INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.
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(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

April 4, 2014

65-40 LN
Greene Co Regional Sewer District
16 South Franklin Street
Bloomfield, IN 47424

Dear Board of Trustees:

Re: Regional District Plan

Pursuant to Indiana Code (IC) 13-26, and as required in the Order forming the Regional District (District), a district plan (Plan) was required to be submitted by the District to the Indiana Department of Environmental Management (IDEM).

IDEM has received and reviewed the District Plan and determined the Plan to be complete. No further action regarding the Plan is required at this time. Please note that the District should send updates to the Plan to IDEM as they occur.

If you have any questions, please feel free to contact me at 800-451-6027, extension (3-0476) or at lnewlon@idem.in.gov.

Sincerely,

Lynne Newlon

Lynne Newlon
Regional District Coordinator
Indiana Department of Environmental Management

NEWLON, LYNNE

From: mhartman@hplawoffices.com
Sent: Monday, September 30, 2013 10:53 AM
To: NEWLON, LYNNE
Subject: Greene County Regional Sewer District Plan
Attachments: Greene County Regional Sewer District Preliminary Engineering Report.pdf

Lynn:

See attached. Let me know if the report is sufficient as our district plan.
Thanks!

Marilyn

Marilyn A. Hartman
HARTMAN LAW, P.C.
Attorneys at Law
44 South Franklin Street
Bloomfield, IN 47424
(812) 384-3527 phone
(812) 384-3520 fax
mhartman@hplawoffices.com

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PRELIMINARY ENGINEERING REPORT

PROPOSED

GREENE COUNTY REGIONAL SEWER DISTRICT

SCOTLAND, INDIANA

FOR THE

BOARD OF COMMISSIONERS
OF GREENE COUNTY, INDIANA

FEBRUARY 28, 2011

PREPARED BY

BYNUM FANYO & ASSOCIATES, INC.
528 N. WALNUT STREET
BLOOMINGTON, INDIANA 47404
PHONE (812) 332-8030
FAX (812) 339-2990

PRELIMINARY ENGINEERING REPORT

PROPOSED
GREENE COUNTY REGIONAL SEWER DISTRICT
GREENE COUNTY, INDIANA

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PRELIMINARY ENGINEERING REPORT

GREENE COUNTY REGIONAL SEWER DISTRICT
GREENE COUNTY, INDIANA

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- TRANSCRIPT OF PUBLIC HEARING
- ATTENDANCE SHEET FROM PUBLIC HEARING

PREFACE

The Board of Commissioners of Greene County, Indiana, proposes to establish a regional sewer district to serve the West half of Section 31, all of Section 36 and the East half of Sections 26 and 35 in Taylor Township which includes the unincorporated community of Scotland. The proposed Greene County Regional Sewer District will be adjacent to the WestGate @ Crane Technology Park which is located in parts of Greene, Daviess and Martin Counties. The Technology Park is adjacent to the west entrance to the Crane Naval Surface Warfare Center (NSWC) and is managed by the WestGate Authority which is a nine member board comprised of three members from each county. The WestGate Authority is currently investigating forming a regional sewer district to serve Daviess and Martin Counties with flow being treated by Crane NSWC. Under the provisions a Utility Sales Contract with Crane NSWC, the Crane Base has agreed to treat up to 44,200 gallons of wastewater per day. Currently, the Technology Park is only using about 5 % of that capacity. The contract does have a clause that states "Purchaser agrees to purchase this service from any private or other public source when available and adequate." Therefore it is anticipated that the portions of Daviess and Martin Counties within the technology park will be served by the Greene County Regional Sewer District at a later date. The Town of Crane has a similar agreement with the Crane NSWC for sewage treatment and most likely will also connect to the Greene County Regional Sewer District. The Greene County Regional Sewer District will initially serve the unincorporated community of Scotland, the portion of the WestGate Technology Park located in Greene County, and the existing homes along County Road 800 S.

The wastewater treatment plant will be a 50,000 gallon per day extended aeration plant and will discharge to an unnamed tributary of Stone Branch Creek. The construction permit for the treatment plant was approved on February 7, 2011, by the Indiana Department of Environmental Management with bids to be received on March 17, 2011. The Greene County Redevelopment Commission has issued Redevelopment Tax Increment Revenue Bonds to finance the construction of the wastewater treatment plant, the Scotland sewer system, the construction of a lift station and force main to serve the I-69 and US 231 interchange development, and the construction of a lift station and force main to serve the county's 34 acre tract of property located at the NE corner of the intersection of US 231 and County Road 800 S. A 52 acre tract of property owned by Greene County in the technology park located along County Road 200 E currently has sewer in place to connect to the treatment plant.

The formation of a Regional Sewer District is needed to efficiently manage the operation of the wastewater treatment plant and the collection system for the areas described above and to protect the public health, safety and welfare of the residents of the proposed District.

CHAPTER ONE
PROJECT LOCATION

The Greene County Regional Sewer District would include the West half of Section 31, all of Section 36 and the East half of Sections 26 and 35 containing 1600 acres in Taylor Township This area includes the unincorporated community of Scotland. The proposed Greene County Regional Sewer District will be adjacent to the WestGate @ Crane Technology Park which is located in parts of Greene, Daviess and Martin Counties. The proposed service area includes only those sections previously mentioned which are entirely within Greene County.

The eastern most Greene County portion of the WestGate Technology Park is situated on 52 acres of former farm land lying east of County Road 1400 E and north of County Road 800 S. The first phase in developing the 52 acre site has begun with the construction of roads, water lines and sanitary sewer service. The first building to be constructed on the parcel will be a 12,000 square foot office building scheduled to begin in the spring of 2011. The residential community of Scotland located north of the technology park is within the proposed District and consists of 54 homes, 3 commercial buildings, a church and community center. The Scotland community does not currently have sanitary sewer service.

The Greene County Regional Sewer District will also incorporate the I-69/ US 231 interchange scheduled to be completed in 2013. The owner of a 154 acre tract adjacent to the interchange has contacted Greene County concerning the availability of sanitary sewer service for that area. The owner is an established commercial developer and has started to market the property.

Greene County currently owns 34 acres at the intersection of US 231 and County Road 800 S which is in the proposed District. This property is being marketed by the Greene County Economic Development Corporation for the location of a hotel, convenience store, restaurant and office buildings.

The Greene County Redevelopment Commission has purchased property in Daviess County on which to construct the wastewater treatment facility. The Daviess County property contains 62.4 acres of which the treatment plant will occupy approximately 2 acres.

The Greene County Regional Sewer District will have wastewater treatment for the area provided by a 50,000 gallon per day treatment facility scheduled to begin construction in May of 2011.

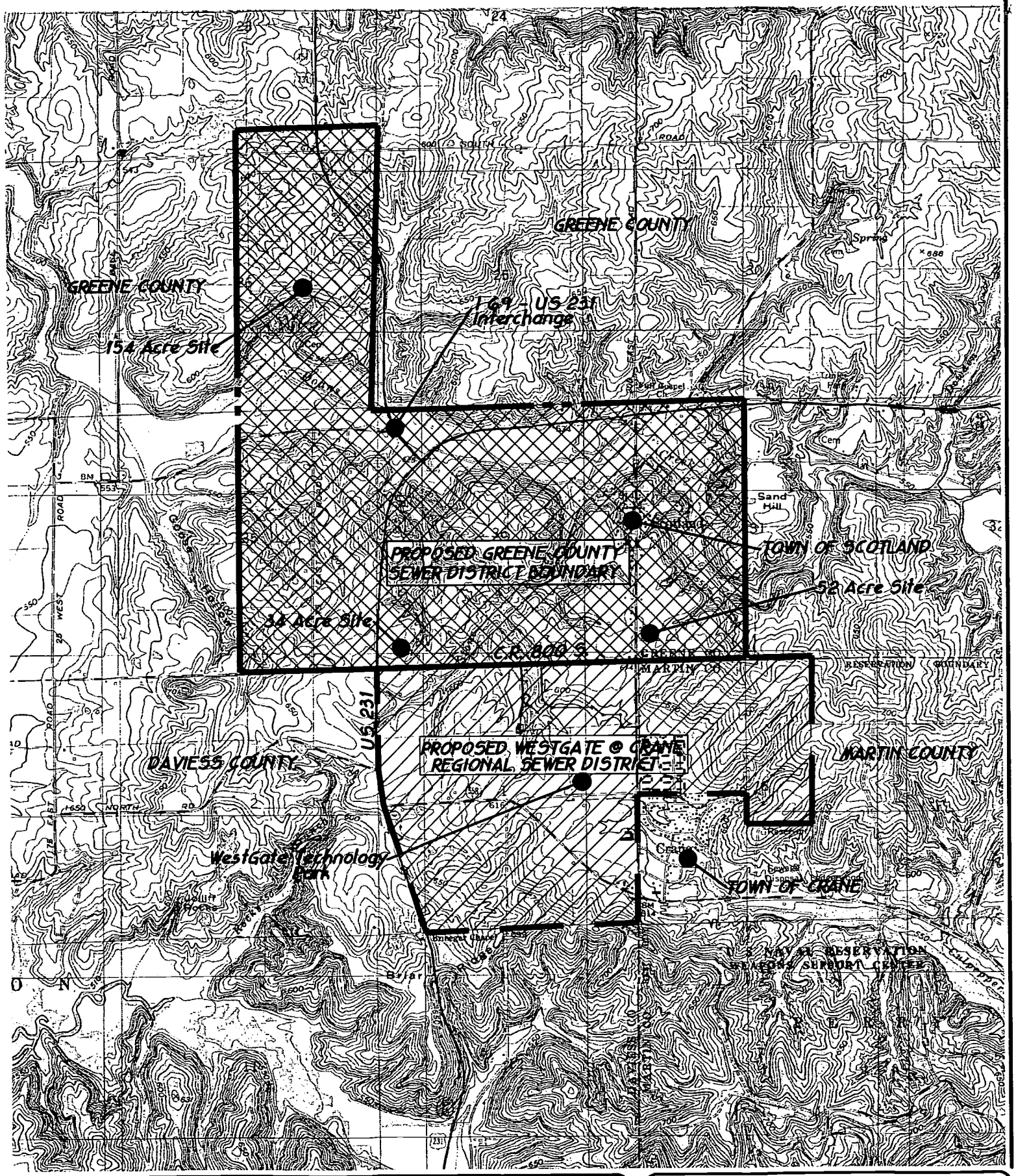


FIGURE 1-1
PROPOSED
GREENE COUNTY REGIONAL SEWER DISTRICT
USGS QUADRANGLE

NORTH
SCALE = 1:2400

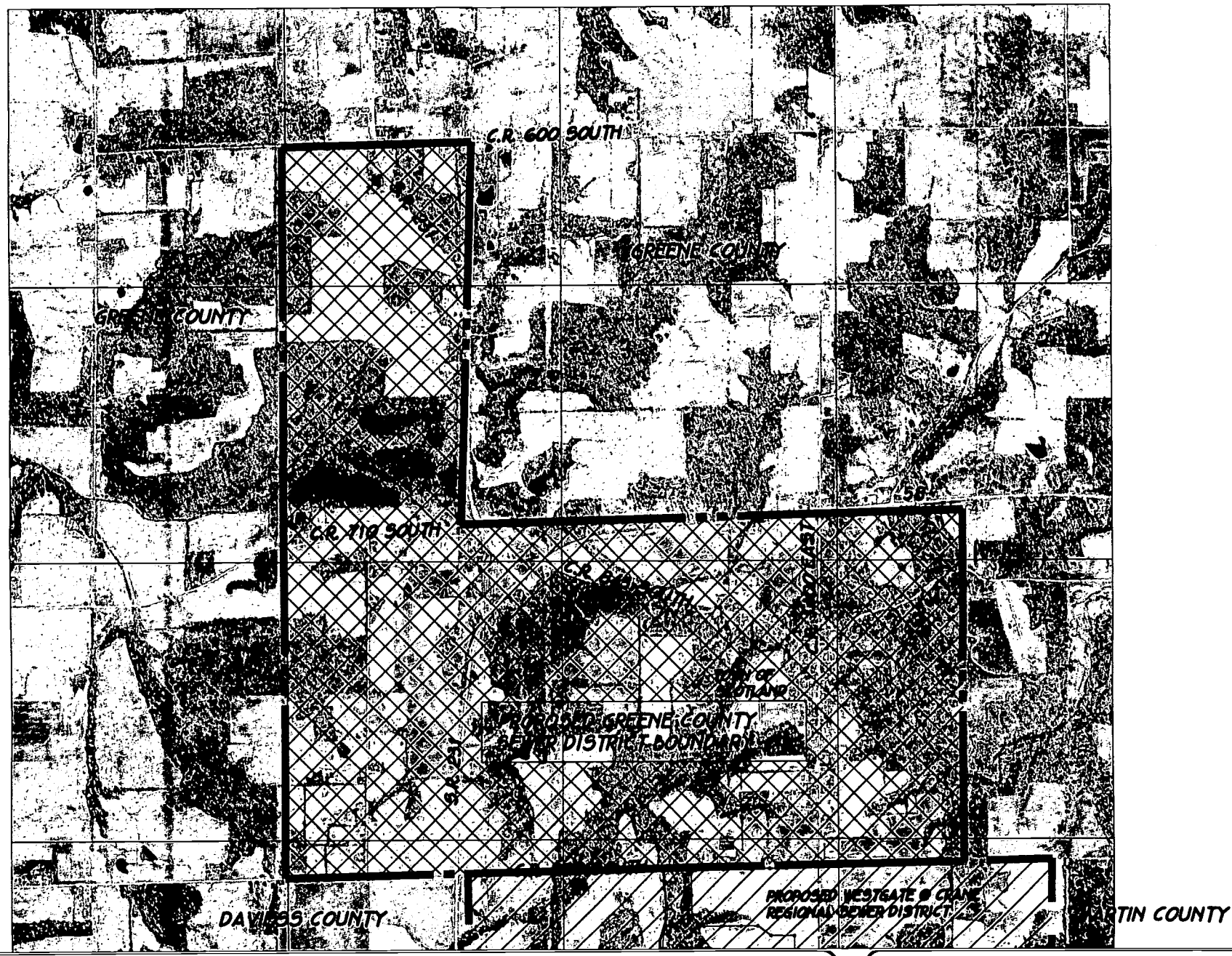
BYNUM FANYO & ASSOCIATES, INC.
528 North Walnut Street
Bloomington, Indiana 47404

CHAPTER TWO
CURRENT SITUATION

The WestGate @ Crane Technology Park is located in parts of Greene, Daviess and Martin Counties. The WestGate @ Crane Technology Park holds Certified Technology Park status from the Indiana Economic Development Corporation. The State of Indiana has authorized the distribution of up to $10 million to Westgate @ Crane Authority from incremental state income tax and sales tax revenues generated within the Park to be used to promote economic development. The Technology Park is adjacent to the west entrance to the Crane Naval Surface Warfare Center (NSWC) and is managed by the Westgate @Authority. The Crane Naval Surface Warfare Center is a military base comprised of 100 square miles located in Martin and Greene Counties. The Technology Park has been established to locate support contractors and resources adjacent to the base but outside the naval base property. The Technology Park currently consists of seven buildings and approximately 420 employees in Greene, Daviess and Martin Counties. A proposed master plan for the park calls for the addition of another 30 buildings including a hotel and conference/training center. The Economic Development Administration has approved a $6.6 million grant for the training center. It is currently under design and construction should begin in the fall of 2011. There are also other parcels within the technology park and surrounding area that will be developed as commercial and residential projects. The Westgate Authority has been authorized by the Daviess and Martin County Councils to form a regional sewer district to serve the Daviess and Martin County's portions of the technology park with flow being treated by Crane NSWC.

The Greene County Board of Commissioners has recently applied for funding from the Office of Community and Rural Affairs for a project to provide sanitary sewer service for the Scotland Community. As noted earlier, Scotland is an unincorporated community consisting of 54 homes, 3 commercial buildings, a church and community center. The platted lot sizes within Scotland range from 40' x 100' to 60' x 120'. The homes utilize on-site septic tanks with absorption fields as their means of wastewater disposal. The small lot sizes and age of the existing fields create an unhealthy environment for residents. The Greene County Redevelopment Commission has committed to providing $ 408,676.00 as the local match to help the project qualify for the OCRA funding.

The Greene County Redevelopment Commission has taken the initiative to fund the design and construction of a wastewater treatment facility to serve this area. The Redevelopment Commission has purchased 62.4 acres in Daviess County south of County Road 800 S of which two acres will be set aside for the treatment plant. The wastewater treatment plant will be a 50,000 gallon per day extended aeration plant and will discharge to an unnamed tributary of Stone Branch Creek. The construction permit for the treatment plant was approved on February 7, 2011 by the Indiana Department of Environmental Management with bids to be received on March 17, 2011. The plant construction will be funded by the Greene County Redevelopment Commission from TIF revenues. The Greene County Regional Sewer District will initially serve the Scotland community, the portion of the WestGate Technology Park located in Greene County, and the existing homes along the north side of County Road 800 S for a total of 67 initial customers.



NORTH

FIGURE 2-1
PROPOSED
GREENE COUNTY REGIONAL SEWER DISTRICT
PROJECT LOCATION

Date: 03/01/11 SCALE: 1=2400

Project No: 401108

BYNUM FANYO & ASSOCIATES, INC.
528 North Walnut Street
Bloomington, Indiana 47404

CHAPTER THREE
FUTURE SITUATION

In addition to the community of Scotland, the portion of the WestGate Technology Park located in Greene County and the existing homes along the north side of County Road 800S, the Greene County Regional Sewer District will serve new development at the I-69 and US 231 interchange, new development at the 34 acre parcel located at the US 231 and County Road 800 S intersection and the continued development of the 52 acre county owned site in the Technology Park. The Greene County Redevelopment Commission has issued bonds for the construction of a lift station and force main to serve development at the I-69 and US 231 interchange and the construction of a lift station and force main to serve the county's 34 acre tract of property located at the Northeast corner of the intersection of US 231 and County Road 800 S. The 52 acre tract of property owned by Greene County in the Technology Park located along County Road 200E currently has sewer in place to connect to the treatment plant.

The I-69 /US 231 intersection will be a major interchange for the area serving the Crane NSWC. This area will develop quickly once the interstate is completed in 2013. The owner of a 154 acre tract of ground adjacent to the interchange contacted the Greene County Redevelopment Commission in 2010 concerning plans to develop this parcel. The Greene County Redevelopment Commission has been working with the INDOT contractor for this section of I-69 to install a casing pipe under the new highway to provide sanitary sewer service for this area. The current proposal will include restaurants, office space, a hotel, a truck stop and additional service industries for the area. A lift station and force main will provide sewage treatment for this area by pumping back to the wastewater treatment plant being constructed in 2011.

The 34 acre parcel located at the intersection of US 231 and County Road 800S is owned and being marketed by Greene County. This parcel has been schematically designed to include a hotel, restaurant, convenience store, office buildings and a bank. The parcel will be served by a lift station and force main to pump flow to the treatment plant. The lift station is currently under design and scheduled to be constructed in 2012.

The 52 acre site owned by Greene County and within the Technology Park will have an office building completed in 2011 now that roads and utility infrastructure have been completed. This site will be developed into office building and light manufacturing facilities in the same manner as the current facilities located within Daviess and Martin Counties section of the Technology Park. The site has an existing gravity sewer and will not require any additional construction.

The WestGate @ Crane Technology Park, operated by the WestGate Authority, currently has seven existing buildings with approximately 420 employees located in Greene, Daviess and Martin Counties. The WestGate Authority is in the process of proposing a regional sewer district for Daviess and Martin Counties for an area that encompasses approximately 836 acres. The initial average daily flow estimates for the Technology Park as determined by Civil Site Group Inc. and Bernardin Lochmueller & Associates, Inc. are 44,200 and 46,750 gallons per day.

The current wastewater treatment for Westgate Authority is provided through a Utility Sales Contract with Crane NSWC, which allows for treatment of a maximum of 44,200 gallons per day. Under the terms of the Contract, when service is available and adequate from any private or other public source, the Westgate Authority will be obligated to obtain sewer service from the other provider. Therefore it is anticipated that the portions of Daviess and Martin Counties within the technology park and the additional area in the proposed regional sewer district will be served by the Greene County Regional Sewer District at a later date.

The Town of Crane is located in the far northwestern portion of Martin County and is adjacent to the WestGate @ Crane Technology Park. The Town has recently applied for and received a grant from the Office of Community and Rural Affairs to replace its aging sanitary sewer collection system. The project has been designed and the Town will accept bids on March 21, 2011. The project is scheduled to be completed within six months. The Town of Crane has 96 customers and receives wastewater treatment from the Crane Naval Surface Warfare Center (NSWC). The Town of Crane has a similar agreement with the Crane NSWC for sewage treatment and most likely will also connect to the Greene County Regional Sewer District at some time in the future.

The wastewater treatment plant has been designed to treat an average design flow of 50,000 gallons per day with a peak flow of 125,000 gallons per day. The initial plant construction has been designed to expand the plant to an average flow of 100,000 gallons per day. The potential for growth of the Technology Park and surrounding areas is expected to require the expansion in approximately ten to fifteen years.

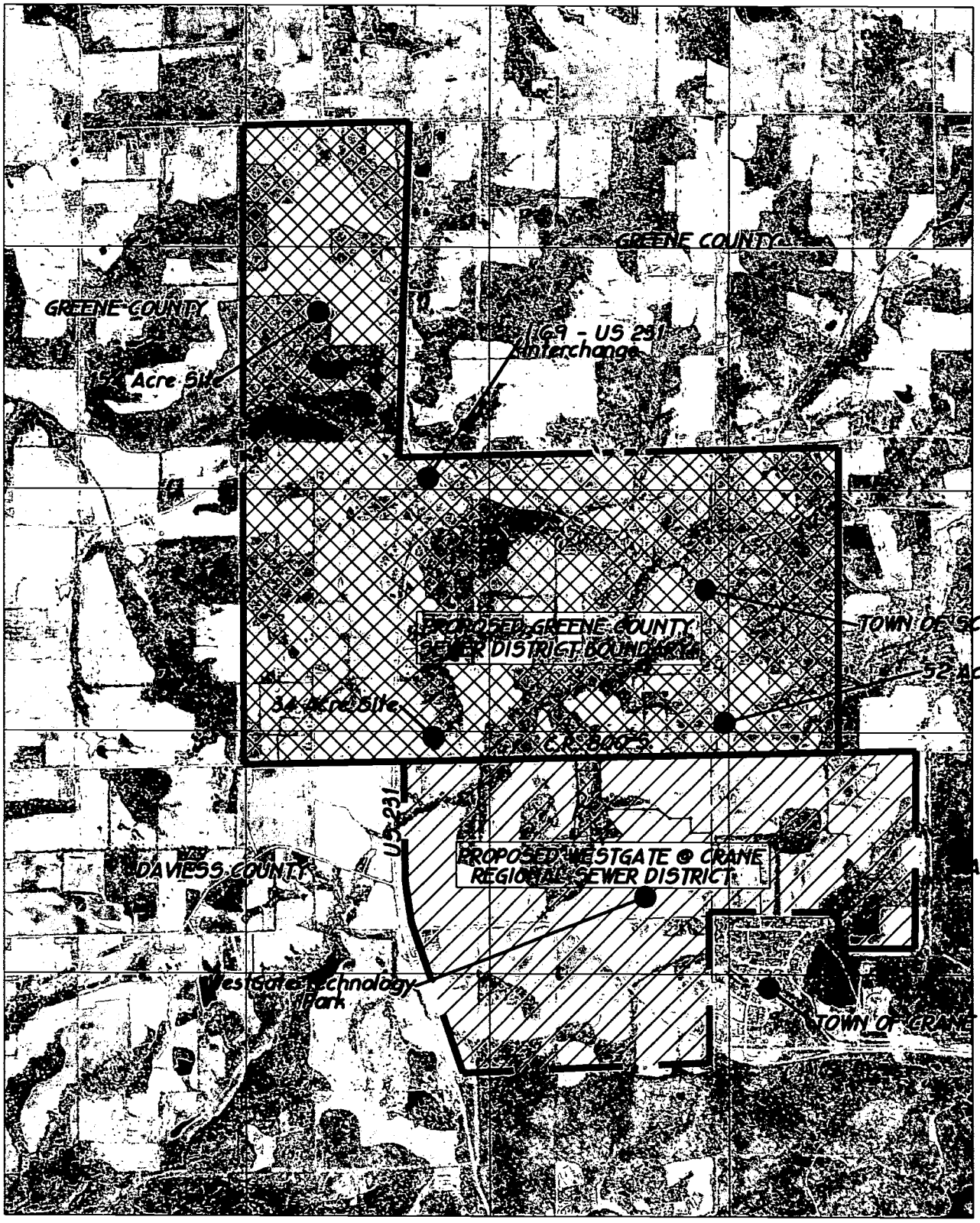


FIGURE 3-1
PROPOSED
GREENE COUNTY REGIONAL SEWER DISTRICT
SEWER DISTRICT REFERENCE MAP

NORTH

SCALE = 1:2400

BYNUM FANYO & ASSOCIATES, INC.
528 North Walnut Street
Bloomington, Indiana 47404

CHAPTER FOUR
EVALUATION OF ALTERNATIVES

The Greene County Redevelopment Commission reviewed different alternatives to provide wastewater treatment for the area. The Commission considered the following alternatives:

- No Action – Continue to discharge to the Crane NSWC
- Constructed Wetland
- Extended Aeration Mechanical System

No Action

The Greene County Redevelopment Commission discussed the continued reliance upon Crane NSWC for treatment of the wastewater generated by the WestGate Technology Park and the adjacent areas. The contractual agreement with Crane NSWC has a maximum capacity of 44,200 gallon per day with the technology park using only five per cent of the allowable capacity at this time. However with development expected to increase significantly over the next few years, the Greene County Redevelopment Commission determined that there was a need to develop a stable and reliable source of wastewater treatment to permit continued expansion of the Technology Park

Constructed Wetland Treatment Alternative

The Greene County Redevelopment Commission hired the firm of Bernardin Lochmueller & Associates to prepare an engineering report utilizing constructed wetland technology to provide wastewater treatment for the area. The eco-treatment system as provided in the report to the Commission consisted of a subsurface-flow constructed wetland, a vegetated re-circulating gravel filter lying atop a subsurface-flow constructed wetland and a soil absorption system (preferably a drip irrigation system). The subsurface-flow constructed wetland would be a man-made gravel bed with a synthetic liner planted with wetland species. Wastewater then flows below the gravel. These types of facilities recreate the complex biological pollutant removal processes which occur in natural wetlands and are relatively simple to operate. Constructed wetlands can provide treatment of wastewater with little energy usage, no chemicals, and very few operational and mechanical requirements. Wastewater which passes through the constructed wetland is then pumped to a vertical-flow gravel filter which further reduces the pollutants. The water passing through the filter returns to the constructed wetland. Final effluent will be disposed of using a drip irrigation system.

Extended Aeration Mechanical System

A mechanical extended aeration type activated sludge process is widely used for small communities. Aeration basins mix the wastewater and grow a bacterial population that consumes pollutants. This mixture is termed activated sludge. Clarifiers follow the aeration basins and clarify the treated wastewater by removing the bacteria from the water which are then either returned back to the aeration basin or wasted for further treatment. A digester is necessary to further reduce the volume of wasted activated sludge. Finally this sludge will need to be disposed of offsite to a treatment facility with additional sludge handling capabilities or land applied to farm fields as another method of disposal. The effluent from the treatment process is then disinfected using either chlorination or ultra violet disinfection. The disinfected effluent is then aerated and discharged into the environment.

ALTERNATIVE CONSTRUCTION COST ESTIMATES

Constructed Wetlands System

Constructed Wetlands System	
Description	**Total Amount**
Eco-Treatment System (50,000 gpd)	$1,200,000.00
Site Work	$48,000.00
Piping	$36,000.00
Electrical	$60,000.00
Mobilization / Demobilization	$24,000.00
Clearing	$25,000.00
Mechanical Building	$150,000.00
Erosion Control - Silt Fence / Rip Rap	$1,500.00
Subtotal	$1,544,500.00
Contingency @ 10%	$154,450.00
Total Construction Costs	$1,698,950.00

Extended Aeration Mechanical System

Mechanical Wastewater Treatment Plant	
Description	**Total Amount**
Package Plant (50,000 gpd)	$372,000.00
Site Work	$50,000.00
Piping	$60,000.00
Lift Station	$105,000.00
Mobilization / Demobilization	$8,000.00
Grinder Structure	$60,000.00
Ultra-Violet Disinfection	$32,000.00
Post Aeration	$28,500.00
Lab/Blower Building	$255,000.00
Erosion Control - Silt Fence / Rip Rap	$1,500.00
Subtotal	$972,000.00
Contingency @ 10%	$97,200.00
Total Construction Costs	$1,069,200.00

Recommended Alternative

The Greene County Redevelopment Commission reviewed the options and determined the "Do Nothing" alternative was not an option for the long term growth potential of the technology park. The Commission was very receptive to the constructed wetlands option. This option utilized green technology as a solution to the treatment issue. However, the initial cost of the construction of the wetlands and the extensive amount of suitable land required for a wetlands system, caused the Commission to select the extended aeration mechanical system option as the preferred option. This extended aeration mechanical treatment plant has proven to be a reliable system and can be easily expandable to meet future needs.

CHAPTER FIVE
FINANCING AND PROPOSED RATES

The Greene County Redevelopment Commission has issued a Tax Increment Revenue Bond Anticipation Note, a portion of which will be utilized to fund the cost of construction for the wastewater treatment plant, the Scotland sewer system, the construction of a lift station and force main to serve development at the I-69 and US 231 interchange, the construction of a lift station and force main to serve the county's 34 acre tract of property located at the northeast corner of the intersection of US 231 and County Road 800S. The amounts approved for the various projects are as follows:

Wastewater Treatment Plant and Collection System	$ 1,500,000.00
Scotland Community Sewer System Construction	$ 408,676.00
I 69 and US 231 Regional Lift Station	$ 365,000.00
Greene County 34 Acre Site – US 231 & CR 800 S	$ 300,000.00

Greene County Regional Sewer District
Treatment Rate Estimate
February 28, 2011

Annual Operations Costs		Allocated Costs	Usage Factor	Charge
Administration & Billing		$2,400.00	804	$2.99
Collection System Maintenance				
Purchased Power	$1,000.00			
System Maintenance	$1,300.00			
Lift Station Maintenance	$1,500.00			
Replacement Costs	$1,000.00			
		$4,800.00	804	$5.97
Scotland Collection System Debt		$0.00	67	$0.00
(Funded thru OCRA & Redevelopment Commission)				
Treatment Plant O& M (Flow)				
Purchase Power	$17,000.00			
System Operations	$50,000.00			
NPDES Testing	$4,500.00			
Replacement Costs	$5,000.00			
Administrative	$3,600.00			
Permitting Per Year	$800.00			
		$80,900.00	6,114	$13.23
Initial Area Customer Base		67		
Average GPD per Customer = 65				
	Users	GPD	Gallons per Year/1000	
Flow Calculation per Year	67	250	6,114	
		Cost Per 1000	4000 Gallons	Charge
Flow Charge for 4000 Gallons per Month		$13.23	4	$52.93
Base Charge per Month per User				$8.96
Charge per Customer per Month - 4000 Gallons Usage				**$61.89**

Table 5-1

CHAPTER SIX
PUBLIC PARTICIPATION

Public participation plays a key role in the creation of a sewer district. Greene County will hold a public meeting to ensure that the public has been fully informed of the nature and needs of the proposed district, has had the opportunity to express their concerns with the planning, and has reviewed the final report.

Greene County held a public hearing on the proposed sewer district on _____2011, in the Commissioners Meeting Room at the Greene County Courthouse, Bloomfield, Indiana. The Public Hearing was advertised in the _____. A copy of the legal notice and proof of publication is included in Appendix B.

The public hearing presented an overview of the Preliminary Engineering Report, the nature of proposed sewer district and the financial aspects. A copy of the attendance sheet is also included in Appendix B.

APPENDIX A

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.

Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

June 4, 2010

Mr. Don Humphrey, P.E.
Foresight Engineering
1402 N. Capital Avenue, Suite 250
Indianapolis, Indiana 46202

Dear Mr. Humphrey:

Re: Proposed Greene County Redevelopment Commission WWTP
Daviess County

This letter is in response to your May 20, 2010 request for preliminary effluent limitations for a proposed new Wastewater Treatment Plant (WWTP) to serve the unincorporated towns of Scotland and Crane, as well as the Westgate TechPark commercial development. The proposed new facility would be of a bio-mechanical design. The average design flow of the facility is proposed to be up to 0.10 MGD. The proposed discharge location is to an unknown tributary to Stone Branch. The $Q_{7,10}$ of the unknown tributary is 0.0 cfs. **This letter also serves as notification that supplemental information is required to fully evaluate the proposed discharge. Construction and NPDES permitting may not proceed until the supplemental information specified herein has been submitted to, and been preliminarily approved by, this Office.**

Preliminary effluent limitations are impacted by numeric and narrative water quality criteria as well as antidegradation requirements. Current Indiana Water Quality Standards at 327 IAC 2-1-2(2) contain a provision which requires that all high quality waters (water bodies that meet water quality standards) be maintained in their present high quality unless, and until, it is affirmatively demonstrated to the commissioner that limited degradation of such waters is justifiable on the basis of necessary economic or social factors... This requirement is commonly referred to as antidegradation. (Separate rules presently exist for discharges to the Great Lakes Basins, and future rulemaking is also anticipated to make antidegradation rules consistent statewide). The antidegradation rules for Indiana are based on the Federal antidegradation regulations found at 40 CFR 131.12.

Before approving a new discharge of treated wastewater, alternatives to the proposed discharge must be evaluated to satisfy antidegradation requirements. If this office makes a preliminary determination that the new discharge is necessary on the basis of economic or social factors, the effluent limitations contained herein (developed to minimize the potential lowering of

water quality) may be utilized for construction and NPDES permitting. If this office determines the discharge is not necessary on the basis of economic or social factors, the proposed new discharge will not be allowed, and construction and NPDES permits will not be issued.

The following additional information is required:

(1) A technical and financial analysis of alternatives that would not result in the need for a proposed new discharge including, but not limited to, connection to an existing wastewater treatment facility and land application of wastewaters.

(2) An evaluation of factors (a) through (o) listed below as applicable to your situation. In accordance with Indiana Code IC 13-18-3-2, the commissioner shall consider the following factors in determining whether a proposed discharge is necessary to accommodate important economic or social development in the area in which the waters are located under antidegradation standards and implementation procedures:

(a) Creation, expansion, or maintenance of employment.
(b) The unemployment rate.
(c) The median household income.
(d) The number of households below the poverty level.
(e) Community housing needs.
(f) Change in population.
(g) The impact on the community tax base.
(h) Provision of fire departments, schools, infrastructure, and other necessary public services.
(i) Correction of a public health, safety, or environmental problem.
(j) Production of goods and services that protect, enhance, or improve the overall quality of life and related research and development.
(k) The impact on the quality of life for residents in the area.
(l) The impact on the fishing, recreation, and tourism industries.
(m) The impact on threatened and endangered species.
(n) The impact on economic competitiveness.
(o) Additional factors that may enhance the social or economic importance associated with the proposed discharge, such as:
  (i) An approval that recognizes social or economic importance; and is given to the applicant by a legislative body or other government officials.
  (ii) Any other action or recommendation relevant to the antidegradation demonstration made by a:
    (A) state;
    (B) county;
    (C) township; or
    (D) municipality;
  potentially affected by the proposed discharge.

In determining whether a proposed discharge is necessary to accommodate important economic or social development in the area in which the waters are located under antidegradation standards and implementation procedures, the commissioner will give substantial weight to any applicable determinations by governmental entities.

If this office makes a preliminary determination that the proposed new discharge is necessary, then construction and NPDES permitting may proceed with the understanding that a final determination will not be made until public input for antidegradation has been considered. This office will seek public input for antidegradation during the public participation process for the issuance of the NPDES permit. **It should be noted that the public participation process and/or permit appeal process included in the rules for the issuance of NPDES permits could alter (and possibly make more stringent) the limits that are established in the final NPDES permit.**

Preliminary Effluent Limitations for Sanitary-Type Wastewater

TABLE 1

	Summer		Winter		
Parameter	Monthly Average	Weekly Average	Monthly Average	Weekly Average	Units
$CBOD_5$	10	15	10	15	mg/l
TSS	12	18	12	18	mg/l
Ammonia-nitrogen	1.1	1.6	1.6	2.4	mg/l

TABLE 2

Parameter	Daily Minimum	Daily Maximum	Monthly Average	Units
pH	6.0	9.0	-----	s.u.
Dissolved Oxygen	6.0	-----	-----	mg/l
*E. coli****	----	235	125	count/100 mls

The effluent flow must be measured. The mass limits for $CBOD_5$, NH_3-N, and TSS are calculated by multiplying the average design flow (in MGD) by the concentration value and by 8.345. Summer effluent limits apply from May 1 through November 30 of each year. Winter effluent limits apply December 1 through April 30 of each year.

***The effluent limitations for *E. coli* are 125 colonies/100 ml as a monthly average calculated as a geometric mean and 235 colonies/100 ml as a daily maximum. Ultraviolet light disinfection or disinfection by other non-halogen compounds is required as a consideration in antidegradation. Disinfection by chlorination or other halogen compounds will require the applicant to demonstrate that disinfection by ultraviolet light is either not technically feasible or that it is not affordable.

If the preliminary effluent limitations specified above are not acceptable to the discharger, then alternate limitations may be pursued. To pursue alternate limitations, an assessment of alternative feasible treatment technologies comparing the expected effluent concentrations with the expected capital and maintenance costs for each alternative, and the corresponding expected new or increased loading above the level generated by the effluent limits specified above must be submitted for review. The assessment must also include an affordability analysis and justification for selecting the most cost-effective treatment plant design that is affordable. In no case will limitations be approved which will result in exceedances of State water quality standards.

If there are any questions regarding antidegradation requirements, please contact Mr. Steve Roush at 317/233-5747.

If there are any questions regarding design requirements of the construction permit, please contact Mr. Don Worley at 317/232-5579. The NPDES permit will not be issued until the construction permit is finalized.

If there are any questions regarding the NPDES permit requirements, please feel free to contact Leigh Voss of my staff at 317/232-8698.

Sincerely,

Jerry Dittmer, Chief
Municipal NPDES Permits Section
Office of Water Quality

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.

Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

January 19, 2011

Mr. Don Humphrey, PE
Foresight Engineering
1402 N. Capital Ave., Suite 250
Indianapolis, Indiana 46202

Dear Mr. Humphrey:

Re: Antidegradation Assessment
Proposed Greene County Redevelopment
Commission WWTP
Greene County

Preliminary effluent limitations for the proposed Greene County Redevelopment Commission WWTP were sent to your attention on June 4, 2010. Included in that letter was a requirement to provide supplementary information to fully address the antidegradation requirements of 327 IAC 2-1-2 and the recent statutory changes to IC 13-18-3-2, et al. The requested supplementary information was received by this office on November 26, 2010.

This office has conducted an antidegradation assessment utilizing the supplementary materials submitted, and finds the information sufficient to proceed with construction and NPDES permitting. The design of the facility should ensure treatment levels sufficient to consistently meet the effluent limitations established in the June 4, 2010 preliminary effluent limitations letter (see attached). A final determination will not be made until public input for antidegradation has been considered. This office will seek public input for antidegradation during the public participation process for the issuance of the NPDES permit. **It should be noted that the public participation process and/or permit appeal process included in the rules for the issuance of NPDES permits could preclude the issuance of a permit, or alter (and possibly make more stringent) the limits that are established in the final NPDES permit.**

If there are any questions regarding antidegradation requirements, please contact Mr. Steve Roush at 317/233-5747.

If there are any questions regarding design requirements of the construction permit, please contact Mr. Don Worley at 317/232-5579. The NPDES permit will not be issued until the construction permit is finalized.

If there are any questions regarding the NPDES permit requirements, please feel free to contact Leigh Voss of my staff at 317/232-8698.

Sincerely,

Jerry Dittmer, Chief
Municipal NPDES Permits Section
Office of Water Quality

Enclosure

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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February 7, 2011

received
2-8-11

VIA CERTIFIED MAIL 91 7190 0005 2710 0011 3238

Greene County Redevelopment Commission
c/o Marilyn Hartman, Attorney
44 South Franklin Street
Bloomfield, Indiana 47424

Dear Applicant:

Re: 327 IAC 3 Construction
Permit Application
Plans and Specifications for
Division A-Sanitary Sewer Collection System @
Westgate Technology Park
Division B-Greene County Wastewater Treatment
Plant (WWTP)
Permit Approval No. 19901
Daviess County, Indiana

The application, plans and specifications, and supporting documents for the above-referenced project have been reviewed and processed in accordance with rules adopted under 327 IAC 3. Enclosed is the Construction Permit (Approval No. 19901), which applies to the construction of the above-referenced proposed water pollution treatment/control facility to be located southwest of the intersection of C.R. 1700 N and C.R. 200 E (sanitary sewer) and ending at the proposed Wastewater Treatment Plant (WWTP) to be located approximately 2,500 feet west of C.R. 200 E and 1,200 feet south of C.R. 1700 N, Daviess County, Indiana.

Please review the enclosed permit carefully and become familiar with its terms and conditions. In addition, it is imperative that the applicant, consulting architect/engineer (A/E), inspector, and contractor are aware of these terms and conditions.

It should be noted that any person affected or aggrieved by the agency's decision in authorizing the construction of the above-referenced facility may, within fifteen (15) days from date of mailing, appeal by filing a request with the Office of Environmental Adjudication for an adjudicatory hearing in accordance with IC 4-21.5-3-7 and IC 13-15-6. The procedure for appeal is outlined in more detail in Part III of the attached construction permit.

Plans and specifications were prepared by Bynum, Fanyo & Associate, Inc. and Foresight Engineering, and certified by Mr. Jeffrey S. Fanyo, P.E, and Mr. Donald R. Humphrey, P.E., and submitted for review on September 24, 2010, with additional information submitted on December 2, 2010, January 24, and January 26, 2011.

Any questions concerning this permit may be addressed to Mr. Matthew Florczyk, of our staff, at 317/232-8664. Questions concerning appeal procedures should be addressed to the Office of Environmental Adjudication, at 317/232-8591.

Sincerely,

Dale T. Schnaith, Chief
Facility Construction and
Engineering Support Section
Office of Water Quality

MJF/pb
Project No. P-20105
Enclosures
cc: Daviess County Health Department
Daviess County Commissioner
Jerry Dittmer, IDEM
Marty Blake, INDOT
Jack Delaney, Chicago Airports District Office
Bynum Fanyo & Associates, Inc.
Foresight Engineering
Mary Ann Arford
Paul & Linda Blasko
David & Sharon Brasseru
Phyllis Koch
Hoosier Energy Rural Elec. Corp.
Charles Dobson
Florence Dove
Judeanne Murphy
Phillip Montgomery
Jeffrey & Mary Trout
Laurinda Walker
Greene Co. Auditor
Gary Byrd
John & Wana P. Hasler
Daviess County Economic Dev. Foundation Inc.
Greene County Commissioners

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
AUTHORIZATION FOR CONSTRUCTION OF
WATER POLLUTION TREATMENT/CONTROL FACILITY
UNDER 327 IAC 3

DECISION OF APPROVAL

Greene County Redevelopment Commission, in accordance with the provisions of IC 13-15 and 327 IAC 3 is hereby issued a permit to construct the water pollution treatment/control facility to be located southwest of the intersection of C.R. 1700 N and C.R. 200 E (sanitary sewer) and ending at the proposed Wastewater Treatment Plant (WWTP) to be located approximately 2,500 feet west of C.R. 200 E and 1,200 feet south of C.R. 1700 N, Daviess County, Indiana. The permittee is required to comply with requirements set forth in Parts I, II and III hereof. The permit is effective pursuant to IC 4-21.5-3-4(d). If a petition for review and a petition for stay of effectiveness are filed pursuant to IC 13-15-6, an Environmental Law Judge may be appointed for an adjudicatory hearing. The force and effect of any contested permit provision may be stayed at that time.

NOTICE OF EXPIRATION DATE

This permit and the authorization to initiate construction of this pollution treatment/control facility shall expire at midnight March 1, 2012. In order to receive authorization to begin construction beyond the date of expiration, the permittee shall submit such information and forms as are required by the Indiana Department of Environmental Management at least sixty (60) days prior to the expiration date.

Signed this 7th day of February, 2011, for the Indiana Department of Environmental Management.

Dale T. Schnaith, Chief
Facility Construction and
Engineering Support Section
Office of Water Quality

WATER POLLUTION TREATMENT/CONTROL FACILITY DESCRIPTION

The Greene County Redevelopment Commission project is located in Daviess County, Indiana. Currently the area has no sewer system. All residences are using septic tanks and absorption fields for waste disposal.

The Greene County Redevelopment Commission proposes to construct approximately 5,240 feet of 8-inch diameter (PVC, SDR 35, ASTM D3034), 182 feet of 8-inch diameter (Ductile Iron, D.I.), 386 feet of 12-inch diameter (PVC, SDR 35, ASTM D3034) and 107 feet of 12-inch diameter (Ductile Iron, D.I.) sanitary sewer; 427 feet of 4-inch diameter (PVC, SDR 21, ASTM D2241) force main, one lift station with two submersible type pumps each rated at 126 gpm at 52 feet TDH, and an extended aeration wastewater treatment facility with an average design flow of 50,000 gpd and peak design flow of 125,000 gpd. The proposed project will provide sanitary sewer service to 55 single family homes, Westgate Office Park and Conference Center, one church and three commercial buildings with an expected average flow of 45,370 gpd.

The proposed new wastewater treatment plant (WWTP) will consist of the following:

- One channel type sewage grinder rated @ 335 gpm with manual bar-screen by-pass
- One 17,953 gallon aerated equalization tank along with two submersible-type pumps (each rated at 80 gpm at 14 feet TDH)
- Two 28,830 gallon (each) concrete aeration tanks along with fine bubble air diffusers, return sludge piping, return sludge control box and scum piping. The aeration tanks are approximately 70% of the outer portion of a 35 feet diameter tank with the interior 14 feet diameter being a secondary clarifier
- One concrete circular final clarifier along with rotating rake arms and return sludge airlift
- One 18,170 gallon concrete aerated sludge holding tank
- One horizontal ultraviolet (UV) type disinfection system
- One 2,782 gallon post-aeration tank with ultrasonic type effluent flow meter
- One building to house plant controls, laboratory, three air blowers, one standby engine generator along with restroom and storage facilities.
- New plant controls, new yard piping, site modifications, site fence, electrical and other miscellaneous work to complete the project

Inspection during construction will be provided by Bynum Fanyo & Associates. Maintenance after project completion will be provided by Greene County Redevelopment Commission.

CONDITIONS AND LIMITATIONS TO THE AUTHORIZATION FOR

CONDITIONS AND LIMITATIONS TO THE AUTHORIZATION FOR CONSTRUCTION OF WATER POLLUTION TREATMENT/CONTROL FACILITY

During the period beginning on the effective date of this permit and extending until the expiration date, the permittee is authorized to construct the above described water pollution treatment/control facility. Such construction shall conform to all provisions of State Rule 327 IAC 3 and the following specific provisions:

PART I

SPECIFIC CONDITIONS AND LIMITATIONS TO THE CONSTRUCTION PERMIT

Unless specific authorization is otherwise provided under the permit, the permittee shall comply with the following conditions:

1. All local permits shall be obtained before construction is begun on this project.

2. If pollution or nuisance conditions are created, immediate corrective action will be taken by the permittee.

3. Additional treatment facilities shall be installed if the proposed facilities prove to be inadequate or cannot meet applicable federal or state requirements.

4. If construction is located within a floodway, a permit may also be required from The Department of Natural Resources prior to the start of construction. It is the permittee's responsibility to coordinate with that agency and obtain any required approvals if applicable. Questions may be directed to the Technical Services Section, Division of Water at 317/232-4160.

5. If this project includes a change in design flow, addition of new treatment unit(s), or modification/removal of existing treatment unit(s), an NPDES Permit modification will likely be required. This would include any CSO treatment addition/modification. Questions may be directed to the NPDES Permit Section, Office of Water Quality at 317/233-0469.

6. After construction and before start up of the sewage treatment facilities, the Commissioner shall be notified of the date of start up and the name of the properly certified operator in responsible charge.

7. Technical supervision, by a certified operator, shall be provided for operation and control of the wastewater treatment facilities and monthly reports of operation shall be submitted to the Department of Environmental Management.

8. The name of the certified operator (Class I) in responsible charge shall be submitted to this office, and the operator must file monthly monitoring reports with this office in accordance with 327 IAC 5-2-15.

9. Greene County Redevelopment Commission must submit an application for a National Pollutant Discharge Elimination System permit at least 180 days in advance of any discharge.

10. Analysis of the necessary wastewater parameters must be provided, either by in-house laboratory equipment or by contract with an outside laboratory.

11. Plans for sewer construction under streams shall be submitted to the Department of Natural Resources for consideration of approval prior to the start of construction.

12. An audio-visual alarm shall be installed for the proposed lift station.

13. The separation of sanitary sewers from water mains and drinking water wells must comply with 327 IAC 3-6-9.

14. All gravity sewer pipe must be leak tested using either a hydrostatic test or air test in accordance with 327 IAC 3-6-19(d). If using a hydrostatic test, the rate of exfiltration or infiltration shall not exceed 200 gallons per inch of pipe diameter per linear mile per day. Air tests shall be as prescribed.

15. The results of the gravity sewer leakage test and/or force main leakage test on the completed sewer must be submitted to this office within three months of completion of construction.

16. Air relief valves shall be installed at high points in the force main.

17. A drop pipe must be provided for all sewers entering a manhole at an elevation of 24 inches or more above the manhole invert.

18. All force mains must be pressure and leak tested in accordance with 327 IAC 3-6-19(e).

19. Deflection tests must be performed on all flexible pipe after the final backfill has been in place at least 30 days. No pipe shall exceed a vertical deflection of 5%. Deflection test results shall be submitted with the infiltration/exfiltration test results. (The following are considered nonflexible pipes: vitrified clay pipe, concrete pipe, ductile iron pipe, cast iron pipe, asbestos cement pipe.)

20. Manholes shall be air tested in accordance with ASTM C1244-93, Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test. The manhole test results shall be submitted with the gravity sewer leakage test results.

Failure to meet guidelines as set forth in the above conditions could be subject to enforcement proceedings as provided by 327 IAC 3-5-3.

PART II

GENERAL CONDITIONS

1. No significant or material changes in the scope of the plans or construction of this project shall be made unless the following provisions are met:

   a. Request for permit modification is made 60 days in advance of the proposed significant or material changes in the scope of the plans or construction;

   b. Submit a detailed statement of such proposed changes;

   c. Submit revised plans and specifications including a revised design summary; and

   d. Obtain a revised construction permit from this agency.

2. This permit may be modified, suspended, or revoked for cause including, but not limited to the following:

   a. Violation of any term or conditions of this permit;

   b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts.

3. Nothing herein shall be construed as guaranteeing that the proposed water pollution treatment/control facility shall meet standards, limitations or requirements of this or any other agency of state or federal government, as this agency has no direct control over the actual construction and/or operation of the proposed project.

PART III

APPEALS PROCEDURE

Anyone wishing to challenge this agency's decision for authorizing the construction of this facility may do so, provided that a petition for administrative review is filed as required by IC 4-21.5-3-7. The petition must be submitted within fifteen (15) days of the date of mailing of this permit notification. The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by this decision, or otherwise entitled to review by law. Additionally, IC 13-15-6-2 requires that your petition include:

1. The name and address of the person making the request;

2. The interest of the person making the request;

3. Identification of any persons represented by the person making the request;

4. The reasons, with particularity, for the request;

5. The issues, with particularity, proposed for consideration at the hearing; and

6. Identification of the permit terms and conditions which, in the judgement of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing permits of the type granted or denied by the Assistant Commissioner's action.

7. Pursuant to IC 4-21.5-3-1(f), any document serving as a petition for review or review and stay must be filed with the Office of Environmental Adjudication. Filing of such a document is complete on the earliest of the following dates:

   a. The date on which the petition is delivered to the Office of Environmental Adjudication, Indiana Government Center North, 100 North Senate Avenue, Room 501, Indianapolis, Indiana 46204;

   b. The date of the postmark on the envelope containing the petition, if the petition is mailed by United States mail; or

   c. The date on which the petition is deposited with a private carrier, as shown by a receipt issued by the carrier, if the petition is sent by private carrier.

Checklist for Construction Project
Design Summary

I. General

1. Applicant: Greene County Redevelopment Commission

2. Project Name and Location: Division A-Sanitary Sewer Collection System
Division B-Greene County Wastewater Treatment Plant @ Westgate Technology Park in Daviess County, Indiana

3. Engineer (Consultant): Foresight Engineering and Bynum Fanyo & Associates

4. NPDES Permit Number: Pending issuance for new discharge

   Note: A letter with Preliminary Effluent Limitations for the proposed Greene County Redevelopment Commission WWTP was issued on June 4, 2010.

5. Remarks

   A. Description of Present Situation: The Greene County Redevelopment Commission project is located in Daviess County, Indiana. Currently the area has no sewer system. All residences are using septic tanks and absorption fields for waste disposal.

   B. Description of Proposed Facilities: The Greene County Redevelopment Commission proposes to construct approximately 5,240 feet of 8-inch diameter (PVC, SDR 35, ASTM D3034), 182 feet of 8-inch diameter (Ductile Iron, D.I.), 386 feet of 12-inch diameter (PVC, SDR 35, ASTM D3034) and 107 feet of 12-inch diameter (Ductile Iron, D.I.) sanitary sewer; 427 feet of 4-inch diameter (PVC, SDR 21, ASTM D2241) force main, one lift station with two submersible type pumps each rated at 126 gpm at 52 feet TDH, and an extended aeration wastewater treatment facility with an average design flow of 50,000 gpd and peak design flow of 125,000 gpd. The proposed project will provide sanitary sewer service to 55 single family homes, Westgate Office Park and Conference Center, one church and three commercial buildings with an expected average flow of 45,370 gpd.

   The proposed new wastewater treatment plant (WWTP) will consist of the following:

   - One channel type sewage grinder rated @ 335 gpm with manual bar-screen by-pass

- One 17,953 gallon aerated equalization tank along with two submersible-type pumps (each rated at 80 gpm at 14 feet TDH)
- Two 28,830 gallon (each) concrete aeration tanks along with fine bubble air diffusers, return sludge piping, return sludge control box and scum piping. The aeration tanks are approximately 70% of the outer portion of a 35 feet diameter tank with the interior 14 feet diameter being a secondary clarifier
- One concrete circular final clarifier along with rotating rake arms and return sludge airlift
- One 18,170 gallon concrete aerated sludge holding tank
- One horizontal ultraviolet (UV) type disinfection system
- One 2,782 gallon post-aeration tank with ultrasonic type effluent flow meter
- One building to house plant controls, laboratory, three air blowers, one standby engine generator along with restroom and storage facilities.
- New plant controls, new yard piping, site modifications, site fence, electrical and other miscellaneous work to complete the project

II. Design Data

1. Current Population: 280

2. Design Year and Population: Year 2030, population 550

3. Design P.E.: 588 (based on 0.17 lbs. BOD/capita)

4. Design Flow: 50,000 gpd

   A. Domestic: 20,000 gpd
   B. Industrial/Commercial: 28,000 gpd
   C. Infiltration/Inflow: 2,000 gpd

5. Average Design Peak Flow: 115,000 gpd (through secondary treatment process)

6. Maximum Plant Flow Capacity: 181,500 gpd (to flow equalization)

7. Design Waste Strength

   A. CBOD: 240 mg/l

   B. TSS: 225 mg/l

   C. NH_3-N: 25 mg/l

8. NPDES Permit Limitation on Effluent Quality:

A. CBOD: 10 mg/l

B. SS: 12 mg/l

C. NH_3-N: 1.1 mg/l (summer), 1.6 mg/l (winter)

D. E. coli: 125 count/100 ml monthly average
235 count/100 ml daily maximum

E. Chlorine Residual: N/A, UV disinfection proposed

F. pH: 6.0-9.0 s.u.

G. D.O.: 6.0 mg/l (minimum)

9. Receiving Stream:

A. Name: Unnamed Tributary

B. Tributary to: Stone Branch

C. Stream Uses: General

D. 7-day, 1-in-10 year low flow: 0.0 cfs

III. Treatment Units

Lift Station

1. Location: Flow equalization tank

2. Type of pump: Submersible

3. Number of pumps: Two (2)

4. Constant or variable speed: Variable speed drive (VFD)

5. Capacity of pumps: 80 gpm (each)

6. RPM and TDH: 1,750 RPM, 14 feet TDH

7. Volume of the wet well: Approximately 16,900 gal.

8. Detention time in the wet well: 8 hours, aeration and mixing will be provided

9. A gate valve and a check valve in the discharge line: Yes

10. A gate valve on suction line: N/A

11. Ventilation: Yes

12. Standby power: Yes

13. Alarm: Yes

14. Breakwater tank: No

Flow Equalization

1. Number and size of units: One @ 17,954 gal., 12 feet W x 16 feet L x 12.5 feet SWD

2. Method of flow diversion to unit: All flow through unit

3. Air and mixing provided: Yes, coarse bubble diffusers with 20 cfm air provided

4. Method and control of flow return: Duplex pumps each rated at 80 gpm with VFD control will be controlled by influent flow meter

5. Description of unit operation: All the flow enters the tank. The wastewater is then pumped to aeration tanks with the flow controlled by influent flow meter and variable speed pumps

6. Method of sludge removal: Not required, solids kept in suspension by mixing

Flow Meters

1. Type: Magnetic at influent
   Ultrasonic at effluent

2. Location: Influent force main
   V-notch weir at the post aeration tank

3. Indicating, recording and totalizing: Yes

Comminutors

1. Type: Channel type sewage grinder/macerator

2. Location: Sewage grinder structure at the head of plant

3. Maximum capacity: 335 gpm

4. By-pass (over flow) bar screen: Yes, by-pass bar screen

Screens

1. Type: Bar screen

2. Number and capacity: One (1) @ 0.50 mgd

3. Bar spacing and slope: One inch bar spacing at 60° slope

4. Method of cleaning: Manual

5. Disposal of screenings: Dumpster and landfill

Activated Sludge

1. Type of activated sludge process: Extended aeration

2. Number and size of units: Two tanks at 28,830 gal. each. Total aeration capacity 57,660 gal. The aeration tanks are approximately 70% of the outer portion of a 35 feet diameter tank with the interior 14 feet diameter being a secondary clarifier x 13.5 feet SWD

3. Detention time (hrs): 27.6 hours

4. Organic loading (lb BOD/1000 cf): 13 lbs. BOD/1,000 cu. ft./day

5. Type of aeration equipment: Fine bubble diffusers

6. Type and size of blowers: Three (3) positive displacement blowers at 110 cfm each with VFD control. One blower as standby

7. Air required (itemize, cfm):

BOD requirement	50 cfm
NH_3-N requirement	16 cfm
RAS/WAS airlifts requirement	24 cfm
EQ basin aeration	20 cfm
Sludge holding tank	73 cfm
Post aeration	15 cfm

Total air required 198 cfm

8. Provisions for speed adjustment: Yes, VFD control

9. Air provided: 220 cfm with one blower as standby

10. Ventilation in the blower room: Yes

11. Number and capacity of return sludge pump: Two airlift type return pumps @ 40 gpm each

12. Method of return sludge rate control: Airlift pump system controlled by valves on the airlift air lines to vary the pumping rates

13. Return sludge rate as % of design flow: 50-200%

14. Provisions for return sludge metering: Yes

15. Location of return sludge discharge: At the front of aeration tanks

16. Facilities to isolate units: Yes

17. Facilities for flow split control: Yes

Secondary Clarifiers:

1. Type of clarifiers: Circular

2. Number and size of units: One, 14 feet diameter x 13.5 feet SWD

3. Surface settling rate (gpd/sf)

   a. at the design flow: 325 gpd/sq. ft.

   b. at peak flow rate: 748 gpd/sq. ft.

   c. at the equalized flow rate: 325 gpd/sq. ft.

4. Detention time (hrs): 6.6 hours

5. Type of sludge removal mechanism: Rotating rake arms and airlift

6. Weir overflow rate: 1,325 gpd/lf

7. Disposal of scum: Airlift pumped to sludge holding tank

8. Facilities for unit isolation: No

9. Facilities for flow split control: No

Post-aeration

1. Type of aeration: Fine bubble diffusers

2. Number of units: One @ 8 feet x 8 feet x 6 feet SWD

3. Size of units: Approximately 2,873 gal.

4. Aeration provided: Yes, 15 cfm from plant blowers

5. Expected effluent D.O.: 6.0 mg/l minimum

Nitrification System

1. Type of nitrification system: Extended aeration

2. Ammonia loading: 10.43 lbs. NH_3-N/day

3. Additional oxygen demand: 47.98 lbs. O_2/day

4. Air supply system: Positive displacement blowers and fine bubble diffusers

5. Hydraulic detention time: 27. 6 hours

6. Mean cell residence time (days): 32 days

UV Disinfection

1. Type: Horizontal ultraviolet (UV) channel system

2. Location: Effluent from final clarifiers

3. Size of channel: 9-inch W x 48-inch L x 6.5-inch SWD

4. Contact time: 21 seconds

5. Dosage: 30,000 microwatt-second/cm^2

6. Bypass: Yes

7. Safety equipment: Yes

8. Cleaning equipment: Yes

9. Intensity monitoring: Yes

Aerated Sludge Holding Tank

1. Number and size of units: One, 14 feet I.D. x 35 feet O.D. x 13.5 feet SWD (30% outer portion) total volume approximately 18, 170 gal.

2. Detention time: 34 days

3. Organic loading: 31 lbs. VSS/day

4. Air supply: 73 cfm from plant blowers

5. Decanting method: Swing decant pipe

Sludge Disposal

1. Ultimate disposal method of sludge: Sludge disposal will be contracted to licensed hauler

2. Expected solids content of sludge (by the principal method of disposal): 1-2%

3. Location of disposal site: By contract

4. Ownership of the disposal site: By contract

5. Availability of sludge transport equipment: Contract with licensed sludge hauler

IV. SEWER COLLECTION SYSTEM

Lift Stations

1. Location: Approximately 500 feet north of the proposed WWTP

2. Type of pump: Submersible

3. Number of pumps: Two (2)

4. Constant or variable speed: Constant

5. Capacity of pumps: 126 gpm

6. RPM and TDH: 1,750 RPM. 52 feet TDH

7. Volume of the wet well: Approximately 875 gal.

8. Detention time in the wet well: 28 minutes

9. A gate valve and a check valve in the discharge line: Yes

10. A gate valve on suction line: No

11. Ventilation: Yes

12. Standby power: No

13. Alarm: Yes

14. Bypass or overflow: No

15. Type of force main: PVC, SDR 21, ASTM D2241

16. Diameter and length of force main: Approximately 427 feet of 4-inch diameter pipe

Sewer

1. Type of sewer material: PVC, SDR 35, ASTM D3034 and Ductile Iron (D.I.)

2. Diameter and length of sewer (indicate length for each size):

   5,210 feet of 8-inch (PVC, SDR 35, ASTM D3034)
   182 feet of 8-inch (D.I.)
   386 feet of 12-inch (PVC, SDR 35, ASTM D3034)
   107 feet of 12-inch (D.I.)

3. Stream, highway, and railroad crossing: One stream crossing

4. Separation of combined sewer or new sewer: New sewer

5. Number of manholes: 27

6. Water main protection: Yes

V. MISCELLANEOUS

A. Laboratory equipment: Yes

B. Safety equipment: Yes

C. Plant site fence: Yes

D. Handrail for the tanks: Yes

E. Units, unit operation, and plant bypasses: Unit bypasses, no plant bypass

F. Flood elevation (10, 25, or 100 year flood): 100 year-585 MSL

G. Provisions to maintain the same degree of treatment during construction: N/A new plant

H. Standby power equipment: Yes

I. Site inspection: Yes

J. Hoists for removing heavy equipment: Yes

K. Adequate sampling facilities: Yes

L. Hydraulic Gradient: Yes

M. Septage receiving facilities: No

N. Structural work proposed on buildings (including rehab): Yes, new laboratory/mechanical/blower building proposed

UTILITY SALES CONTRACT

THIS CONTRACT, entered into as of 23 March 1995, between the UNITED STATES OF AMERICA, hereinafter called the Government, represented by the contracting officer executing this contract, and Town of Crane Municipal Utilities, whose address is 181 Larrimer Street, Crane, IN 47522, hereinafter called the Purchaser.

1. The Purchaser, located in or in the immediate vicinity of Crane Division, Naval Surface Warfare Center (NAVSURFWARCENDIV Crane), Crane, IN agrees to purchase and receive from the Government sewage disposal service as follows:

Description	Sewage disposal service for Town of Crane, IN (not more than 150 families, churches, and existing commercial buildings)
Requirements	Sewage quantity established as 75% of metered water usage from Eastern Heights Utilities, Inc.
Premises	Town of Crane, IN
Delivery Point	To manhole
Metering	Water meter installed by Eastern Heights Utilities, Inc.
Deposit	$800.00 (PAID)
Billing	on monthly basis by Government
Payable	on 1st day each month at Disbursing Office, NAVSURFWARCENDIV Crane, Crane, IN 47522-5001
Rates	$4.083834 per thousand gallons plus 0% surcharge
Officer in charge	Public Works Officer, NAVSURFWARCENDIV Crane, Crane, IN 47522-5001

for use exclusively by Purchaser, without any right to assign or sublet, at the Purchaser's premises and not for resale or redistribution. Government shall have the right to change said rates and deposit amount at any time on thirty (30) days notice. Government may apply said deposit to the payment of unpaid bills or of any other charges or damages hereunder. Subject to Government's advance approval and supervision, Purchaser at its sole expense shall furnish, install, operate and maintain all new facilities required for obtaining service, including suitable metering and regulating equipment and service connections to Government's utility system. Such facilities shall be removed and Government premises restored to their original condition by the Purchaser, or by the Government at Purchaser's expense within a reasonable time after termination of this contract. Purchaser agrees to purchase this service from any private or other public source when available and adequate.

2. The Government shall sell and deliver only such service as it may from time to time be willing to deliver and may, at any time, discontinue service hereunder. Either party may terminate this contract on 30 days written notice, provided, however, that during any period of national emergency Government may terminate on 24 hours notice.

3. The Government, its officers, agents and employees shall not be responsible for loss of or damage to property of Purchaser or property of others, or for personal injuries to Purchaser's officers, agents, servants or employees, or to other persons arising from or incident to the furnishing of, or the failure to furnish, the service provided for hereunder, nor for any other damage or loss of profit suffered by Purchaser arising from or incident to the furnishing of, or the failure to furnish, the service provided for hereunder, and Purchaser shall hold and save Government, its officers, agents and employees harmless from any and all such claims or liabilities.

4. No member of or delegate to Congress, or resident commissioner, shall be admitted to any share or part of this contract, or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

THE UNITED STATES OF AMERICA

By _____

L. A. LAWS
CDR, CEC, USN
Public Works Officer

TOWN OF CRANE MUNICIPAL UTILITIES
(Purchaser)

By Mary Kay Robinson

Title Clerk-Treasurer

APPENDIX B

NEWLON, LYNNE

From: mhartman@hplawoffices.com
Sent: Monday, September 30, 2013 10:53 AM
To: NEWLON, LYNNE
Subject: Greene County Regional Sewer District Plan
Attachments: Greene County Regional Sewer District Preliminary Engineering Report.pdf

Lynn:

See attached. Let me know if the report is sufficient as our district plan.
Thanks!

Marilyn

Marilyn A. Hartman
HARTMAN LAW, P.C.
Attorneys at Law
44 South Franklin Street
Bloomfield, IN 47424
(812) 384-3527 phone
(812) 384-3520 fax
mhartman@hplawoffices.com

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PRELIMINARY ENGINEERING REPORT

PROPOSED

GREENE COUNTY REGIONAL SEWER DISTRICT

SCOTLAND, INDIANA

FOR THE

BOARD OF COMMISSIONERS
OF GREENE COUNTY, INDIANA

FEBRUARY 28, 2011

PREPARED BY

BYNUM FANYO & ASSOCIATES, INC.
528 N. WALNUT STREET
BLOOMINGTON, INDIANA 47404
PHONE (812) 332-8030
FAX (812) 339-2990

PRELIMINARY ENGINEERING REPORT

PROPOSED
GREENE COUNTY REGIONAL SEWER DISTRICT
GREENE COUNTY, INDIANA

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PRELIMINARY ENGINEERING REPORT

GREENE COUNTY REGIONAL SEWER DISTRICT
GREENE COUNTY, INDIANA

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TREATMENT PLANT CONSTRUCTION PERMIT

TOWN OF CRANE UTILITY SALES CONTRACT WITH CRANE NSWC

APPENDIX B

- COPY OF LEGAL NOTICE OF PROOF OF PUBLICATION FOR PUBLIC MEETING (NOT SCHEDULED AS YET)
- TRANSCRIPT OF PUBLIC HEARING
- ATTENDANCE SHEET FROM PUBLIC HEARING

PREFACE

The Board of Commissioners of Greene County, Indiana, proposes to establish a regional sewer district to serve the West half of Section 31, all of Section 36 and the East half of Sections 26 and 35 in Taylor Township which includes the unincorporated community of Scotland. The proposed Greene County Regional Sewer District will be adjacent to the WestGate @ Crane Technology Park which is located in parts of Greene, Daviess and Martin Counties. The Technology Park is adjacent to the west entrance to the Crane Naval Surface Warfare Center (NSWC) and is managed by the WestGate Authority which is a nine member board comprised of three members from each county. The WestGate Authority is currently investigating forming a regional sewer district to serve Daviess and Martin Counties with flow being treated by Crane NSWC. Under the provisions a Utility Sales Contract with Crane NSWC, the Crane Base has agreed to treat up to 44,200 gallons of wastewater per day. Currently, the Technology Park is only using about 5 % of that capacity. The contract does have a clause that states "Purchaser agrees to purchase this service from any private or other public source when available and adequate." Therefore it is anticipated that the portions of Daviess and Martin Counties within the technology park will be served by the Greene County Regional Sewer District at a later date. The Town of Crane has a similar agreement with the Crane NSWC for sewage treatment and most likely will also connect to the Greene County Regional Sewer District. The Greene County Regional Sewer District will initially serve the unincorporated community of Scotland, the portion of the WestGate Technology Park located in Greene County, and the existing homes along County Road 800 S.

The wastewater treatment plant will be a 50,000 gallon per day extended aeration plant and will discharge to an unnamed tributary of Stone Branch Creek. The construction permit for the treatment plant was approved on February 7, 2011, by the Indiana Department of Environmental Management with bids to be received on March 17, 2011. The Greene County Redevelopment Commission has issued Redevelopment Tax Increment Revenue Bonds to finance the construction of the wastewater treatment plant, the Scotland sewer system, the construction of a lift station and force main to serve the I-69 and US 231 interchange development, and the construction of a lift station and force main to serve the county's 34 acre tract of property located at the NE corner of the intersection of US 231 and County Road 800 S. A 52 acre tract of property owned by Greene County in the technology park located along County Road 200 E currently has sewer in place to connect to the treatment plant.

The formation of a Regional Sewer District is needed to efficiently manage the operation of the wastewater treatment plant and the collection system for the areas described above and to protect the public health, safety and welfare of the residents of the proposed District.

CHAPTER ONE
PROJECT LOCATION

The Greene County Regional Sewer District would include the West half of Section 31, all of Section 36 and the East half of Sections 26 and 35 containing 1600 acres in Taylor Township This area includes the unincorporated community of Scotland. The proposed Greene County Regional Sewer District will be adjacent to the WestGate @ Crane Technology Park which is located in parts of Greene, Daviess and Martin Counties. The proposed service area includes only those sections previously mentioned which are entirely within Greene County.

The eastern most Greene County portion of the WestGate Technology Park is situated on 52 acres of former farm land lying east of County Road 1400 E and north of County Road 800 S. The first phase in developing the 52 acre site has begun with the construction of roads, water lines and sanitary sewer service. The first building to be constructed on the parcel will be a 12,000 square foot office building scheduled to begin in the spring of 2011. The residential community of Scotland located north of the technology park is within the proposed District and consists of 54 homes, 3 commercial buildings, a church and community center. The Scotland community does not currently have sanitary sewer service.

The Greene County Regional Sewer District will also incorporate the I-69/ US 231 interchange scheduled to be completed in 2013. The owner of a 154 acre tract adjacent to the interchange has contacted Greene County concerning the availability of sanitary sewer service for that area. The owner is an established commercial developer and has started to market the property.

Greene County currently owns 34 acres at the intersection of US 231 and County Road 800 S which is in the proposed District. This property is being marketed by the Greene County Economic Development Corporation for the location of a hotel, convenience store, restaurant and office buildings.

The Greene County Redevelopment Commission has purchased property in Daviess County on which to construct the wastewater treatment facility. The Daviess County property contains 62.4 acres of which the treatment plant will occupy approximately 2 acres.

The Greene County Regional Sewer District will have wastewater treatment for the area provided by a 50,000 gallon per day treatment facility scheduled to begin construction in May of 2011.

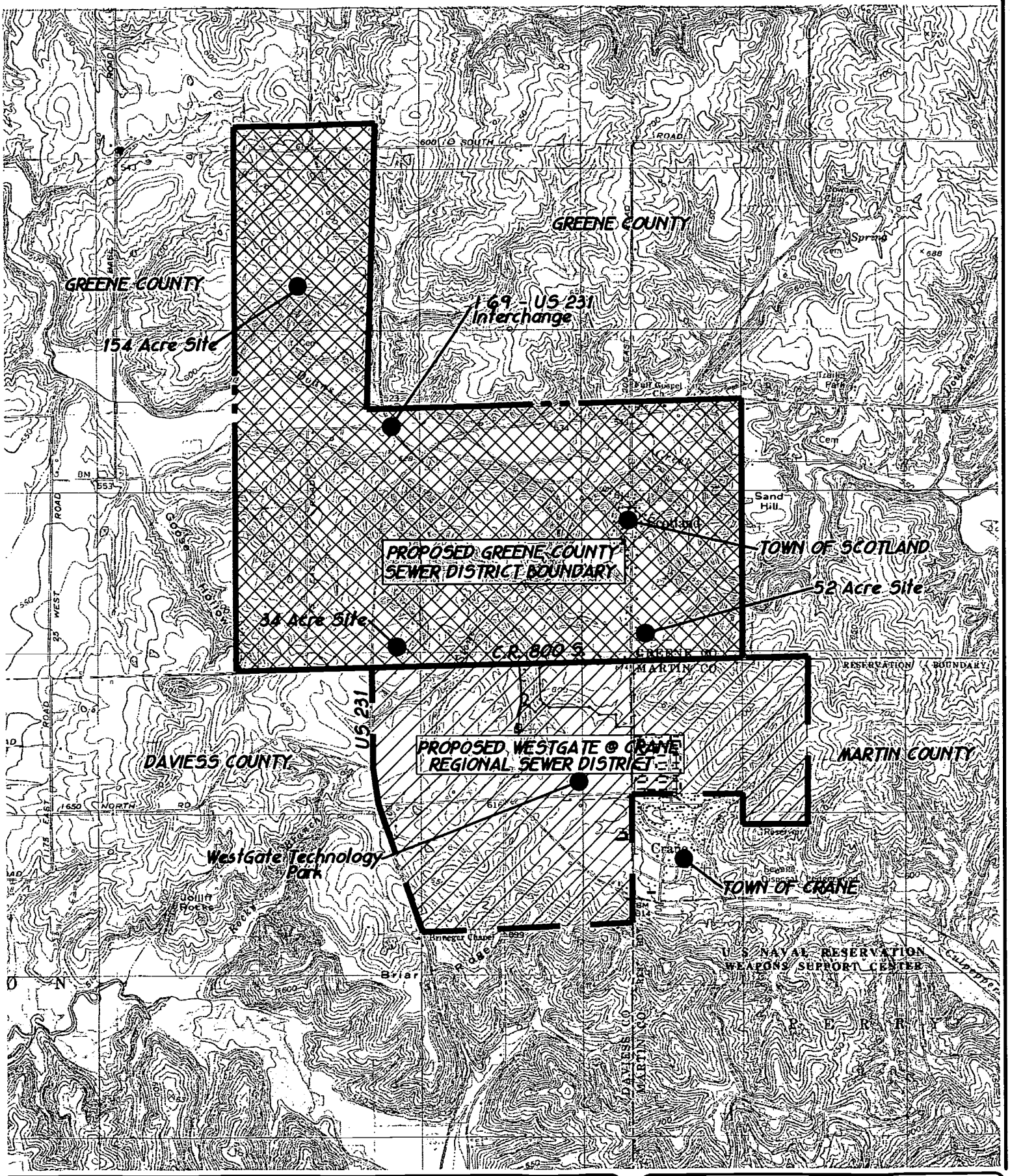


FIGURE 1-1
PROPOSED
GREENE COUNTY REGIONAL SEWER DISTRICT
USGS QUADRANGLE

NORTH
SCALE = 1:2400

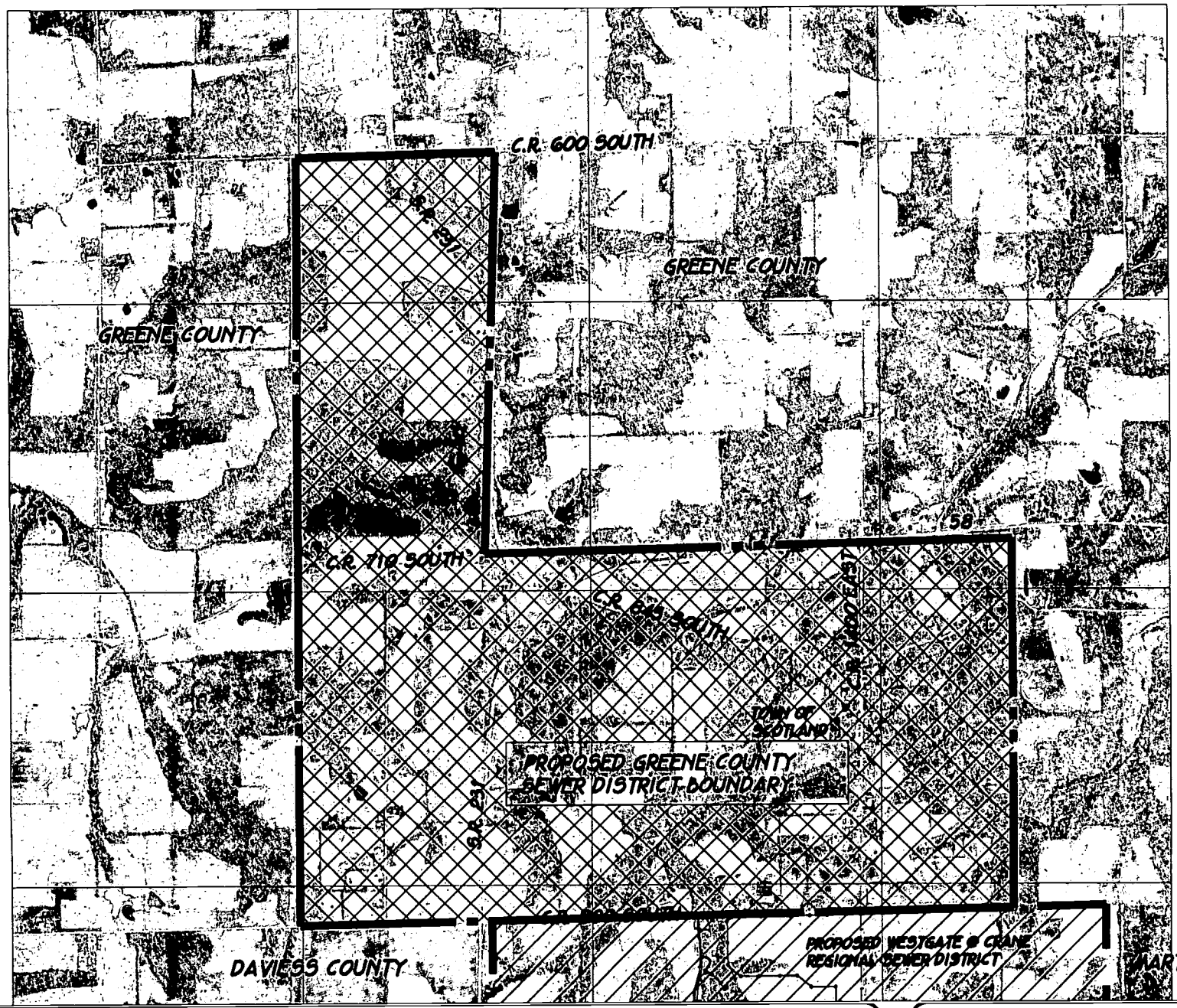
BYNUM FANYO & ASSOCIATES, INC.
528 North Walnut Street
Bloomington, Indiana 47404

CHAPTER TWO
CURRENT SITUATION

The WestGate @ Crane Technology Park is located in parts of Greene, Daviess and Martin Counties. The WestGate @ Crane Technology Park holds Certified Technology Park status from the Indiana Economic Development Corporation. The State of Indiana has authorized the distribution of up to $10 million to Westgate @ Crane Authority from incremental state income tax and sales tax revenues generated within the Park to be used to promote economic development. The Technology Park is adjacent to the west entrance to the Crane Naval Surface Warfare Center (NSWC) and is managed by the Westgate @Authority. The Crane Naval Surface Warfare Center is a military base comprised of 100 square miles located in Martin and Greene Counties. The Technology Park has been established to locate support contractors and resources adjacent to the base but outside the naval base property. The Technology Park currently consists of seven buildings and approximately 420 employees in Greene, Daviess and Martin Counties. A proposed master plan for the park calls for the addition of another 30 buildings including a hotel and conference/training center. The Economic Development Administration has approved a $6.6 million grant for the training center. It is currently under design and construction should begin in the fall of 2011. There are also other parcels within the technology park and surrounding area that will be developed as commercial and residential projects. The Westgate Authority has been authorized by the Daviess and Martin County Councils to form a regional sewer district to serve the Daviess and Martin County's portions of the technology park with flow being treated by Crane NSWC.

The Greene County Board of Commissioners has recently applied for funding from the Office of Community and Rural Affairs for a project to provide sanitary sewer service for the Scotland Community. As noted earlier, Scotland is an unincorporated community consisting of 54 homes, 3 commercial buildings, a church and community center. The platted lot sizes within Scotland range from 40' x 100' to 60' x 120'. The homes utilize on-site septic tanks with absorption fields as their means of wastewater disposal. The small lot sizes and age of the existing fields create an unhealthy environment for residents. The Greene County Redevelopment Commission has committed to providing $ 408,676.00 as the local match to help the project qualify for the OCRA funding.

The Greene County Redevelopment Commission has taken the initiative to fund the design and construction of a wastewater treatment facility to serve this area. The Redevelopment Commission has purchased 62.4 acres in Daviess County south of County Road 800 S of which two acres will be set aside for the treatment plant. The wastewater treatment plant will be a 50,000 gallon per day extended aeration plant and will discharge to an unnamed tributary of Stone Branch Creek. The construction permit for the treatment plant was approved on February 7, 2011 by the Indiana Department of Environmental Management with bids to be received on March 17, 2011. The plant construction will be funded by the Greene County Redevelopment Commission from TIF revenues. The Greene County Regional Sewer District will initially serve the Scotland community, the portion of the WestGate Technology Park located in Greene County, and the existing homes along the north side of County Road 800 S for a total of 67 initial customers.



NORTH

FIGURE 2-1
PROPOSED
GREENE COUNTY REGIONAL SEWER DISTRICT
PROJECT LOCATION

Date: 03/01/11 SCALF: 1=2400

Project No: 401108

BYNUM FANYO & ASSOCIATES, INC.
528 North Walnut Street
Bloomington, Indiana 47404

CHAPTER THREE
FUTURE SITUATION

In addition to the community of Scotland, the portion of the WestGate Technology Park located in Greene County and the existing homes along the north side of County Road 800S, the Greene County Regional Sewer District will serve new development at the I-69 and US 231 interchange, new development at the 34 acre parcel located at the US 231 and County Road 800 S intersection and the continued development of the 52 acre county owned site in the Technology Park. The Greene County Redevelopment Commission has issued bonds for the construction of a lift station and force main to serve development at the I-69 and US 231 interchange and the construction of a lift station and force main to serve the county's 34 acre tract of property located at the Northeast corner of the intersection of US 231 and County Road 800 S. The 52 acre tract of property owned by Greene County in the Technology Park located along County Road 200E currently has sewer in place to connect to the treatment plant.

The I-69 /US 231 intersection will be a major interchange for the area serving the Crane NSWC. This area will develop quickly once the interstate is completed in 2013. The owner of a 154 acre tract of ground adjacent to the interchange contacted the Greene County Redevelopment Commission in 2010 concerning plans to develop this parcel. The Greene County Redevelopment Commission has been working with the INDOT contractor for this section of I-69 to install a casing pipe under the new highway to provide sanitary sewer service for this area. The current proposal will include restaurants, office space, a hotel, a truck stop and additional service industries for the area. A lift station and force main will provide sewage treatment for this area by pumping back to the wastewater treatment plant being constructed in 2011.

The 34 acre parcel located at the intersection of US 231 and County Road 800S is owned and being marketed by Greene County. This parcel has been schematically designed to include a hotel, restaurant, convenience store, office buildings and a bank. The parcel will be served by a lift station and force main to pump flow to the treatment plant. The lift station is currently under design and scheduled to be constructed in 2012.

The 52 acre site owned by Greene County and within the Technology Park will have an office building completed in 2011 now that roads and utility infrastructure have been completed. This site will be developed into office building and light manufacturing facilities in the same manner as the current facilities located within Daviess and Martin Counties section of the Technology Park. The site has an existing gravity sewer and will not require any additional construction.

The WestGate @ Crane Technology Park, operated by the WestGate Authority, currently has seven existing buildings with approximately 420 employees located in Greene, Daviess and Martin Counties. The WestGate Authority is in the process of proposing a regional sewer district for Daviess and Martin Counties for an area that encompasses approximately 836 acres. The initial average daily flow estimates for the Technology Park as determined by Civil Site Group Inc. and Bernardin Lochmueller & Associates, Inc. are 44,200 and 46,750 gallons per day.

The current wastewater treatment for Westgate Authority is provided through a Utility Sales Contract with Crane NSWC, which allows for treatment of a maximum of 44,200 gallons per day. Under the terms of the Contract, when service is available and adequate from any private or other public source, the Westgate Authority will be obligated to obtain sewer service from the other provider. Therefore it is anticipated that the portions of Daviess and Martin Counties within the technology park and the additional area in the proposed regional sewer district will be served by the Greene County Regional Sewer District at a later date.

The Town of Crane is located in the far northwestern portion of Martin County and is adjacent to the WestGate @ Crane Technology Park. The Town has recently applied for and received a grant from the Office of Community and Rural Affairs to replace its aging sanitary sewer collection system. The project has been designed and the Town will accept bids on March 21, 2011. The project is scheduled to be completed within six months. The Town of Crane has 96 customers and receives wastewater treatment from the Crane Naval Surface Warfare Center (NSWC). The Town of Crane has a similar agreement with the Crane NSWC for sewage treatment and most likely will also connect to the Greene County Regional Sewer District at some time in the future.

The wastewater treatment plant has been designed to treat an average design flow of 50,000 gallons per day with a peak flow of 125,000 gallons per day. The initial plant construction has been designed to expand the plant to an average flow of 100,000 gallons per day. The potential for growth of the Technology Park and surrounding areas is expected to require the expansion in approximately ten to fifteen years.

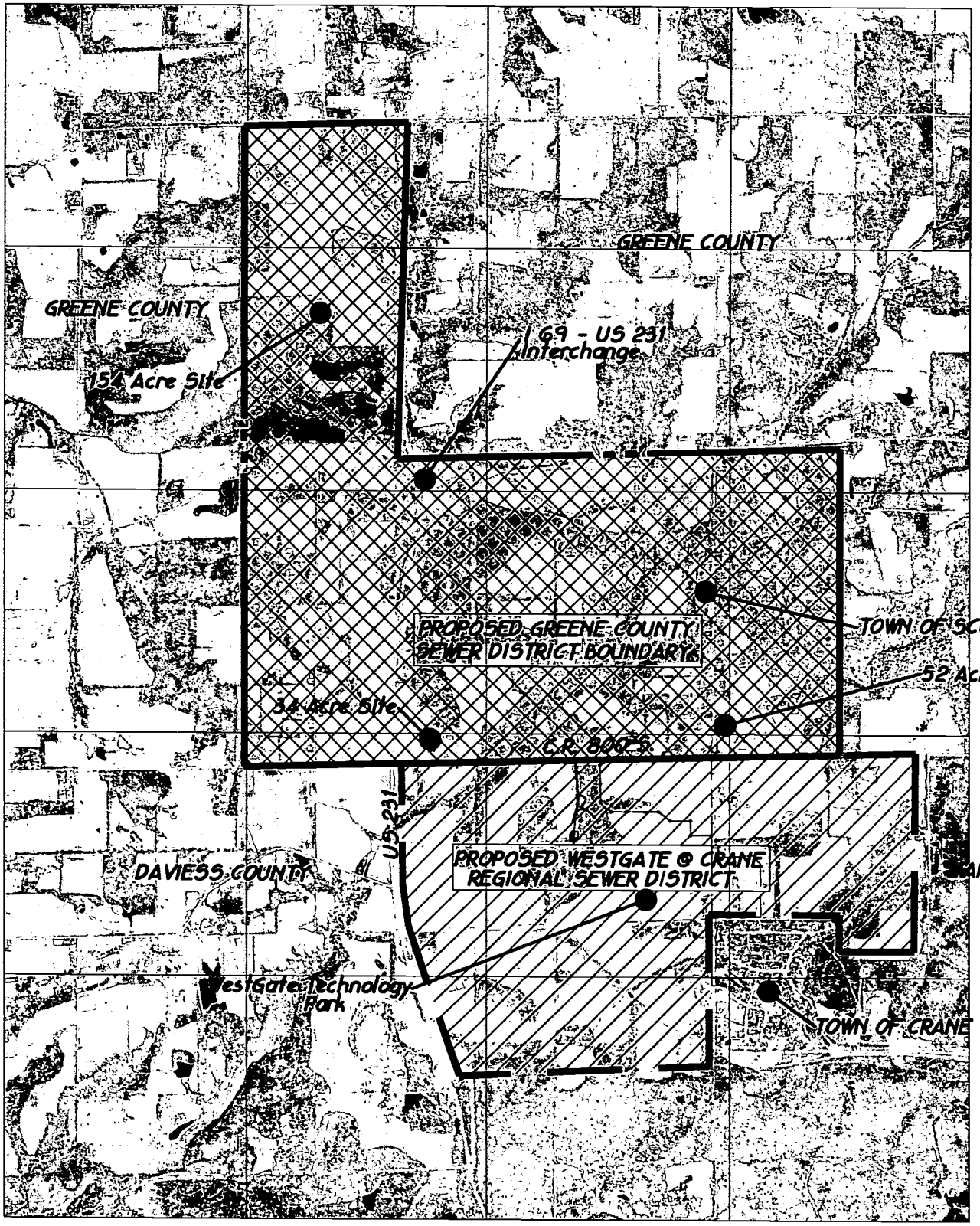


FIGURE 3-1
PROPOSED
GREENE COUNTY REGIONAL SEWER DISTRICT
SEWER DISTRICT REFERENCE MAP

NORTH

SCALE = 1:2400

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528 North Walnut Street
Bloomington, Indiana 47404

CHAPTER FOUR
EVALUATION OF ALTERNATIVES

The Greene County Redevelopment Commission reviewed different alternatives to provide wastewater treatment for the area. The Commission considered the following alternatives:

- No Action – Continue to discharge to the Crane NSWC
- Constructed Wetland
- Extended Aeration Mechanical System

No Action

The Greene County Redevelopment Commission discussed the continued reliance upon Crane NSWC for treatment of the wastewater generated by the WestGate Technology Park and the adjacent areas. The contractual agreement with Crane NSWC has a maximum capacity of 44,200 gallon per day with the technology park using only five per cent of the allowable capacity at this time. However with development expected to increase significantly over the next few years, the Greene County Redevelopment Commission determined that there was a need to develop a stable and reliable source of wastewater treatment to permit continued expansion of the Technology Park

Constructed Wetland Treatment Alternative

The Greene County Redevelopment Commission hired the firm of Bernardin Lochmueller & Associates to prepare an engineering report utilizing constructed wetland technology to provide wastewater treatment for the area. The eco-treatment system as provided in the report to the Commission consisted of a subsurface-flow constructed wetland, a vegetated re-circulating gravel filter lying atop a subsurface-flow constructed wetland and a soil absorption system (preferably a drip irrigation system). The subsurface-flow constructed wetland would be a man-made gravel bed with a synthetic liner planted with wetland species. Wastewater then flows below the gravel. These types of facilities recreate the complex biological pollutant removal processes which occur in natural wetlands and are relatively simple to operate. Constructed wetlands can provide treatment of wastewater with little energy usage, no chemicals, and very few operational and mechanical requirements. Wastewater which passes through the constructed wetland is then pumped to a vertical-flow gravel filter which further reduces the pollutants. The water passing through the filter returns to the constructed wetland. Final effluent will be disposed of using a drip irrigation system.

Extended Aeration Mechanical System

A mechanical extended aeration type activated sludge process is widely used for small communities. Aeration basins mix the wastewater and grow a bacterial population that consumes pollutants. This mixture is termed activated sludge. Clarifiers follow the aeration basins and clarify the treated wastewater by removing the bacteria from the water which are then either returned back to the aeration basin or wasted for further treatment. A digester is necessary to further reduce the volume of wasted activated sludge. Finally this sludge will need to be disposed of offsite to a treatment facility with additional sludge handling capabilities or land applied to farm fields as another method of disposal. The effluent from the treatment process is then disinfected using either chlorination or ultra violet disinfection. The disinfected effluent is then aerated and discharged into the environment.

ALTERNATIVE CONSTRUCTION COST ESTIMATES

Constructed Wetlands System

Constructed Wetlands System	
Description	**Total Amount**
Eco-Treatment System (50,000 gpd)	$1,200,000.00
Site Work	$48,000.00
Piping	$36,000.00
Electrical	$60,000.00
Mobilization / Demobilization	$24,000.00
Clearing	$25,000.00
Mechanical Building	$150,000.00
Erosion Control - Silt Fence / Rip Rap	$1,500.00
Subtotal	$1,544,500.00
Contingency @ 10%	$154,450.00
Total Construction Costs	$1,698,950.00

Extended Aeration Mechanical System

Mechanical Wastewater Treatment Plant	
Description	**Total Amount**
Package Plant (50,000 gpd)	$372,000.00
Site Work	$50,000.00
Piping	$60,000.00
Lift Station	$105,000.00
Mobilization / Demobilization	$8,000.00
Grinder Structure	$60,000.00
Ultra-Violet Disinfection	$32,000.00
Post Aeration	$28,500.00
Lab/Blower Building	$255,000.00
Erosion Control - Silt Fence / Rip Rap	$1,500.00
Subtotal	$972,000.00
Contingency @ 10%	$97,200.00
Total Construction Costs	$1,069,200.00

Recommended Alternative

The Greene County Redevelopment Commission reviewed the options and determined the "Do Nothing" alternative was not an option for the long term growth potential of the technology park. The Commission was very receptive to the constructed wetlands option. This option utilized green technology as a solution to the treatment issue. However, the initial cost of the construction of the wetlands and the extensive amount of suitable land required for a wetlands system, caused the Commission to select the extended aeration mechanical system option as the preferred option. This extended aeration mechanical treatment plant has proven to be a reliable system and can be easily expandable to meet future needs.

CHAPTER FIVE
FINANCING AND PROPOSED RATES

The Greene County Redevelopment Commission has issued a Tax Increment Revenue Bond Anticipation Note, a portion of which will be utilized to fund the cost of construction for the wastewater treatment plant, the Scotland sewer system, the construction of a lift station and force main to serve development at the I-69 and US 231 interchange, the construction of a lift station and force main to serve the county's 34 acre tract of property located at the northeast corner of the intersection of US 231 and County Road 800S. The amounts approved for the various projects are as follows:

Wastewater Treatment Plant and Collection System	$ 1,500,000.00
Scotland Community Sewer System Construction	$ 408,676.00
I 69 and US 231 Regional Lift Station	$ 365,000.00
Greene County 34 Acre Site – US 231 & CR 800 S	$ 300,000.00

Greene County Regional Sewer District
Treatment Rate Estimate
February 28, 2011

Annual Operations Costs		Allocated Costs	Usage Factor	Charge
Administration & Billing		$2,400.00	804	$2.99
Collection System Maintenance				
Purchased Power	$1,000.00			
System Maintenance	$1,300.00			
Lift Station Maintenance	$1,500.00			
Replacement Costs	$1,000.00			
		$4,800.00	804	$5.97
Scotland Collection System Debt		$0.00	67	$0.00
(Funded thru OCRA & Redevelopment Commission)				
Treatment Plant O& M (Flow)				
Purchase Power	$17,000.00			
System Operations	$50,000.00			
NPDES Testing	$4,500.00			
Replacement Costs	$5,000.00			
Administrative	$3,600.00			
Permitting Per Year	$800.00			
		$80,900.00	6,114	$13.23
Initial Area Customer Base		67		
Average GPD per Customer = 65				
	Users	GPD	Gallons per Year/1000	
Flow Calculation per Year	67	250	6,114	
		Cost Per 1000	4000 Gallons	Charge
Flow Charge for 4000 Gallons per Month		$13.23	4	$52.93
Base Charge per Month per User				$8.96
Charge per Customer per Month - 4000 Gallons Usage				**$61.89**

Table 5-1

CHAPTER SIX
PUBLIC PARTICIPATION

Public participation plays a key role in the creation of a sewer district. Greene County will hold a public meeting to ensure that the public has been fully informed of the nature and needs of the proposed district, has had the opportunity to express their concerns with the planning, and has reviewed the final report.

Greene County held a public hearing on the proposed sewer district on _____2011, in the Commissioners Meeting Room at the Greene County Courthouse, Bloomfield, Indiana. The Public Hearing was advertised in the _____. A copy of the legal notice and proof of publication is included in Appendix B.

The public hearing presented an overview of the Preliminary Engineering Report, the nature of proposed sewer district and the financial aspects. A copy of the attendance sheet is also included in Appendix B.

APPENDIX A

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.

Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

June 4, 2010

Mr. Don Humphrey, P.E.
Foresight Engineering
1402 N. Capital Avenue, Suite 250
Indianapolis, Indiana 46202

Dear Mr. Humphrey:

Re: Proposed Greene County Redevelopment Commission WWTP
Daviess County

This letter is in response to your May 20, 2010 request for preliminary effluent limitations for a proposed new Wastewater Treatment Plant (WWTP) to serve the unincorporated towns of Scotland and Crane, as well as the Westgate TechPark commercial development. The proposed new facility would be of a bio-mechanical design. The average design flow of the facility is proposed to be up to 0.10 MGD. The proposed discharge location is to an unknown tributary to Stone Branch. The $Q_{7,10}$ of the unknown tributary is 0.0 cfs. **This letter also serves as notification that supplemental information is required to fully evaluate the proposed discharge. Construction and NPDES permitting may not proceed until the supplemental information specified herein has been submitted to, and been preliminarily approved by, this Office.**

Preliminary effluent limitations are impacted by numeric and narrative water quality criteria as well as antidegradation requirements. Current Indiana Water Quality Standards at 327 IAC 2-1-2(2) contain a provision which requires that all high quality waters (water bodies that meet water quality standards) be maintained in their present high quality unless, and until, it is affirmatively demonstrated to the commissioner that limited degradation of such waters is justifiable on the basis of necessary economic or social factors... This requirement is commonly referred to as antidegradation. (Separate rules presently exist for discharges to the Great Lakes Basins, and future rulemaking is also anticipated to make antidegradation rules consistent statewide). The antidegradation rules for Indiana are based on the Federal antidegradation regulations found at 40 CFR 131.12.

Before approving a new discharge of treated wastewater, alternatives to the proposed discharge must be evaluated to satisfy antidegradation requirements. If this office makes a preliminary determination that the new discharge is necessary on the basis of economic or social factors, the effluent limitations contained herein (developed to minimize the potential lowering of

water quality) may be utilized for construction and NPDES permitting. If this office determines the discharge is not necessary on the basis of economic or social factors, the proposed new discharge will not be allowed, and construction and NPDES permits will not be issued.

The following additional information is required:

(1) A technical and financial analysis of alternatives that would not result in the need for a proposed new discharge including, but not limited to, connection to an existing wastewater treatment facility and land application of wastewaters.

(2) An evaluation of factors (a) through (o) listed below as applicable to your situation. In accordance with Indiana Code IC 13-18-3-2, the commissioner shall consider the following factors in determining whether a proposed discharge is necessary to accommodate important economic or social development in the area in which the waters are located under antidegradation standards and implementation procedures:

(a) Creation, expansion, or maintenance of employment.
(b) The unemployment rate.
(c) The median household income.
(d) The number of households below the poverty level.
(e) Community housing needs.
(f) Change in population.
(g) The impact on the community tax base.
(h) Provision of fire departments, schools, infrastructure, and other necessary public services.
(i) Correction of a public health, safety, or environmental problem.
(j) Production of goods and services that protect, enhance, or improve the overall quality of life and related research and development.
(k) The impact on the quality of life for residents in the area.
(l) The impact on the fishing, recreation, and tourism industries.
(m) The impact on threatened and endangered species.
(n) The impact on economic competitiveness.
(o) Additional factors that may enhance the social or economic importance associated with the proposed discharge, such as:
  (i) An approval that recognizes social or economic importance; and is given to the applicant by a legislative body or other government officials.
  (ii) Any other action or recommendation relevant to the antidegradation demonstration made by a:
    (A) state;
    (B) county;
    (C) township; or
    (D) municipality;
  potentially affected by the proposed discharge.

In determining whether a proposed discharge is necessary to accommodate important economic or social development in the area in which the waters are located under antidegradation standards and implementation procedures, the commissioner will give substantial weight to any applicable determinations by governmental entities.

If this office makes a preliminary determination that the proposed new discharge is necessary, then construction and NPDES permitting may proceed with the understanding that a final determination will not be made until public input for antidegradation has been considered. This office will seek public input for antidegradation during the public participation process for the issuance of the NPDES permit. **It should be noted that the public participation process and/or permit appeal process included in the rules for the issuance of NPDES permits could alter (and possibly make more stringent) the limits that are established in the final NPDES permit.**

Preliminary Effluent Limitations for Sanitary-Type Wastewater

TABLE 1

	Summer		Winter		
Parameter	Monthly Average	Weekly Average	Monthly Average	Weekly Average	Units
$CBOD_5$	10	15	10	15	mg/l
TSS	12	18	12	18	mg/l
Ammonia-nitrogen	1.1	1.6	1.6	2.4	mg/l

TABLE 2

Parameter	Daily Minimum	Daily Maximum	Monthly Average	Units
pH	6.0	9.0	-----	s.u.
Dissolved Oxygen	6.0	-----	-----	mg/l
*E. coli****	----	235	125	count/100 mls

The effluent flow must be measured. The mass limits for $CBOD_5$, NH_3-N, and TSS are calculated by multiplying the average design flow (in MGD) by the concentration value and by 8.345. Summer effluent limits apply from May 1 through November 30 of each year. Winter effluent limits apply December 1 through April 30 of each year.

***The effluent limitations for *E. coli* are 125 colonies/100 ml as a monthly average calculated as a geometric mean and 235 colonies/100 ml as a daily maximum. Ultraviolet light disinfection or disinfection by other non-halogen compounds is required as a consideration in antidegradation. Disinfection by chlorination or other halogen compounds will require the applicant to demonstrate that disinfection by ultraviolet light is either not technically feasible or that it is not affordable.

If the preliminary effluent limitations specified above are not acceptable to the discharger, then alternate limitations may be pursued. To pursue alternate limitations, an assessment of alternative feasible treatment technologies comparing the expected effluent concentrations with the expected capital and maintenance costs for each alternative, and the corresponding expected new or increased loading above the level generated by the effluent limits specified above must be submitted for review. The assessment must also include an affordability analysis and justification for selecting the most cost-effective treatment plant design that is affordable. In no case will limitations be approved which will result in exceedances of State water quality standards.

If there are any questions regarding antidegradation requirements, please contact Mr. Steve Roush at 317/233-5747.

If there are any questions regarding design requirements of the construction permit, please contact Mr. Don Worley at 317/232-5579. The NPDES permit will not be issued until the construction permit is finalized.

If there are any questions regarding the NPDES permit requirements, please feel free to contact Leigh Voss of my staff at 317/232-8698.

Sincerely,

Jerry Dittmer, Chief
Municipal NPDES Permits Section
Office of Water Quality

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.

Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

January 19, 2011

Mr. Don Humphrey, PE
Foresight Engineering
1402 N. Capital Ave., Suite 250
Indianapolis, Indiana 46202

Dear Mr. Humphrey:

Re: Antidegradation Assessment
Proposed Greene County Redevelopment
Commission WWTP
Greene County

Preliminary effluent limitations for the proposed Greene County Redevelopment Commission WWTP were sent to your attention on June 4, 2010. Included in that letter was a requirement to provide supplementary information to fully address the antidegradation requirements of 327 IAC 2-1-2 and the recent statutory changes to IC 13-18-3-2, et al. The requested supplementary information was received by this office on November 26, 2010.

This office has conducted an antidegradation assessment utilizing the supplementary materials submitted, and finds the information sufficient to proceed with construction and NPDES permitting. The design of the facility should ensure treatment levels sufficient to consistently meet the effluent limitations established in the June 4, 2010 preliminary effluent limitations letter (see attached). A final determination will not be made until public input for antidegradation has been considered. This office will seek public input for antidegradation during the public participation process for the issuance of the NPDES permit. **It should be noted that the public participation process and/or permit appeal process included in the rules for the issuance of NPDES permits could preclude the issuance of a permit, or alter (and possibly make more stringent) the limits that are established in the final NPDES permit.**

If there are any questions regarding antidegradation requirements, please contact Mr. Steve Roush at 317/233-5747.

If there are any questions regarding design requirements of the construction permit, please contact Mr. Don Worley at 317/232-5579. The NPDES permit will not be issued until the construction permit is finalized.

If there are any questions regarding the NPDES permit requirements, please feel free to contact Leigh Voss of my staff at 317/232-8698.

Sincerely,

Jerry Dittmer, Chief
Municipal NPDES Permits Section
Office of Water Quality

Enclosure

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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February 7, 2011

2-8-11

VIA CERTIFIED MAIL 91 7190 0005 2710 0011 3238

Greene County Redevelopment Commission
c/o Marilyn Hartman, Attorney
44 South Franklin Street
Bloomfield, Indiana 47424

Dear Applicant:

Re: 327 IAC 3 Construction
Permit Application
Plans and Specifications for
Division A-Sanitary Sewer Collection System @
Westgate Technology Park
Division B-Greene County Wastewater Treatment
Plant (WWTP)
Permit Approval No. 19901
Daviess County, Indiana

The application, plans and specifications, and supporting documents for the above-referenced project have been reviewed and processed in accordance with rules adopted under 327 IAC 3. Enclosed is the Construction Permit (Approval No. 19901), which applies to the construction of the above-referenced proposed water pollution treatment/control facility to be located southwest of the intersection of C.R. 1700 N and C.R. 200 E (sanitary sewer) and ending at the proposed Wastewater Treatment Plant (WWTP) to be located approximately 2,500 feet west of C.R. 200 E and 1,200 feet south of C.R. 1700 N, Daviess County, Indiana.

Please review the enclosed permit carefully and become familiar with its terms and conditions. In addition, it is imperative that the applicant, consulting architect/engineer (A/E), inspector, and contractor are aware of these terms and conditions.

It should be noted that any person affected or aggrieved by the agency's decision in authorizing the construction of the above-referenced facility may, within fifteen (15) days from date of mailing, appeal by filing a request with the Office of Environmental Adjudication for an adjudicatory hearing in accordance with IC 4-21.5-3-7 and IC 13-15-6. The procedure for appeal is outlined in more detail in Part III of the attached construction permit.

Plans and specifications were prepared by Bynum, Fanyo & Associate, Inc. and Foresight Engineering, and certified by Mr. Jeffrey S. Fanyo, P.E, and Mr. Donald R. Humphrey, P.E., and submitted for review on September 24, 2010, with additional information submitted on December 2, 2010, January 24, and January 26, 2011.

Any questions concerning this permit may be addressed to Mr. Matthew Florczyk, of our staff, at 317/232-8664. Questions concerning appeal procedures should be addressed to the Office of Environmental Adjudication, at 317/232-8591.

Sincerely,

Dale T. Schnaith, Chief
Facility Construction and
Engineering Support Section
Office of Water Quality

MJF/pb
Project No. P-20105
Enclosures
cc: Daviess County Health Department
Daviess County Commissioner
Jerry Dittmer, IDEM
Marty Blake, INDOT
Jack Delaney, Chicago Airports District Office
Bynum Fanyo & Associates, Inc.
Foresight Engineering
Mary Ann Arford
Paul & Linda Blasko
David & Sharon Brasseru
Phyllis Koch
Hoosier Energy Rural Elec. Corp.
Charles Dobson
Florence Dove
Judeanne Murphy
Phillip Montgomery
Jeffrey & Mary Trout
Laurinda Walker
Greene Co. Auditor
Gary Byrd
John & Wana P. Hasler
Daviess County Economic Dev. Foundation Inc.
Greene County Commissioners

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
AUTHORIZATION FOR CONSTRUCTION OF
WATER POLLUTION TREATMENT/CONTROL FACILITY
UNDER 327 IAC 3

DECISION OF APPROVAL

Greene County Redevelopment Commission, in accordance with the provisions of IC 13-15 and 327 IAC 3 is hereby issued a permit to construct the water pollution treatment/control facility to be located southwest of the intersection of C.R. 1700 N and C.R. 200 E (sanitary sewer) and ending at the proposed Wastewater Treatment Plant (WWTP) to be located approximately 2,500 feet west of C.R. 200 E and 1,200 feet south of C.R. 1700 N, Daviess County, Indiana. The permittee is required to comply with requirements set forth in Parts I, II and III hereof. The permit is effective pursuant to IC 4-21.5-3-4(d). If a petition for review and a petition for stay of effectiveness are filed pursuant to IC 13-15-6, an Environmental Law Judge may be appointed for an adjudicatory hearing. The force and effect of any contested permit provision may be stayed at that time.

NOTICE OF EXPIRATION DATE

This permit and the authorization to initiate construction of this pollution treatment/control facility shall expire at midnight March 1, 2012. In order to receive authorization to begin construction beyond the date of expiration, the permittee shall submit such information and forms as are required by the Indiana Department of Environmental Management at least sixty (60) days prior to the expiration date.

Signed this 7th day of February, 2011, for the Indiana Department of Environmental Management.

Dale T. Schnaith, Chief
Facility Construction and
Engineering Support Section
Office of Water Quality

WATER POLLUTION TREATMENT/CONTROL FACILITY DESCRIPTION

The Greene County Redevelopment Commission project is located in Daviess County, Indiana. Currently the area has no sewer system. All residences are using septic tanks and absorption fields for waste disposal.

The Greene County Redevelopment Commission proposes to construct approximately 5,240 feet of 8-inch diameter (PVC, SDR 35, ASTM D3034), 182 feet of 8-inch diameter (Ductile Iron, D.I.), 386 feet of 12-inch diameter (PVC, SDR 35, ASTM D3034) and 107 feet of 12-inch diameter (Ductile Iron, D.I.) sanitary sewer; 427 feet of 4-inch diameter (PVC, SDR 21, ASTM D2241) force main, one lift station with two submersible type pumps each rated at 126 gpm at 52 feet TDH, and an extended aeration wastewater treatment facility with an average design flow of 50,000 gpd and peak design flow of 125,000 gpd. The proposed project will provide sanitary sewer service to 55 single family homes, Westgate Office Park and Conference Center, one church and three commercial buildings with an expected average flow of 45,370 gpd.

The proposed new wastewater treatment plant (WWTP) will consist of the following:

- One channel type sewage grinder rated @ 335 gpm with manual bar-screen by-pass
- One 17,953 gallon aerated equalization tank along with two submersible-type pumps (each rated at 80 gpm at 14 feet TDH)
- Two 28,830 gallon (each) concrete aeration tanks along with fine bubble air diffusers, return sludge piping, return sludge control box and scum piping. The aeration tanks are approximately 70% of the outer portion of a 35 feet diameter tank with the interior 14 feet diameter being a secondary clarifier
- One concrete circular final clarifier along with rotating rake arms and return sludge airlift
- One 18,170 gallon concrete aerated sludge holding tank
- One horizontal ultraviolet (UV) type disinfection system
- One 2,782 gallon post-aeration tank with ultrasonic type effluent flow meter
- One building to house plant controls, laboratory, three air blowers, one standby engine generator along with restroom and storage facilities.
- New plant controls, new yard piping, site modifications, site fence, electrical and other miscellaneous work to complete the project

Inspection during construction will be provided by Bynum Fanyo & Associates. Maintenance after project completion will be provided by Greene County Redevelopment Commission.

CONDITIONS AND LIMITATIONS TO THE AUTHORIZATION FOR

CONDITIONS AND LIMITATIONS TO THE AUTHORIZATION FOR CONSTRUCTION OF WATER POLLUTION TREATMENT/CONTROL FACILITY

During the period beginning on the effective date of this permit and extending until the expiration date, the permittee is authorized to construct the above described water pollution treatment/control facility. Such construction shall conform to all provisions of State Rule 327 IAC 3 and the following specific provisions:

PART I

SPECIFIC CONDITIONS AND LIMITATIONS TO THE CONSTRUCTION PERMIT

Unless specific authorization is otherwise provided under the permit, the permittee shall comply with the following conditions:

1. All local permits shall be obtained before construction is begun on this project.

2. If pollution or nuisance conditions are created, immediate corrective action will be taken by the permittee.

3. Additional treatment facilities shall be installed if the proposed facilities prove to be inadequate or cannot meet applicable federal or state requirements.

4. If construction is located within a floodway, a permit may also be required from The Department of Natural Resources prior to the start of construction. It is the permittee's responsibility to coordinate with that agency and obtain any required approvals if applicable. Questions may be directed to the Technical Services Section, Division of Water at 317/232-4160.

5. If this project includes a change in design flow, addition of new treatment unit(s), or modification/removal of existing treatment unit(s), an NPDES Permit modification will likely be required. This would include any CSO treatment addition/modification. Questions may be directed to the NPDES Permit Section, Office of Water Quality at 317/233-0469.

6. After construction and before start up of the sewage treatment facilities, the Commissioner shall be notified of the date of start up and the name of the properly certified operator in responsible charge.

7. Technical supervision, by a certified operator, shall be provided for operation and control of the wastewater treatment facilities and monthly reports of operation shall be submitted to the Department of Environmental Management.

8. The name of the certified operator (Class I) in responsible charge shall be submitted to this office, and the operator must file monthly monitoring reports with this office in accordance with 327 IAC 5-2-15.

9. Greene County Redevelopment Commission must submit an application for a National Pollutant Discharge Elimination System permit at least 180 days in advance of any discharge.

10. Analysis of the necessary wastewater parameters must be provided, either by in-house laboratory equipment or by contract with an outside laboratory.

11. Plans for sewer construction under streams shall be submitted to the Department of Natural Resources for consideration of approval prior to the start of construction.

12. An audio-visual alarm shall be installed for the proposed lift station.

13. The separation of sanitary sewers from water mains and drinking water wells must comply with 327 IAC 3-6-9.

14. All gravity sewer pipe must be leak tested using either a hydrostatic test or air test in accordance with 327 IAC 3-6-19(d). If using a hydrostatic test, the rate of exfiltration or infiltration shall not exceed 200 gallons per inch of pipe diameter per linear mile per day. Air tests shall be as prescribed.

15. The results of the gravity sewer leakage test and/or force main leakage test on the completed sewer must be submitted to this office within three months of completion of construction.

16. Air relief valves shall be installed at high points in the force main.

17. A drop pipe must be provided for all sewers entering a manhole at an elevation of 24 inches or more above the manhole invert.

18. All force mains must be pressure and leak tested in accordance with 327 IAC 3-6-19(e).

19. Deflection tests must be performed on all flexible pipe after the final backfill has been in place at least 30 days. No pipe shall exceed a vertical deflection of 5%. Deflection test results shall be submitted with the infiltration/exfiltration test results. (The following are considered nonflexible pipes: vitrified clay pipe, concrete pipe, ductile iron pipe, cast iron pipe, asbestos cement pipe.)

20. Manholes shall be air tested in accordance with ASTM C1244-93, Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test. The manhole test results shall be submitted with the gravity sewer leakage test results.

Failure to meet guidelines as set forth in the above conditions could be subject to enforcement proceedings as provided by 327 IAC 3-5-3.

PART II

GENERAL CONDITIONS

1. No significant or material changes in the scope of the plans or construction of this project shall be made unless the following provisions are met:

   a. Request for permit modification is made 60 days in advance of the proposed significant or material changes in the scope of the plans or construction;

   b. Submit a detailed statement of such proposed changes;

   c. Submit revised plans and specifications including a revised design summary; and

   d. Obtain a revised construction permit from this agency.

2. This permit may be modified, suspended, or revoked for cause including, but not limited to the following:

   a. Violation of any term or conditions of this permit;

   b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts.

3. Nothing herein shall be construed as guaranteeing that the proposed water pollution treatment/control facility shall meet standards, limitations or requirements of this or any other agency of state or federal government, as this agency has no direct control over the actual construction and/or operation of the proposed project.

PART III

APPEALS PROCEDURE

Anyone wishing to challenge this agency's decision for authorizing the construction of this facility may do so, provided that a petition for administrative review is filed as required by IC 4-21.5-3-7. The petition must be submitted within fifteen (15) days of the date of mailing of this permit notification. The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by this decision, or otherwise entitled to review by law. Additionally, IC 13-15-6-2 requires that your petition include:

1. The name and address of the person making the request;

2. The interest of the person making the request;

3. Identification of any persons represented by the person making the request;

4. The reasons, with particularity, for the request;

5. The issues, with particularity, proposed for consideration at the hearing; and

6. Identification of the permit terms and conditions which, in the judgement of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing permits of the type granted or denied by the Assistant Commissioner's action.

7. Pursuant to IC 4-21.5-3-1(f), any document serving as a petition for review or review and stay must be filed with the Office of Environmental Adjudication. Filing of such a document is complete on the earliest of the following dates:

   a. The date on which the petition is delivered to the Office of Environmental Adjudication, Indiana Government Center North, 100 North Senate Avenue, Room 501, Indianapolis, Indiana 46204;

   b. The date of the postmark on the envelope containing the petition, if the petition is mailed by United States mail; or

   c. The date on which the petition is deposited with a private carrier, as shown by a receipt issued by the carrier, if the petition is sent by private carrier.

Checklist for Construction Project
Design Summary

I. General

1. Applicant: Greene County Redevelopment Commission

2. Project Name and Location: Division A-Sanitary Sewer Collection System
Division B-Greene County Wastewater Treatment Plant @ Westgate Technology Park in Daviess County, Indiana

3. Engineer (Consultant): Foresight Engineering and Bynum Fanyo & Associates

4. NPDES Permit Number: Pending issuance for new discharge

   Note: A letter with Preliminary Effluent Limitations for the proposed Greene County Redevelopment Commission WWTP was issued on June 4, 2010.

5. Remarks

   A. Description of Present Situation: The Greene County Redevelopment Commission project is located in Daviess County, Indiana. Currently the area has no sewer system. All residences are using septic tanks and absorption fields for waste disposal.

   B. Description of Proposed Facilities: The Greene County Redevelopment Commission proposes to construct approximately 5,240 feet of 8-inch diameter (PVC, SDR 35, ASTM D3034), 182 feet of 8-inch diameter (Ductile Iron, D.I.), 386 feet of 12-inch diameter (PVC, SDR 35, ASTM D3034) and 107 feet of 12-inch diameter (Ductile Iron, D.I.) sanitary sewer; 427 feet of 4-inch diameter (PVC, SDR 21, ASTM D2241) force main, one lift station with two submersible type pumps each rated at 126 gpm at 52 feet TDH, and an extended aeration wastewater treatment facility with an average design flow of 50,000 gpd and peak design flow of 125,000 gpd. The proposed project will provide sanitary sewer service to 55 single family homes, Westgate Office Park and Conference Center, one church and three commercial buildings with an expected average flow of 45,370 gpd.

      The proposed new wastewater treatment plant (WWTP) will consist of the following:

      - One channel type sewage grinder rated @ 335 gpm with manual bar-screen by-pass

- One 17,953 gallon aerated equalization tank along with two submersible-type pumps (each rated at 80 gpm at 14 feet TDH)
- Two 28,830 gallon (each) concrete aeration tanks along with fine bubble air diffusers, return sludge piping, return sludge control box and scum piping. The aeration tanks are approximately 70% of the outer portion of a 35 feet diameter tank with the interior 14 feet diameter being a secondary clarifier
- One concrete circular final clarifier along with rotating rake arms and return sludge airlift
- One 18,170 gallon concrete aerated sludge holding tank
- One horizontal ultraviolet (UV) type disinfection system
- One 2,782 gallon post-aeration tank with ultrasonic type effluent flow meter
- One building to house plant controls, laboratory, three air blowers, one standby engine generator along with restroom and storage facilities.
- New plant controls, new yard piping, site modifications, site fence, electrical and other miscellaneous work to complete the project

II. Design Data

1. Current Population: 280

2. Design Year and Population: Year 2030, population 550

3. Design P.E.: 588 (based on 0.17 lbs. BOD/capita)

4. Design Flow: 50,000 gpd

   A. Domestic: 20,000 gpd
   B. Industrial/Commercial: 28,000 gpd
   C. Infiltration/Inflow: 2,000 gpd

5. Average Design Peak Flow: 115,000 gpd (through secondary treatment process)

6. Maximum Plant Flow Capacity: 181,500 gpd (to flow equalization)

7. Design Waste Strength

   A. CBOD: 240 mg/l

   B. TSS: 225 mg/l

   C. NH_3-N: 25 mg/l

8. NPDES Permit Limitation on Effluent Quality:

A. CBOD: 10 mg/l

B. SS: 12 mg/l

C. NH_3-N: 1.1 mg/l (summer), 1.6 mg/l (winter)

D. E. coli: 125 count/100 ml monthly average
235 count/100 ml daily maximum

E. Chlorine Residual: N/A, UV disinfection proposed

F. pH: 6.0-9.0 s.u.

G. D.O.: 6.0 mg/l (minimum)

9. Receiving Stream:

A. Name: Unnamed Tributary

B. Tributary to: Stone Branch

C. Stream Uses: General

D. 7-day, 1-in-10 year low flow: 0.0 cfs

III. Treatment Units

Lift Station

1. Location: Flow equalization tank

2. Type of pump: Submersible

3. Number of pumps: Two (2)

4. Constant or variable speed: Variable speed drive (VFD)

5. Capacity of pumps: 80 gpm (each)

6. RPM and TDH: 1,750 RPM, 14 feet TDH

7. Volume of the wet well: Approximately 16,900 gal.

8. Detention time in the wet well: 8 hours, aeration and mixing will be provided

9. A gate valve and a check valve in the discharge line: Yes

10. A gate valve on suction line: N/A

11. Ventilation: Yes

12. Standby power: Yes

13. Alarm: Yes

14. Breakwater tank: No

Flow Equalization

1. Number and size of units: One @ 17,954 gal., 12 feet W x 16 feet L x 12.5 feet SWD

2. Method of flow diversion to unit: All flow through unit

3. Air and mixing provided: Yes, coarse bubble diffusers with 20 cfm air provided

4. Method and control of flow return: Duplex pumps each rated at 80 gpm with VFD control will be controlled by influent flow meter

5. Description of unit operation: All the flow enters the tank. The wastewater is then pumped to aeration tanks with the flow controlled by influent flow meter and variable speed pumps

6. Method of sludge removal: Not required, solids kept in suspension by mixing

Flow Meters

1. Type: Magnetic at influent
   Ultrasonic at effluent

2. Location: Influent force main
   V-notch weir at the post aeration tank

3. Indicating, recording and totalizing: Yes

Comminutors

1. Type: Channel type sewage grinder/macerator

2. Location: Sewage grinder structure at the head of plant

3. Maximum capacity: 335 gpm

4. By-pass (over flow) bar screen: Yes, by-pass bar screen

Screens

1. Type: Bar screen

2. Number and capacity: One (1) @ 0.50 mgd

3. Bar spacing and slope: One inch bar spacing at 60° slope

4. Method of cleaning: Manual

5. Disposal of screenings: Dumpster and landfill

Activated Sludge

1. Type of activated sludge process: Extended aeration

2. Number and size of units: Two tanks at 28,830 gal. each. Total aeration capacity 57,660 gal. The aeration tanks are approximately 70% of the outer portion of a 35 feet diameter tank with the interior 14 feet diameter being a secondary clarifier x 13.5 feet SWD

3. Detention time (hrs): 27.6 hours

4. Organic loading (lb BOD/1000 cf): 13 lbs. BOD/1,000 cu. ft./day

5. Type of aeration equipment: Fine bubble diffusers

6. Type and size of blowers: Three (3) positive displacement blowers at 110 cfm each with VFD control. One blower as standby

7. Air required (itemize, cfm):

BOD requirement	50 cfm
NH_3-N requirement	16 cfm
RAS/WAS airlifts requirement	24 cfm
EQ basin aeration	20 cfm
Sludge holding tank	73 cfm
Post aeration	15 cfm

Total air required 198 cfm

8. Provisions for speed adjustment: Yes, VFD control

9. Air provided: 220 cfm with one blower as standby

10. Ventilation in the blower room: Yes

11. Number and capacity of return sludge pump: Two airlift type return pumps @ 40 gpm each

12. Method of return sludge rate control: Airlift pump system controlled by valves on the airlift air lines to vary the pumping rates

13. Return sludge rate as % of design flow: 50-200%

14. Provisions for return sludge metering: Yes

15. Location of return sludge discharge: At the front of aeration tanks

16. Facilities to isolate units: Yes

17. Facilities for flow split control: Yes

Secondary Clarifiers:

1. Type of clarifiers: Circular

2. Number and size of units: One, 14 feet diameter x 13.5 feet SWD

3. Surface settling rate (gpd/sf)

   a. at the design flow: 325 gpd/sq. ft.

   b. at peak flow rate: 748 gpd/sq. ft.

   c. at the equalized flow rate: 325 gpd/sq. ft.

4. Detention time (hrs): 6.6 hours

5. Type of sludge removal mechanism: Rotating rake arms and airlift

6. Weir overflow rate: 1,325 gpd/lf

7. Disposal of scum: Airlift pumped to sludge holding tank

8. Facilities for unit isolation: No

9. Facilities for flow split control: No

Post-aeration

1. Type of aeration: Fine bubble diffusers

2. Number of units: One @ 8 feet x 8 feet x 6 feet SWD

3. Size of units: Approximately 2,873 gal.

4. Aeration provided: Yes, 15 cfm from plant blowers

5. Expected effluent D.O.: 6.0 mg/l minimum

Nitrification System

1. Type of nitrification system: Extended aeration

2. Ammonia loading: 10.43 lbs. NH_3-N/day

3. Additional oxygen demand: 47.98 lbs. O_2/day

4. Air supply system: Positive displacement blowers and fine bubble diffusers

5. Hydraulic detention time: 27. 6 hours

6. Mean cell residence time (days): 32 days

UV Disinfection

1. Type: Horizontal ultraviolet (UV) channel system

2. Location: Effluent from final clarifiers

3. Size of channel: 9-inch W x 48-inch L x 6.5-inch SWD

4. Contact time: 21 seconds

5. Dosage: 30,000 microwatt-second/cm^2

6. Bypass: Yes

7. Safety equipment: Yes

8. Cleaning equipment: Yes

9. Intensity monitoring: Yes

Aerated Sludge Holding Tank

1. Number and size of units: One, 14 feet I.D. x 35 feet O.D. x 13.5 feet SWD (30% outer portion) total volume approximately 18, 170 gal.

2. Detention time: 34 days

3. Organic loading: 31 lbs. VSS/day

4. Air supply: 73 cfm from plant blowers

5. Decanting method: Swing decant pipe

Sludge Disposal

1. Ultimate disposal method of sludge: Sludge disposal will be contracted to licensed hauler

2. Expected solids content of sludge (by the principal method of disposal): 1-2%

3. Location of disposal site: By contract

4. Ownership of the disposal site: By contract

5. Availability of sludge transport equipment: Contract with licensed sludge hauler

IV. SEWER COLLECTION SYSTEM

Lift Stations

1. Location: Approximately 500 feet north of the proposed WWTP

2. Type of pump: Submersible

3. Number of pumps: Two (2)

4. Constant or variable speed: Constant

5. Capacity of pumps: 126 gpm

6. RPM and TDH: 1,750 RPM. 52 feet TDH

7. Volume of the wet well: Approximately 875 gal.

8. Detention time in the wet well: 28 minutes

9. A gate valve and a check valve in the discharge line: Yes

10. A gate valve on suction line: No

11. Ventilation: Yes

12. Standby power: No

13. Alarm: Yes

14. Bypass or overflow: No

15. Type of force main: PVC, SDR 21, ASTM D2241

16. Diameter and length of force main: Approximately 427 feet of 4-inch diameter pipe

Sewer

1. Type of sewer material: PVC, SDR 35, ASTM D3034 and Ductile Iron (D.I.)

2. Diameter and length of sewer (indicate length for each size):

   5,210 feet of 8-inch (PVC, SDR 35, ASTM D3034)
   182 feet of 8-inch (D.I.)
   386 feet of 12-inch (PVC, SDR 35, ASTM D3034)
   107 feet of 12-inch (D.I.)

3. Stream, highway, and railroad crossing: One stream crossing

4. Separation of combined sewer or new sewer: New sewer

5. Number of manholes: 27

6. Water main protection: Yes

V. MISCELLANEOUS

A. Laboratory equipment: Yes

B. Safety equipment: Yes

C. Plant site fence: Yes

D. Handrail for the tanks: Yes

E. Units, unit operation, and plant bypasses: Unit bypasses, no plant bypass

F. Flood elevation (10, 25, or 100 year flood): 100 year-585 MSL

G. Provisions to maintain the same degree of treatment during construction: N/A new plant

H. Standby power equipment: Yes

I. Site inspection: Yes

J. Hoists for removing heavy equipment: Yes

K. Adequate sampling facilities: Yes

L. Hydraulic Gradient: Yes

M. Septage receiving facilities: No

N. Structural work proposed on buildings (including rehab): Yes, new laboratory/mechanical/blower building proposed

UTILITY SALES CONTRACT

THIS CONTRACT, entered into as of 23 March 1995, between the UNITED STATES OF AMERICA, hereinafter called the Government, represented by the contracting officer executing this contract, and Town of Crane Municipal Utilities, whose address is 181 Larrimer Street, Crane, IN 47522, hereinafter called the Purchaser.

1. The Purchaser, located in or in the immediate vicinity of Crane Division, Naval Surface Warfare Center (NAVSURFWARCENDIV Crane), Crane, IN agrees to purchase and receive from the Government sewage disposal service as follows:

Description	Sewage disposal service for Town of Crane, IN (not more than 150 families, churches, and existing commercial buildings)
Requirements	Sewage quantity established as 75% of metered water usage from Eastern Heights Utilities, Inc.
Premises	Town of Crane, IN
Delivery Point	To manhole
Metering	Water meter installed by Eastern Heights Utilities, Inc.
Deposit	$800.00 (PAID)
Billing	on monthly basis by Government
Payable	on 1st day each month at Disbursing Office, NAVSURFWARCENDIV Crane, Crane, IN 47522-5001
Rates	$4.083834 per thousand gallons plus 0% surcharge
Officer in charge	Public Works Officer, NAVSURFWARCENDIV Crane, Crane, IN 47522-5001

for use exclusively by Purchaser, without any right to assign or sublet, at the Purchaser's premises and not for resale or redistribution. Government shall have the right to change said rates and deposit amount at any time on thirty (30) days notice. Government may apply said deposit to the payment of unpaid bills or of any other charges or damages hereunder. Subject to Government's advance approval and supervision, Purchaser at its sole expense shall furnish, install, operate and maintain all new facilities required for obtaining service, including suitable metering and regulating equipment and service connections to Government's utility system. Such facilities shall be removed and Government premises restored to their original condition by the Purchaser, or by the Government at Purchaser's expense within a reasonable time after termination of this contract. Purchaser agrees to purchase this service from any private or other public source when available and adequate.

2. The Government shall sell and deliver only such service as it may from time to time be willing to deliver and may, at any time, discontinue service hereunder. Either party may terminate this contract on 30 days written notice, provided, however, that during any period of national emergency Government may terminate on 24 hours notice.

3. The Government, its officers, agents and employees shall not be responsible for loss of or damage to property of Purchaser or property of others, or for personal injuries to Purchaser's officers, agents, servants or employees, or to other persons arising from or incident to the furnishing of, or the failure to furnish, the service provided for hereunder, nor for any other damage or loss of profit suffered by Purchaser arising from or incident to the furnishing of, or the failure to furnish, the service provided for hereunder, and Purchaser shall hold and save Government, its officers, agents and employees harmless from any and all such claims or liabilities.

4. No member of or delegate to Congress, or resident commissioner, shall be admitted to any share or part of this contract, or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

THE UNITED STATES OF AMERICA

By L A Laws

L. A. LAWS
CDR, CEC, USN
Public Works Officer

TOWN OF CRANE MUNICIPAL UTILITIES
(Purchaser)

By Mary Kay Robinson

Title Clerk-Treasurer

APPENDIX B