

ENVIRONMENTAL REPORT

LONG TERM CONTROL PLAN PROJECT

FOR THE

CITY OF

NORTH VERNON, INDIANA

JENNINGS COUNTY

NOVEMBER 2012



BERNARDIN • LOCHMUELLER & ASSOCIATES, INC.

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**ENVIRONMENTAL REPORT
LONG TERM CONTROL PLAN
CITY OF NORTH VERNON
JENNINGS COUNTY, INDIANA**

<u>Section</u>	<u>Page</u>
1.0 Purpose and Need for the Proposal.....	1
1.1 Project Description (Proposed Action).....	1
1.2 Purpose and Need of the Proposal	2
2.0 Alternatives to the Proposed Action.....	4
3.0 Affected Environment/Environmental Consequences	7
3.1 Land Use/Important Farmland/Formally Classified Lands.....	7
3.2 Floodplains	8
3.3 Wetlands	9
3.4 Cultural and Historic Resources	9
3.5 Biological Resources.....	10
3.6 Water Quality Issues	11
3.7 Coastal Resources	12
3.8 Socio-Economic/Environmental Justice Issues	12
3.9 Miscellaneous Issues.....	13
4.0 Summary of Mitigation	14
5.0 Correspondence	16
6.0 Exhibits/Maps	33
7.0 List of Preparers	46

1.0 Purpose and Need for the Proposal

The City of North Vernon is located in southeastern Indiana in Jennings County. The North Vernon population is approximately 6,728 (2010 U.S. Census). The City of North Vernon's wastewater is treated by a 2.2 MGD (average design flow) activated sludge type wastewater treatment plant with a peak design flow of 4.76 MGD. The wastewater treatment plant discharges to the Vernon Fork of the Muscatatuck River. The North Vernon collection system has 25 lift stations and their accompanying force mains and approximately 38 miles of gravity pipe, of which approximately 60% is combined (carries both sanitary and storm flows).

During wet weather events, the combined sewers convey sanitary sewage, storm water and surface runoff collected from streets, lawns, parking lots, parks, etc. to the wastewater treatment plant (WWTP). When the capacity of the sewer system or the WWTP is exceeded, such as during heavy rainfall events, the excess water is occasionally allowed to overflow directly to surface water bodies, including the Vernon Fork of the Muscatatuck River.

It is proposed in this report to implement a series of improvements to the existing wastewater system as per the City of North Vernon's approved Long Term Control Plan (LTCP). This plan was revised February 27, 2012 and approved by Indiana Department of Environmental Management (IDEM) on May 2, 2012. After completion of the improvements associated with the Preliminary Engineering Report (PER), the city will have fulfilled its obligation as set forth in the LTCP to address sewage overflows at the Northwest Lift Station and the WWTP.

1.1 Project Description (Proposed Action)

The proposed actions (as analyzed by the PER) consist of improvements to two (2) of the lift stations of the collection system and improvements to the WWTP.

Collection System (Northwest Lift Station).

The recommended alternative for the Northwest Lift Station involves the replacement of the existing sanitary sewers with new sanitary sewers in the Hickory Manor Trailer Park. The replacement will consist of approximately 3,100 feet of mainline gravity sewer and nine (9) manholes. The existing service laterals and their corresponding connections will be replaced within the confines of the easement.

Collection System (Southwest Lift Station).

The recommended alternative for the Southwest Lift Station consists of the installation of "in-line" storage of the wet weather flows. This system consists of approximately 1,600 feet of 48"

diameter piping and six (6) manholes to store the wet weather flows and relieve the burden to the existing pumps in the lift station.

Wastewater Treatment Plant.

The recommended alternative for the WWTP is a Mechanical Wet Weather Treatment Facility with Chlorination Disinfection. This is a chemically-enhanced, vortex-type, clarification system to treat the CSO wet weather flows that originate from the collection system.

The wet-weather treatment facility will be located on the existing WWTP property and rated at a peak flow of 35 MGD consisting of the following components:

- Diversion Structures to direct the flows within the system,
- Screening Structure with a mechanical, chain and rake type fine screen,
- Surge Tank with a 200,000 gallon capacity,
- Vortex-type rate clarifier,
- Chemical Feed Building for the equipment and supply of the chlorination disinfection system,
- Site Piping including approximately 1,000 feet of 36" reinforced concrete pipe.

1.2 Purpose and Need of the Proposal

Collection System.

The collection system experiences surcharging (overflows) in the existing Northwest Lift Station and the Southwest Lift Station due to large wet weather flows. The surcharging occurs at the top of the lift stations through the access covers and subsequently into the surrounding areas. This raw sewage presents a negative health and sanitation problem for the local residents. If action is not taken to prevent this current situation, continued negative effects will impact the health and welfare of the residents of the city. In addition, these discharges are not permissible by Indiana Department of Environmental Management (IDEM).

The Hickory Manor Trailer Park has a conventional gravity sanitary sewer system to which each lot connects and discharges sewage and subsequently flows to the Northwest Lift Station. Through smoke testing and flow monitoring, it has been determined that this sewer system

experiences significant wet weather infiltration and overburdens the Northwest Lift Station. This excessive infiltration contributes a large part of all of the flow to this lift station during rain events.

The Southwest Lift Station receives flow from the “Southwest Sub-basin”. Currently, the wet weather flows burden the pumps, causing overflows.

Wastewater Treatment Plant.

The collection system in North Vernon contains combined sewers, conveying both sanitary sewage and storm runoff. During dry weather, combined sewers carry sewage from domestic, commercial, and industrial sources to the wastewater treatment plant. During wet weather events, the same sewers also convey storm water and surface runoff collected from streets, lawns, parking lots, parks, etc. to the wastewater treatment plant (WWTP). When the capacity of the sewer system or the WWTP is exceeded, such as during heavy rainfall events, the excess mixed water is occasionally allowed to overflow directly to surface water bodies, including the Vernon Fork of the Muscatatuck River, through the Combined Sewer Overflow (CSO) outfall listed in the City of North Vernon’s NPDES Permits and located at the existing Wastewater Treatment Plant.

Combined sewer overflow discharges can potentially contain pollutants normally found in untreated sewage, including bacteria, pathogens, industrial pollutants, suspended solids, oil and grease, and other contaminants into rivers and streams. These contaminants can elevate bacteria levels and reduce oxygen (due to the oxygen demanding matter) in the water, creating conditions harmful to aquatic habitats, aquatic life and humans. CSO flows can also contain a variety of pollutants contributed from urban storm water runoff, automotive fluids, household chemicals, and floating sewage and debris. Because of the potential presence of these substances, combined sewer overflows, in addition to storm water runoff and upstream pollution, can have a variety of adverse impacts on the quality of the surface waters as well as the residents of the city.

No actions to alleviate the current situation will result in continued unauthorized combined sewer overflows and pollution to the Muscatatuck River. In addition, violations of federal and state environmental regulations and enforcement activity would likely occur as a result of these overflows.

2.0 Alternatives to the Proposed Action

The alternatives evaluated are divided into those associated with the Collection System and those associated with the Wastewater Treatment Plant. These alternatives were evaluated to determine the most cost-effective solution to the current and future needs for the project area while meeting all applicable environmental regulations. Construction bid prices on similar projects and equipment supplier budgets were used to derive the estimated costs for the various alternatives.

Collection System (Northwest Lift Station).

Two (2) alternatives were evaluated to reduce the wet weather flows to the Northwest Lift Station by improvements to the Hickory Manor Trailer Park sewer system. The first alternative involved the installation of a low pressure piping system. Low pressure sewers with grinder pumps use small pumps located in pump pits connected to one or more building laterals; one for every two lots (trailers), in this case. The pumps grind the sewage solids into small particles and then discharge into a collection system consisting of small pressure force mains, generally 1-¼” to 4” in diameter. The low pressure sewers follow the existing ground just below the frost line. Power for the pumps must come from the buildings connected to the pump pit or from a metered drop on a power pole.

The second alternative is the replacement of the existing sanitary sewer system with a new gravity sewer. This involves the replacement of the existing sanitary sewers with new sanitary sewers in the Hickory Manor Trailer Park. The replacement will consist of approximately 3,100 feet of mainline gravity sewer and nine (9) manholes. The existing service laterals and their corresponding connections will be replaced within the confines of the easement

The following summarizes the Evaluation of the Collection System (Northwest Lift Station) Alternatives:

	Collection Alternative	Results of Evaluation
1	<p>Low Pressure Sewers with Grinder Pumps. <i>(Alternative "A" in PER)</i></p>	<ul style="list-style-type: none"> ▪ More difficult implementation due to required electrical service distribution network. ▪ Large Operation and Maintenance Costs: monthly electrical service fees, pump repairs and replacements. ▪ Larger Cost option.
2	<p>Sanitary Sewer Replacement <i>(Alternative "B" in PER)</i></p>	<ul style="list-style-type: none"> ▪ Low Operation and Maintenance Cost. ▪ Less Cost option.

Collection System (Southwest Lift Station).

Two (2) alternatives were evaluated to reduce the effects of wet weather flows to the Southwest Lift Station. The first alternative involved the installation of a new Wet Weather Lift Station. This work involves the installation of a new wet well, four (4) new pumps, electrical and instrumentation work, and other incidental work.

The second alternative is the installation of In-Line Wet Weather storage. This system consists of approximately 1,600 feet of 48” diameter piping and six (6) manholes to store the wet weather flows and relieve the burden to the existing pumps in the lift station.

The following summarizes the Evaluation of the Collection System (Southwest Lift Station) Alternatives:

	Collection Alternative	Results of Evaluation
1	Wet Weather Pump Station. <i>(Alternative "C" in PER)</i>	<ul style="list-style-type: none">▪ More complex system.▪ Large Operation and Maintenance Costs: monthly electrical service fees, pump repairs and replacements.▪ Larger Cost option.
2	Wet Weather In-Line Storage <i>(Alternative "D" in PER)</i>	<ul style="list-style-type: none">▪ Low Operation and Maintenance Cost.▪ Less Cost option.▪ Existing Lift Station will remain untouched.▪ Simpler, static system.

Wastewater Treatment Plant.

Three (3) alternatives were evaluated for treatment of the wet weather flows from the collection system.

The first alternative was the “Mechanical Wet Weather Treatment Facility – Chemically Enhanced High Rate Clarifier (CEHRC) with UV Disinfection”. Wet weather flows are treated with a coagulant-based system followed by ultra-violet disinfection to achieve primary equivalent treatment prior to discharge to the river.

The second alternative was the “Mechanical Wet Weather Treatment Facility – Vortex Clarifier with Chlorination Disinfection”. Wet weather flows are treated by a vortex-type clarification system followed by chlorine disinfection to achieve primary equivalent treatment prior to discharge to the river.

The third alternative was the “Constructed Wetland”. This system includes a Pump Station and Force Main to transport the wet weather flows to a 6½ acre Constructed Wetland followed by a UV Disinfection system to achieve primary equivalent treatment prior to discharge to the river.

The following summarizes the Evaluation of the Wastewater Treatment Plant Alternatives:

	Treatment Alternative	Results of Evaluation
1	<p>Mechanical Wet Weather Treatment Facility – Chemically Enhanced High Rate Clarifier (CEHRC) with UV Disinfection (Alternative “A” in PER)</p>	<ul style="list-style-type: none"> ▪ Highest initial capital cost. ▪ Highest O&M Costs (Maintenance, chemicals, electricity).
2	<p>Mechanical Wet Weather Treatment Facility – Vortex Clarifier with Chlorination Disinfection (Alternative “B” in PER)</p>	<ul style="list-style-type: none"> ▪ Lowest initial capital cost. ▪ Lowest O&M Costs ▪ Least complex of the alternatives.
3	<p>Constructed Wetland Facility (Alternative “C” in PER)</p>	<ul style="list-style-type: none"> ▪ Potentially large Environmental impacts. Large area required for placement of wetland. ▪ Environmentally sustainable solution.

3.0 Affected Environment/Environmental Consequences

The following subsections provide the conclusions of the evaluation of environmental resources that may be potentially impacted by the project as described in this document and the PER. The potential affects to the environment, environmental consequences, and mitigation if needed is discussed as necessary.

3.1 Land Use/Important Farmland/Formally Classified Lands

Minimal environmental impact is expected from the proposed wastewater collection and treatment facility. Current land use within the project areas in North Vernon is primarily residential and commercial or institutional entities. The manholes and sewers within the Hickory Manor Trailer Park (Trailer Park) project area will be rehabilitated and constructed on previously disturbed soils within the existing utility easements. The proposed work for the Southwest Lift Station will occur within the existing easements and right-of-ways. The facilities involved with the WWTP project area will be constructed within the property of the plant and roadway right-of-way adjacent to the plant.

The Natural Resources Conservation Service (NRCS) was consulted to determine the effects that this proposed project will have on potentially important farmland, and the Indiana Geological Survey was consulted to determine if the project will have any significant geologic impacts. There were no objections offered for the proposed improvements.

3.1.1 Affected Environment

The Trailer Park and the WWTP areas will not result in a conversion of any prime farmland. No formally classified lands were identified in or adjacent to the proposed project area.

3.1.2 Environmental Consequences

Only positive environmental consequences are expected after construction of the proposed improvements associated with the Hickory Manor Trailer Park and the WWTP.

The rehabilitation of the existing sewer system within the Trailer Park will decrease wet weather infiltration. This minimizes the flow burden to the Northwest Lift Station that currently causes overflows.

The installation of a wet weather in-line storage system will unburden the pumps at the Southwest Lift Station caused by the excessive storm flows that currently cause overflows.

The wet weather treatment facility at the WWTP will provide primary equivalent treatment to the storm flows, minimizing the negative effects on the Muskatatuck River and meeting IDEM requirements.

No action was requested at this time. Copies of the correspondence can be found in **Section 5.0**.

3.1.3 Mitigation

The NRCS and IGS found that no mitigation will be required for the recommended wastewater collection system at the Trailer Park, the improvements at the Southwest Lift Station, nor the WWTP.

3.2 Floodplains

It is anticipated that no floodplains will be impacted by the construction or operation of the proposed project at the Trailer Park. It is anticipated that the proposed project at the Southwest Lift Station will not impact any floodplains. The proposed project at the WWTP will impact the floodplain. The Indiana Department of Natural Resources (INDNR), Division of Water was consulted for review and comment. Copies of the correspondence can be found in **Section 5.0** of this report.

3.2.1 Affected Environment

The Trailer Park project area is not located in, nor encroaches on, any identified floodplains. The INDNR review determined that no formal approval from INDNR Division of Water is needed for this project.

The improvements at the Southwest Lift Station is not located in, nor encroaches on, any identified floodplains. The INDNR review determined that no formal approval from INDNR Division of Water is needed for this project.

The WWTP Wet Weather facility will be located in the 100-year floodplain, but not within the “floodway”. This location is necessary due to its low elevation. This area permits gravity flow to the facility. Pumping would be necessary if it was located elsewhere; a costly option. The conveyance piping for this facility will be located along an existing street within the “floodway”. The INDNR review determined that the project will require approval for construction in a floodway.

3.2.2 Environmental Consequences

Based on current findings, no environmental consequences relating to the Trailer Park are anticipated.

Based on current findings, no environmental consequences relating to the Southwest Lift Station work are anticipated.

The only Environmental Effect of the conveyance piping would be during construction. All appropriate temporary erosion and sediment control measures shall be undertaken. Structures shall have bolt-down lids. After construction, all facilities will be located below the ground surface.

The Environmental Effect of the Wet Weather Facility at the WWTP would be minimal.

3.2.3 Mitigation

Based on current findings, the need for floodplain mitigation is not expected.

3.3 Wetlands

No wetlands are located within the project areas. The U.S. Army Corps of Engineers (USACE) was consulted to determine the effects that this proposed project will have on wetlands and other waters of the U.S. There were no objections to the proposed improvements. Copies of the correspondence can be found in **Section 5.0**.

3.3.1 Affected Environment

There are no affected environments.

3.3.2 Environmental Consequences

There are no environmental consequences.

3.3.3 Mitigation

No mitigation is necessary for these projects.

3.4 Cultural and Historic Resources

The proposed project will neither create nor destroy open space and recreational opportunities. Additionally, the INDNR Division of Historic Preservation & Archaeology was consulted to determine the effects that this proposed project may have on important cultural resources and historic places and structures, including known archaeological findings.

The Indiana State Historic Preservation Officer (Indiana SHPO) staff reviewed the information provided for this report as well as other typical resources available to them. They had no objections. Copies of the correspondence can be found in **Section 5.0** of this report. IR maps can be found in **Section 6.0**.

3.4.1 Affected Environment

No properties with historical significance were identified within the project area per the criteria set forth in Section 106 of the National Historic Preservation Act (16 U.S.C. § 4701) and 36 C.F.R. Part 800.

3.4.2 Environmental Consequences

Indiana SHPO raised no objections to the proposed work.

3.4.3 Mitigation

No mitigation is necessary for the proposed work.

3.5 Biological Resources

The U.S. Department of the Interior Fish and Wildlife Service and the INDNR were consulted to determine the effects that this proposed project will have on endangered species and their habitat. Copies of the correspondence can be found in **Section 5.0** of this report.

3.5.1 Affected Environment

The INDNR determined that the project is within one-half mile of the communities of the following: Barren Strawberry, Shining Ladies'-tresses, Dry-mesic Upland Forest, Limestone Cliff, Kirtlands Snake, and the Eastern Box Turtle. Further, they state that the Division of Nature Preserves does not anticipate any impacts to these communities.

3.5.2 Environmental Consequences

The proposed sites for the improvements under consideration in this report will pose little adverse consequences regarding biological resources. Typical construction activities, such as ground disturbances, will require sediment control. No removal of any forest is anticipated.

3.5.3 Mitigation

The INDNR offered the following recommendations to minimize impacts during construction:

- Excavation at the trailer park site or the WWTP should take place between April 1 and October 31 due to hibernating Kirtland’s Snakes or Eastern Box turtles.
- Debris should be removed out of the construction zone at least one week prior to the start of work due to snakes.
- Silt fence should be erected around the jobsites to prevent animal presences.
- Any reptiles or amphibians encountered in the project area should be removed unharmed.
- Removal of any endangered species will require a permit issued by the Division of Fish and Wildlife.
- Revegetate any bare and disturbed areas in the floodway with seed mixes composed of native species of grasses, sedges and wildflowers.
- Post “Do Not Mow or Spray” signs along the right of way.

3.6 Water Quality Issues

The purpose of these projects is to reduce the potential for harmful sewage overflows to eliminate the environmental threat, as has been previously documented.

The Indiana Department of Health, the Jennings County Sanitarian, and the INDNR Division of Water have been consulted to determine the effects that this proposed project may have on water quality. Copies of the correspondence can be found in **Section 5.0** of this report.

3.6.1 Affected Environment

The environment within the project areas are currently being negatively impacted by sewage discharges. These projects are designed to provide a cost effective solution to the community, and remove the threat to human health and the environment in both the surface and groundwater in and around North Vernon.

No sole-source aquifers have been identified or will be affected by this project.

3.6.2 Environmental Consequences

Water quality will only be improved by the implementation of the project. Illicit raw sewage discharges will be eliminated at the locations of these improvements.

All temporary construction activities will require measures as described herein and according to state and local requirements to ensure the avoidance or minimization of any adverse impacts to water quality.

The Indiana Department of Health responded with no objection to the proposed project. The Jennings County Sanitarian has no objection to the proposed project. INDNR determined that no formal approval under the regulatory programs administered by the Division of Water is required for this project.

3.6.3 Mitigation

The construction of the selected alternatives will be designed and constructed in accordance with the Indiana State Department of Health and IDEM standards.

- Seed and protect disturbed stream banks and slopes that are 3:1 or steeper with heavy-duty erosion control blankets (follow manufacturer's recommendation for installation); seed and apply mulch on all other disturbed areas.
- Revegetate all bare and disturbed areas with a mixture of grasses (excluding all varieties of tall fescue), legumes, and native shrub and hardwood tree species as soon as possible upon completion.
- Minimize and contain within the project limits in-channel disturbance and the clearing of trees and brush.
- Plant native hardwood trees along the top of the bank and right-of-way to replace the vegetation destroyed during construction.

3.7 Coastal Resources

No coastal resources will be impacted by the proposed project. Further environmental clearance has not been sought.

3.8 Socio-Economic/Environmental Justice Issues

The proposed projects represent the least cost alternatives for the Community of North Vernon to comply with the Indiana Code and Indiana Department of Health with respect to the discharge of wastewater, environmental health and safety, and environmental protection. The project will eliminate illicit raw sewage discharges in the project areas. As such, the construction of these facilities will offer minimal adverse effects to the community while the completed projects will provide a substantial beneficial effect.

3.9 Miscellaneous Issues

The Indiana Department of Transportation (INDOT) was consulted for comment. They had no objection. However, if this agency offers comments at a later time, the comments or requirements offered will be given full consideration and will be appropriately implemented as required. Copies of the correspondence can be found in **Section 5.0** of this report.

There will be minor environmental impacts as a result of the construction process. These can be mitigated as discussed, below:

- Implement all applicable water pollution control measures specified in the Indiana State Highway Standard Specifications (latest version).
- Maintain all equipment to manufactures specifications to minimize construction noise, and where appropriate utilize temporary noise barriers to reduce noise levels.
- Minimize fugitive dust from construction activities by wetting the construction area periodically, constructing wind barriers or treating with chemical stabilizers.
- The open burning of organic debris (i.e., trees and shrubs) shall not be allowed unless a permit is obtained from the Indiana State Air Pollution Control Division for such activities.
- Cutback asphalt or asphalt emulsion containing more than seven percent oil distillable shall not be used during the months April through October pursuant to 326 IAC 805 Asphalt Paving Rule.
- The contractor shall abide by the rules governing asbestos notification, handling, disposal and contractor licensing should such materials be encountered.
- Construction wastes shall be disposed of by the contractor at an acceptable waste disposal landfill. If contaminated soils (including PCBs) are discovered during the project, they may be subject to disposal as either special or hazardous waste as determined by the Office of Solid and Hazardous Waste Management.
- Minimize construction limits to a maximum width of 15 feet when crossing forested areas. For impacts under 1 acre, plant 5 trees, at least 1 to 2 inches in diameter-at-breast-height (dbh), for each tree which is removed that is 10 inches dbh or greater. Where total forested area impacts resulting from the project are over 1 acre, mitigate the forested area impacts at a minimum 2:1 ratio.

4.0 Summary of Mitigation

The following measures are recommended to mitigate potential adverse environmental impacts.

- Appropriate design measures for controlling erosion and sediment must be implemented to prevent erosion and sediment from entering the stream or leaving the construction site; these measures will be maintained until construction is complete and all disturbed areas are stabilized.
- Seed and protect disturbed stream banks and slopes that are 3:1 or steeper with heavy-duty erosion control blankets (follow manufacturer's recommendation for installation); seed and apply mulch on all other disturbed areas.
- Revegetate all bare and disturbed areas with a mixture of grasses (excluding all varieties of tall fescue), legumes, and native shrub and hardwood tree species as soon as possible upon completion.
- Minimize and contain within the project limits inchannel disturbance and the clearing of trees and brush.
- Plant native hardwood trees along the top of the bank and right-of-way to replace the vegetation destroyed during construction.
- Implement all applicable water pollution control measures specified in the Indiana State Highway Standard Specifications (latest version).
- Maintain all equipment to manufactures specifications to minimize construction noise, and where appropriate utilize temporary noise barriers to reduce noise levels.
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- The contractor shall abide by the rules governing asbestos notification, handling, disposal and contractor licensing should such materials be encountered.

- Construction wastes shall be disposed of by the contractor at an acceptable waste disposal landfill. If contaminated soils (including PCBs) are discovered during the project, they may be subject to disposal as either special or hazardous waste as determined by the Office of Solid and Hazardous Waste Management.
- Minimize construction limits to a maximum width of 15 feet when crossing forested areas. For impacts under 1 acre, plant 5 trees, at least 1 to 2 inches in diameter-at-breast-height (dbh), for each tree which is removed that is 10 inches dbh or greater. Where total forested area impacts resulting from the project are over 1 acre, mitigate the forested area impacts at a minimum 2:1 ratio.
- Excavation at the trailer park site or the WWTP should take place between April 1 and October 31 due to hibernating Kirtland's Snakes or Eastern Box turtles.
- Debris should be removed out of the construction zone at least one week prior to the start of work due to snakes.
- Silt fence should be erected around the jobsites to prevent animal presences.
- Any reptiles or amphibians encountered in the project area should be removed unharmed.
- Removal of any endangered species will require a permit issued by the Division of Fish and Wildlife.
- Revegetate any bare and disturbed areas in the floodway with seed mixes composed of native species of grasses, sedges and wildflowers.
- Post "Do Not Mow or Spray" signs along the right of way.

5.0 Correspondence

The letters requesting environmental review and the responses from each agency are provided by the following pages.



BERNARDIN · LOCHMUELLER & ASSOCIATES, INC.

3502 Woodview Trace · Suite 150 · Indianapolis, IN 46268
PHONE 317.222.3880 · TOLL FREE 888.830.6977 · FAX 317.222.3881

October 16, 2012

Ms. Leslie A. Estill, LRL
U.S. Army Corps of Engineers, Regulatory Branch
PO Box 59
Louisville, KY 40201-0059

Re: City of North Vernon – Long Term Control Plan (LTCP) Project
Environmental Review

Dear Ms. Estill:

The City of North Vernon, Indiana intends to apply to USDA Rural Development for a USDA Grant/Loan as the financing for the above-mentioned project. Bernardin, Lochmueller & Associates, Inc. has been appointed as the Environmental Review Officer for this project.

The project is located in three (3) areas. The first area is at the Hickory Manor Trailer Park and involves the replacement of the existing sanitary sewer system within utility easements. The second area is at the existing Wastewater Treatment Plant and involves the construction of a wet weather treatment facility on the property. The third and last area is at the Southwest Lift Station and involves pump replacements and miscellaneous associated work. The project is intended to reduce the negative effects of combined sewer overflows during significant rain events. The following maps are enclosed that show the proposed improvements to the three project areas:

- City Map
- USGS Maps (**Figures A-HM, A-WWTP, A-SW**)
- Wetland/Floodplain Maps (**Figures B-HM, B-WWTP, B-SW**)
- Soils Maps (**Figures C-HM, C-WWTP, C-SW**)

We are requesting your review and comments on the proposed project for our environmental review process. Please forward a review (completed questionnaire) or response letter to me at the address listed above. If you have any questions or require additional information to complete your review, contact me at (317) 222-3880 ext. 247 or via email at mgangstad@blainc.com.

Sincerely,

A handwritten signature in black ink that reads "Michael R. Gangstad".

Michael R. Gangstad, P.E.

Enclosures



BERNARDIN · LOCHMUELLER & ASSOCIATES, INC.

3502 Woodview Trace · Suite 150 · Indianapolis, IN 46268
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October 16, 2012

Dr. James Glass
Division of Historic Preservation & Archeology, Indiana Department of Natural Resources
402 W. Washington Street, Room W274
Indianapolis, IN 46204-2739

Re: City of North Vernon – Long Term Control Plan (LTCP) Project, Environmental Review

Dear Dr. Glass:

The City of North Vernon, Indiana intends to apply to USDA Rural Development for a USDA Grant/Loan as the financing for the above-mentioned project. Bernardin, Lochmueller & Associates, Inc. has been appointed as the Environmental Review Officer for this project.

The project is located in three (3) areas. The first area is at the Hickory Manor Trailer Park and involves the replacement of the existing sanitary sewer system within utility easements. The second area is at the existing Wastewater Treatment Plant and involves the construction of a wet weather treatment facility on the property. The third and last area is at the Southwest Lift Station and involves pump replacements and miscellaneous associated work. The project is intended to reduce the negative effects of combined sewer overflows during significant rain events. The following maps are enclosed that show the proposed improvements to the project areas:

- City Map
- USGS Maps (**Figures A-HM, A-WWTP, A-SW**)
- Wetland/Floodplain Maps (**Figures B-HM, B-WWTP, B-SW**)
- Soils Maps (**Figures C-HM, C-WWTP, C-SW**)
- Interim Report Maps (**Attachment D**)

The project area is defined as the area of potential effects. The proposed project does not occur on any historic site nor will it affect any historic or architectural sites according to the National and State Historic Registers. There will be no buildings, structures, or objects affected adversely by the project.

We are requesting your review and comments on the proposed project for our environmental review process. Please forward a review (completed questionnaire) or response letter to me at the address listed above. If you have any questions or require additional information to complete your review, contact me at (317) 222-3880 ext. 247 or via email at mgangstad@blainc.com.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael R. Gangstad".

Michael R. Gangstad, P.E.
Enclosures



United States Department of Agriculture
Rural Development • North Vernon Area Office

November 19, 2012

James A. Glass, Ph.D.
Director, Division of Historic Preservation and Archaeology
Indiana Department of Natural Resources
Deputy State Historic Preservation Officer
402 W. Washington Street, Room 274
Indianapolis, IN 46204

RE: City of North Vernon, IN
Project DHPA #14033

Dear Dr. Glass:

The City of North Vernon has requested Federal assistance from USDA Rural Development for a proposal to do improvements the existing wastewater treatment plant and lift station improvements.

The City of North Vernon is in the process of preparing environmental documentation so that Rural Development may assess the potential environmental impacts as a result of implementing the proposed project. Rural Development considers approving Federal financial assistance for this proposal as an undertaking subject to Section 106 of the National Historic Preservation Act of 1966.

In accordance with 36 CFR Part 800.2(c)(4), we have authorized our applicant, The City of North Vernon, and their consulting engineer, Bernardin, Lochmueller & Associates, Inc., to initiate Section 106 consultation with your office and other consulting parties. Rural Development however remains responsible for making all determinations and findings regarding the undertaking's effects on historic properties.

Sincerely,

A handwritten signature in blue ink that reads "Marcia K. Comer". The signature is fluid and cursive.

Marcia K. Comer
Area Loan Specialist

CC: Bernardin, Lochmueller & Associates
Kelsey Ows, SEC
City of North Vernon

2600 North State Highway 7 • North Vernon, IN 47265-7186
Phone: (812) 346-3411 • Fax: (812) 346-8154 • TDD: (317) 290-3343 • Web: <http://www.rurdev.usda.gov/in>

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BERNARDIN • LOCHMUELLER & ASSOCIATES, INC.

3502 Woodview Trace • Suite 150 • Indianapolis, IN 46268
PHONE 317.222.3880 • TOLL FREE 888.830.6977 • FAX 317.222.3881

October 16, 2012

Ms. Christie Stanifer
Division of Water Indiana Department of Natural Resources
402 W. Washington Street, Room W264
Indianapolis, IN 46204-2641

Re: City of North Vernon – Long Term Control Plan (LTCP) Project
Environmental Review

Dear Ms. Stanifer:

The City of North Vernon, Indiana intends to apply to USDA Rural Development for a USDA Grant/Loan as the financing for the above-mentioned project. Bernardin, Lochmueller & Associates, Inc. has been appointed as the Environmental Review Officer for this project.

The project is located in three (3) areas. The first area is at the Hickory Manor Trailer Park and involves the rehabilitation of the existing sanitary sewer system within utility easements. The second area is at the existing Wastewater Treatment Plant and involves the construction of a wet weather treatment facility on the property. The third and last area is at the Southwest Lift Station and involves pump replacements and miscellaneous associated work. The project is intended to reduce the negative effects of combined sewer overflows during significant rain events. The following maps are enclosed that show the proposed improvements to the project areas:

- City Map
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- Wetland/Floodplain Maps (**Figures B-HM, B-WWTP, B-SW**)
- Soils Maps (**Figures C-HM, C-WWTP, C-SW**)

We are requesting your review and comments on the proposed project for our environmental review process. Please forward a review (completed questionnaire) or response letter to me at the address listed above. If you have any questions or require additional information to complete your review, contact me at (317) 222-3880 ext. 247 or via email at mgangstad@blainc.com.

Sincerely,

A handwritten signature in black ink that reads "Michael R. Gangstad".

Michael R. Gangstad, P.E.

Enclosures

THIS IS NOT A PERMIT

**State of Indiana
DEPARTMENT OF NATURAL RESOURCES
Division of Fish and Wildlife**

Early Coordination/Environmental Assessment

DNR #: ER-16629 **Request Received:** October 18, 2012

Requestor: Bernardin Lochmueller & Associates Inc
Michael R Gangstad
3502 Woodview Trace, Suite 150
Indianapolis, IN 46268-3137

Project: City of North Vernon Long Term Control Plan (LTCP): rehabilitation of the existing sanitary sewer system at the Hickory Manor Trailer Park; construction of a wet weather treatment facility at the existing WWTP; and pump replacements and related work at the Southwest Lift Station

County/Site info: Jennings

The Indiana Department of Natural Resources has reviewed the above referenced project per your request. Our agency offers the following comments for your information and in accordance with the National Environmental Policy Act of 1969.

If our agency has regulatory jurisdiction over the project, the recommendations contained in this letter may become requirements of any permit issued. If we do not have permitting authority, all recommendations are voluntary.

Regulatory Assessment: This proposal will require the formal approval for construction in a floodway under the Flood Control Act, IC 14-28-1. Please submit a copy of this letter with the permit application.

Natural Heritage Database: The Natural Heritage Program's data have been checked. The species and high quality communities below have been recorded within ½ mile of the project. The Division of Nature Preserves does not anticipate any impacts to the listed plant species or communities as a result of the project.

A) PLANTS (near the WWTP):

- 1) Barren Strawberry (*Waldsteinia fragarioides*) - State Rare
- 2) Shining Ladies'-tresses (*Spiranthes lucida*) - State Rare

B) STATE SIGNIFICANT COMMUNITIES (east of WWTP):

- 1) Dry-mesic Upland Forest
- 2) Limestone Cliff

C) ANIMALS:

- 1) Kirtland's Snake (*Clonophis kirtlandii*) - State Endangered; near the trailer park
- 2) Eastern Box Turtle (*Terrapene carolina*) - State Special Concern; near the WWTP

Fish & Wildlife Comments: To minimize any impacts to hibernating Kirtland's snakes or Eastern box turtles, we recommend that if any excavation/digging will occur at the trailer park site or the WWTP site, construction should only take place between April 1 and October 31. We recommend that all logs, trash, or any other type of debris (including any riprap that may be in the vicinity) be moved out of the construction zone at least one week prior to the start of work to keep snakes from hiding underneath the debris. Any vegetation to be removed should also be done one week prior to construction. After any trash and vegetation are removed, a trenched-in silt fence should be placed along the entire construction area. Once the silt fence is up, a walk-through should be conducted to look for any snakes or turtles. Also, any equipment, materials, or debris that are left in the area overnight should be checked for the presence of snakes or turtles prior to the start of work the next day.

Any reptiles or amphibians encountered in the project area should be removed, unharmed, and placed outside the construction area. An accredited herpetologist should be hired to translocate state or federally listed herps from current locations within the construction area to an area of suitable habitat. Also, we recommend contacting

THIS IS NOT A PERMIT

**State of Indiana
DEPARTMENT OF NATURAL RESOURCES
Division of Fish and Wildlife**

Early Coordination/Environmental Assessment

and coordinating with Sarabeth Klueh, Division of Fish and Wildlife herpetologist, at (812) 334-1137 or sklueh@dnr.in.gov for guidance regarding development of herpetile removal plans. Removal of any state endangered species will require a permit issued by the Division of Fish and Wildlife. Please contact Linnea Petercheff at (317) 233-6527 or lpetercheff@dnr.in.gov regarding this permit, if needed.

We recommend minimizing the removal of trees and brush by locating the water line/other infrastructure and the disturbed area/construction limits outside any areas of forested or woody vegetation. Place the line within or as close to the cleared road right-of-way as possible to minimize impacts to forested areas.

Impacts to non-wetland forest under one (1) acre in an urban setting should be mitigated by planting five trees, at least 2 inches in diameter-at-breast height (dbh), for each tree which is removed that is 10" dbh or greater. Impacts to non-wetland forest over one (1) acre should be mitigated at a minimum 2:1 ratio. Impacts to wetlands should be mitigated at the appropriate ratio as well. The DNR's Floodway Habitat Mitigation guidelines can be found online at:
<http://www.in.gov/legislative/iac/20120801-IR-312120434NRA.xml.pdf>.

Details regarding the proposed outfall to the Vernon Fork Muscatatuck River were not included in the information for our review. This river valley is deep and has steep, forested slopes. We were unable to adequately assess the impacts to fish, wildlife, and botanical resources as a result of the outfall structure. You may submit details regarding this aspect of the project for further review, if needed.

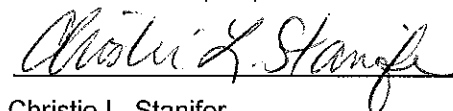
The additional measures listed below should be implemented to avoid, minimize, or compensate for impacts to fish, wildlife, and botanical resources: ---

1. Revegetate any bare and disturbed areas in the floodway with seed mixes composed of native species of grasses, sedges and wildflowers. No varieties of tall fescue should be seeded or any other non-native or invasive species.
2. Minimize and contain within the project limits inchannel disturbance and the clearing of trees and brush.
3. Do not work in the waterway from April 1 through June 30 without the prior written approval of the Division of Fish and Wildlife.
4. Do not cut any trees suitable for Indiana bat roosting (greater than 3 inches dbh, living or dead, with loose hanging bark) from April 1 through September 30.
5. Plant native hardwood trees along the top of the bank and right-of-way to replace the vegetation destroyed during construction.
6. Post "Do Not Mow or Spray" signs along the right-of-way.
7. Appropriately designed measures for controlling erosion and sediment must be implemented to prevent sediment from entering the stream or leaving the construction site; maintain these measures until construction is complete and all disturbed areas are stabilized.
8. Seed and protect disturbed stream banks and slopes that are 3:1 or steeper with biodegradable heavy-duty erosion control blankets (follow manufacturer's recommendation for installation); seed and apply mulch on all other disturbed areas.

Contact Staff:

Christie L. Stanifer, Environ. Coordinator, Fish & Wildlife

Our agency appreciates this opportunity to be of service. Please contact the above staff member at (317) 232-4080 if we can be of further assistance.



Date: October 31, 2012

Christie L. Stanifer
Environ. Coordinator
Division of Fish and Wildlife



BERNARDIN · LOCHMUELLER & ASSOCIATES, INC.

3502 Woodview Trace · Suite 150 · Indianapolis, IN 46268
PHONE 317.222.3880 · TOLL FREE 888.830.6977 · FAX 317.222.3881

October 16, 2012

Marni D. Karaffa
Indiana Geological Survey
611 N. Walnut Street
Bloomington, IN 47405-2208

Re: City of North Vernon – Long Term Control Plan (LTCP) Project
Environmental Review

Dear Marni:

The City of North Vernon, Indiana intends to apply to USDA Rural Development for a USDA Grant/Loan as the financing for the above-mentioned project. Bernardin, Lochmueller & Associates, Inc. has been appointed as the Environmental Review Officer for this project.

The project is located in three (3) areas. The first area is at the Hickory Manor Trailer Park and involves the rehabilitation of the existing sanitary sewer system within utility easements. The second area is at the existing Wastewater Treatment Plant and involves the construction of a wet weather treatment facility on the property. The third and last area is at the Southwest Lift Station and involves pump replacements and miscellaneous associated work. The project is intended to reduce the negative effects of combined sewer overflows during significant rain events. The following maps are enclosed that show the proposed improvements to the project areas:

- City Map
- USGS Maps (**Figure A-HM, A-WWTP, A-SW**)
- Wetland/Floodplain Maps (**Figure B-HM, B-WWTP, B-SW**)
- Soils Maps (**Figure C-HM, C-WWTP, C-SW**)

We are requesting your review and comments on the proposed project for our environmental review process. Please forward a review (completed questionnaire) or response letter to me at the address listed above. If you have any questions or require additional information to complete your review, contact me at (317) 222-3880 ext. 247 or via email at mgangstad@blainc.com.

Sincerely,

A handwritten signature in black ink that reads "Michael R. Gangstad". The signature is written in a cursive, flowing style.

Michael R. Gangstad, P.E.

Enclosures

Project No. 212-0061 Des. No. none

Project Description: City of North Vernon – Long Term Control Plan (LTCP) Project Environmental Review

Name of Organization requesting early coordination:

Bernardin, Lochmueller, and Associates

QUESTIONNAIRE FOR THE INDIANA GEOLOGICAL SURVEY

- 1) Do unusual and/or problem () geographic, () geological, () geophysical, or () topographic features exist within the project limits? Describe:
none

- 2) Have existing or potential mineral resources been identified in this area? Describe:
Each of the project areas is underlain by Devonian and Silurian carbonate rocks which have been mined as a source of crushed-stone products. However, the proximity of an existing quarry and urban setting of the project sites makes it unlikely that these rocks will be identified as a potential mineral resource in the foreseeable future.

- 3) Are there any active or abandoned mineral resources extraction sites located nearby? Describe: The closest mineral extraction site is an active quarry located approximately 0.5 mi. west northwest of the WWTP project site.

This information was furnished by:

Name: Walter A. Hasenmueller Title: Geologist

Address: 611 North Walnut Grove, Bloomington, IN 47405

Phone: 812-855-7428 Date: October 19, 2012



BERNARDIN · LOCHMUELLER & ASSOCIATES, INC.

3502 Woodview Trace · Suite 150 · Indianapolis, IN 46268
PHONE 317.222.3880 · TOLL FREE 888.830.6977 · FAX 317.222.3881

October 16, 2012

Mr. Ben Lawrence, P.E.
Indiana Department of Transportation
100 N. Senate Avenue Rm N642
Indianapolis, IN 46204

Re: City of North Vernon – Long Term Control Plan (LTCP) Project
Environmental Review

Dear Mr. Lawrence:

The City of North Vernon, Indiana intends to apply to USDA Rural Development for a USDA Grant/Loan as the financing for the above-mentioned project. Bernardin, Lochmueller & Associates, Inc. has been appointed as the Environmental Review Officer for this project.

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Michael R. Gangstad, P.E.

Enclosures



BERNARDIN · LOCHMUELLER & ASSOCIATES, INC.

3502 Woodview Trace · Suite 150 · Indianapolis, IN 46268
PHONE 317.222.3880 · TOLL FREE 888.830.6977 · FAX 317.222.3881

October 16, 2012

Mr. Todd Hite
Plan Review Section Indiana State Department of Health
2 North Meridian Street
Indianapolis, IN 46204

Re: City of North Vernon – Long Term Control Plan (LTCP) Project
Environmental Review

Dear Mr. Hite:

The City of North Vernon, Indiana intends to apply to USDA Rural Development for a USDA Grant/Loan as the financing for the above-mentioned project. Bernardin, Lochmueller & Associates, Inc. has been appointed as the Environmental Review Officer for this project.

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Sincerely,

A handwritten signature in black ink that reads "Michael R. Gangstad". The signature is written in a cursive, flowing style.

Michael R. Gangstad, P.E.

Enclosures



Indiana State
Department of Health
An Equal Opportunity Employer

Mitchell E. Daniels, Jr.
Governor

Gregory N. Larkin, M.D., F.A.A.F.P.
State Health Commissioner

October 19, 2012

Michael R. Gangstad, P.E.
Bernardin, Lochmueller and Associates
3502 Woodview Trace
Suite 150
Indianapolis, IN 46268

Re: City of North Vernon
Long Term Control Plan
(LTCP) Project
Hickory Manor Trailer Park
Environmental Review
Jennings County

Dear Mr. Gangstad:

In regards to the above referenced project, I am responding to the environmental review documents received by our office.

Based on information available to this office, we have no reservation about the proposed project and foresee no significant environmental health related hazards.

If you should have any further questions regarding this matter, please feel free to contact me.

Sincerely,

Michael Mettler, REHS, Director
Environmental Public Health Division
317/233-7183
mmettler@isdh.in.gov

cc: Jennings County Health Department



BERNARDIN · LOCHMUELLER & ASSOCIATES, INC.

3502 Woodview Trace · Suite 150 · Indianapolis, IN 46268
PHONE 317.222.3880 · TOLL FREE 888.830.6977 · FAX 317.222.3881

October 16, 2012

Mr. Kevin Stark
Jennings County Sanitarian
200 East Brown Street
Vernon, IN 47282

Re: City of North Vernon – Long Term Control Plan (LTCP) Project
Environmental Review

Dear Mr. Stark:

The City of North Vernon, Indiana intends to apply to USDA Rural Development for a USDA Grant/Loan as the financing for the above-mentioned project. Bernardin, Lochmueller & Associates, Inc. has been appointed as the Environmental Review Officer for this project.

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Sincerely,

A handwritten signature in black ink that reads "Michael R. Gangstad".

Michael R. Gangstad, P.E.

Enclosures



BERNARDIN • LOCHMUELLER & ASSOCIATES, INC.

3502 Woodview Trace • Suite 150 • Indianapolis, IN 46268
PHONE 317.222.3880 • TOLL FREE 888.830.6977 • FAX 317.222.3881

October 16, 2012

Ms. Jane E. Hardisty
U.S. Department of Agriculture, Natural Resource Conservation Service
6013 Lakeside Blvd.
Indianapolis, IN 46278

Re: City of North Vernon – Long Term Control Plan (LTCP) Project
Environmental Review

Dear Jane:

The City of North Vernon, Indiana intends to apply to USDA Rural Development for a USDA Grant/Loan as the financing for the above-mentioned project. Bernardin, Lochmueller & Associates, Inc. has been appointed as the Environmental Review Officer for this project.

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Sincerely,

A handwritten signature in black ink that reads "Michael R. Gangstad".

Michael R. Gangstad, P.E.

Enclosures

United States Department of Agriculture



Natural Resources Conservation Service
6013 Lakeside Blvd.
Indianapolis, IN 46278

October 22, 2012

Michael R. Gangstad, PE
Bernardin-Lochmueller & Associates, Inc.
3502 Woodview Trace, Ste 150
Indianapolis, IN 46268

Dear Mr. Gangstad:

The proposed project to make sanitary sewer system improvements, construct a wet weather treatment facility and replace pumps in the City of North Vernon, Jennings County, Indiana, as stated in your letter received October 22, 2012, will not cause a conversion of prime farmland.

If you need additional information, please contact Lisa Bolton at 317-295-5842.

Sincerely,

Michael A. Cox

ACTING FOR
KIMBERLY NEUMANN
Acting State Conservationist



BERNARDIN · LOCHMUELLER & ASSOCIATES, INC.

3502 Woodview Trace · Suite 150 · Indianapolis, IN 46268
PHONE 317.222.3880 · TOLL FREE 888.830.6977 · FAX 317.222.3881

October 16, 2012

Mr. Michael Litwin
U.S. Department of the Interior Fish & Wildlife Service
620 S. Walker Street
Bloomington, IN 47405-2121

Re: City of North Vernon – Long Term Control Plan (LTCP) Project
Environmental Review

Dear Mr. Litwin:

The City of North Vernon, Indiana intends to apply to USDA Rural Development for a USDA Grant/Loan as the financing for the above-mentioned project. Bernardin, Lochmueller & Associates, Inc. has been appointed as the Environmental Review Officer for this project.

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We are requesting your review and comments on the proposed project for our environmental review process. Please forward a review (completed questionnaire) or response letter to me at the address listed above. If you have any questions or require additional information to complete your review, contact me at (317) 222-3880 ext. 247 or via email at mgangstad@blainc.com.

Sincerely,

A handwritten signature in black ink that reads "Michael R. Gangstad".

Michael R. Gangstad, P.E.

Enclosures



United States Department of the Interior
Fish and Wildlife Service



Bloomington Field Office (ES)
620 South Walker Street
Bloomington, IN 47403-2121
Phone: (812) 334-4261 Fax: (812) 334-4273

October 18, 2012

Mr. Michael R. Gangstad, P.E.
Bernardin Lochmueller & Associates, Inc.
3502 Woodview Trace, Suite 150
Indianapolis, IN 46268

Project No: City of North Vernon – Long Term Control Plan (LTCP)
County(ies): Jennings

Dear Mr. Gangstad:

This responds to your letter dated October 16, 2012, requesting our comments on the aforementioned project.

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (16 U.S.C. 661 et. seq.) and are consistent with the intent of the National Environmental Policy Act of 1969, the Endangered Species Act of 1973, and the U. S. Fish and Wildlife Service's Mitigation Policy.

Based on a review of the information you provided, the U.S. Fish and Wildlife Service has no objections to the project as currently proposed. This precludes the need for further consultation on this project as required under Section 7 of the Endangered Species Act of 1973, as amended. However, should new information arise pertaining to project plans or a revised species list be published, it will be necessary for the Federal agency to reinstate consultation.

We appreciate the opportunity to comment at this early stage of project planning. If project plans change such that fish and wildlife habitat may be affected, please re-coordinate with our office as soon as possible. If you have any questions about our recommendations, please call (812)334-4261.

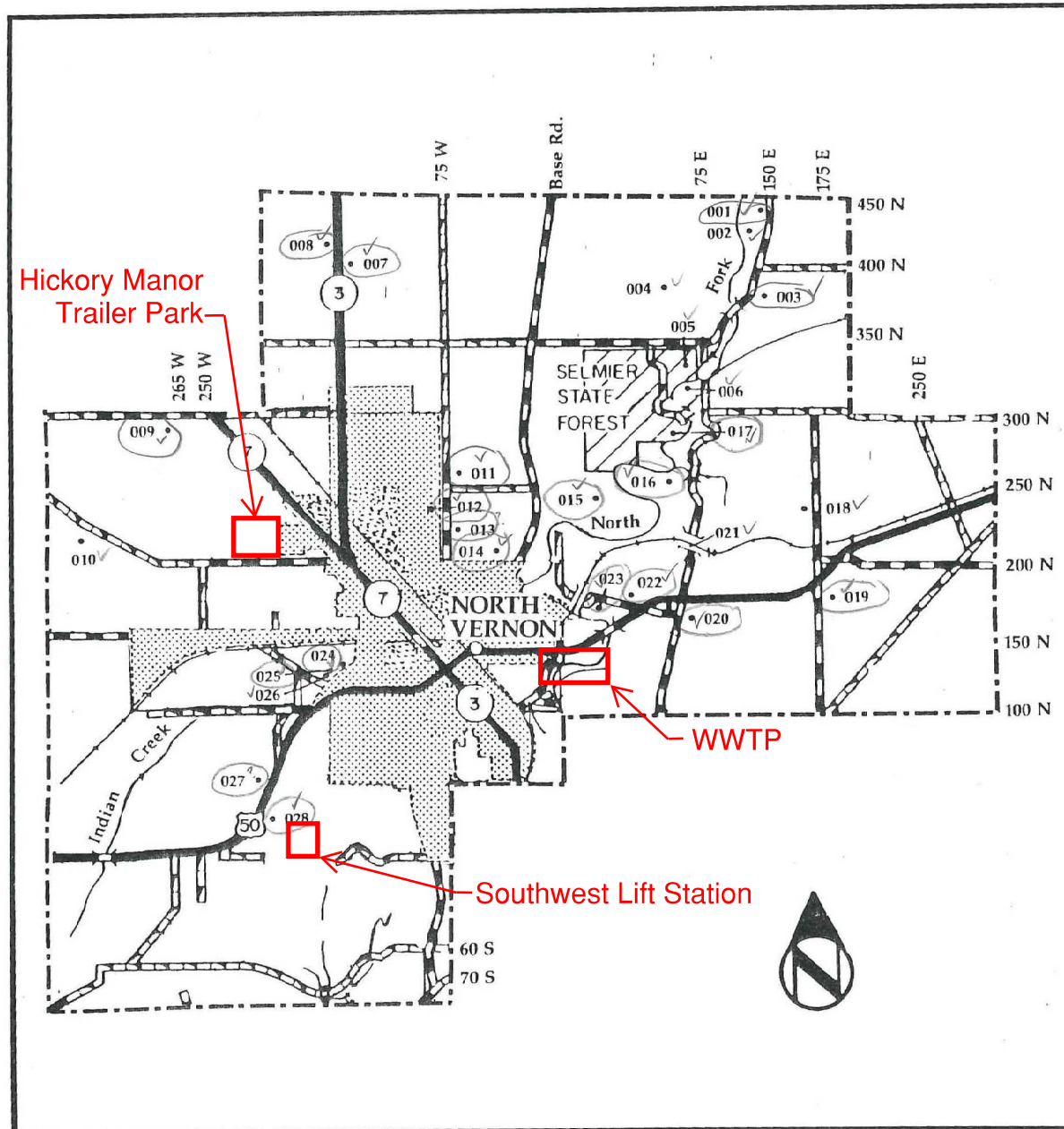
Sincerely yours,

Scott E. Pruitt,
Field Supervisor

6.0 Exhibits/Maps

The exhibits submitted with the environmental review requests are provided by the following pages.

Center Township (20001-028)



Prior to 1865, Center Township was included as a section of Vernon Township. Originally named North Vernon, it was later renamed Center Township. In the 1840s, a small settlement known as Licksillet was established on the Madison and Indianapolis Railroad line. In 1852 the Ohio and Mississippi Railroad intersected this line and the settlement began to develop. This induced Colonel Hagerman Tripp, Hiram Prather, Langston Johnson and Ezra Peabody to purchase land surrounding the crossing. On June 24, 1854 Tripp platted and recorded the town as Trippton incorporating the village of Licksillet. Over the next few years, several sub-divisions were platted and named North Vernon, and in 1867 the town's name was officially changed from Trippton to North Vernon.

Center Township contains several notable examples of early log houses. A two-story log saltbox house (20004) on 350 N was built about 1830. A later example of log construction is on the Lawrence Hock Farm (20002). Hock immigrated from Bavaria, Germany to New York on May 20, 1855 when he was 14 years old. He moved to Jennings County in the 1870s and built a gable-front log house where he raised 11 children.

Located approximately one mile from these log houses is an interesting twentieth-century structure. Frank Selmier, who owned a laundry service in North Vernon, had a Craftsman Bungalow house (20005) built of stone in several stages from 1921 to 1924. The property also has several other interesting features such as a small shelter built entirely of bottles, small stone guard houses and a stone bridge.

Several nineteenth-century brick houses can be found in Center Township. An outstanding example of Greek Revival elements applied to the central-passage house form is a house (20026) on Hayden Pike. The I-house is represented by a

Figure D

house (20018) on 175 E. It features a decorative Queen Anne porch and was built about 1885.

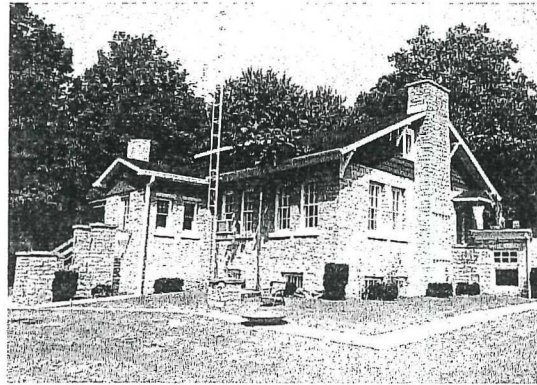
Center Township has only one surviving one-room schoolhouse. The District No. 1 School (20010) was built around 1895 and is currently used as a private residence.

Perhaps the largest barn in the county can be seen east of town on U.S. 50. Built for Arthur Hutton in the 1930s, this transverse-frame barn (20027) was used as a sale barn for cattle.

Center Township also contains two noteworthy cemeteries. The Summerfield-Vawter Cemetery (20017) contains early markers of the Vawter family, who were among the county's first settlers. The earliest stone marks the grave of Philemon Vawter who died in 1814. The North Vernon City Cemetery (20014), later renamed Hillcrest Cemetery, contains a large monument marking the grave of Colonel Hagerman Tripp. Tripp sold the land to the city for use as a cemetery in the early 1860s. The lots were then sold for \$10.00 each.

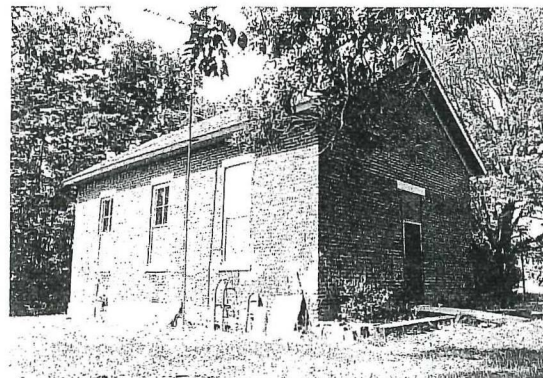
No. Rtg. Description

- ✓ 001 C House, 150 E; Gabled-ell/Queen Anne, c.1895; Architecture, Vernacular/Construction (087)
- ✓ 002 N Lawrence Hock Farm, 150 E; House: Log gable-front, 1875, Builder: Lawrence Hock, Barn: English; Agriculture, Vernacular/Construction (087)
- ✓ 003 C Farm, 150 E; House: I-house, c.1880, Outbuildings: Transverse-frame barn, wood shed; Agriculture, Vernacular/Construction (087)
- ✓ 004 N Farm, 350 N; House: Log saltbox, c.1830, Outbuildings: English barn, smokehouse, summer kitchen; Agriculture, Vernacular/Construction (087)



005

- ✓ 005 N Frank Selmier House, Selmier State Forest; House: Craftsman Bungalow, 1921-24, Outbuildings: Guard houses, shelter houses, bridge; Architecture, Vernacular/Construction (087)
- ✓ 006 N Farm, 100 E; Gabled-ell/Log I-house, c.1840/c.1920, Barn: English; Agriculture, Vernacular/Construction (087)
- ✓ 007 C Farm, State Road 3; House: Queen Anne, c.1890, Barn: Dairy; Agriculture, Architecture, Vernacular/Construction (472)
- ✓ 008 C House, State Road 3; Central-passage, c.1885; Vernacular/Construction (472)
- ✓ 009 C House, 300 N; Saltbox, c.1860; Vernacular/Construction (472)



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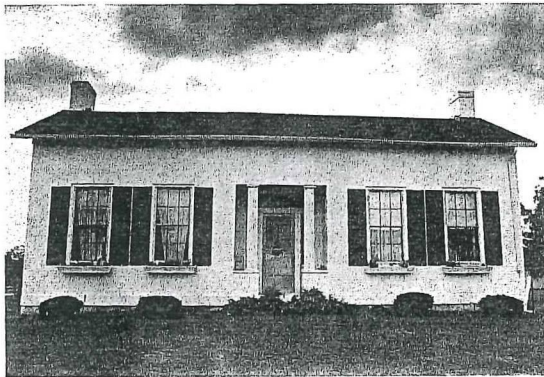
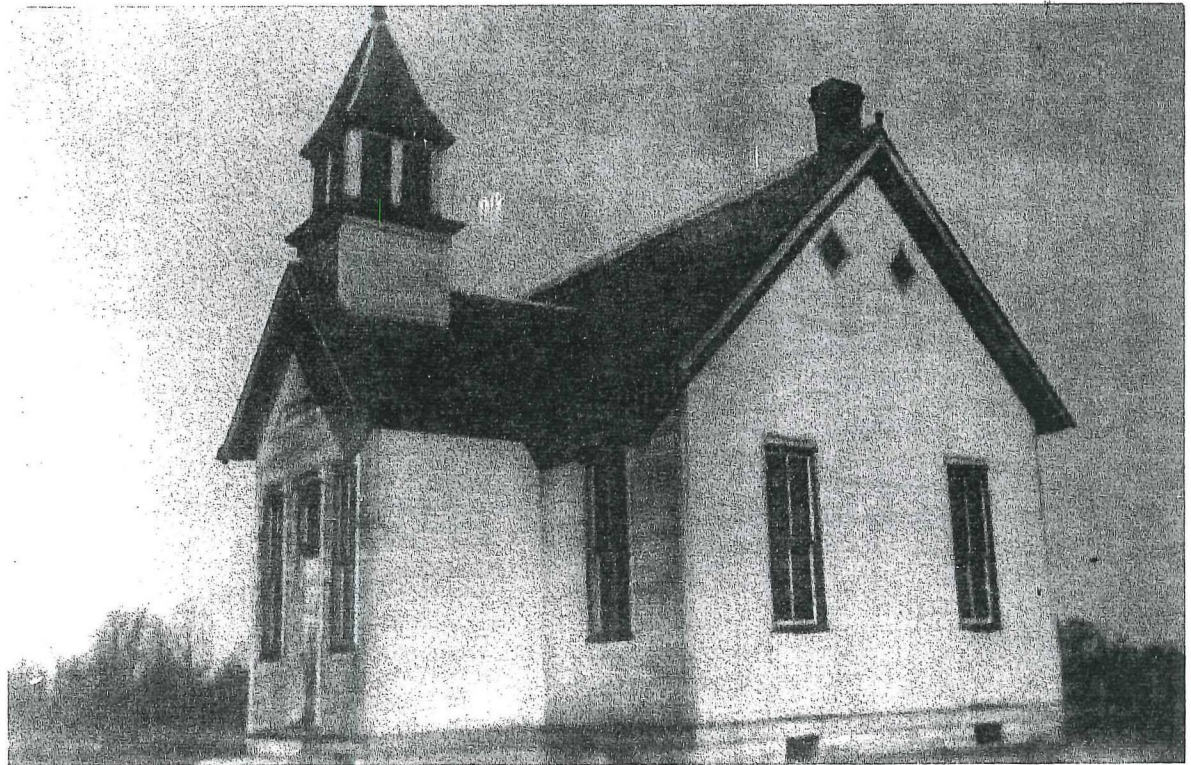
- ✓ 010 N School No. 1, 225 N; Gable-front, c.1895; Education, Vernacular/Construction (472)
- ✓ 011 C House, 75 W; Pyramidal-roof, c.1915; Vernacular/Construction (472)
- ✓ 012 C Farm, 75 W; House: Gabled-ell, c.1890, Barn: English; Agriculture, Vernacular/Construction (472)
- 013 C House, 75 W; Bungalow, c.1925; Architecture (472) *couldn't locate*
- ✓ 014 C Hillcrest Cemetery, 75 W; c.1860-present; Exploration/Settlement, Religion (087)
- ✓ 015 C Farm, 20 W; House: Hall-and-parlor, c.1850, Barn: English; Agriculture, Vernacular/Construction (087)
- ✓ 016 C House, 90 E; Log single-pen, c.1850; Vernacular/Construction (087)
- ✓ 017 C Summerfield-Vawter Cemetery, 350 N, Selmier State Forest; c.1814-1941; Exploration/Settlement, Religion (087)
- ✗ 018 N Farm, 175 E; House: I-house, c.1885, Outbuildings: Transverse-frame barn, stable, corncrib; Agriculture, Vernacular/Construction (087)
- ✓ 019 C House, 175 E; American Four-Square, c.1915; Architecture (087)



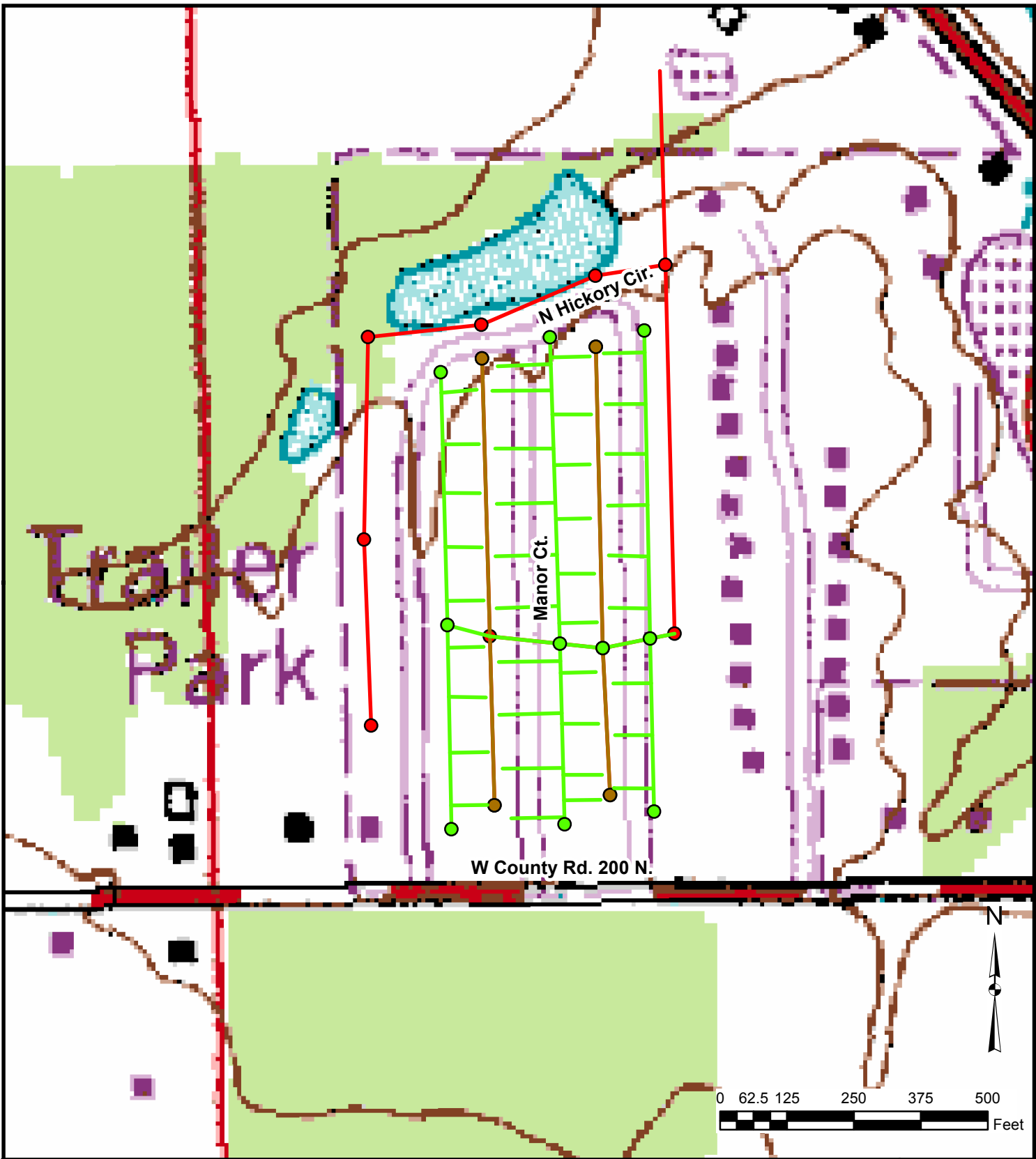
018

- ✓ 020 C Farm, 175 N; House: Gabled-ell, c.1870, Barn: Basement; Agriculture, Vernacular/Construction (087)
- ✓ 021 N B & O Railroad Bridge, 75 E; c.1855/ c.1900, Builder: Bethlehem Steel Company; Engineering, Transportation (087)
- ✓ 022 C House, 175 N; Hall-and-parlor, c.1860; Vernacular/Construction (087)
- ✓ 023 C House, 175 N; Queen Anne, c.1900; Architecture (087)
- ✓ 024 C Farm, Hayden Pike; House: Queen Anne Cottage, c.1890, Outbuildings: Transverse-frame barn, corncrib, woodshed, privy; Agriculture, Architecture, Vernacular/Construction (472)
- ✓ 025 C House, Hayden Pike; Queen Anne Cottage, c.1890; Architecture (472)
- ✓ 026 O House, Hayden Pike; Central-passage/ Greek Revival, c.1840; Architecture, Vernacular/Construction (472)
- 027 C *don't look at* Arthur Hutton Barn, U.S. 50; Transverse-frame, c.1930; Agriculture, Vernacular/Construction (268)
- ✓ 028 C House, U.S. 50; I-house, c.1860, Builder: Alexander Bain; Vernacular/ Construction (268)

School No. 5, Hayden. Source: Rodger Ruddick.



026



LEGEND

- Proposed Gravity Manholes
- Proposed Gravity Sewers
- Existing Manholes (To Be Abandoned)
- Existing Sewer (To Be Abandoned)
- Existing Manholes
- Existing Sewer

USGS Map
Hickory Manor Trailer Park, North Vernon, IN



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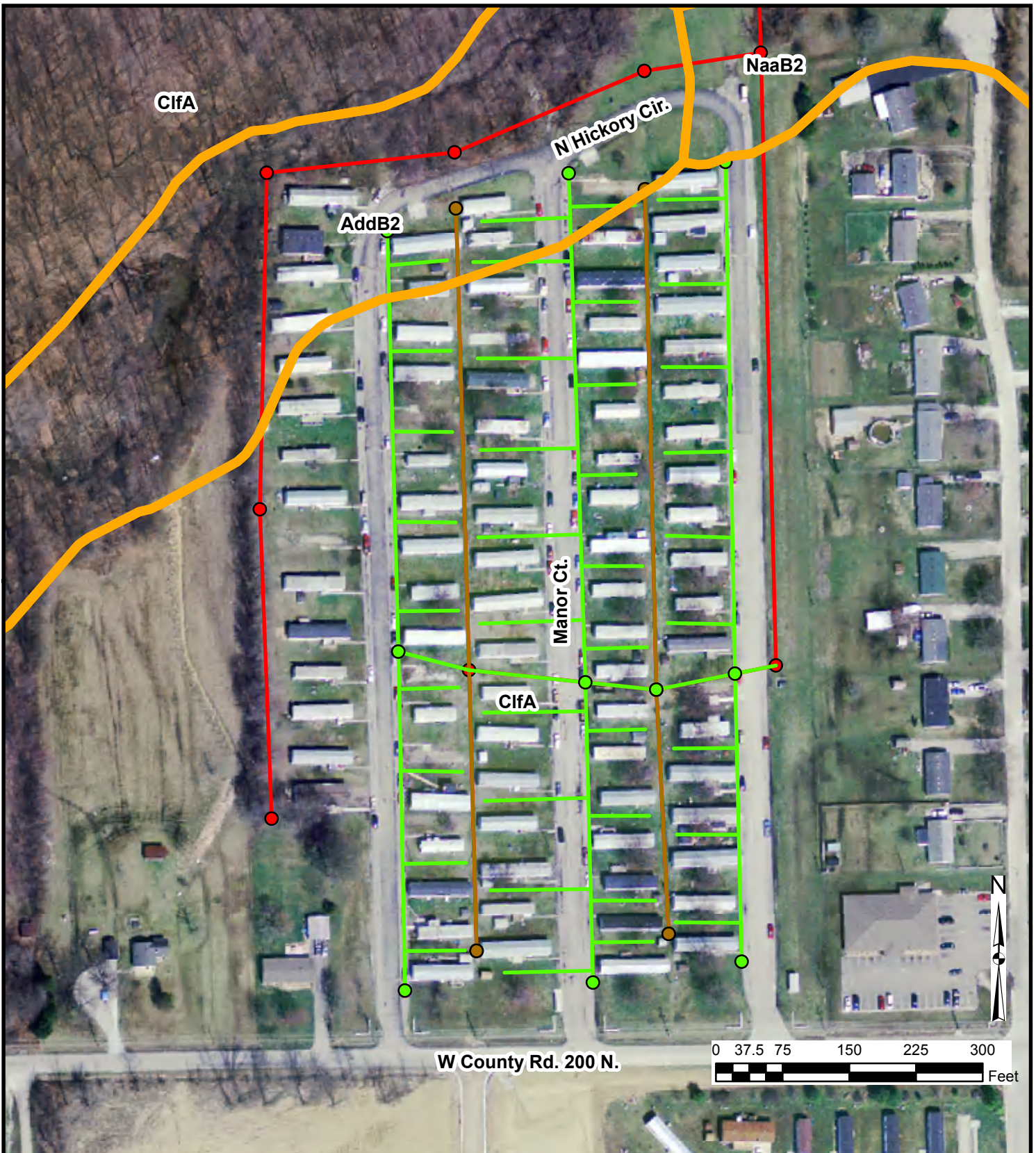
DATE:

10/16/2012

PROJECT NO.:

212-0061

FIGURE:



LEGEND

- Proposed Gravity Manholes
- Proposed Gravity Sewers
- Existing Manholes (To Be Abandoned)
- Existing Sewer (To Be Abandoned)
- Existing Manholes
- Existing Sewer

Soils Map
Hickory Manor Trailer Park, North Vernon, IN



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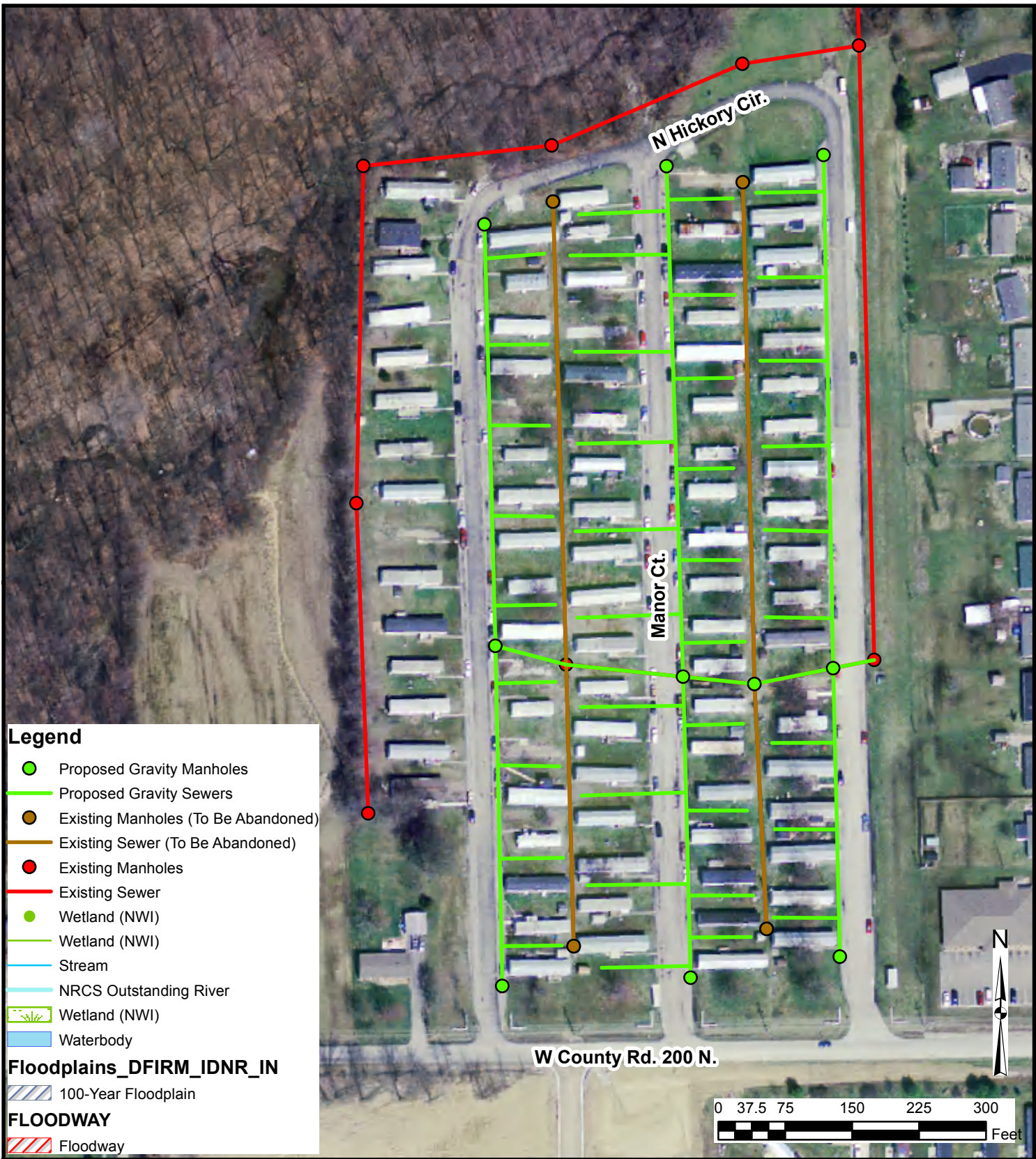
DATE:

10/15/2012

PROJECT NO.:

212-0061

FIGURE:



Legend

- Proposed Gravity Manholes
- Proposed Gravity Sewers
- Existing Manholes (To Be Abandoned)
- Existing Sewer (To Be Abandoned)
- Existing Manholes
- Existing Sewer
- Wetland (NWI)
- Stream
- NRCS Outstanding River
- ▨ Wetland (NWI)
- Waterbody

Floodplains_DFIRM_IDNR_IN

- ▨ 100-Year Floodplain

FLOODWAY

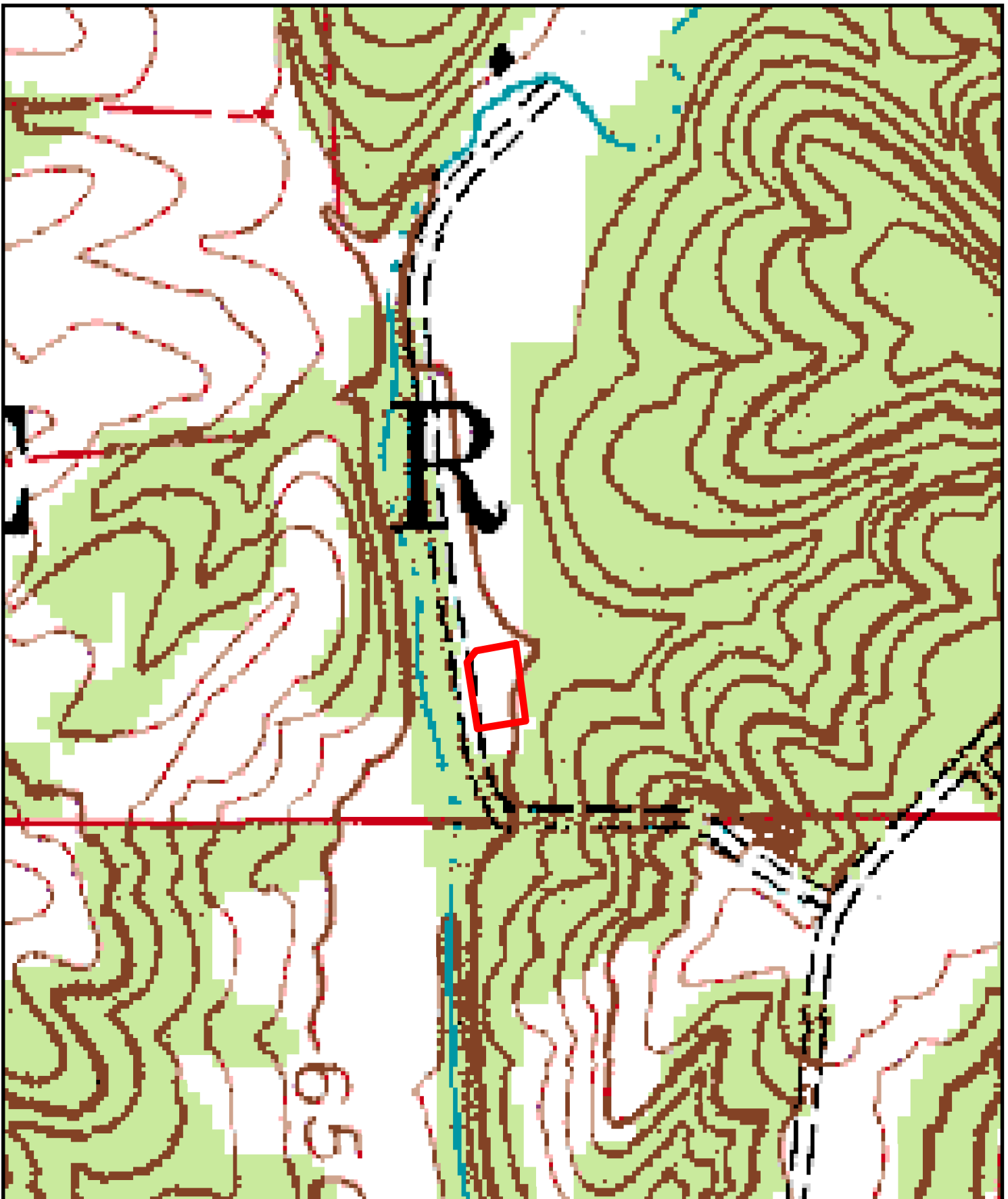
- ▨ Floodway

Hydrology Map
Hickory Manor Trailer Park, North Vernon, IN

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FIGURE:	---



Legend

 Southwest LS Boundary

Southwest Lift Station USGS Map
City of North Vernon



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FIGURE:

A-SW



Southwest Lift Station Hydrology Map
City of North Vernon



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FIGURE:

B-SW



Legend

 Southwest LS Boundary

Southwest Lift Station Soils Map
City of North Vernon



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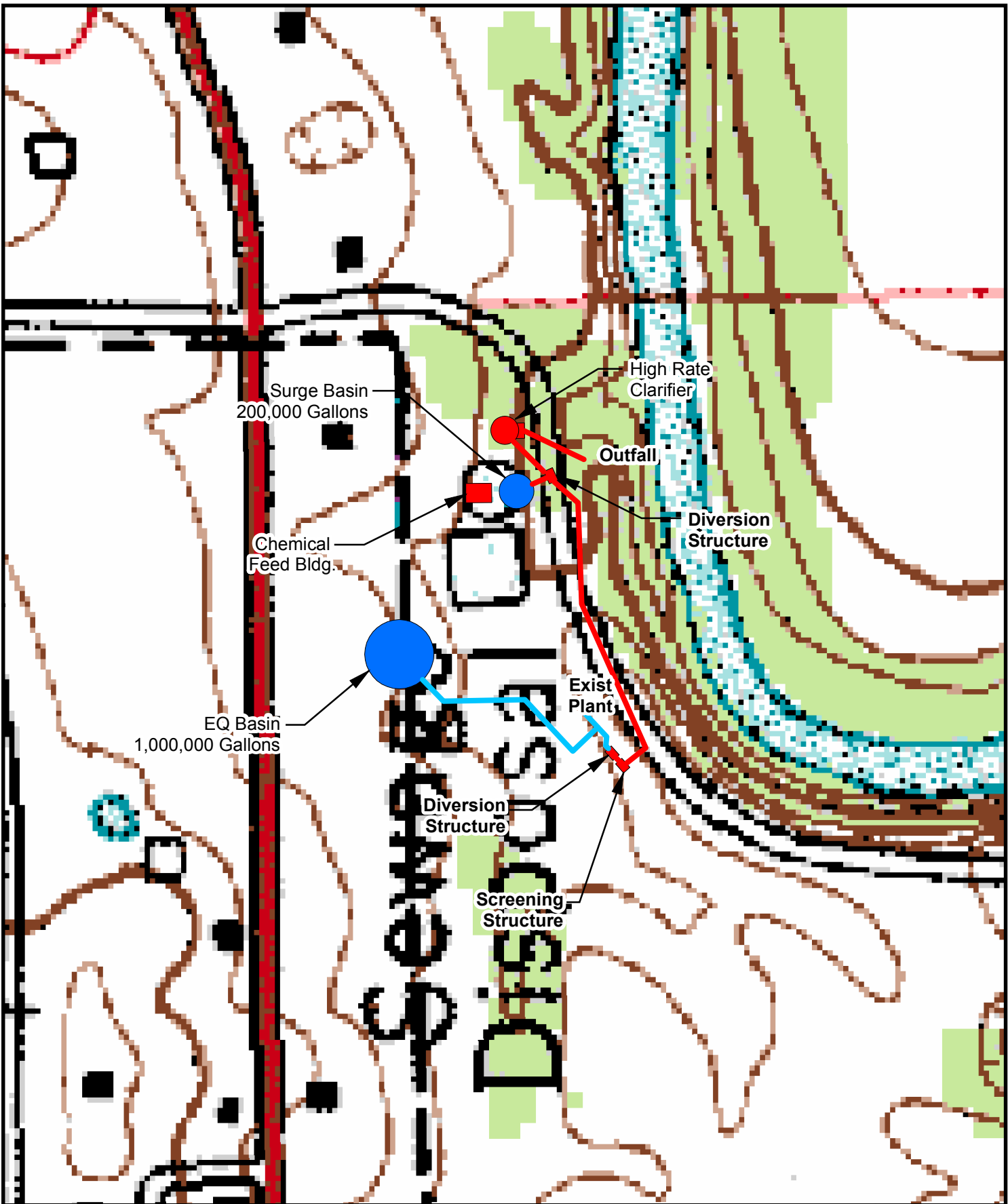
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FIGURE:

C-SW



LEGEND

- Existing Components
- Proposed Components

WWTP USGS Map
City of North Vernon

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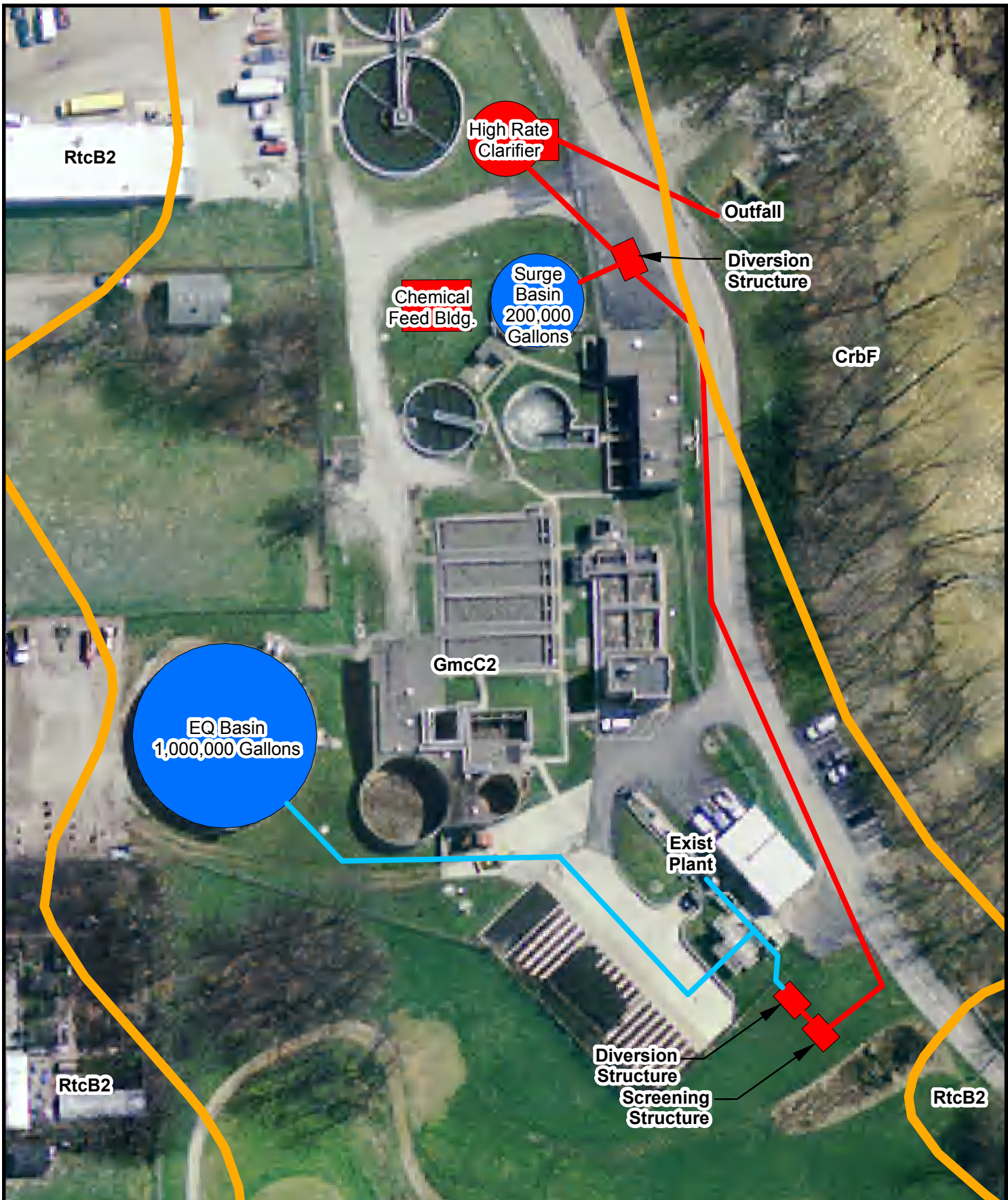
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FIGURE:

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LEGEND

- Existing Components
- Proposed Components

WWTP Soils Map
City of North Vernon



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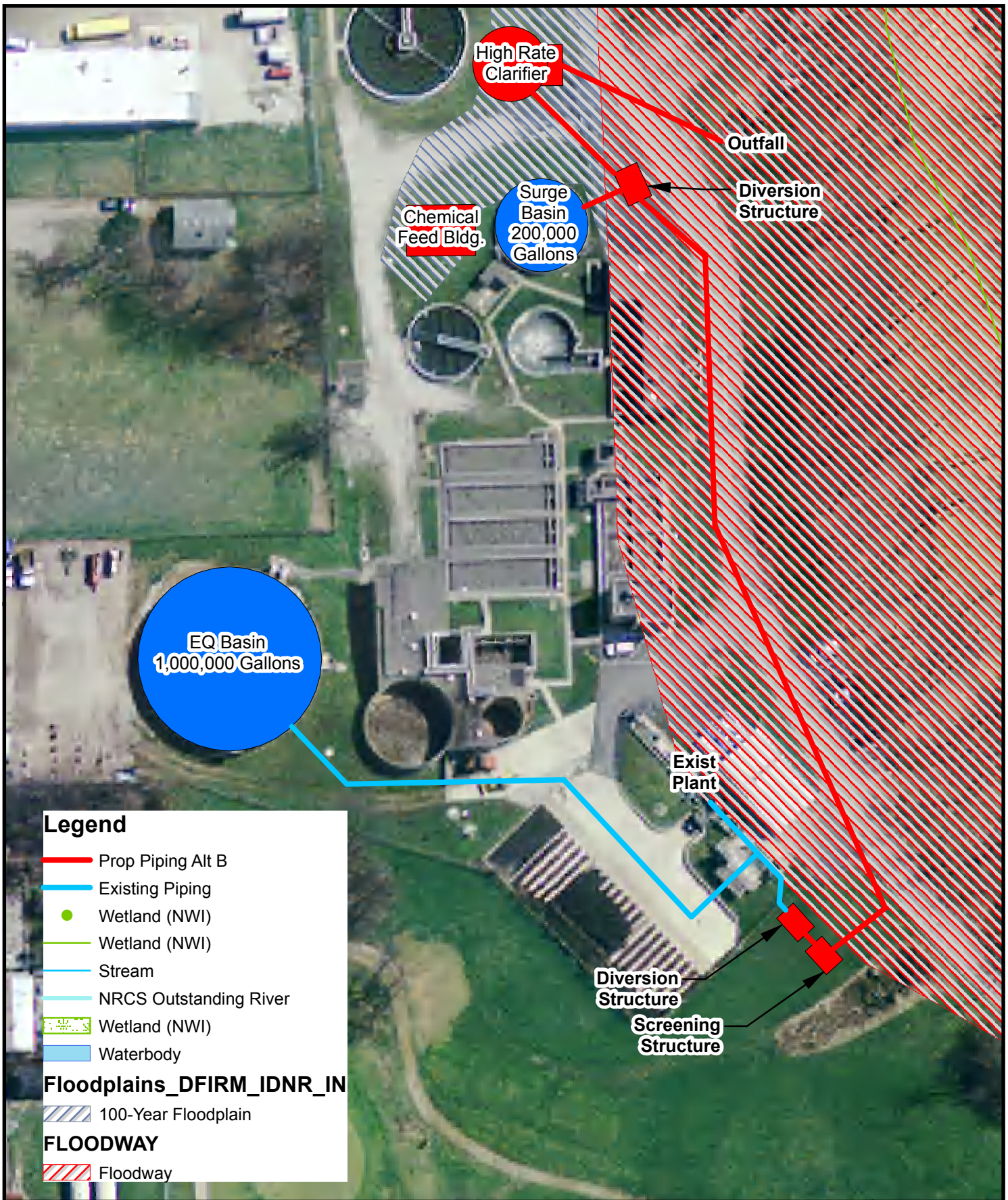
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FIGURE:

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LEGEND	
	Existing Components
	Proposed Components

WWTP Hydrology
City of North Vernon

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FIGURE:	--

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