT.
3. REVISED DIMENSIONS OF EAST DRIVEWAY.
4. ADDED (39B) TO THE LEGEND

Thursday, 4/13/2023 - 11:00 AM - LAST SAVED BY:MMHALIK
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PROJECT 23-123
DATE 03/27/23
COORDINATED BY MLM
DRAWN BY MLM
CHECKED BY MLM

MATTHEW L. MIHALIK REGISTERED PROFESSIONAL ENGINEER NO. 11500308 STATE OF INDIANA
3/27/23

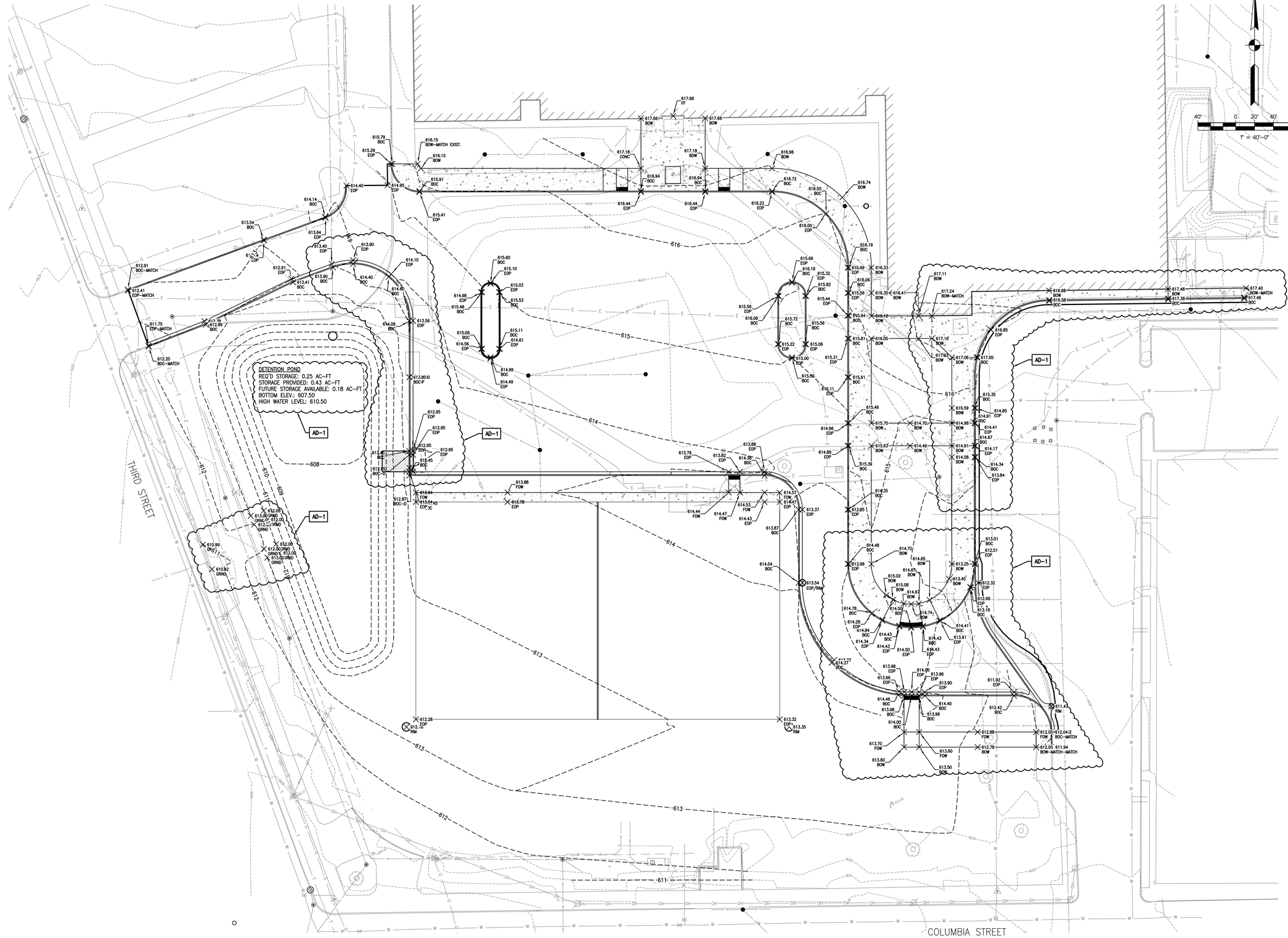
REVISIONS

MARK	DATE	ISSUED FOR
AD-01	04/13/23	ADDENDUM 1

DRAWING
SITE PLAN
COLUMBIA ES

PROJECT
COLUMBIA ES & LANDIS ES - SITE IMPROVEMENTS

SHEET
C-202



LEGEND

EXISTING TREE	EXISTING GUY WIRE	G G G	EXISTING GAS
EXISTING FIRE HYDRANT	EXISTING LIGHT POLE	T T T	EXISTING TELEPHONE
EXISTING WATER VALVE	EXISTING TELEPHONE BOX	TV TV TV	EXISTING CABLE TV
EXISTING BUFFALO BOX	EXISTING SIGN	E E E	EXISTING ELECTRICAL
EXISTING MAN HOLE	CONTROL POINT	OH OH OH	EXISTING OVERHEAD ELECTRIC
EXISTING CATCH BASIN	PROPERTY CORNER	P P P	EXISTING PIPELINE
EXISTING INLET			EXISTING SANITARY
EXISTING UTILITY POLE			EXISTING STORM

W W	EXISTING WATERMAIN		
x x x	EXISTING CHAIN LINK FENCE		
	EXISTING TREE LINE		
SF SF SF	SILT FENCE		
	RIGHT-OF-WAY		
	PROPERTY LINE / BUILDING LINE		
	SECTION LINE		

ADDENDUM 1 REVISIONS:

1. ADDED EMERGENCY OVERFLOW SPILLWAY ELEVATIONS ON THE WEST SIDE OF THE DETENTION POND.
2. REVISED DETENTION POND VOLUME REQUIREMENTS TABLE.
3. REVISED GRADING NEAR EAST DRIVEWAY.
4. REVISED GRADING ALONG REVISED PORTIONS OF THE PARKING LOT.
5. ADDED GRADING TO PROPOSED CURB AND SIDEWALK ALONG EASTERN PORTION OF THE PROJECT.

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PROJECT
COLUMBIA ES & LANDIS ES - SITE IMPROVEMENTS
LOGANSPORT COMMUNITY SCHOOL CORPORATION
LOGANSPORT, INDIANA

NIES engineering, inc.
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PROJECT 23-123
DATE 03/27/23
COORDINATED BY MLM
DRAWN BY MLM
CHECKED BY MLM

MATTHEW L. MINALIK REGISTERED NO. 11500308 STATE OF INDIANA PROFESSIONAL ENGINEER
5/27/23

REVISIONS

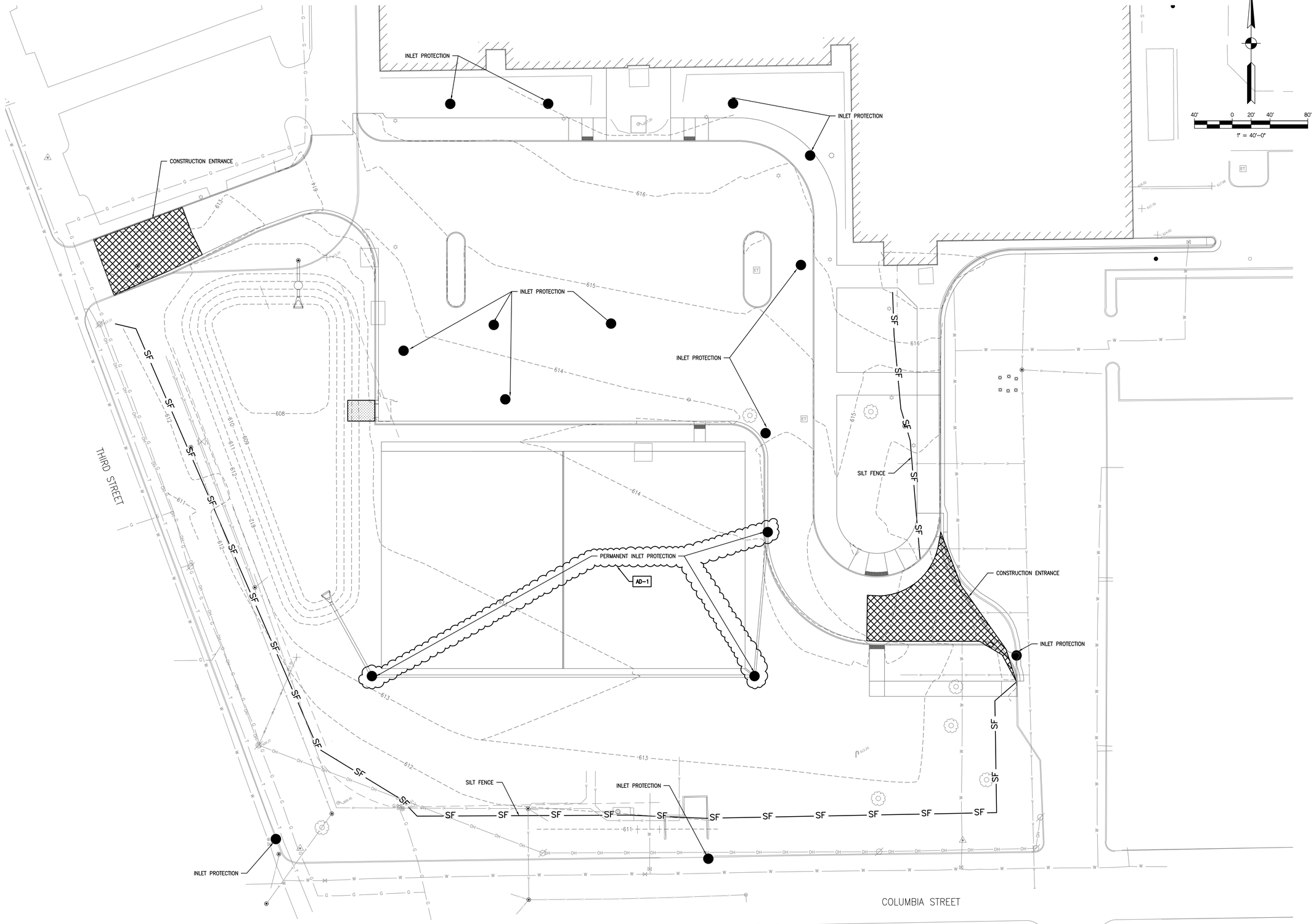
MARK	DATE	ISSUED FOR
AD-01	04/13/23	ADDENDUM 1

DRAWING
GRADING PLAN
COLUMBIA ES

PROJECT
COLUMBIA ES & LANDIS ES - SITE IMPROVEMENTS

SHEET
C-203

Thursday, 4/13/2023 - 11:00 AM - LAST SAVED BY:MMINALIK
X:\PROJECTS\GIBRALTAR\23-506_COLUMBIA-LANDIS SITE\DWG\COLUMBIA\2023 0116_COLUMBIA SITE - REV01.DWG



LEGEND

EXISTING TREE	EXISTING GUY WIRE	G G G	EXISTING GAS
EXISTING FIRE HYDRANT	EXISTING LIGHT POLE	T T	EXISTING TELEPHONE
EXISTING WATER VALVE	EXISTING TELEPHONE BOX	TV TV TV	EXISTING CABLE TV
EXISTING BUFFALO BOX	EXISTING SIGN	E E E	EXISTING ELECTRICAL
EXISTING MAN HOLE	CONTROL POINT	OH OH OH	EXISTING OVERHEAD ELECTRIC
EXISTING CATCH BASIN	PROPERTY CORNER	P P P	EXISTING PIPELINE
EXISTING INLET			EXISTING SANITARY
EXISTING UTILITY POLE			EXISTING STORM

W W W	EXISTING WATERMAIN
x x x	EXISTING CHAIN LINK FENCE
	EXISTING TREE LINE
SF SF SF	SILT FENCE
	RIGHT-OF-WAY
	PROPERTY LINE / BUILDING LINE
	SECTION LINE

GENERAL EROSION CONTROL NOTES:

1. INLET PROTECTION SHALL BE INSTALLED AT LOCATIONS SHOWN.
2. FILTER TUBES (12" DIAMETER), SUCH AS SILT WORM OR APPROVED EQUAL, MAY BE USED AS AN ALTERNATIVE TO SILT FENCE.
3. DISTURBED AREAS LEFT IDLE FOR 7 DAYS OR MORE SHALL HAVE TEMPORARY SEEDING INSTALLED FOR GROUND STABILIZATION.
4. ALL DUMPSTERS AND TRASH ENCLOSURES ON SITE SHALL BE SET UP IN A MANNER WHICH PREVENTS MATERIALS FROM BLOWING OUT OF THE CONTAINER AND PREVENTS RAINWATER FROM ENTERING AND CARRYING SEDIMENT LADEN RUNOFF OUT OF THE CONTAINER. THIS CAN BE ACHIEVED WITH A LID, TARP, OR OTHER EFFECTIVE METHOD.
5. PERMANENT INLET PROTECTION BASKETS SHALL BE LEFT IN PLACE ON PROPOSED DRAINAGE STRUCTURES AS SHOWN. INLET BASKETS SHALL MATCH DETAIL ON SHEET C-208 AND BE SIZED TO FIT THE CASTING OF THE PROPOSED INLET. AD-1

ADDENDUM 1 REVISIONS:

1. ADDED EROSION CONTROL NOTE 5 REGARDING PERMANENT INLET PROTECTION BASKETS.
2. ADDED CALLOUTS AT LOCATIONS OF PROPOSED PERMANENT INLET PROTECTION BASKETS.

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PROJECT
COLUMBIA ES & LANDIS ES - SITE IMPROVEMENTS
LOGANSPORT COMMUNITY SCHOOL CORPORATION
LOGANSPORT, INDIANA

PROJECT 23-123
DATE 03/27/23
COORDINATED BY MLM
DRAWN BY MLM
CHECKED BY MLM

MATTHEW L. MINKLER REGISTERED NO. 11500308 STATE OF INDIANA PROFESSIONAL ENGINEER
3/27/23

REVISIONS

MARK	DATE	ISSUED FOR
AD-01	04/13/23	ADDENDUM 1

DRAWING
EROSION CONTROL PLAN
COLUMBIA ES

PROJECT
COLUMBIA ES & LANDIS ES - SITE IMPROVEMENTS

SHEET
C-205

Thursday, 4/13/2023 - 11:00 AM - LAST SAVED BY:MMHALIK
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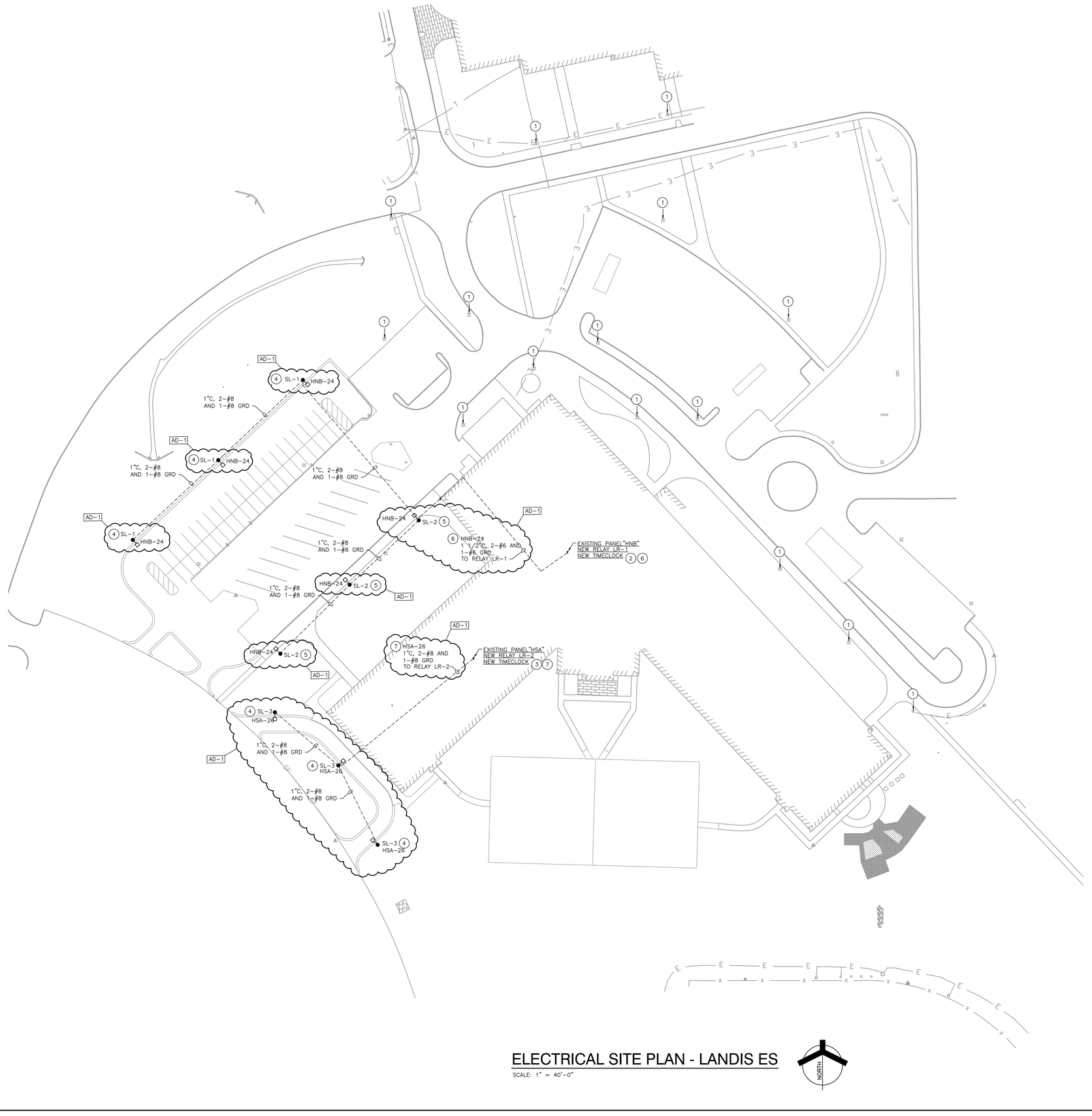

ELECTRICAL SITE PLAN - LANDIS ES

SCALE: 1" = 40'-0"

NORTH

SITE PLAN NOTES - GENERAL

1. ALL WORK SHOWN ON THIS SHEET IS NEW AND BY THE ELECTRICAL TRADES, UNLESS OTHERWISE INDICATED.
2. RELOCATE OR REMOVE ANY OR ALL EXISTING SERVICES, POLES, ETC., AS MAY BE REQUIRED TO ACCOMMODATE NEW CONSTRUCTION, UNLESS OTHERWISE INDICATED.
3. COORDINATE LOCATIONS OF UNDERGROUND CONDUITS, HANDHOLES AND MANHOLES WITH OTHER SITE UTILITIES, UNDERGROUND DRAINS, SERVICES, STRUCTURES AND FINAL GRADING.
4. NOT ALL UTILITIES HAVE BEEN SHOWN. VERIFY LOCATIONS AND ROUTING OF ALL NEW AND EXISTING UTILITIES PRIOR TO ANY NEW WORK.
5. FOR ADDITIONAL GENERAL ELECTRICAL NOTES, SEE GENERAL ELECTRICAL PROJECT NOTES ON SHEET E-001.
6. SEE E-600 SHEETS FOR ELECTRICAL DETAILS AND SCHEDULES.
7. COORDINATE EXACT SITE LIGHTING POLE LOCATIONS WITH ARCHITECT AND UNDERGROUND UTILITIES. SEE CIVIL DRAWINGS.
8. CONTRACTOR SHALL COORDINATE AND VERIFY LOCATION OF WHERE AND HOW CONDUITS WILL ENTER THE BUILDING PRIOR TO ROUGHING-IN.

ELECTRICAL SITE PLAN NOTES:

(THESE NOTES APPLY TO THIS SHEET ONLY)

1. EXISTING SITE LIGHTING FIXTURE TO REMAIN.
2. NSI/TORK DZS200BP TWO CHANNEL DIGITAL TIME CLOCK TO SERVE THE NEW NORTHWEST PARKING LOT LIGHTS. (HNB-26. CHANNEL ONE CONTROLS RELAY LR-1 (NORTHWEST PARKING LOT LIGHTS) AND CHANNEL TWO IS A SPARE. FIELD VERIFY EXACT LOCATION OF EXISTING PANEL "HNB" AND LOCATE NEW RELAY IN THE SAME ROOM. COORDINATE EXACT LOCATION OF RELAY AND TIMECLOCK IN THE ROOM WITH THE ARCHITECT AND CONSTRUCTION MANAGER PRIOR TO ROUGHING-IN TO MAKE SURE NEW EQUIPMENT CAN BE INSTALLED IN THIS ROOM AND MEET ALL CODE REQUIRED CLEAR WORKING SPACE REQUIREMENTS. (AD-1)
3. NSI/TORK DZS200BP TWO CHANNEL DIGITAL TIME CLOCK TO SERVE THE NEW SOUTHWEST DRIVE LIGHTS. (HSA-28). CHANNEL ONE CONTROLS RELAY R-1 (SOUTHWET DRIVE LIGHTS) AND CHANNEL TWO IS A SPARE. FIELD VERIFY EXACT LOCATION OF EXISTING PANEL "HSA" AND LOCATE NEW RELAY IN THE SAME ROOM. COORDINATE EXACT LOCATION OF RELAY AND TIMECLOCK IN THE ROOM WITH THE ARCHITECT AND CONSTRUCTION MANAGER PRIOR TO ROUGHING-IN TO MAKE SURE NEW EQUIPMENT CAN BE INSTALLED IN THIS ROOM AND MEET ALL CODE REQUIRED CLEAR WORKING SPACE REQUIREMENTS.
4. TYPE "A" POLE BASE. SEE DETAIL ON SHEET E-601.
5. TYPE "B" POLE BASE. SEE DETAIL ON SHEET E-601.
6. CONNECT NEW SITE LIGHTING FIXTURES TO RELAY LR-1 AND TIMECLOCK TO A SPARE 1P-20 AMP CIRCUIT IN EXISTING PANEL "HNB". (CIRCUIT NHB-26)CONNECT TIMECLOCK TO THE SAME CIRCUIT. (AD-1)
7. CONNECT NEW SITE LIGHTING FIXTURES TO RELAY LR-2 AND TIEMCLOCK TO A SPARE 1P-20 AMP CIRCUIT IN EXISTING PANEL "HSA". (CIRCUIT HSA-28).

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PROJECT
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LOGANSPORT, INDIANA

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PROJECT 23-123
DATE 03/27/23
COORDINATED BY PCB
DRAWN BY PCB/JVC
CHECKED BY DJW

DALE J. WAGNER REGISTERED NO. 19600171 STATE OF INDIANA ARCHITECT

REVISIONS

MARK	DATE	ISSUED FOR
AD-1	04/13/23	ADDENDUM NO. 1

DRAWING
ELECTRICAL SITE PLAN - LANDIS ES

PROJECT
COLUMBIA ES & LANDIS ES - SITE IMPROVEMENTS

SHEET
ES202

LIGHTING RELAY SCHEDULE

MARK & TYPE	ITEM	CONTROLLED CIRCUIT(S)	COIL CKT.	COIL VOLT	ROOM NO.	CONTACTS	SELECTOR SWITCH	CONTROL	SEE NOTES
CR-1 SQUARE D #8903 SERIES W/ NEMA 3R ENCLOS.	SOUTH PARKING LOT AND DRIVE LIGHTS	H2-14,16	H2-14	277	X-XXX	N.O.	HOA	TIMECLOCK	1,2,4,5,6
LR-1 SQUARE D #8903 SERIES W/ NEMA 3R ENCLOS.	SOUTH PARKING LOT LIGHTS	HNB-24	HNB-26	277	X-XXX	N.O.	HOA	TIMECLOCK	1,2,4,5,6
LR-2 SQUARE D #8903 SERIES W/ NEMA 3R ENCLOS.	DRIVE LIGHTS	HSA-26	HSA-28	277	X-XXX	N.O.	HOA	TIMECLOCK	1,2,4,5,6

NOTES:
1. FURNISH NEMA 1 ENCLOSURE WITH HINGED COVER UNLESS OTHERWISE NOTED.
2. ELECTRICALLY HELD.
3. MECHANICALLY HELD.
4. PROVIDE SELECTOR SWITCH IN RELAY ENCLOSURES WITH LOOP AND BRIDLE STRAPS FROM MAIN DEPARTMENT TO HINGED COVER FOR SELECTOR SWITCHES.
5. FURNISH FUSE PROTECTION FOR COIL CIRCUIT.
6. ALL RELAYS AND SELECTOR SWITCHES SHALL BE PREWIRED BY MANUFACTURER.

AD-1

COLUMBIA ELEMENTARY SCHOOL LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURERS	VOLTAGE	LIGHT SOURCE	MINIMUM LUMENS	DEGREE K.	MAXIMUM WATTAGE	DIMMING	MOUNTING	DESCRIPTION
S-1	MC GRAW-EDISON GLEON-AF-04-LED-E1-D-SL4-CBA LITHONIA DSX1-LED-P8-40K-T3M-MVOLT-RPA-CBA HUBBELL VP-1-320L-170-4K7-3F-UNV-A-CBA/RTS-B-30-A-1-XXX	120/277	LED	19935/ 21558/ 27000	4000	225/207/ 320	NONE	POLE MOUNTED	POLE ARM MOUNTED LED SITE LIGHTING FIXTURE WITH TYPE III LIGHT DISTRIBUTION MOUNTED ON A 30'-0" ROUND TAPERED STEEL POLE. COLOR AND FINISH TO BE SELECTED BY THE ARCHITECT.

LANDIS ELEMENTARY SCHOOL LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURERS	VOLTAGE	LIGHT SOURCE	MINIMUM LUMENS	DEGREE K.	MAXIMUM WATTAGE	DIMMING	MOUNTING	DESCRIPTION
SL-1	MC GRAW-EDISON PREVAIL PRV-XL-C175-750-D-UNV-T4-SA-CBA HUBBELL VP-3-480L-340-4K7-4W LITHONIA DSX2-LED-P7-40K-TFTM-MVOLT-RPA-CBA	120/277	LED	48569/ 48191/ 52228	4000	346/339/ 409	NONE	POLE MOUNTED	POLE ARM MOUNTED LED SITE LIGHTING FIXTURE WITH TYPE IV LIGHT DISTRIBUTION MOUNTED ON A 30'-0" ROUND TAPERED STEEL POLE. COLOR AND FINISH TO BE SELECTED BY THE ARCHITECT.
SL-2	MC GRAW-EDISON PREVAIL PRV-XL-C150-750-D-UNV-T4-SA-CBA HUBBELL VP-3-480L-340-4K7-4W LITHONIA DSX2-LED-P6-40K-TFTM-MVOLT-RPA-CBA	120/277	LED	41100/ 48191/ 45563	4000	285/339/ 342	NONE	POLE MOUNTED	POLE ARM MOUNTED LED SITE LIGHTING FIXTURE WITH TYPE IV LIGHT DISTRIBUTION MOUNTED ON A 30'-0" ROUND TAPERED STEEL POLE. COLOR AND FINISH TO BE SELECTED BY THE ARCHITECT.
SL-3	MC GRAW-EDISON PREVAIL PRV-XL-C100-D-750-UNV-T4-SA-CBA LITHONIA DSX1-LED-P13--T3M-MVOLT-RPA-CBA HUBBELL VP-3-480L-340-4K7-4W	120/277	LED	31625/ 26782/ 48191	4000	217/231/ 339	NONE	POLE MOUNTED	POLE ARM MOUNTED LED SITE LIGHTING FIXTURE WITH TYPE III LIGHT DISTRIBUTION MOUNTED ON A 30'-0" ROUND TAPERED STEEL POLE. COLOR AND FINISH TO BE SELECTED BY THE ARCHITECT.

AD-1

LANDIS ELEMENTARY SCHOOL PANELBOARD SCHEDULE

MARK & TYPE: "HSA" — TYPE: EXISTING SQUARE D NEHB — 277/480V, 3 PH, 4W — 225 AMP MAIN LUGS — NEMA 1 — SURFACE MOUNTED
REMARKS: EXISTING SQUARE D NEHB PANELBOARD

DESCRIPTION	CIR	POLE	TRIP	LTS	REC	EQUIP	A	B	C	HEAT	A/C	FUTR	POLE	TRIP	CIR	DESCRIPTION
310 LIGHTS	1	1	20										1	20	2	313 LIGHTS
309 LIGHTS	3	1	20										1	20	4	312 LIGHTS
308 LIGHTS	5	1	20										1	20	6	311 LIGHTS
304 LIGHTS	7	1	20										1	20	8	314 LIGHTS
305 LIGHTS	9	1	20										1	20	10	315 LIGHTS
306 LIGHTS	11	1	20										1	20	12	316 LIGHTS
303 LIGHTS	13	1	20										1	20	14	317,318,319,320 LIGHTS
302 LIGHTS	15	1	20										1	20	16	319,320,323,324 LIGHTS
301 LIGHTS	17	1	20										1	20	18	330,331 LIGHTS EXT LIGHTS
327-328 LIGHTS	19	1	20										1	20	20	330,331 LIGHTS
327-328 LIGHTS EXT LIGHTS	21	1	20										1	20	22	SOFFIT LIGHTS
307 LIGHTS	23	1	20										1	20	24	325 LIGHTS
	25	1	20										1	20	26	**DRIVE LIGHTS (RELAY LR-2)**
	27	1	20										1	20	28	**TIMECLOCK AND RELAY LR-2 CONTROL**
	29	1	20										1		30	SPACE
SPACE	31	1											1		32	SPACE
SPACE	33	1											1		34	SPACE
SPACE	35	1											1		36	SPACE
SPACE	37	1											1		38	SPACE
SPACE	39	1											1		40	SPACE
SPACE	41	1											1		42	SPACE
TOTAL CONNECTED LOAD (kVA)																
TOTAL DEMAND LOAD (kVA)																

LANDIS ELEMENTARY SCHOOL PANELBOARD SCHEDULE

MARK & TYPE: "HNB" — TYPE: EXISTING SQUARE D NEHB — 277/480V, 3 PH, 4W — 225 AMP MAIN LUGS — NEMA 1 — SURFACE MOUNTED
REMARKS: EXISTING SQUARE D NEHB PANELBOARD

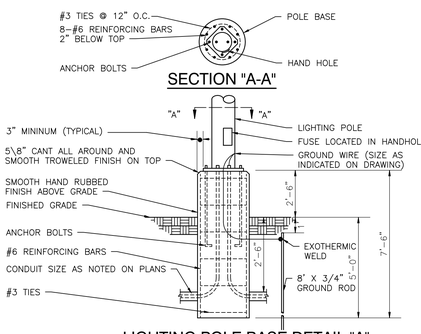
DESCRIPTION	CIR	POLE	TRIP	LTS	REC	EQUIP	A	B	C	HEAT	A/C	FUTR	POLE	TRIP	CIR	DESCRIPTION
227,228,229,231,423 LIGHTS	1	1	20										1	20	2	313 LIGHTS
227,228,229,231,423 LIGHTS	3	1	20										1	20	4	312 LIGHTS
227,231,232,HALL LIGHS	5	1	20										1	20	6	311 LIGHTS
224, HALL LIGHTS	7	1	20										1	20	8	314 LIGHTS
223, HALL LIGHTS	9	1	20										1	20	10	315 LIGHTS
222,225,504, HALL LIGHTS	11	1	20										1	20	12	316 LIGHTS
219,220,221,HALL LIGHTS	13	1	20										1	20	14	317,318,319,320 LIGHTS
218, HALL LIGHTS	15	1	20										1	20	16	319,320,323,324 LIGHTS
401,406,HALL LIGHTS	17	1	20										1	20	18	330,331 LIGHTS EXT LIGHTS
408,409,410,604,HALL LIGHTS	19	1	20										1	20	20	330,331 LIGHTS
GYM LIGHTING	21	1	20										1	20	22	SOFFIT LIGHTS
GYM LIGHTING	23	1	20										1	20	24	**NORTHWEST PARKING LOT LIGHTS (RELAY LR-1)**
SPARE	25	1	20										1	20	26	**TIMECLOCK AND RELAY LR-1 CONTROL**
SPARE	27	1	20										1	20	28	SPARE
SPACE	29	1											1		30	SPACE
SPACE	31	1											1		32	SPACE
SPACE	33	1											1		34	SPACE
SPACE	35	1											1		36	SPACE
SPACE	37	1											1		38	SPACE
SPACE	39	1											1		40	SPACE
SPACE	41	1											1		42	SPACE
TOTAL CONNECTED LOAD (kVA)																
TOTAL DEMAND LOAD (kVA)																

AD-1

COLUMBIA ELEMENTARY SCHOOL PANELBOARD SCHEDULE

MARK & TYPE: "H2" — TYPE: EXISTING ITE SERIES 7 — 277/480V, 3 PH, 4W — 200 AMP MAIN LUGS — NEMA 1 — SURFACE MOUNTED
REMARKS: EXISTING ITE SERIES 7 PANELBOARD

DESCRIPTION	CIR	POLE	TRIP	LTS	REC	EQUIP	A	B	C	HEAT	A/C	FUTR	POLE	TRIP	CIR	DESCRIPTION
CORRIDOR LIGHTS	1	1	20										1	20	2	CORRIDOR LIGHTS
CORRIDOR LIGHTS	3	1	20										1	20	4	112-114 LIGHTS
115 LIGHTS	5	1	20										1	20	6	114A-B-C LIGHTS
110 LIGHTS	7	1	20										1	20	8	MENS AND WOMEN TOILETS 118-119-120 LIGHTS
107 LIGHTS	9	1	20										1	20	10	SPARE
SPARE	11	1	20										1	20	12	SPARE
SPARE	13	1	20										1	20	14	**SOUTH PARKING LOT/DRIVE LIGHTS TIMECLOCK/RELAY CONTROL**
SPARE	15	1	20										1	20	16	**SOUTH PARKING LOT/DRIVE LIGHTS**
T2 106 A & B	17	3											1	20	18	SPARE
	19												1	20	20	SPARE
	21												1	20	22	SPARE
CSAC #3	23	3	20										1		24	SPACE
	25												1		26	SPACE
	27												1		28	SPACE
SPACE	29	1											1		30	SPACE
TOTAL CONNECTED LOAD (kVA)																
TOTAL DEMAND LOAD (kVA)																

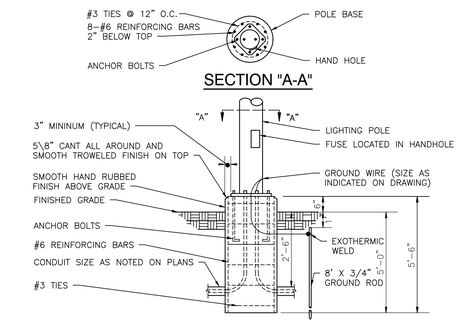


SECTION "A-A"

LIGHTING POLE BASE DETAIL "A"

NOT TO SCALE

NOTE: POLE BASE SIZE AND REINFORCEMENT SHOWN ARE MINIMUM REQUIRMENTS. VERIFY PROPER SIZE FOR SOIL TYPE ENCOUNTERED AT SITE WITH POLE MANUFACTURER BEFORE CONSTRUCTION.



SECTION "A-A"

LIGHTING POLE BASE DETAIL-TYPE "B"

NOT TO SCALE

NOTE: POLE BASE SIZE AND REINFORCEMENT SHOWN ARE MINIMUM REQUIRMENTS. VERIFY PROPER SIZE FOR SOIL TYPE ENCOUNTERED AT SITE WITH POLE MANUFACTURER BEFORE CONSTRUCTION.

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LOGANSPORT COMMUNITY SCHOOL CORPORATION
LOGANSPORT, INDIANA

PROJECT 23-123
DATE 03/27/23
COORDINATED BY PCB
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DALE J. WALCHER REGISTERED NO. 19600171 STATE OF INDIANA ARCHITECT

REVISIONS

MARK	DATE	ISSUED FOR
AD-1	04/13/23	ADDENDUM NO. 1

DRAWING
ELECTRICAL SCHEDULES

PROJECT
COLUMBIA ES & LANDIS ES - SITE IMPROVEMENTS

SHEET
E-601