

City of Butler

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April 21, 2020

Ms. Shelly Love
SRF WW Program Administrator
State Revolving Fund Loan Program
100 North Senate Avenue, Room 1275
Indianapolis, IN 46204

RE: LTCP Compliance Plan CSO and Wastewater Plant Improvements
PER Submittal for Butler, Indiana
NPDES # IN0022462
DeKalb County
Agreed Order Case No. 2013-21811-W

Dear Ms. Love:

Please find attached for your review is an electronic version of the Preliminary Engineering Report (PER) for the City of Butler, Indiana. This PER has been prepared in accordance with guidance from the Indiana Finance Authority provided during our March 24, 2020 preplanning meeting and from the IFA/SRF website.

Once the current social distancing requirements due to COVID-19 have been relaxed we can provide you with the two (2) printed copies of the PER as is normally required. (The PDF's provided to you would be the basis for printing paper copies anyway.)

In addition to the PER reports we have included electronic copies of the following:

- Authorized Representative Resolution
- Cost and Effectiveness Certification

Due to the current restrictions a Public Hearing has not been held yet. Once that is completed we can provide you with copies of the following:

- PER Acceptance Resolution
- Interested Persons Mailing labels

If you have any questions in regard to this PER, please contact Paul Elling or Trent Montemayor at Donohue & Associates, Inc., the design engineering firm for the project. Paul's contact information is pelling@donohue-associates.com and his phone number (317) 500-4214. Trent's Contact information is tmontemayor@donohue-associates.com and his number is 317-500-4210.

Sincerely,

A handwritten signature in cursive script that reads "Mike Hartman".

Mike Hartman, Mayor

cc: Brian Moore, Wastewater Superintendent
Dave Wagner
Paul Elling, Donohue & Associates, Inc.
Trent Montemayor, Donohue & Associates, Inc.

BUTLER MAY 5, 2020 UPDATED PER PAGES

The following table identifies the revised pages and the reason for the revisions. The revisions since the original submittal on each page are highlighted in yellow.

Page(s)	Revision
iii-vi	Index revised due to new sections
viii	Minor edits for clarity
6	Minor edit for clarity
8	Contents of table 2-1 rearranged to conform to order presented in permit
10	Minor edits in table 2-2
17	Minor edit
28	Note regarding loadings added
30	Typo corrected
31	Minor edit for clarity
32-33	First paragraph of Section 3.5 revised
34.5	Page added. New section 4.1 and 4.2 added
35	Minor edit.
36-39	Renumbered sections and added Section 4.8.3
56	Revised Table 7-1 to address missing lines and information



City of Butler, Indiana

215 South Broadway | Butler, Indiana 46721

Preliminary Engineering Report Butler LTCP Compliance Plan CSO and Wastewater Plant Improvements

April 2020



Prepared by:

Donohue & Associates, Inc.
101 West Ohio Street, Suite 1650 | Indianapolis, IN 46204
donohue-associates.com

Donohue Project No.: 13666

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EXECUTIVE SUMMARY

The municipally owned and operated wastewater collection and treatment facilities for the City of Butler (City) serves a population of approximately 2,700 people, based on a 2017 census data update. Operation, maintenance and management of the wastewater system (collection and treatment) is by the City of Butler.

Butler submitted its CSO LTCP to IDEM in 2001 and completed a majority of the planned work prior to approval of the plan in 2008. However, Butler was unable to achieve the goal of 4 or fewer overflow events annually. Subsequent to improvements being made in 2007 and monitoring of the overflows it was determined that Butler was not in compliance with the CSO LTCP.

Butler entered into an agreed order (Order No. 2013-21811-W) with the IDEM Office of Water Quality on May 29, 2014. A CSO LTCP Compliance Plan was developed which identified a level of CSO control so that had six (6) or fewer CSO events per year at Outfall 003. The Compliance Plan was submitted to IDEM in May 2015 and the plan was approved on September 9, 2015.

The compliance schedule required design and construction of the accepted alternative by September 30, 2022, per the schedule in the approved in the Compliance Plan.

This PER is being developed to request funding assistance for the required project and additional wastewater plant improvements. The required elements in the Compliance Plan are:

- approximately 1200 feet of 54-inch diameter influent sewer to provide additional conveyance capacity as well as 100,000 gallons of storage for peak flows.
- The raw influent pumps will be replaced
- The influent screen would be replaced
- An overflow screening structure with a self cleaning screen to eliminate any materials over ¼" size
- Monitoring would also be added to track flow depths and flow rates with sufficient frequency and a common time sequence, so that bottlenecks can be identified in real time, and the elevation of those bottle necks be determined.

In addition to the required CSO improvements contained in the Compliance Plan a number of other needs have been identified for inclusion in the construction project to address various hydraulic and operational improvements to assist with CSO elements. The additional work to be included is as follows:

- Revise the effluent weirs and clarifier drop box effluent pipes to match the clarifier capacity.
- Evaluate the structural integrity of the cross tank support beam brackets in the aeration tanks and aerobic digesters and provide suitable supports for continued use.
- Replace existing slide gates in aeration tanks with new gates with manual handwheel operators.
- Add grating and handrails over the existing south aeration tank influent channel to aid sample collection.
- Provide new UV system and electrical and control facilities in one of the current chlorine contact tanks.

- Upgrade the SCADA (Supervisory Control and Data Acquisition) system by providing a fiber network around the plant site to connect PLC controls from proposed new equipment (RWW pumps, influent screen, CSO screen, UV disinfection and potentially chemical and generator area), and existing signals (RAS/WAS pump station, CSO flow, plant influent and effluent meters, stormwater flow, industrial flow, rain guage) to permit operator to observe all important plant operations.
- Provide new Win 911 alarm system driven by signals off the upgraded SCADA system.
- Provide PLC's at 5 remote lift stations to enable remote monitoring with cellular connections.

Three alternatives were evaluated to complete the required work in the LTCP Compliance Plan and the additional work that had been identified. After evaluating the alternatives the economic impact of the alternatives was as follows:

	Project Cost (Capital plus soft costs)	Estimated Annual O&M Cost	Present Worth 20 Yrs O&M	Salvage Value after 20 years	Present Worth Salvage Value	Net Present Worth
Alternate 1	\$ 7,433,000	\$ 63,600	\$ 1,232,799	\$ 2,155,150	\$ 2,029,826	\$ 6,635,972
Alternate 2	\$ 14,705,000	\$ 94,700	\$ 1,835,629	\$ 3,817,150	\$ 3,595,179	\$ 12,945,450
Alternate 3	\$ 12,739,000	\$ 77,800	\$ 1,508,046	\$ 4,329,050	\$ 4,077,312	\$ 10,169,734

Further evaluation to assess the practical operations of the required equipment, the constructability of the facilities and the ability of the new facilities to be incorporated into the existing systems did not identify any reasons why the least cost alternative should not be selected.

Environmental investigations to assess potential environmental challenges with the project were also performed. Investigations for potential impacts to historic and architectural resources, wetlands, surface waters, floodplains and floodways, farmland, groundwater, various species, soils, air quality and recreational impacts were all reviewed. The conclusion was that no significant impacts were likely to occur.

State and Federal guidelines and restrictions because of the COVID-19 pandemic precluded conducting a public hearing prior to submission of this document. Accordingly a public hearing will be held as soon as possible after social distancing and other restrictions are lifted. After that the City Board of works will select a recommended alternative to be pursued.

The schedule for the PER and construction is as follows:

Task	Completion Date
Submit final LTCP Update to IDEM	August 1, 2020
Submit Preliminary Engineering Report to IFA	May 1, 2020
Design Contract with Engineer for Alternative No. 1	May 1, 2020
Preliminary Engineering Report Approval by IFA	September 1, 2020
Design, Permitting and Secure Funding Complete	March 31, 2021
Notice to Proceed Issued to Contractor	April 5, 2021
Asset Management Plan to IFA	October 31, 2021
Construction Complete	September 30, 2022

CHAPTER 1 PROJECT LOCATION

1.1 PROJECT LOCATION

The City of Butler, Indiana is located in northeastern Indiana in DeKalb County, approximately 28 miles northeast of downtown Fort Wayne, approximately 10 miles northeast of Auburn, which is the county seat, and approximately 5 miles west of the Indiana / Ohio state line. Butler is located in Wilmington Township in the eastern side of DeKalb County. Figure 1-1 below shows the townships in DeKalb County, the location of Auburn, and the location of Butler in the County.

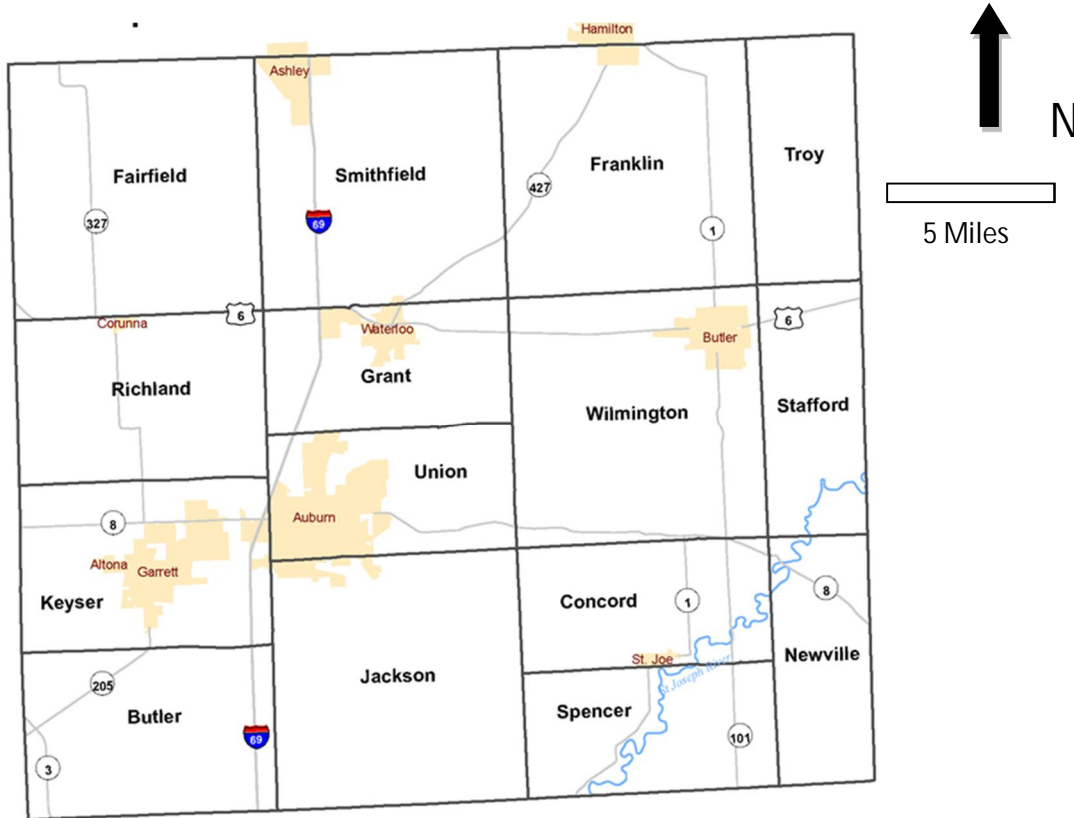


Figure 1-1 DeKalb County Townships

Butler is contained within Sections 1, 2, 10, 11, and 12 of Township 34 North, Range 14 East. Butler is located at 41°25'49"N and 84°52'19"W. Butler is located in both the East and West Butler quadrangle maps. Although the quadrangle map boundary is slightly skewed from the section lines it is located about 1000 ft west of the boundary between Sections 1 and 2 and 11 and 12 which is also where Indiana Route 1 is located in Downtown Butler. Figure 1-2 on the next page shows the townships and sections for Butler as well as the Quadrangle boundaries.

The wastewater plant is located along Big Run Creek in southeast 1/4 of Section 1 in Wilmington Township and the Butler East Quadrangle. The site is about 3/4 mile northeast of the intersection of State Roads 1 and US 6 in downtown Butler, and adjacent to East Green Street and railroad tracks. The red lines in Figure 1-2 depict the existing corporate boundaries for Butler.

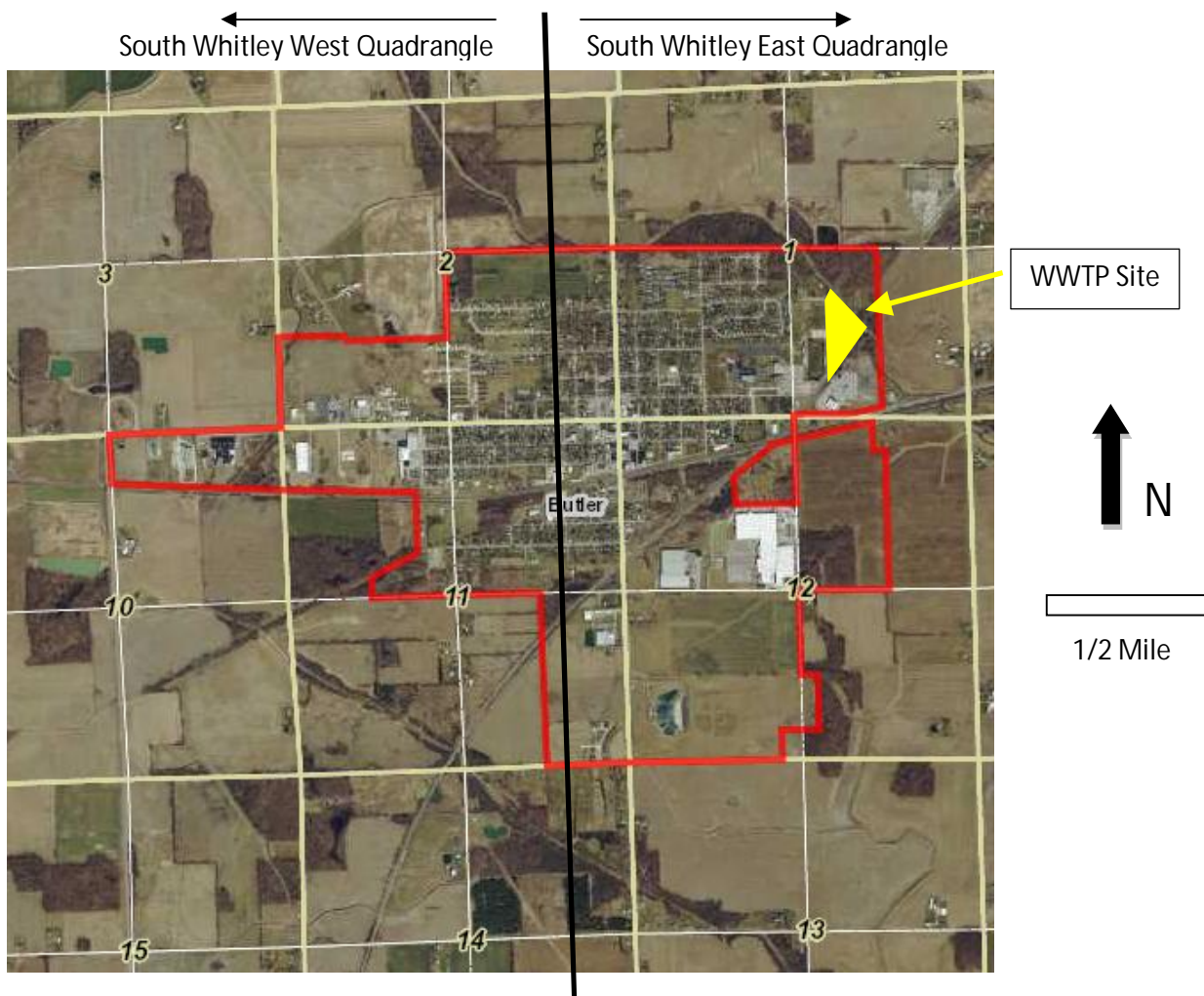


Figure 1-2 Butler Townships and Sections

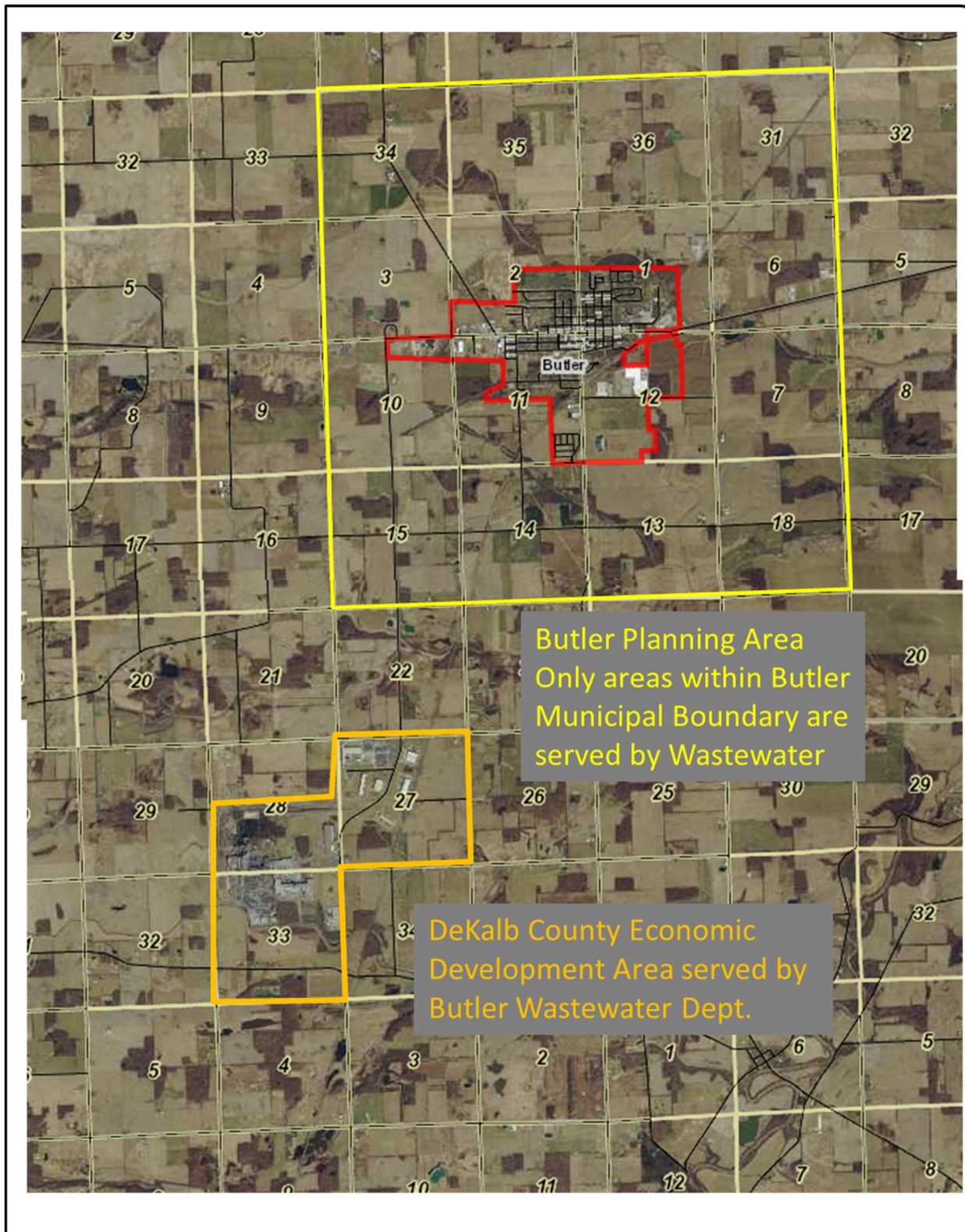
1.2 PROJECT PLANNING AREA

Figure 1-3 depicts the 2 mile planning limits for Butler as well as the DeKalb County Economic Development Area which Butler provides sanitary service to. The City is not aware of any development activity within its planning area outside of the corporate limits. Service requirements within the DeKalb County Economic Development Area are not anticipated to grow during the near future since most of the undeveloped land is isolated from the rest of the development and is not served by any utilities.

Chapter 3 discusses population projections, including the above areas with respect to this PER.

1.3 PROPERTY CONCERNS

The project construction activities for the Wastewater Improvements are expected to be entirely contained within land currently owned by the City for the use of the Wastewater Treatment Plant. Project construction activities for the CSO system improvements are expected to be within City and State right of ways and on land owned by the DeKalb County Eastern Community School District. Some previous easements are believed to exist although the exact limits and restrictions on use are being researched.



PROJECT 13666

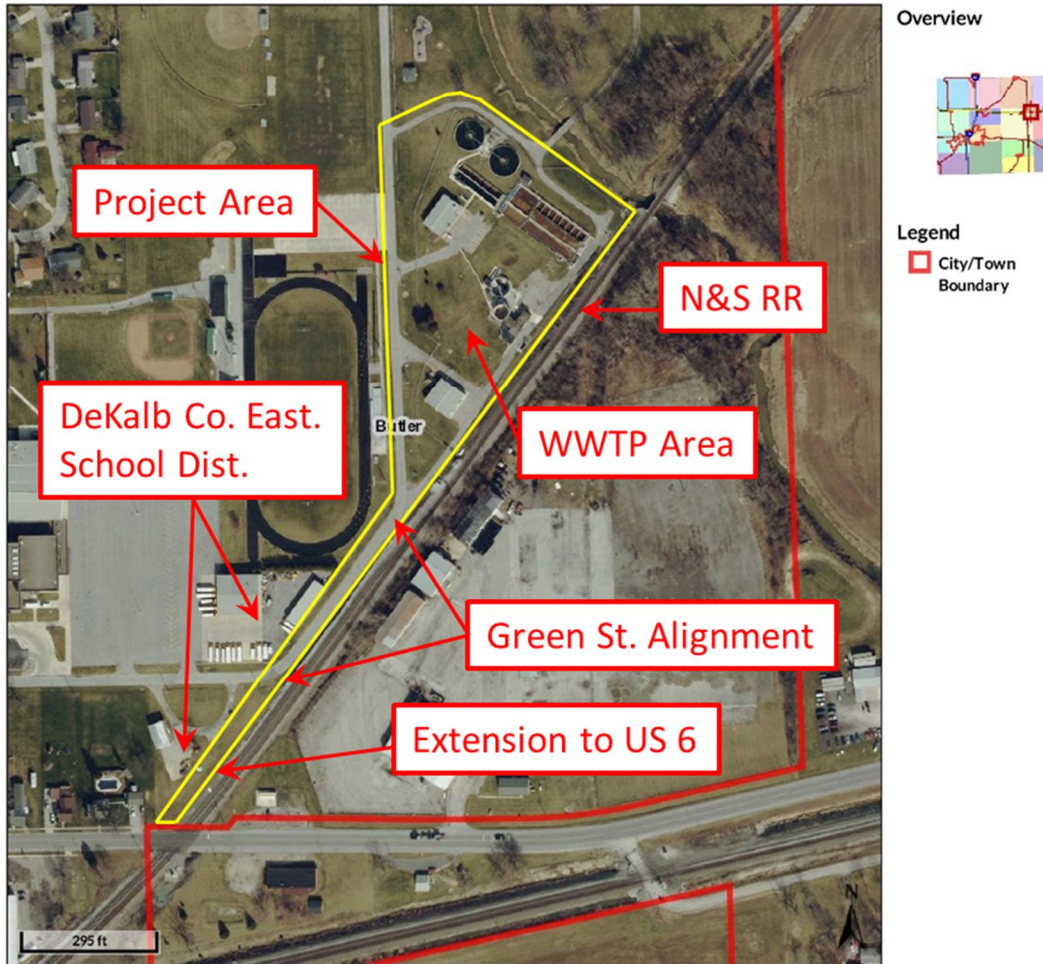
MARCH 2020

FIGURE 1-3
PROJECT PLANNING AREA
CITY OF BUTLER
LTCP COMPLIANCE PLAN PHASE A IMPLEMENTATION
PROJECT PRELIMINARY ENGINEERING REPORT
BUTLER, INDIANA

Since the previous improvements for the CSO system have occurred, the Norfolk Southern Railroad expanded its right of way next to the Wastewater Plant and the CSO facilities. It is currently unclear if that right of way expansion has impacted the project. If impacts to property or right of ways not owned or controlled by the City are needed the City will secure property rights prior to closing on the SRF loan and notice to proceed to the contractor.

1.4 PROJECT SITE

The project improvements are to be constructed within the WWTP site and along a narrow alignment on Green Street and extending south to US 6 as shown in Figure 1-4 on the next page.



PROJECT 13666

MARCH 2020

FIGURE 1-4

SITE MAP

CITY OF BUTLER

LTCP COMPLIANCE PLAN PHASE A IMPLEMENTATION

PROJECT PRELIMINARY ENGINEERING REPORT

BUTLER, INDIANA

CHAPTER 2 – CURRENT SITUATION

2.1 WASTEWATER UTILITY DESCRIPTION

The municipally owned and operated wastewater collection and treatment facilities for the City of Butler (City) serves a population of approximately 2,700 people, based on a 2017 census data update. Operation, maintenance and management of the wastewater system (collection and treatment) is by the City of Butler.

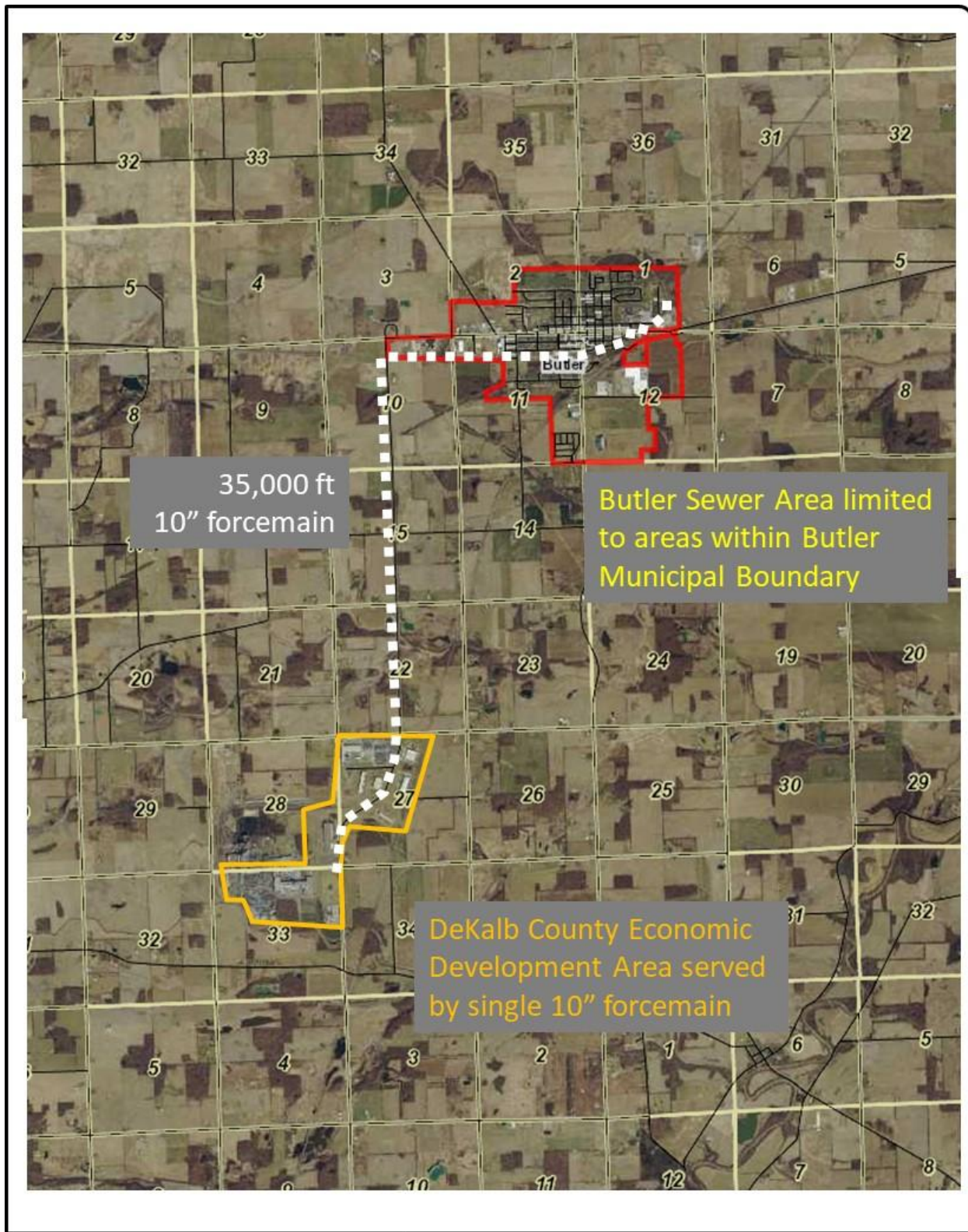
The City's wastewater utility has one wastewater treatment plant (WWTP) and a collection system with approximately 17.3 miles of sewers and 7 lift stations. The WWTP is designated as a Class III, 2.0 MGD (average design flow) extended aeration treatment facility with a design peak flow of 3.0 MGD. Treatment consists of a bar screen, a fine rotary screen, a grit chamber, three aeration tanks, two secondary clarifiers, phosphorus removal through precipitation with ferric chloride, three aerobic digesters, chlorination/dechlorination facilities and influent and effluent flow meters. Biosolids are continuously returned to the aeration tanks and periodically wasted to the aerobic digesters for stabilization, thickening by decanting, pumping to onsite storage lagoons for drying and storage prior to ultimate disposal via landfill.

The collection system is comprised of combined sanitary and storm sewers with one Combined Sewer Overflow (CSO) location (CSO 003) and one wet weather treatment facility outfall (Outfall 001). The wet weather treatment facility consists of one flow equalization basin, a wet weather clarifier, and chlorination/dechlorination facilities. The WWTP discharges, via Outfall 002, to Big Run Creek, which is a tributary to the St. Joseph River, which is a tributary to the Maumee River and ultimately Lake Erie.

2.2 SEWER SERVICE AREA

The existing wastewater service area limits and the sewer system limits are shown in Figure 2-1. The City and surrounding area is characterized by an agricultural / industrial economic base. The majority of the existing service area is within the corporate limits of the City and is considered to be fully developed. The industrial service area, approximately 5 miles southwest of the City, in Sections 27, 28 and 33 of Wilmington Township, was developed in the mid 1990s and service was provided to the area by an agreement between the City and the DeKalb County Economic Redevelopment Commission (August 1996) and with an agreement (September 1995) between the City and Steel Dynamics, Inc. (SDI).

Unemployment in the City / service area for December 2019 was indicated to be 2.5%, which is below the Indiana average of 3.0% for the same month. The City / service area has an estimated median household income of \$48,620 according to the 2013-2017 American Community Survey by the US Census Bureau. This household income is 7% below the Indiana median household income of \$52,182 and 16% below the United States median household income of \$57,652 for the same period.



PROJECT 13666

MARCH 2020

FIGURE 2-1
SEWER SERVICE AREA

CITY OF BUTLER
LTCP COMPLIANCE PLAN PHASE A IMPLEMENTATION
PROJECT PRELIMINARY ENGINEERING REPORT
BUTLER, INDIANA

2.3 CURRENT NPDES PERMIT LIMITS

Treated wastewater discharges are subject to limitations specified in Butler’s NPDES Permit No. IN0022462, which became effective on September 1, 2016 and which expires on August 31, 2021. A copy of the current NPDES Permit is presented in Appendix A.

The following Table 2-1 summarize the NPDES Permit limitations and requirements for discharging to Big Run Creek. Beginning on the effective date of the permit, Butler was authorized to discharge from Outfall 002, which is located at Latitude: 41° 26' 07" N, Longitude: 84° 51' 26" W. The discharge is subject to the following requirements. (Excerpt from Permit No. IN0022462)

TABLE 2-1 – Effluent Limitations and Requirements

Parameter	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
	Monthly Average	Weekly Average	Units	Monthly Average	Weekly Average	Units	Measurement Frequency	Sample Type
Flow [1]	Report	---	MGD	---	---	---	5 X Weekly	24-Hr. Total
CBOD ₅								
Summer [2]	500.7	751.1	lbs/day	20	30	mg/l	5 X Weekly	24-Hr. Composite
Winter [3]	625.9	1,001.4	lbs/day	25	40	mg/l	5 X Weekly	24-Hr. Composite
TSS								
Summer [2]	600.8	901.3	lbs/day	24	36	mg/l	5 X Weekly	24-Hr. Composite
Winter [3]	751.1	1,126.6	lbs/day	30	45	mg/l	5 X Weekly	24-Hr. Composite
Phosphorus [4]	---	---	---	1.0	---	mg/l	5 X Weekly	24-Hr. Composite

Parameter	Quality or Concentration				Monitoring Requirements	
	Daily Minimum	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
pH [5]	6.0	---	9.0	s.u.	5 X Weekly	Grab
Dissolved Oxygen [6]						
Summer [2]	6.0	---	---	mg/l	5 X Weekly	4 Grabs/24-Hrs.
Winter [3]	5.0	---	---	mg/l	5 X Weekly	4 Grabs/24-Hrs.
<i>E. coli</i> [7]	---	125 [8]	235 [9]	colonies/100 ml	5 X Weekly	Grab

Parameter	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
Ammonia-nitrogen								
Summer [2]	30.0	77.6	lbs/day	1.2	3.1	mg/l	5 X Weekly	24-Hr. Composite
Winter [3]	32.5	82.6	lbs/day	1.3	3.3	mg/l	5 X Weekly	24-Hr. Composite
Total Residual Chlorine Final[10][11]	0.250	0.501	lbs/day	0.01	0.02	mg/l	5 X Weekly	Grab

In addition, beginning on the effective date of the permit, the effluent from Outfall 002 shall be limited and monitored as follows.

Parameter	Quantity or Loading		Units	Quality or Concentration		Monitoring Reqmts. Measurement Frequency	Sample Type
	Monthly Average	Daily Maximum		Monthly Average	Daily Maximum		
Chloride	5,842	11,683	lbs/day	350	700	mg/l	1 X Weekly 24 Hr. Comp.
Copper [1]	0.33	0.68	lbs/day	0.020	0.041	mg/l	1 X Weekly 24 Hr. Comp.
Cadmium [1]	----	Report	lbs/day	----	Report	mg/l	Quarterly 24 Hr. Comp.
Cyanide [1]	----	Report	lbs/day	----	Report	mg/l	Quarterly See [2] Below
Lead [1]	----	Report	lbs/day	----	Report	mg/l	Quarterly 24 Hr. Comp.
Mercury [1][3][5] Interim Discharge Limit [6]	0.000022	0.000053	lbs/day	1.3	3.2	ng/l	6 X Annually Grab
	----	----	----	2.4	Report	ng/l	6 X Annually Grab

2.4 WASTEWATER TREATMENT PROCESS/MECHANICAL DESCRIPTION AND CONDITIONS

2.4.1 HISTORY

The original WWTP was constructed in the early 1950s and had primary treatment, secondary treatment utilizing trickling filters, final clarification and anaerobic digestion of primary and secondary sludges. The WWTP was modified in the mid-1970s to incorporate disinfection by means of gas chlorine/dechlorination and phosphorous removal utilizing chemical treatment. This facility had a design flow of 0.3 MGD and a peak design flow at 0.6 MGD

The WWTP was upgraded to essentially its current configuration in 1995 / 1996 and came on-line in the early fall of 1996. It was designed for a daily flow at 0.9 MGD and a peak design flow at 1.2 MGD. The increased flow was primarily allocated to the industrial service area which was beginning operation.

The 1996 facilities were modified again in 2001 with the addition of circular secondary clarifiers and conversion of the rectangular clarifiers (1995/1996 construction) to chlorine contact tanks. The influent pumps were also enlarged to increase the WWTPs design flow to 2 MGD and a peak flow of 3 MGD.

The WWTP was further modified in 2007 with the addition of wet weather (stormwater) pumping capacity, conversion of the abandoned anaerobic digester to an equalization basin and conversion of the abandoned phosphorous / chemical treatment clarifier to a primary clarifier and chlorine contact tank. This allowed for a maximum of 6 MGD of hydraulic capacity that could pass through the WWTP and up to 1.5 MGD discharge thru the wet weather system.

The most recent revision to the WWTP was made in 2014 when the 10" force main from the industrial area was extended from its discharge point in downtown Butler to directly discharge into the influent channel of the activated sludge aeration tanks. The extension removed all the industrial flow from the combined sewer system

2.4.2 DESCRIPTIONS

The major unit processes for the Butler WWTP are summarized in Table 2-2. All major unit processes currently have an average daily capacity of at least 2 MGD, a design peak capacity of 3 MGD and a maximum hydraulic capacity of 6 MGD.

Table 2-2 Major Unit Process Capabilities

Process	Unit Size	Peak Capacity	Comments
Influent Pump Station	3 Pumps @ 1,200 GPM each	3.5 MGD Firm	Submersibles, variable speed
Wet Weather/ Stormwater PS	2 Pumps @ 1,040 GPM each	3 MGD	Suction lift, variable speed (Note 1)
Screening	1 @ 6 MGD	6 MGD	Rotary Fine Screen Bar screen as backup
Grit Removal	1 Aerated Grit Chamber @ 100 cfm; Vortex Grit Separator	3 MGD	Removed grit is landfilled
Aeration Basins	3 @ 336,600 Gallons each	6 MGD	
Return Sludge Pumps	4 @ 625 GPM each		
Secondary Clarifiers	2 Circular @ 295,940 Gals.; (60' D x 14' SWD)	6 MGD 5.1 MGD (chemical treatment)	Wet weather SOR @ 1,061 gpd/sf chemical treatment SOR @ 902 gpd/sf
Phosphorous Removal	2 Variable speed Chem Pumps @ 5 – 100 GPH	6 MGD	Ferric chloride used added at aeration tank discharge
Disinfection	2 Contact tanks at 81,345 Gals. each	6 MGD	Chlorine gas with CT @ 78 Mins. at 3 MGD; 39 Mins. @ 6 MGD; Mechanical aerators at discharge
De-chlorination	2 Pumps delivering 0.5 to 13 #s/day	6 MGD	Use Sodium metabisulfite
Aerobic Digestion	3 @ 121,712 Gallons each		Average DT @ 41 Days
Sludge Lagoons	3 Cells @ Total Capacity of 9.67 MG		
Sludge Disposal			Landfilled when dried and hauled from Lagoons
Wet Weather Treatment	1 EQ Basin @ 225,477 Gallons w/DT @ 1.8 Hrs.; 1 Clarifier @ 73,985 Gallons w/DT @ 0.6 Hrs.; Chlorination and Dechlorination	3 MGD	Discharge thru Outfall 002
Flow Measurement	Parshall Flumes / Level Recorders for Effluent Discharges at Outfalls 001 and 002		Separate meters on the influent line from the City and the Industrial FM

Note 1: Wet weather facility indicates all pumps in operation

2.5 INFLUENT SCREENING

The headworks of the WWTP consists of the screening structure built during the 1995/1996 plant improvements. The screening unit consists of a manually cleaned bar screen and a rotary fine screen. Both structures are outside of the influent pump station in an uncovered structure. The raw wastewater influent is gravity fed to the screen units from the collection system and the screened wastewater flows to the influent pump station. See Figure 2-2.

The influent screen is now 24 years old and at the end of its service life although it is still functional. As is visible on the walls of the structure the working platform is routinely submerged making emergency access to the manual or automated screen impossible during high flow conditions when the need for access is likely to be highest.



Figure 2-2 Rotary and Bar Screens

2.6 INFLUENT PUMP STATION

The influent pump station structure and wet well date to the original WWTP built in the 1950s. The wet well (2,250 gallons) is relatively small when handling the peak design and increased flow during wet weather periods. The plant constructed in 1995 / 1996 increased pumping capacity to 833 GPM. The 2001 modifications increased pumping capacity with 3-1200 GPM pumps. The operation of the pump station is to allow up to 2 pumps to run during high flow periods and to have 1 pump in reserve in case of a pump failure. However, when flow exceeds the rate of those 2 pumps (about 3.3 MGD), the third pump is operated to maximize the flow into and through the plant and to minimize the discharge, if any, at the CSO Outfall (designated as 003). See Figure 2-3 on next page.

Two of the pumps are from the 1995/1996 construction. The third pump was rebuilt several years ago. Two of the pumps are at the end of their service life and need to be replaced. As noted for the Influent screening structure the pumps are unable to keep up with higher flows and then cause the wet well to surcharge to the degree that the screen structure then surcharges also. Review of the wet well indicates that it is well short of the recommended capacity and should be upgraded also. Finally the forcemain discharge from the Influent Pump Station is currently only 10-inch diameter which is only marginally able to convey peak design flows. The peak design flows however are well short of the hydraulic capacity of the rest of the plant. The conveyance capacity of the forcemain should also be increased to alleviate Screening structure flooding.



Figure 2-3 Influent Pumps

2.6.1 WET WEATHER / STORMWATER PUMP STATION

This pump station (Figure 2-4) is independent of the influent pump station and is on property adjacent to the City's main interceptor sewer in the US 6 right of way. This pump station was built in 2007 and has 2 suction lift pumps that are configured to automatically come on line when wet weather flows go over a diversion weir starts to fill the stormwater wet well. This pump station was built to maximize flow to and through treatment and to minimize discharges, if any, at CSO Outfall 003. The wet weather pump station pumps water to the stormwater equalization (EQ) basin at the WWTP. Water from the EQ Basin, if the basin reaches its capacity is discharged to the wet weather clarifier and subsequently is chlorinated / dechlorinated and is discharged through Outfall 002. If necessary, both pumps are operated to maximize the wet weather flow and treatment.



Figure 2-4 Wet Weather Pump Station

2.7 GRIT SYSTEM

The influent pumps discharge into the grit tank next to the aeration tanks. Grit that settles in the aerated grit chamber is pumped to the vortex grit unit where water is separated from the grit. The grit is landfilled and the water discharged back into the influent stream.



Figure 2-5 Aerated Grit Chamber

2.8 AERATION TANKS

After the aerated grit chamber, the influent wastewater is directed into the aeration tank influent channel where the industrial force main also discharges (see section 2.8.1). Both the wastewater flowstreams are mixed with their return sludge and enter the aeration tanks (Figure 2-6). Because of the low carbon, nitrogen and phosphorous load in the combined influent flow, only 2 of 3 aeration tanks are in service at any time. One aeration tank is held in reserve for wet weather flow conditions and / or to allow servicing (cleaning, replacing diffusers, etc.) of the other 2 aeration tanks. Because of the low carbon, nitrogen and phosphorous loading, a higher than typical mixed liquor suspended solids level is maintained in the aeration tanks to achieve biochemical oxygen demanding (BOD) stabilization and nitrification.



Figure 2-6 Aeration Tank 1

Air is provided to the aeration tanks from centrifugal blowers (Figure 2-7) at a pressure of greater than 7.4 psi and at an average air flow of about 1,000 cfm. Fine bubble diffusers are used to insure adequate aeration and mixing of the biomass in the aeration tanks.



Figure 2-7 Centrifugal Blowers and Air Header

During construction of the Aeration tanks in 1996 it was noted that the tanks walls were bowing. Investigations at that time revealed that the wall sections were not constructed to withstand the lateral earth forces being applied. It is unclear yet if the error was design or construction related but in either case the solution was to install cross bracing with concrete beams supported on each side of the structure with carbon steel supports as shown in the Figure 2-8 and Figure 2-9.



Figure 2-8 Concrete Support Beams in Aeration Tanks



Figure 2-9 Rusted Steel Beams Supports

Since the hydraulic capacity of the clarifiers was established as 6 MGD during the 2001 design to assist with minimization of CSO events the aeration tanks have become the limiting hydraulic factor due to the water levels in the tanks at higher flows. The City operates all 3 influent pumps during wet weather to increase the flows into the aeration tanks and this project is anticipated to increase the hydraulic loading by another 0.5 MGD during wet weather. Currently the water level in the tank influent channels is in danger of overflowing if more flow is introduced. Adjusting the overflow weir lengths and possibly adding pipe capacity at the clarifier drop box should raise the capacity sufficiently to match the clarifier capacity.

2.8.1 INDUSTRIAL FORCE MAIN CONNECTION

The industrial force main, when built in 1995/1996 to service the industrial area southwest of Butler, discharged into a gravity sewer at S. Broadway and Canal Streets on the south edge of downtown Butler. Over the years periodic hydrogen sulfide releases at the discharge point causing odor and potential health issues for downtown businesses and their customers, including the City Hall and Utility Office. To alleviate this problem, in 2014 the force main was extended all the way to the WWTP where it discharges into the aeration tank influent channel as shown in Figure 2-10.



Figure 2-10 Industrial Forcemain Discharge Point

2.8.2 CHEMICAL ADDITION

Ferric chloride, fed at a rate of about 80 to 100 GPD (125 – 150 #s/day), is added at the effluent end of the aeration tanks, before the mixed liquor flows to the clarifiers (Figure 2-11). Addition of the ferric at this point allows mixing in the pipe and settling of the ferric phosphate precipitate in the clarifier.



Figure 2-11 Ferric Chloride Feed at AT Discharge Point

2.9 FINAL CLARIFIERS

The rectangular clarifiers built in the 1995/1996 project were susceptible to solids washout when the WWTP was at its design peak flow (1.2 MGD). The Operator was forced to restrict influent flow into the WWTP by closing the influent gate valve so that solids would not wash out. This resulted in frequent CSO

events at Outfall 003. The 2 circular clarifiers were constructed in 2001 and the solids washout problem was resolved. Figure 2-12 and Figure 2-13 show the circular clarifiers.



Figure 2-12 Circular Secondary Clarifer

Also, based on the loading and flow data, the plant's design flow was increased to a average design flow of 2 MGD and a peak design flow of 3 MGD. In addition, the clarifiers were oversized to handle a maximum hydraulic flow of 6 MGD (3 MGD each) to process high flows for a short period. The normal operation is to run 1 clarifier with the other clarifier out of service. This has been beneficial in achieving more optimal detention times for the activated sludge process. Note that peak flows for phosphorous removal according to Ten States Standards is about 5.1 MGD to maintain a surface overflow rate of 900 gpd/sf.



Figure 2-13 Secondary Clarifier in Service

The biosolids settled in the clarifier are continuously withdrawn / collected through a telescoping valve into the return sludge wet well. See Figure 2-14, 2-15 and 2-16.

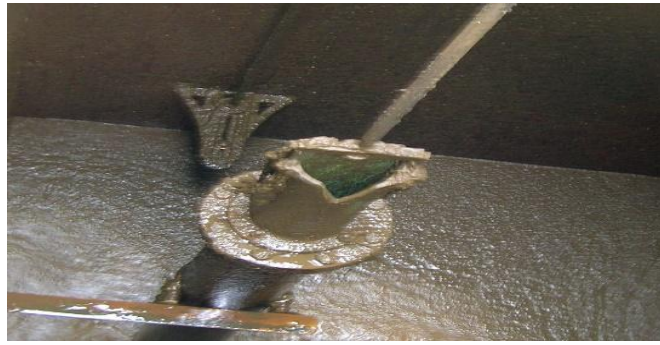


Figure 2-14 Telescoping Valve for Return Activated Sludge (RAS) Biosolids



Figure 2-15 Telescoping Valve Flowing with RAS Biosolids

The biosolids are continuously returned to the aeration tanks by the RAS pumps to maintain a healthy biomass for carbon stabilization and nitrification. Excess biosolids are pumped to the aerobic digesters.

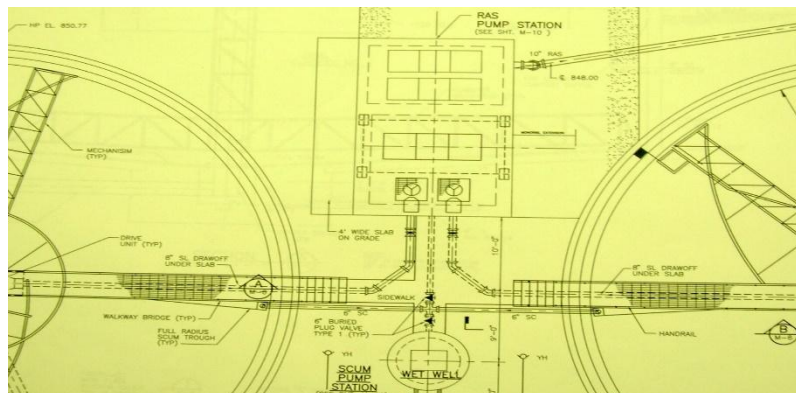


Figure 2-16- 2001 Project showing RAS Pump Station

2.10 CHLORINATION/DECHLORINATION FACILITIES

The rectangular clarifiers constructed in the 1995/1996 project were converted to chlorine contact tanks in the 2001 modifications. The tanks are well in excess of the required capacity for chlorination detention time allowing them to also function as polishing tanks for the clarified effluent. The operational mode for the tanks is to alternate tanks in service on a monthly basis. This allows the tank out of service to be routinely cleaned (biosolids that have settled in the tank are flushed back to the headworks). The second

tank can also be placed into service if flows are in excess of the design daily or peak flow for an extended period . Chlorine gas is fed from 150 pound cylinders at the influent of the contact tanks. Figure 2-17 shows the chlorine cylinders and Figure 2-18 shows the chlorine contact tank.



Figure 2-17 150 # Chlorine Gas Cylinders



Figure 2-18 Chlorine Contact Tank, with Mechanical Aerators at Discharge

Dechlorination (using sodium metabisulfite) occurs at the discharge of the chlorine contact tanks (Figure 2-19), before the flow passes through a Parshall flume for flow measurement. Mechanical aerators are also located at the discharge of the contact tanks, which may be used in extremely hot weather to aerate the tanks and insure that the effluent dissolved oxygen meets the NPDES permit requirements.



Figure 2-19 Dechlorination at Discharge of Chlorine Contact Tank

The City would like to move away from using gaseous chlorine in light of the potential safety hazard it poses to the school personnel and students immediately across the street from the plant. UV disinfection is thought to be the best available solution since previous usage with hypochlorite solution proved to be difficult to achieve complete disinfection.

2.11 FLOW MEASUREMENT

Influent flow is measured with a magnetic meter on the influent line. The industrial influent flow is monitored by a doppler meter. Effluent flow for the WWTP discharges through a parshall flume which is monitored by a level transducer. Figure 2-20 shows the effluent flume and the level sensor. Flow then is directed toward Outfall 002.



Figure 2-20 Parshall flume and Level Transducer for Effluent Discharge to Outfall 002

2.12 AEROBIC DIGESTION AND DISPOSAL

Excess biosolids are pumped to 1 of 3 aerobic digester for further stabilization. See Figure 2-21. Process control testing performed daily determines the volume of biosolids to be wasted to insure that a balanced biomass is maintained in the aeration tanks. Wasting of the excess biomass is performed daily, including weekends. Wasting of biomass varies between 7,500 GPD to 15,000 GPD.



Figure 2-21 Aerobic Digester

The air to the aerobic digesters is supplied by 1 of 2 positive displacement blowers inside a small building next to the digesters. Air to the aerobic digesters is periodically (weekly to biweekly) shut off to allow thickening of the solids and removal of the liquid supernatant. The liquid supernatant is drawn off and either pumped to the influent of the WWTP or to one of the drying lagoons. Two times per year (spring and fall) the thickened solids are pumped to 1 of the 3 sludge drying lagoons. The dried solids are periodically (about once every other year) pushed into small piles to be collected at a future date for landfill disposal.

As with the aeration tanks the supports for the cross tank beams (shown previous page) are in need of replacement to continue to provide the required structural support.

2.13 WET WEATHER TREATMENT

As previously noted, an old anaerobic digester and a clarifier constructed with the original plant were abandoned but not demolished when the existing WWTP was upgraded in 1995/1996. These tanks were converted during the 2007 project, to a wet weather equalization basin and a primary clarifier / chlorine contact tank. Figure 2-22 shows the Old Anaerobic Digester Converted to EQ Basin and Figure 2-23 shows the old Clarifier Converted for Wet Weather Primary Clarification.



Figure 2-22 Old Anaerobic Digester Converted to EQ Basin



Figure 2-23 Clarifier Converted for Wet Weather Primary Clarification

This allowed the City to process additional wet weather flows consistent with the City's CSO Long Term Control Plan, submitted in 2001 and approved in 2007. The City's goal was to achieve 4 or fewer CSO events annually at Outfall 003.

Initially sodium hypochlorite was added during the wet weather flow episodes to disinfect the wet weather discharge. However, after 3 years of ineffective disinfection and inadequate *E. Coli* kill, the City discontinued using the hypochlorite and repiped the chlorine feed system to allow the use of chlorine gas as used in the rest of the WWTP. This proved effective and achieved the desired disinfection.

2.13.1 WET WEATHER FLOW MEASUREMENT

Following the wet weather primary clarifier the flow is discharged through a second parshall flume which is monitored by a level transducer as shown on Figure 2-24. Flow then is directed toward the wet weather Outfall 001.



Figure 2-24 Parshall flume and Transducer for Wet Weather Flow

2.14 MONITORING

Plant influent and effluent flows, RAS and WAS flow, and other critical parameters are continuously recorded. A monitoring screen is maintained in the WWTP Lab so that Operators can visually check flow volumes and wet well levels at any time. Currently the industrial forcemain flows and the stormwater forcemain flows have externally mounted doppler meters that appear to be providing inaccurate results and are unreliable. Those meters should be replaced with magnetic flow meters for long term accuracy.

Four other signals are currently being monitored by ADS flowmeters. The signals include the plant rainuage, Influent to the influent screening structure, CSO 003 overflow, and flow directed to the plant. Several if not all of these signals can be incorporated into the plant monitoring system so reliance on ADS is minimized.

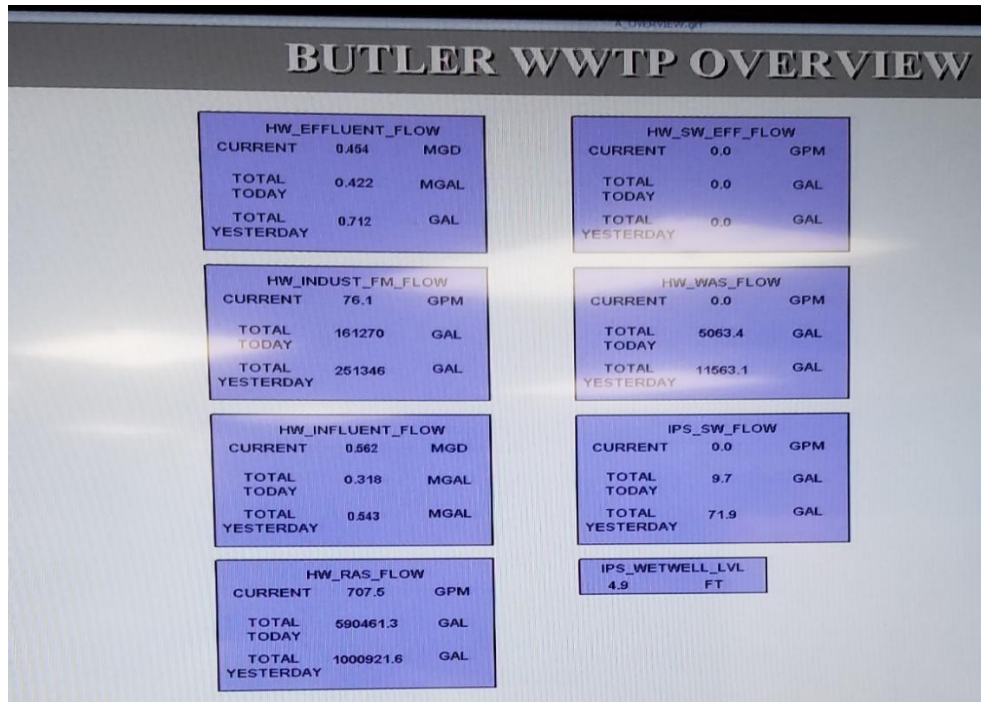


Figure 2-25 Flow Monitoring Screen in WWTP Laboratory



Figure 2-26 Outfalls 001 (on the Right) and 002 (Flowing, on the Left)

2.15 COLLECTION SYSTEM DESCRIPTION AND CONDITION

Butler's collection system has separate sanitary sewers and combined sewers. A portion of the collection sewers dates to the 1930s. As noted in Butler's *Combined Sewer System Operating Plan* (CSSOP - initially submitted to IDEM in 1994 and most recent update submitted in July 2009) there are 16 distinct "sewer basins" in the primary system (i.e., within the corporate city limits - four (4) basins) have totally separate sanitary sewers and 12 basins have combined sewers.

Basin number 17 was added in 1995 as part of the development of the DeKalb County Industrial Park. A 10-inch, PVC force main was constructed north along CR 61 to the railroad tracks on the south side of Butler and then along the RR tracks to Broadway Street in Butler. This was later extended to the WWTP. The force main is 7-miles long (35,000± LF) and has twenty-eight (28) air relief valves. The force main transports the sanitary wastewater and industrial wastewaters from several facilities located in the industrial park, with the major industrial dischargers being Steel Dynamics, Inc. (SDI) and Heidtman Steel.

The sewers in the 17 basins have 91,381 linear feet (17.31 miles) of sanitary and combined sewers. Of this total, the sanitary only sewers measure 55,776 linear feet (10.56 miles), or 61 % of the sewers in Butler.

The collection system has 7 lift stations to help transport wastewater and on occasion stormwater to the WWTP. The lift stations are summarized in Table 2.3, below.

Lift Station	Location	Age (Years)	Type	# of Pumps	Capacity (gpm @ TDH)
Meadowmere	Corner Westward & Meadowmere	5	Submersible	2	100 @ 26
Beech Street	North Ivy Lane on Beech Street	10	Submersible	2	100 @ 30
South Shore	SR 1, South of RR Tracks	8	Submersible	2	140 @ 46
McDonalds	West US 6, Across from McDonalds	20	Submersible	2	175 @ 30
SDI	CR 59 at Entrance to SDI	6	Submersible	2	700 @ 122
Tri Wall	WWTP at Northeast corner of Plant	5	Pneumatic Ejector	2	100 @ 20
Wet Weather	US 6 & RR	12	Suction Lift	2	1,560 @ 25

Figure 2-3 Butler Wastewater System Lift Stations

A goal to annually clean a minimum of 25% of the total linear feet of sewers was established in the CSSOP. In the past 10 years, Butler has averaged cleaning 46% of the total linear feet annually. In addition, to reduce inflow and infiltration, as part of the goals in the City's approved CSO LTCP, the City has relined 18,557 linear feet (31% of the total) and 81 manholes (2.5% of the total) on the sewer lines that were rehabilitated, since 2008. The City plans to reline approximately 8,500 feet (an additional 14% of the total) of sewers prior to the completion of the LTCP work at the WWTP (i.e., prior to September 30, 2022.)

As previously noted, the industrial force main that previously discharged in a manhole at S. Broadway and Canal Streets was extended to the WWTP and was in service on January 31, 2015. This eliminated the industrial flow from the major interceptor (58-inch, constructed by INDOT in 1935) under US 6 / E. Main Street that transports the combined stormwater and wastewater flow to the WWTP. This action also insured that no industrial wastewater was discharged to Outfall 003, as the CSO overflow weir is located in the interceptor sewer.

The City also worked with DeKalb County and paid for a major portion of the cost to rehabilitate and enlarge the Butler County Drain that bisects Butler. This stormwater drain was enlarged from 24-inches to 48-inches. The project was completed in 2018 and has benefited the Butler collection system by transporting more stormwater, and reducing the inflow / infiltration into Butler's combined sewers on the south side of Butler.

2.16 COMBINED SEWER OVERFLOW REGULATORY REQUIREMENTS

Butler submitted its CSO LTCP to IDEM in 2001 and completed a majority of the planned work prior to approval of the plan in 2008. However, Butler was unable to achieve the goal of 4 or fewer overflow events annually and entered into an Agreed Order (No. 2013-21811-W) with IDEM in 2014. The agreed order required Butler to submit a compliance plan that identified activities to be completed to reduce the number of CSO events at Outfall 003. The following Table 2-4 identifies the activities and dates for Butler to be in compliance with the agreed order.

Action	Due Date	Status	IDEM Notified
Retain Engineer	By May 31, 2014	Completed by Due Date	Yes
Submit Action Plan for activities to be completed before CSO LTCP Amendment is submitted	By July 31, 2014	Submitted by Due Date	To IDEM before 7/23/14
Action Plan Activities			
Staff Training	After AO Effective	Completed on 6/11/14	Yes - Identified in Action Plan
Raise Weir to 48-inches	After AO Effective	Completed on 6/12/14	Yes - Identified in Action Plan
Adjust Stormwater Pump Controls		Completed on 4/16/14	Yes - Identified in Action Plan
Adjust Alarm Dialer		Completed on 4/16/14	Yes - Identified in Action Plan
Reconstruct Butler Drain Evaluate Alternatives and Costs	By 12/31/14	Completed 12/15/14	12/30/14
Design Selected Alternative	By 4/30/15; Amended to 7/31/15	7/20/15 - Requested time extension to IDEM to 10/1/15; Extension approved 7/29/15	
RR Review and Concurrence	By 1/31/16; Amended to 4/31/16		
Project Bid / Award	By 4/30/16; Amended to 7/31/16		
Construction	By 1/31/17; Amended to 7/31/17	Construction Completed 9/30/18	IDEM Notified 10/30/18

Extend FM to WWTP	By 3/1/15; Amended to 3/31/15	In service 1/31/15	IDEM Notified 2/6/15
New Camera Truck		In Service on 4/17/14	Yes - Identified in Action Plan
Sewer Lining Projects	As funds are available	RFP issued; InSitu Form selected	4,450 LF of sewer 2016; 3,499 LF in 2017, included lining 36 MHs
Review I/I Sources	Ongoing	TriWall Data Reviewed	
Stream Assessment	Spring and Fall 2014	Spring completed 4/23-25/14 Fall Completed 10/6-9/14	Spring Completion in Action Plan; Fall report received; Transmittal to IDEM in 10/14
Submit CSO LTCP Compliance Plan to IDEM	By 5/31/15	Submitted and Approved	Submitted 5/21/15; Comment Letter received 7/13/15; Comments transmitted 8/24/15; Approval letter received 9/9/15
Implement Actions in CSO LTCP Amendment	Per Schedule in CSO LTCP CP	See Page 2	
Review, Update CSO LTCP. As necessary, per IC13-18-3-2.4	8/31/2020		

Table 2-4 CSO LTCP Agreed Order Compliance Schedule

The following Table 2-5 identifies the activities and dates for Butler to be in compliance with the long Term Control Plan Compliance Plan (CP) approved in August 2015.

DATE	MILESTONE
2/15/2015	Draft CP to Board of Works
4/20/2015	Draft CP Hearing
5/31/2015	Final CP to IDEM – IDEM Approval 9/9/15
10/1/2015	Complete County Drain Design
7/31/2016	Bid / Award by County
7/31/2017	Completed project by County
8/31/2020	Review and Update CSO LTCP (as necessary) per IC 13-18-3-2.4
10/1/2020 (Projected @ 4/20/2020)	Design Contract with Engineers for CP Implementation Work
7/1/2021 (Projected @ 3/31/2021)	CP Design, Permitting and Funding Completed
10/1/2021 (Projected NTP @ 4/1/2021)	CP Bidding and Award Completed (Intent is to Use Guaranteed Savings Procurement to involve selected Contractor during Design)
9/30/2022	CP Construction Completed
12/31/2026	Complete CP Post Construction Performance Monitoring
1/1/2027	Initiate Use Attainability Analysis (UAA)
12/31/2027	UAA Completed
12/31/2028	UAA Approved

Table 2-5 Milestones Dates for LTCP Compliance Plan

2.17 WASTEWATER FLOWS AND LOADINGS

2.17.1 FLOW RECORDS

The influent wastewater to the WWTP is comprised of the residential, commercial, institutional and industrial discharges from the primary service area, sanitary and industrial wastewater from the industrial service area, in infiltration and inflow amounts from the combined sewer area. A review and summary of Butler’s influent flow over the past 3 years indicates that the total influent flow averaged 1.119 MGD see Table 2-6 and Figure 2-27)

	2017	2018	2019	3-Year Average
Average Inf. Q (MGD)	1.15	1.13	1.29	1.19

Table 2-6 Influent Flow (MRO)

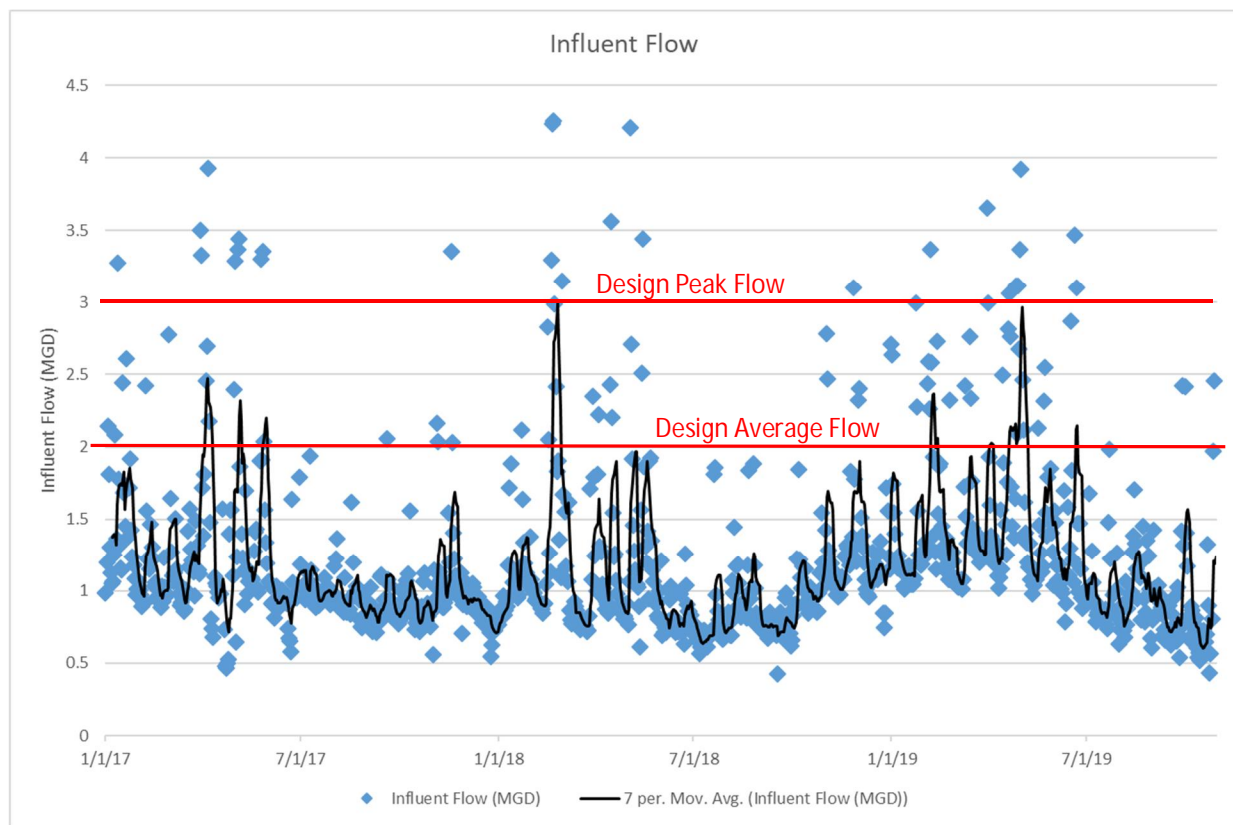


Figure 2-27 Influent Flows per MRO’s

2.17.2 TREATMENT PLANT LOADINGS

Table 2.7 summarizes the treatment plant loadings as reported on the MRO reports for the years 2017 through 2019 based on the monthly averages of the daily flows and concentrations. It should be noted that the phosphorous and suspended solids readings in 2019 are not entirely accurate as calculation errors were noted early in 2020. The official MRO reports were refiled for the months where the errors were noted but the following information reflects the original data.

Influent	2017 Average	2018 Average	2019 Average	3-Year Average
	-	-	-	-
CBOD (mg/L)	49	71	68	62.67
CBOD (lbs.)	441.9	641.6	731.6	605.03
TSS (mg/L)	57	30	25	37.33
TSS (lbs.)	629.1	291.2	269.0	396.42
NH3-N (mg/L)	8.0	7.9	8.7	8.20
NH3-N (lbs.)	76.7	74.5	93.6	81.59
P (mg/L)	4.2	5.1	11.4	6.90
P (lbs.)	40.3	48.1	122.6	70.33
Copper (mg/L)	0.06	0.04	0.038	0.046
Copper (lbs.)	0.59	0.38	0.41	0.457
Mercury (mg/L)	0.0000055	0.000002175	0.0000007	2.79633E-06
Mercury (lbs.)	0.0000531	0.0000205	0.0000073	2.6961E-05
Chlorides (mg/L)	270.60	323.5	228.5	274.20
Chlorides (lbs.)	2595.3	3048.7	2458.3	2700.80

Table 2-7 Average Influent Loadings Summary

The effluent data (from the WWTP's MROs) demonstrating treatment performance for the WWTP from 2017 through 2019 is shown in Table 2-8 on the following page. Overall treatment efficiency is also included on the next page in Table 2-9.

Effluent	2017 Average	2018 Average	2019 Average	3-Year Average
CBOD (mg/L)	2.6	1.8	3.5	2.63
CBOD (lbs.)	18.65	13.10	25.31	19.02
TSS (mg/L)	2.5	1.2	1.6	1.77
TSS (lbs.)	22.62	18.40	11.57	17.53
NH3-N (mg/L)	0.19	0.25	0.3	0.25
NH3-N (lbs.)	1.46	1.52	2.17	1.72
P (mg/L)	0.5	0.6	0.6	0.57
P (lbs.)	3.62	3.68	4.34	3.88
Copper (mg/L)	0.0096	0.0093	0.011	0.01
Copper (lbs.)	0.070	0.057	0.080	0.07
Mercury (mg/L)	0.000000237	0.000000168	0.000000195	0.0000002
Mercury (lbs.)	0.000001718	0.000001030	0.000001410	0.0000014
Chlorides (mg/L)	271.2	299.5	208.3	259.67
Chlorides (lbs.)	1965.5	1835.9	1506.2	1769.20

Table 2-8 Effluent Data Demonstrating WWTP Performance

	2017 % Removal	2018 % Removal	2019 % Removal	3 Year Average % Removal
CBOD	94	97	95	95.33
TSS	93	96	93	94.00
P	87	88	95	90.00
NH3-N	97	97	96	96.67

Figure 2-9 WWTP Overall Treatment Efficiency (WWTP MROs)

2.18 DOCUMENTATION OF NEEDS

2.18.1 CSO ABATEMENT IMPROVEMENTS

Butler has been performing activities to achieve the commitments and deadlines in the Agreed Order and compliance **plans** shown in the previous sections. The next scheduled activity is to design and construct the accepted alternative to achieve the approved goal. Construction of the necessary infrastructure must be completed by September 30, 2022, per the schedule developed and approved in the Compliance Plan.

The required elements in the Compliance Plan are:

- approximately 1200 feet of 54-inch diameter influent sewer to provide additional conveyance capacity as well as 100,000 gallons of storage for peak flows.
- The raw influent pumps will be replaced
- The influent screen would be replaced
- An overflow screening structure with a self cleaning screen to eliminate any materials over ¼" size
- Monitoring would also be added to track flow depths and flow rates with sufficient frequency and a common time sequence, so that bottlenecks can be identified in real time, and the elevation of those bottle necks be determined.

2.18.2 ADDITIONAL IMPROVEMENTS

In addition to the required CSO improvements contained in the Compliance Plan a number of other needs have been identified for inclusion in the construction project to address CSO elements. The additional work to be included is as follows:

- Revise the aeration tank effluent weirs and clarifier drop box effluent pipes to match the clarifier capacity.
- Evaluate the structural integrity of the cross tank support beam brackets in the aeration tanks and aerobic digesters and provide suitable supports for continued use.
- Replace existing slide gates in aeration tanks with new gates with manual handwheel operators.
- Add grating and handrails over the existing south aeration tank influent channel to aid sample collection.
- Provide new UV system and electrical and control facilities in one of the current chlorine contact tanks.
- Provide fiber network around the plant site to connect PLC controls from proposed new equipment (RWW pumps, influent screen, CSO screen, UV disinfection and potentially chemical and generator area) and existing signals (RAS/WAS pump station, CSO flow, plant influent and effluent meters, stormwater flow, industrial flow, rain gauge) to permit operator to observe plant operations.
- Provide new Win 911 alarm system driven by signals off the SCADA system.
- Provide PLC's at 5 remote lift stations to enable remote monitoring with cellular connections.

CHAPTER 3 – FUTURE SITUATION

3.1 CURRENT POPULATION

The 2000 census identified a population of 2,725 in Butler while the 2010 census identified a population of 2,684. A 2018 update indicated a population at 2,729, an increase of 45 people (1.6%) in the 7 year period and only 4 people more than in 2000. There has been no significant building activity in Butler within the past 10 years and no major expansion is expected or projected.

3.2 PLANNING PERIOD

The 20-year planning period for the PER is 2020 to 2040. Construction of the project is anticipated to begin in April 2021 and must be initiated no later than October 1, 2021, per the Compliance Plan approved by IDEM. Construction is projected to last for 16 months and must be completed by September 30, 2022, per the agreed order.

3.3 POPULATION PROJECTIONS

Population projections from STATS Indiana were obtained for DeKalb County for the period of 2020 to 2050. During the 30 year period, the county population is expected to decrease by 614. For the 2020 to 2035 period, the population is anticipated to increase by 980 (43,060 to 44,040) or 2.28%. After 2035 and through 2050, the county population is anticipated to decrease by 1,594 (44,040 to 42,446) or 3.62%.

The population for Butler increased by 45 people in the recent 8 year period or only 4 people for the longer 18 year period. Extrapolated from these figures and reflecting the projected county figures, it may be projected that growth in Butler may increase by about 62 people by 2035 (2.28%) to 2807 and then decline somewhat. This would mean a projected population in 2040 of 2,773 people. It is therefore unlikely that the local population will change sufficiently to impact the WWTP capacity.

Major employers in Butler include Therma-tru Doors which manufactures doors and employs an undisclosed number of people. Steel Dynamics Inc. is a steel mill in the DeKalb County Economic Development Area located 4 miles southwest of downtown Butler and employs approximately 890 people. These employers and several others constitute the majority of the local workforce. While expansion of any one of them would have major impacts on the wastewater plant there is no indication of imminent expansion.

3.4 FUTURE FLOWS AND LOADINGS

As discussed above the loadings are not anticipated to change by any appreciable amounts based on population growth or industrial flows. The proposed improvements contemplated by the Compliance Plan will increase the wet weather influent by 0.5 MGD (from about 4.0 to 4.5 MGD). The dry weather flow and loadings are not expected to change and no change is being sought for the NPDES permit.

3.5 CSO ABATEMENT IMPROVEMENTS

Butler entered into an agreed order (Order No. 2013-21811-W) with the IDEM Office of Water Quality on May 29, 2014. It had been determined that the 2008 approved CSO LTCP was not adequate to ensure compliance with the technological and water quality based requirements of the Clean Water Act. In addition Butler had failed to comply with the 2008 CSO LTCP plan by having more overflow events than

permitted under the previous plan. The Agreed Order stipulated that a CSO LTCP Compliance Plan was to be developed to address the previous plan compliance shortcomings. The new CSO LTCP Compliance Plan identified a level of CSO control as six (6) or fewer CSO events per year occurring at Outfall 003 to be achieved by a number of infrastructure improvements and performance of a Use Attainability Analysis after several years of monitoring once the infrastructure improvements were complete. The Compliance Plan was submitted to IDEM in May 2015 and the plan was approved on September 9, 2015.

Butler has been performing activities to achieve the commitments and deadlines in the compliance plan. The next phase of the activities is to design and construct the accepted alternative to achieve the approved goal. Construction of the necessary infrastructure must be completed by September 30, 2022, per the agreed order.

In brief, Butler’s CSO compliance plan project to achieve the approved alternative, will include the improvements identified in paragraph 2.18 perviously.

3.6 DISCHARGE LIMITS FOR CSO 001

The Town’s current NPDES permit monitoring and reporting requirements for the wet weather treatment component of the CSO LTCP are contained in Table 3-1 below and are not expected to be modified by this project. Footnote references in the Table can be found in the NPDES permit in Appendix A.

The permittee is authorized to discharge treated combined sewage from Outfall 001 when influent flows exceed the Wastewater Treatment Plant (WWTP) peak hourly design rate. Wet weather flow is diverted from the WWTP headworks into the WWTF, and is discharged via Outfall 001 located at Latitude: 41° 26' 07" N, Longitude: 84° 51' 26" W. Any discharge from 001 is subject to the requirements and provisions of this permit including the following requirements:

	Quantity or Loading		Quality or Concentration		Monitoring Requirements			
	Daily Maximum	Monthly Average	Daily Maximum	Monthly Average	Units	Frequency	Type	
Flow [1]	Report	Report	MGD	----	----	----	Daily	24-Hr. Total
CBOD ₅	----	----	----	Report	Report	mg/l	Daily	Composite [6]
TSS	----	----	----	Report	Report	mg/l	Daily	Composite [6]

<u>Parameter [7]</u>	Quality or Concentration		Quality or Concentration		Monitoring Requirements	
	Daily Minimum	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
pH [8]	Report	----	Report	s.u.	Daily	Grab
TRC [2] [3]	----	0.01	0.02	mg/l	Daily	Grab
<i>E. coli</i> [4] [5]	----	125	235	cfu /100 ml	Daily	Grab

Table 3-1: CSO Discharge Requirements from Current NPDES Permit

3.7 PROPOSED DISCHARGE LIMITS FOR CSO TREATMENT

The CSO LTCP Compliance Plan provides for a 4 Year project performance period and achievement of the goal of 6 or fewer CSO events at Outfall 003 per year will allow the City to complete a Use Attainability Analysis (UAA) and if that UAA is approved by IDEM, other requirements and / or limits may be imposed at that time. If the City submits a UAA and it is approved by IDEM, the schedule in the compliance plan indicates that those requirements and / or limits may be expected in 2028 or 2029. It is presumed that the requirements and limits for CSO Outfall 003 might be the same as those of Outfall 001.

CHAPTER 4 – EVALUATION OF ALTERNATIVES

4.1 GENERAL DISCUSSION ABOUT THE ALTERNATIVES

Alternatives to minimize or eliminate CSO overflows fall into 2 general categories, alternatives that are presumed to meet the water quality standards, or alternatives that require a demonstration of compliance with the water quality standards. Indiana Environmental Protection Agency has determined that compliance with the rules commonly referred to as Water Non-Rule Policy Document 016 (Water NPD-016) will satisfy the requirement for a presumption of compliance. Water NPD-016 requires capture and treatment of all combined sewer flows up to the 1-yr, 1-hr rainfall intensity, capture and treatment with 30 minutes clarification and disinfection for all combined sewer flows up to the 10-yr, 1-hr rainfall intensity, and treating to the extent possible combined sewer flow rates above the 10-yr, 1-hr rainfall intensity.

The other general category is developing a number of overflow events through sewer system modeling and costing that achieves a minimal number of overflows before the price of the required improvements begins to escalate dramatically for fewer overflow events. In the 2015 LTCP Compliance plan this was identified as 6 overflow events annually. In addition a Use Attainability Analysis (UAA) would be required at the end of a multi-year monitoring period. A UAA is a structured scientific assessment of the factors affecting the attainment of uses specified in Section 101(a)(2) of the Clean Water Act (the so called "fishable/swimmable" uses). The factors to be considered in such an analysis include the physical, chemical, biological, and economic use criteria described in EPA's water quality standards regulation. Whenever a variation in the fishable/swimmable criteria is proposed, such as during an overflow event, a UAA is needed.

In 2014 and 2015 a total of 13 different alternatives were considered using both of the above alternatives, plus sewer separation and increasing plant capacity. Prior to this PER, an additional 7 different alternatives were considered including partial sewer separation, Water NPD-016 alternatives, and a re-examination of the previously selected Alternative 13, with several differences that have been identified over the past 5 years. The additional 7 alternatives were part of the LTCP Compliance Plan update required by IDEM, currently scheduled for submittal by August 31, 2020. Refer to Appendix C for the draft copy of the document. The 3 least cost alternatives in the updated LTCP were included in this PER for discussion.

4.2 POTENTIAL FOR REGIONALIZATION

Regionalization is not a realistic option for Butler to pursue. There are 2 communities nearby with treatment facilities. Waterloo WWTP is about 8 miles away but is only 0.369 MGD capacity which is less than Butler's 2.0 MGD design average flow. Thus it is unrealistic to direct Butler's sanitary and combined sewer flows to Waterloo. Auburn WWTP is at least 14.5 miles away across a watershed divide and any interconnection would need to be able to convey peak flows from the combined system (modeled at rates up to 40 MGD). Again, conveyance of flows to Auburn is unrealistic due to the expense required to convey the flows. Furthermore, as indicated in other sections of the PER long term county growth rates are flat (0 growth) so there is no rationale for accommodation of higher flows through regionalization.

4.3 ALTERNATIVE 1 – PROVIDE ADDITIONAL STORAGE CAPACITY AND UAA

Alternative No. 1 is an update to Alternative 13 which was selected for implementation as part of the 2015 LTCP Compliance Plan. The alternative is in compliance with the previously approved CSO control strategy which allowed for an annual average of 6 overflow events followed by a 4 year monitoring period and then a Use Attainability Analysis (UAA). This alternative includes a new CSO diversion structure with passive ROMAG type screen to provide screening for the overflows, 60-inch interceptor sewer from the existing diversion structure to the new diversion structure, 54-inch interceptor from the new diversion structure to the influent screening facility, 60-inch pipe to return flow in excess of WWTP capacity to Overflow 003 from the new diversion/screening structure, new influent pumps, new WWTP influent screen, new larger sewer between the influent screening facility and influent lift station, new larger force main from the influent pumps to the Grit Tank, associated electrical, instrumentation and control, structural and site improvements related to the facilities.

Changes that were made to Alternative No. 1 from the previous Alternative No. 13 included the following items

1. An increase in the interceptor size from the new diversion/screening structure to the influent screening facility from 48-inch to 54-inch. This is due to discovery that the upstream sewer was a 58-inch sewer instead of a 51-inch arch sewer and ensuring that 100,000 gallons of storage is available above the 4.5 mgd peak conveyance capacity to the plant.
2. Further investigation into the required LTCP improvements has identified that various additional costs for items not estimated in the previous LTCP Compliance plan but now known to be necessary for the work include the following:
 - a. The difficulty and extent of construction connecting to the Diversion Structure in US 6 is now clearer as more photographic and record drawings have been reviewed.
 - b. Need for increased Influent Wet Well volume to allow for improved pump cycling.
 - c. Making the existing Influent Pump Station compliant with the National Fire Protection Association (NFPA) 820. Ventilation, structural, and electrical improvements are needed potentially making a new submersible pump station more cost effective.
 - d. Hydraulic improvements in the aeration tanks and potentially even downstream piping to lower hydraulic grades to address the potential for walls overtopping during high flow events.
 - e. Potentially increased difficulty of constructing the new interceptor adjacent to the railroad property line which is further west than previously known in a crowded utility corridor.
3. Other work which is currently planned to occur while the LTCP work is under construction but which is not part of the LTCP work includes the following:
 - a. Aeration and Digester Tanks
 - 1) Evaluate the structural integrity of the cross tank support beam brackets on the aeration and digester tanks and incorporate improvements to reduce the potential for support failure.
 - 2) Replace existing slide gates in aeration tanks with new gates with manual hand wheel operators.

- 3) Add grating and handrails over the existing south influent channel on the aeration tanks for improved accessibility.
- b. Add Ultraviolet (UV) Disinfection system in existing chlorine contact tanks
 - c. Provide SCADA and monitoring upgrades with the following features:
 - 1) A fiber network around the plant site to connect PLC controls from existing and new systems and allow for remote monitoring, and data acquisition and storage.
 - 2) Incorporate a new Win 911 alarm system driven by signals off the SCADA system.
 - 3) Provide PLCs at 5 remote lift stations for monitoring wet well level and pump operating information and storage of the data in the historian software.
 - 4) Replace the external mounted stormwater influent flow meter with a below grade magnetic flow meter.
 - 5) Replace the below grade external mounted flow meter on the industrial force main with a magnetic flow meter.

The estimated construction cost for the above improvements is \$6.12 million and the total project cost is \$7.43 million. A schematic diagram of the LTCP upgrades for Alternative 1 and the detailed cost estimate is contained in Appendix D.

4.4 ALTERNATIVE 2 – WATER NPD 016: 1 YR, 1HR STORAGE AND 10 YR, 1 HR 30 MINUTE DETENTION

This alternate complies with IDEM Water NPD-016 requirements for control of the 1-Year, 1-Hour, and 10-Year, 1-Hour storms. The alternative provides full storage of the 1-Year, 1-Hour storm and 30 minutes of detention time for the 10-Year, 1-Hour Storm for primary clarification equivalence. This alternative includes a new combination CSO diversion/influent screening structure similar to alternate 1 but it is located on the WWTP site near the influent screening structure, a 60-inch interceptor sewer from the existing diversion structure to the new diversion/screening structure, a 0.7 MG concrete storage tank with 32.5 MGD influent pump station, new chlorination and dechlorination facilities, and a 42-inch outfall pipe from the storage tank to the creek.

All other aspects of Alternative 1 are also included such as difficult construction in US 6, new influent pumps, new larger force main from the influent lift station to the Grit Tank, aeration and digester tank improvements, NFPA Requirements in the Influent pumps station, new UV system, SCADA and other improvements discussed for alternate 1.

The estimated construction cost for the above improvements is \$12.13 million and the total project cost is \$14.70 million. A schematic diagram of the LTCP upgrades for Alternative 2 and the detailed cost estimate is contained in Appendix D.

4.5 ALTERNATIVE NO. 3 – WATER NPD 16: 10 YR, 1 HR STORAGE

This alternative would provide full storage of the 10-Year, 1-Hour Storm which eliminates the need to provide any disinfection facilities. This alternative includes a new CSO diversion/influent screening structure, 60-inch interceptor sewer from the existing diversion structure to the new diversion/screening structure, a 1.8 MG concrete storage tank with 32.5 MGD pump station, 42-inch outfall pipe from the

storage tank to the creek, 24-inch interceptor from the new diversion/screening structure to the influent pump station, new influent pumps, new force main from the influent lift station to the Grit Tank, and associated electrical, instrumentation and control, structural and site improvements.

All other aspects of Alternative 1 are also included such as difficult construction in US 6, new influent pumps, new larger force main from the influent lift station to the Grit Tank, aeration and digester tank improvements, NFPA Requirements in the Influent pumps station, new UV system, SCADA and other improvements discussed for alternate 1.

The estimated construction cost for the above improvements is \$10.51 million and the total project cost is \$12.74 million. A schematic diagram of the LTCP upgrades for Alternative 3 and the detailed cost estimate is contained in Appendix D.

4.6 ALTERNATIVE 4 – NO ACTION

The no action alternative is unacceptable because the City is mandated by the LTCP Compliance plan to implement improvements to the WWTP and the influent piping/conveyance system. The plan is to reduce the number of overflows to 6 or less annually by capturing additional flow and then perform a UAA to show that a temporary water quality suspension is reasonable. Since the work is required and enforceable with an Agreed Order the no action alternative is not viable.

4.7 OTHER ALTERNATIVES

The LTCP Compliance Plan Update to be submitted after the PER submittal (draft copy in Appendix C) contained several other alternatives that were developed in conjunction with this report. The alternatives in the LTCP Compliance Plan Update only included facilities/improvements related to requirements associated with the Compliance Plan. Therefore all the other proposed improvements listed under paragraph 4.1 subparagraph number 3 were not part of the Compliance Plan Update. Direct cost comparisons between this PER and the LTCP Compliance Plan Update are not possible because of that.

After evaluating the information in the Compliance Plan Update, the Alternatives not included in this PER (#3, 5, 6 and 7 in the LTCP Compliance Plan Update) all had costs that were well in excess of the 3 alternatives that were included here. Those alternatives were not realistic to include in this PER since they provided no additional benefits while being more expensive.

4.8 ALTERNATIVES SUMMARY AND RECOMMENDATION

4.8.1 ALTERNATIVES ECONOMIC EVALUATION

The net present value (NPV) of each alternate over the 20 year project timeframe is calculated for each technically feasible solution by evaluating the capital costs, operation and maintenance costs (O&M) and the salvage value of the installed equipment. By evaluating all three of these component costs the true present worth life cycle costs can be determined. The sum of the capital cost (C) plus the present worth of the uniform series of annual O&M (USPW (O&M)) costs minus the single payment present worth of the salvage value (SPPW(S)). In equation form the calculation is:

$$NPV = C + USPW (O\&M) - SPPW (S)$$

The real discount rate for 2020 is 0.3% or 0.003 as indicated in Circular A-94 appendix C for Benefit-Cost analysis for Federal Programs.

Additional cost sheets for each alternative depicting the annual estimated O&M costs along with the estimated salvage value were also prepared and are included in Appendix D for this PER. The O&M costs are general approximations since the actual components have not been selected nor have the maintenance efforts been established. Estimates used \$30/hr for labor (including fringes) and \$0.08/KWH electrical costs based on actual billing rates for 2020.

The salvage value of the improvements were generally determined as follows:

- Pipes and structural components generally have a 50 year service life so the salvage value should be 60% of the original value (20/50 is 40% with the remaining useful life being 60%)
- Electro-mechanical components have generally reached the end of their design life at the end of 20 years and thus have \$0 salvage value.

Using the formula above for the net present value the 3 alternatives were evaluated with the following results. Note that the total project costs were used (capital costs plus engineering, legal, administration, and land).

	Project Cost (Capital plus soft costs)	Estimated Annual O&M Cost	Present Worth 20 Yrs O&M	Salvage Value after 20 years	Present Worth Salvage Value	Net Present Worth
Alternate 1	\$ 7,433,000	\$ 63,600	\$ 1,232,799	\$ 2,155,150	\$ 2,029,826	\$ 6,635,972
Alternate 2	\$ 14,705,000	\$ 94,700	\$ 1,835,629	\$ 3,817,150	\$ 3,595,179	\$ 12,945,450
Alternate 3	\$ 12,739,000	\$ 77,800	\$ 1,508,046	\$ 4,329,050	\$ 4,077,312	\$ 10,169,734

Alternative 1 with the lowest capital cost also has the lowest net present worth making it the least costly alternative.

4.8.2 ALTERNATIVES NON-ECONOMIC EVALUATION

4.8.2.1 Technical Concerns

All alternatives use proven technologies with minimal technical concerns. The most critical element of the design would be evaluating the hydraulic grade line and flows to assure that flows are split, held back, stored, and conveyed in the desired manner.

4.8.2.2 Reliability Concerns

All alternatives use proven technologies with no reliability concerns beyond those normally encountered in typical wastewater operations.

4.8.2.3 Implementability Concerns

All alternatives have a number of the same constraints on the construction and alternatives 2 and 3 have a couple of additional construction challenges. The constraints common to all the alternatives are related to the difficulty of access to the existing diversion structure located in the middle of US 6 and the proximity of the existing railroad property line all along the proposed project area. Unfortunately there are no alternatives that can be utilized due to the location of the existing facilities. In addition all the alternatives face the same difficulty of construction for the area around the influent screen, influent wet well and influent pumps. The area is very small, has numerous existing utilities and does not conform to existing codes for wastewater structures.

Alternatives 2 and 3 also face challenges for locating new storage facilities within the plant area and for routing new larger diameter piping to a new discharge at Big Run Creek. Alternative 2 will also require a new chemical storage and pumping facility that will require truck access for delivery.

Alternative 1 would therefore be easier to lay out and construct than the other alternatives. The construction constraints expected will be evaluated during design together with construction experts to identify the most economical and effective way of minimizing construction impacts.

4.8.2.4 Environmental Impacts

Alternative 1 is believed to have the least environmental impacts because it minimizes pumping of the influent, does not require chlorination and dechlorination, and does not require any instream work with a new CSO outfall. Only typical construction impacts (noise, engine exhaust, vehicular impacts, etc.) will occur.

4.8.3 CERTIFIED OPERATOR CONSIDERATIONS

All of the work proposed in the various alternatives is not intended to change the NPDES plant average or peak flow ratings. The improvements are strictly related to wet weather considerations for the reduction in overflows. Therefore the operator classification will not change. The current plant operator is anticipated to remain during construction and after construction is complete.

4.8.4 RECOMMENDED ALTERNATIVE

"A cost and effectiveness analysis was completed and meets the minimum requirements of the Water Resources Reform and Development Act of 2014."

A cost and effectiveness certification form is included in Appendix, F.

CHAPTER 5 – EVALUATION OF ENVIRONMENTAL IMPACTS

5.1 INTRODUCTION

This chapter describes the environmental impacts and mitigation measures for the City of Butler's LTCP Compliance Plan Implementation Project. The proposed project will construct improvements at the WWTP, along Green street south of the WWTP, and in and just north of highway US 6. Most of the improvements will be buried below grade or located in existing tanks. It is anticipated that there will be only minor short term construction related environmental impacts for the anticipated improvements involved with this project.

5.2 DISTURBED AND UNDISTURBED LAND

The existing WWTP property and the new structures can be seen on Figure 5-1 which shows the parcels owned by the City as well as the proposed improvements location and other properties in the vicinity. All land within the project area is believed to have been disturbed from the original plant construction and at least 4 (1950's plant construction, 1995 improvements, 2001 improvements, 2014 forcemain) prior construction projects between US 6 and the plant.

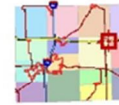
5.3 HISTORIC AND ARCHITECTURAL RESOURCES

The improvements planned by this project will not affect any historically or architecturally significant structures or sites. The nearest potentially affected properties can be seen in Figure 5-2 and are taken from the Indiana State Historic Architectural and Archaeological Research Database (SHAARD). Several of these properties are approximately ½ mile from the project site.

Figure 5-3A and 5-3B provide information on the eight historic properties identified that are within a ½ mile radius of the project site. The proposed work will not impact those structures nor will it change the character and usage of the treatment plant site thereby impacting the adjacent parcels. Therefore no historic or architectural resources will be negatively impacted.



Overview



Legend

City/Town Boundary



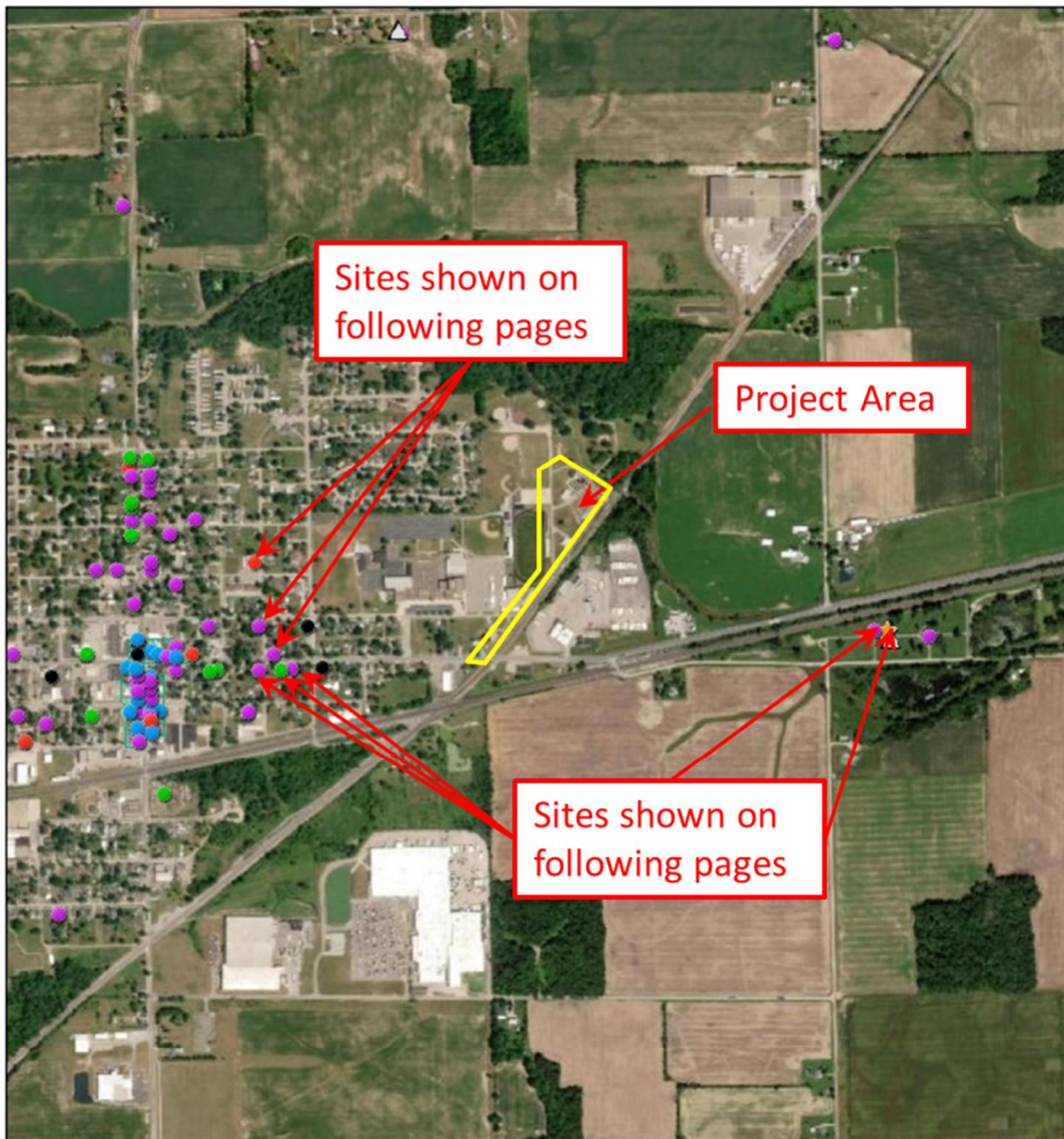
PROJECT 13666

MARCH 2020

**FIGURE 5-1
SITE MAP**

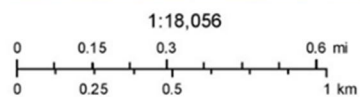
CITY OF BUTLER
LTCP COMPLIANCE PLAN PHASE A IMPLEMENTATION
PROJECT PRELIMINARY ENGINEERING REPORT
BUTLER, INDIANA

Historic Buildings, Bridges, and Cemeteries Map



3/18/2020, 4:40:27 PM

- △ Cemeteries
- Non-Contributing
- County Survey Sites
- ☠ Demolished
- Outstanding
- ★ National Register Sites
- Notable
- ▨ Historic Districts
- Contributing



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Indiana DNR DHPA
2019 Indiana Dept. of Natural Resources, DHPA



PROJECT 13666

MARCH 2020

FIGURE 5-2
HISTORIC/ARCHITECTURAL MAP
CITY OF BUTLER
LTCP COMPLIANCE PLAN PHASE A IMPLEMENTATION
PROJECT PRELIMINARY ENGINEERING REPORT
BUTLER, INDIANA



IN.GOV SHAARD

[Print](#) [Close Window](#)

IHSSI (County Survey)

Survey Number: 033-085-32019
 Rating: Outstanding
 Historic Name: Butler City School Gymnasium
 Year Dataset Compiled: 2002
 National Register File Number: -

Survey County

County	Legal Township(s)	Quad Name(s)
DeKalb	Wilmington	Butler East

Address: Ash Street
 City: Butler
 Location Notes: On the west side of Ash Street, between Washington Street and Liberty Street

IN.GOV SHAARD

[Print](#) [Close Window](#)

IHSSI (County Survey)

Survey Number: 033-085-32023
 Rating: Contributing
 Historic Name: House
 Year Dataset Compiled: 2002
 National Register File Number: -

Survey County

County	Legal Township(s)	Quad Name(s)
DeKalb	Wilmington	Butler East

Address: 310 East Green Street
 City: Butler
 Location Notes: Southwest corner of the intersection at Green Street and Ash Street

IN.GOV SHAARD

[Print](#) [Close Window](#)

IHSSI (County Survey)

Survey Number: 033-085-32027
 Rating: Contributing
 Historic Name: House
 Year Dataset Compiled: 2002
 National Register File Number: -

Survey County

County	Legal Township(s)	Quad Name(s)
DeKalb	Wilmington	Butler East

Address: 407 East Main Street
 City: Butler
 Location Notes: Second house east, on the north east corner of the intersection at Ash Street and Main Street

IN.GOV SHAARD

[Print](#) [Close Window](#)

IHSSI (County Survey)

Survey Number: 033-085-32029
 Rating: Contributing
 Historic Name: House
 Year Dataset Compiled: 2002
 National Register File Number: -

Survey County

County	Legal Township(s)	Quad Name(s)
DeKalb	Wilmington	Butler East

Address: 312 East Main Street
 City: Butler
 Location Notes: Southwest corner of the intersection at East Main Street (6) and Ash Street



PROJECT 13666

MARCH 2020

FIGURE 5-3A
HISTORIC/ARCHITECTURAL LISTING
 CITY OF BUTLER
 LTCP COMPLIANCE PLAN PHASE A IMPLEMENTATION
 PROJECT PRELIMINARY ENGINEERING REPORT
 BUTLER, INDIANA



IN.GOV SHAARD

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IHSSI (County Survey)



Survey Number: 033-085-32028
 Rating: Notable
 Historic Name: House
 Year Dataset Compiled: 2002
 National Register File Number: -

Survey County

County	Legal Township(s)	Quad Name(s)
DeKalb	Wilmington	Butler East

Address: 400 East Main Street
 City: Butler
 Location Notes: Southwest corner of the intersection at Main Street (6) and Ash Street

IN.GOV SHAARD

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IHSSI (County Survey)



Survey Number: 033-085-32026
 Rating: Contributing
 Historic Name: House
 Year Dataset Compiled: 2002
 National Register File Number: -

Survey County


County	Legal Township(s)	Quad Name(s)
DeKalb	Wilmington	Butler East

Address: 408 East Main Street
 City: Butler
 Location Notes: South side of the street, the middle of 3 houses on block between Ash Street and Canal Street

IN.GOV SHAARD

[Print](#) [Close Window](#)

IHSSI (County Survey)



Survey Number: 033-085-35002
 Rating: Contributing
 Historic Name: Butler Cemetery
 Year Dataset Compiled: 2002
 National Register File Number: -

Survey County


County	Legal Township(s)	Quad Name(s)
DeKalb	Stafford	Butler East

Address: County Road 28

IN.GOV SHAARD

[Print](#) [Close Window](#)

National Register



National Register File Number: NR-2343
 Historic Name: Butler Community Mausoleum
 IHSSI Number: 033-086-35002

Survey County

County	Legal Township(s)	Quad Name(s)
DeKalb	Stafford	Butler East

Address: County Road 28 East, east of County Road 71
 City: Butler
 Zip Code: 46721

Not for publication:
 Vicinity:



PROJECT 13666

MARCH 2020

FIGURE 5-3B
HISTORIC/ARCHITECTURAL LISTING
 CITY OF BUTLER
 LTCP COMPLIANCE PLAN PHASE A IMPLEMENTATION
 PROJECT PRELIMINARY ENGINEERING REPORT
 BUTLER, INDIANA

5.4 WETLANDS

According to the Indiana Map Viewer (<https://maps.indiana.edu/>) there are designated wetlands located north and northwest from the project site. The wetlands are shown on Figure 5-4. The indicated wetlands indicated are at least 500 feet from the proposed working limits for the project. No wetlands delineation investigations are planned. Wetlands will not be affected by construction or operation of the project.

5.5 HYDROLOGY

There are no anticipated long-term impacts to Big Run Creek or area hydrology due to the construction of the proposed project.

5.5.1 SURFACE WATERS

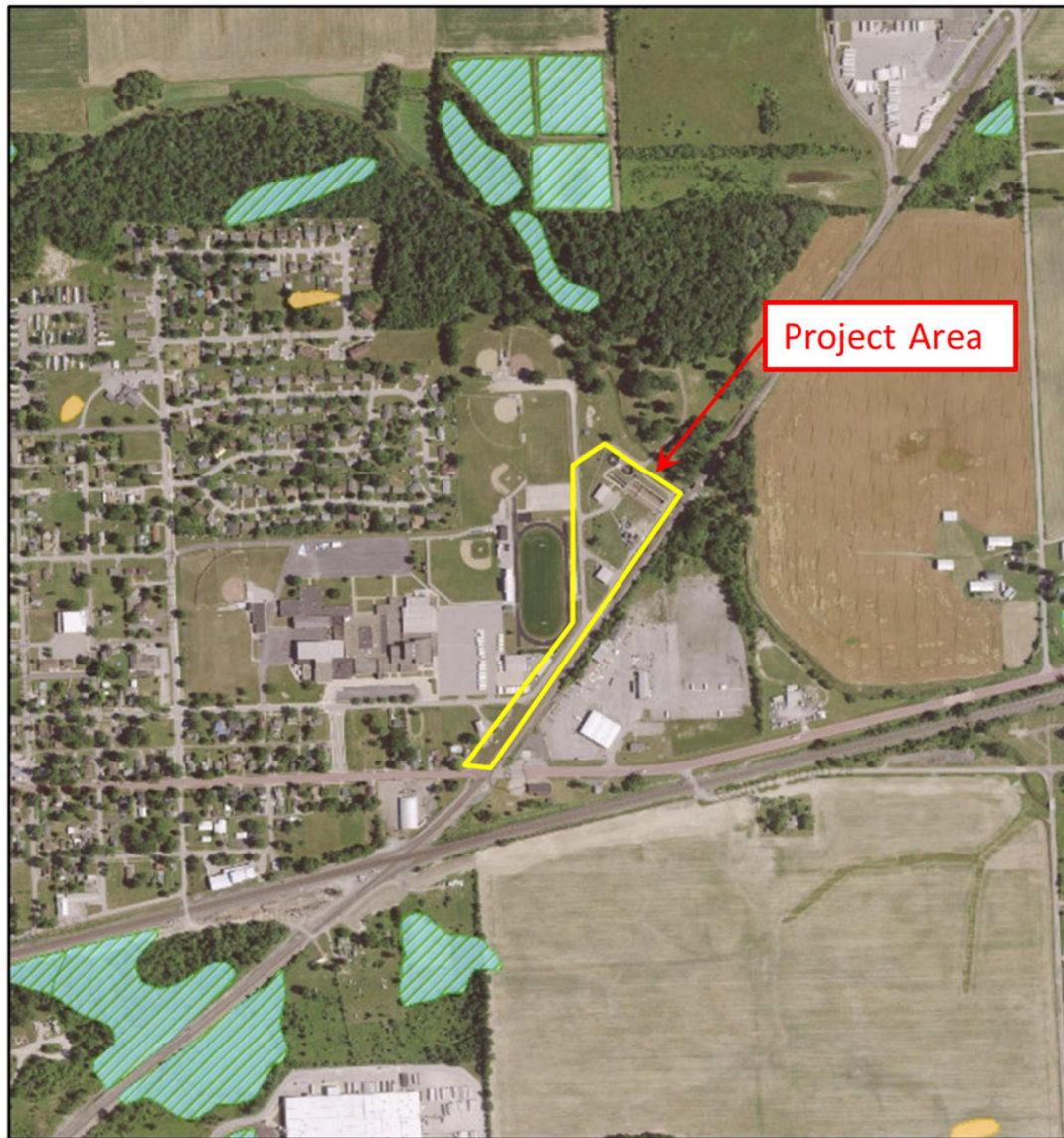
The project is designed to increase the volume of wet weather flows that are captured and treated by increasing the pumping rates into the plant and by storing up to 100,000 gallons of combined sewerage before overflow occur. Therefore the discharges to Big Run Creek will be reduced.

Dewatering may be required to install the new structures and piping improvements within the project area. Discharge from dewatering operations will be discharged into geotextile sediment bags prior to discharge to the creek. No sediment will be allowed to discharge from the site.

Excavation within river bank areas is not anticipated. Excavation below the water level is not anticipated. All excavated areas will be stabilized with rock or seed and erosion control mat to prevent erosion.

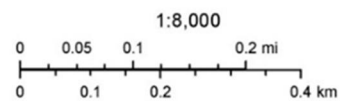
Following completion of the project and a monitoring period Butler will perform a Use Attainability Analysis (UAA) on Big Run Creek to determine if adverse impacts are occurring. Previous Stream Reach Characterization Reports (SERCR) performed over the last 20 years have identified that the impact from the WWTP and combined sewer overflows has no noticeable negative impact on the Creek waters which are already impacted by agricultural activities. In fact improved water quality has been noted downstream of the wastewater outfall, potentially due to prior CSO control actions.

The project will not adversely affect waters of high quality listed in 327 IAC 2-1.3-3, exceptional use streams listed in 327 IAC 2-1-11(b), Natural, Scenic and Recreational Rivers and Streams listed in 312 IAC 7-(2), or Salmonid Streams list in 327 IAC 2-1.5-5(a)(3).



March 18, 2020

-  Historic Wetlands NWI (USFWS)
-  Wetlands NWI (USFWS)
-  Wetlands Project Metadata NWI (USFS)
-  NAIP Imagery (2018) Placeholder



U.S. Fish and Wildlife Service (USFWS), National Standards and Support Team, National Wetlands Inventory (NWI)
 Indiana Department of Transportation (INDOT), U.S. Census Bureau (USCB),
 Indiana Geographic Information Council (IGIC), UITS, Indiana Spatial Data Portal



PROJECT 13666

MARCH 2020

FIGURE 5-4
WETLANDS MAP
 CITY OF BUTLER
 LTCP COMPLIANCE PLAN PHASE A IMPLEMENTATION
 PROJECT PRELIMINARY ENGINEERING REPORT
 BUTLER, INDIANA

5.5.2 100-YEAR FLOODPLAINS AND FLOODWAYS

Information regarding the 100-year floodplain for Big Run Creek at Butler was obtained from the Indiana Floodplain Information Portal and the Federal Emergency Management Agency (FEMA) flood plain maps. The current mapping indicates the majority of the WWTP is within the designated Zone AE floodway with the flood elevation along the Creek along the northern boundary of the project area identified as 851.0 at the upstream limits and 848.7 at the Railroad property on the downstream limits. The Indiana Floodplain Information Portal and the Federal Emergency Management Agency (FEMA) floodplain maps are shown in Figure 5-5A and Figure 5-5B respectively.

No work is anticipated to occur in the floodplain or floodway and no impacts to the floodplain or floodway are anticipated.

5.5.3 GROUNDWATER

Dewatering operations are anticipated during underground construction, particularly for various structures. Groundwater from the dewatering activities will be directed into sediment bags or other water quality features prior to discharge into the creek to prevent silting of waterways. The construction contractor will be required to comply with the procedures outlined in the U.S. EPA and IDEM manuals for Erosion and Sedimentation Control.

Review of the Indiana Map Viewer indicates that the nearest well is about 1000 feet southeast of the WWTP property line at a used car dealer. There are also three wells about 1500 feet southwest of the WWTP property line at a school . Care will have to be taken to not lower the water table to the degree that it will impact the used car dealer.

5.6 PLANTS AND ANIMALS

The various construction activities will take place on the currently developed WWTP site. No mature trees or animal habitat areas are anticipated to be impacted or removed.

Mitigation measures which may be cited in comment letters from the Indiana Department of Natural Resources and the U.S. Fish and Wildlife Service will be implemented.

5.7 PRIME FARMLAND AND GEOLOGY

There are no areas where project activities will impact currently farmed land nor are any areas likely to be farmed in the future. Therefore, farmland impacts are not anticipated. Correspondence between Donohue and the National Resources Conservation Service (NRCS) and the corresponding Farmland Conversion Impact Rating forms are attached in Appendix E. The response from NCRS concurred that there were no farmland impacts. A soils map of the project areas is included as Figure 5-6.



Indiana Floodplain Information Portal Report

Point of Interest

Approximate Address:

695 East GREEN ST
BUTLER, IN 46721

Effective Flood Zone:

X

Preliminary Flood Zone:

N/A

Best Available Flood Zone:

X

Approximate Flood Elevation:

850.8ft NAVD88

Source:

Zone A Model Delineation

Nearest Stream:

BIG RUN

Map Legend

- Point of Interest
- Nearest Point on Stream

Best Available Flood Zone

- FEMA Zone AE Floodway
- DNR Detailed Floodway
- DNR Approximate Floodway
- FEMA Zone A
- FEMA Zone AE
- DNR Detailed Fringe
- DNR Approximate Fringe
- Additional Floodplain Area
- FEMA Protected by Levee
- FEMA Floodplain - Ponding (Depth)
- FEMA Floodplain - Sheet Flow (Depth)

Site Map with Best Available Flood Zone



Approximate scale 1:2,400

Disclaimer

The data shown on this map represents FEMA floodplain data enhanced with additional studies that have been reviewed and approved by the Division of Water. While this data has not yet been submitted to FEMA for inclusion in the Flood Insurance Rate

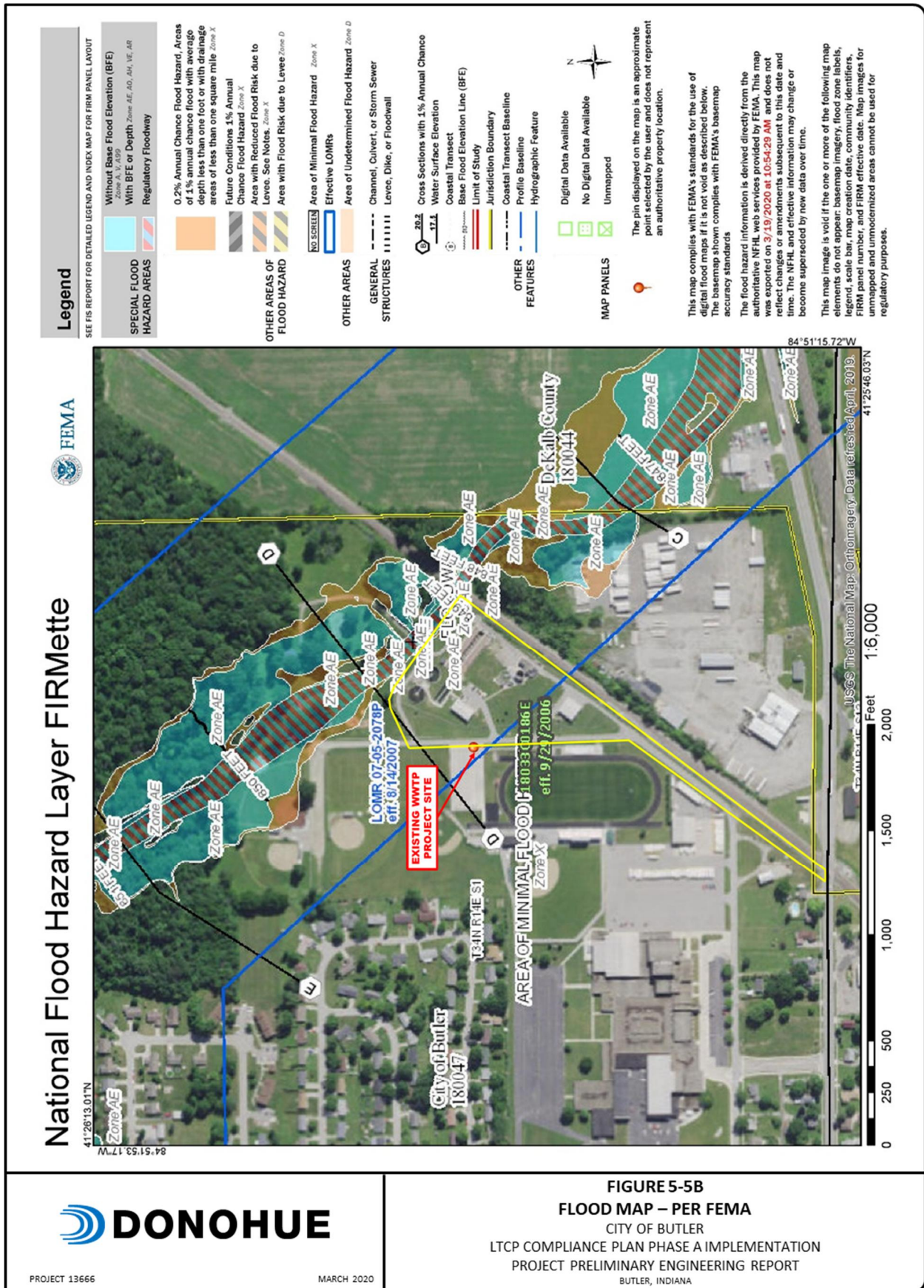
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PROJECT 13666

MARCH 2020

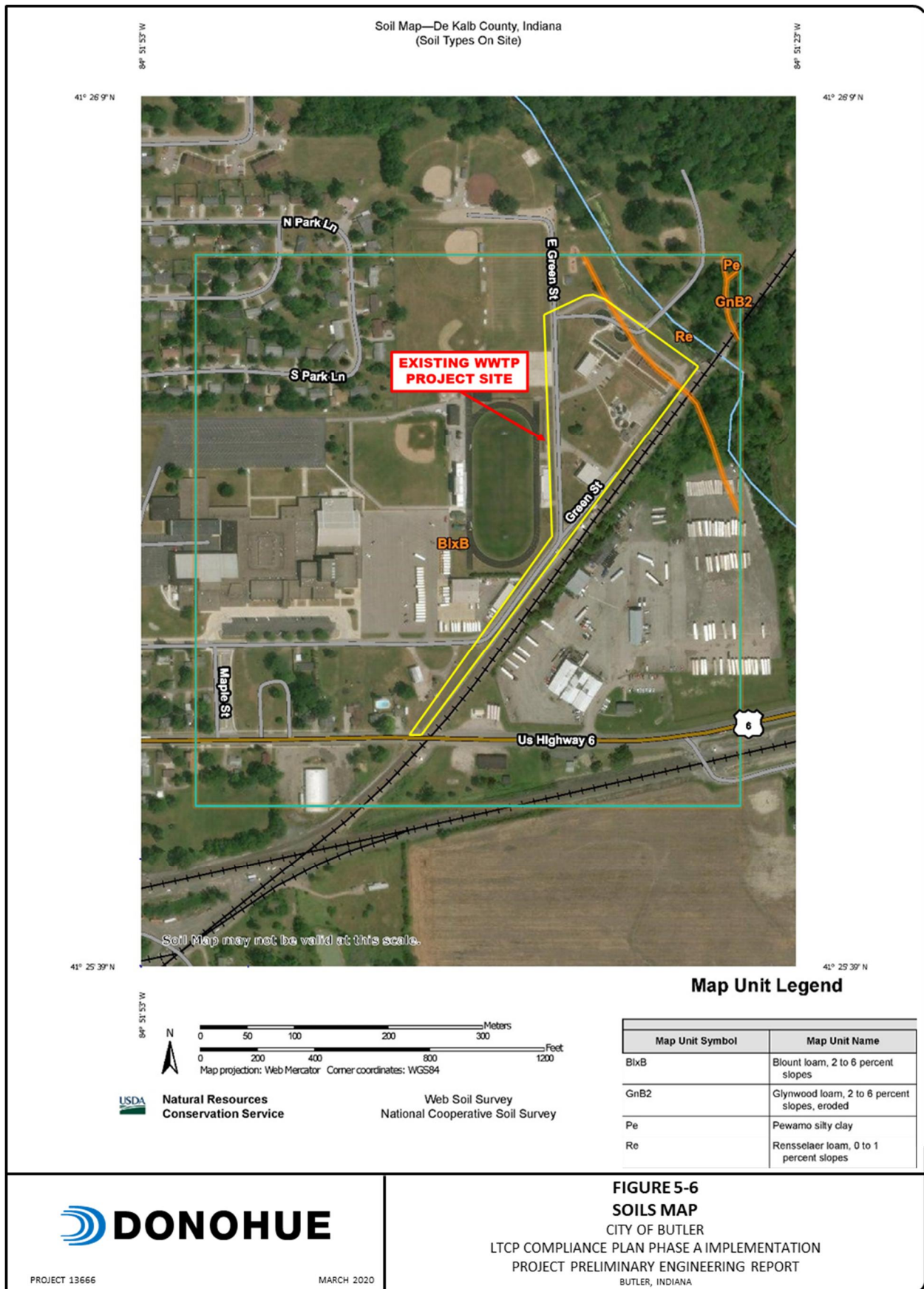
FIGURE 5-5A
FLOOD MAP – PER INDIANA FLOODPLAIN PORTAL
 CITY OF BUTLER
 LTCP COMPLIANCE PLAN PHASE A IMPLEMENTATION
 PROJECT PRELIMINARY ENGINEERING REPORT
 BUTLER, INDIANA



PROJECT 13666

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FIGURE 5-5B
FLOOD MAP – PER FEMA
CITY OF BUTLER
LTCP COMPLIANCE PLAN PHASE A IMPLEMENTATION
PROJECT PRELIMINARY ENGINEERING REPORT
BUTLER, INDIANA



5.8 AIR QUALITY

The proposed project will result in minor short-term impacts on air quality resulting from construction related activities and emissions from construction equipment. Surface restoration of all disturbed areas will consist primarily of turf restoration or paved roadway and driveway restoration. Restoration will be performed as soon as possible to reduce the potential of dust being a problem.

There will be no long term impacts on air quality from future operation of these projects.

5.9 OPEN SPACE AND RECREATIONAL OPPORTUNITIES

The proposed project areas are located on a developed site. The work on the existing WWTP site will be located within the existing facilities fence line and then south within the paved portion of Green Street and then onto school district property south of Green Street to US 6. The southern portion near US 6 already has a number of buried utility lines as well as the stormwater pump station and forcemain leading to the WWTP. Therefore, the proposed project's construction and operation will neither create nor destroy open space and recreational opportunities.

Public access for Maxton's Park located northwest of the WWTP is along Green Street, which will be significantly disturbed during construction. Maxton's Park contains softball fields and playground equipment with peak usage during the April and May timeframe. Public access to the park area may be curtailed during construction because of construction along Green Street. While access to the WWTP will still be needed along the same alignment, the danger to the public will require street closure during the short period when the pipe is being installed along the street.

5.10 LAKE MICHIGAN COASTAL PROGRAM

The proposed project is located in DeKalb County, Indiana. Therefore, the proposed project will not affect the Lake Michigan Coastal Zone.

5.11 NATIONAL NATURAL LANDMARKS

The construction and operation of the proposed project will not impact National Natural Landmarks.

5.12 SECONDARY IMPACTS (INDUCED OR CUMULATIVE IMPACTS)

The City will ensure, through local zoning laws or other means, that future development, as well as future collection system or treatment works projects connecting to SRF-funded facilities, will not adversely affect wetlands, wooded areas, steep slopes, archaeological/historical/structural resources, or other sensitive environmental resources. The City will require new development and treatment works projects to be constructed within the guidelines of the U.S. Fish and Wildlife Service, IDNR, IDEM, and other environmental review authorities.

The proposed project is intended to conform to the LTCP Compliance Plan approved in September 2015 and will ensure compliance with existing NPDES and other codes and regulations. The project is not intended to stimulate growth or to attract development.

5.13 MITIGATION MEASURES

Mitigation measures will be taken to limit the environmental impact of the project on the surrounding sites. The largest potential impacts on the sites will be from potential siltation and erosion during construction.

Silt fencing and proper storm water controls will be used around the project site as required to contain any erosion that may occur during rain events. The contract documents will contain an entire specification section that details the requirements of the contractor pertaining to abatement and control of environmental pollution arising from construction activities.

CHAPTER 6 – SELECTED PLAN

6.1 DESCRIPTION OF SELECTED PLAN

Alternative No. 1 was selected because of its lower cost, and slightly simpler construction compared to the other alternatives. Alternative 1 also complies with the selected alternative for implementation as part of the 2015 LTCP Compliance Plan and the 2020 LTCP Compliance Plan update (draft version). The alternative is in compliance with the previously approved CSO control strategy which allowed for an annual average of 6 overflow events followed by a 3 year monitoring period and then a Use Attainability Analysis (UAA).

This alternative includes the following major components:

- a new CSO diversion structure with passive ROMAG type screen to provide screening for the overflows,
- a 54-inch interceptor from the new diversion structure to the influent screening facility,
- new influent pumps,
- new WWTP influent screen,
- new larger force main from the influent pumps to the Grit Tank,
- increased Influent Wet Well volume to allow for improved pump cycling.
- Making the existing Influent Pump Station compliant with the National Fire Protection Association (NFPA) 820 or a new submersible pump station which may be more cost effective.
- Hydraulic improvements in the aeration tanks and potentially ven downstream piping to lower hydraulic grades and minimize the potential for walls overtopping during high flow events.
- Repairing Aeration and Digester Tanks cross tank support beam brackets
- Adding grating and handrails over the existing south influent channel on the aeration tanks for improved accessibility.
- New Ultraviolet (UV) Disinfection system
- Provide SCADA and monitoring upgrades

The estimated construction cost for the above improvements is \$6.12 million and the total project cost is \$7.43 million.

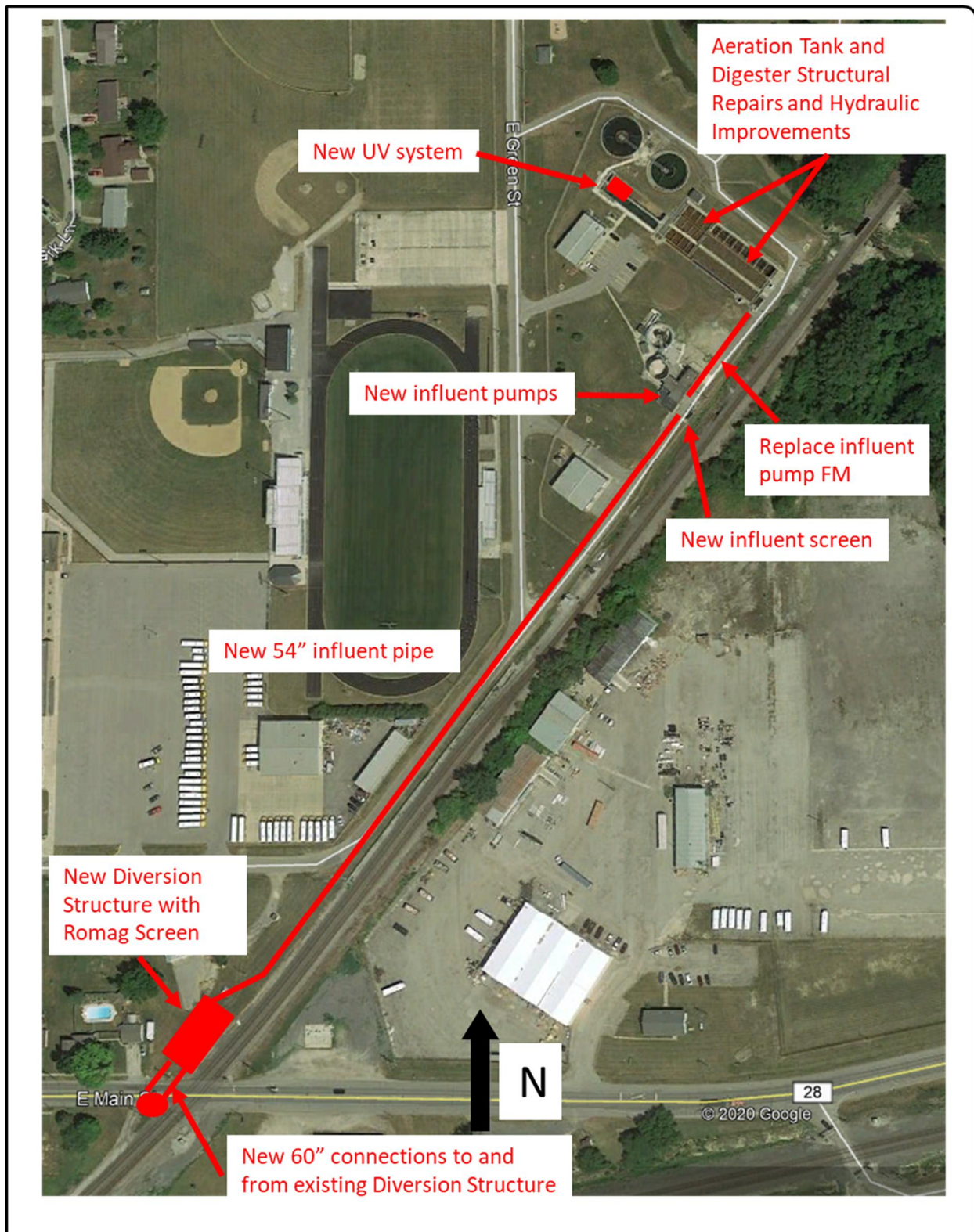
6.2 PRELIMINARY DESIGN SUMMARY

The proposed work is not intended to revise the existing plant capacity or NPDES rating. Most improvements to WWTP influent conveyance and plant hydraulics are intended to facilitate maximizing hydraulic flow thru the plant during wet weather conditions in order to minimize overflows via CSO 003.

Only the conversion from chlorine disinfection to UV disinfection is a change in process. The UV system will be designed for a maximum flow of 6 MGD similar to the existing clarifiers and effluent flume.

6.3 SELECTED PLAN LAYOUT

Refer to the Alternative 1 schematic in Appendix D for a general information. The site layout is on the following page as Figure 6-1.



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FIGURE 6-1
SITE MAP

CITY OF BUTLER
LTCP COMPLIANCE PLAN PHASE A IMPLEMENTATION
PROJECT PRELIMINARY ENGINEERING REPORT
BUTLER, INDIANA

6.4 SELECTED PLAN COST

The selected plan is Alternate 1 with a project cost of \$7,433,000. A detailed cost estimate is in Appendix D.

6.5 SELECTED PLAN SCHEDULE

The schedule for this work is similar to the dates proposed in the 2015 LTCP Compliance plan except that the initial phases of design and construction were advanced to provide sufficient time for construction.

Task	Completion Date
Submit final LTCP Update to IDEM	August 1, 2020
Submit Preliminary Engineering Report to IFA	May 1, 2020
Design Contract with Engineer for Alternative No. 1	May 1, 2020
Preliminary Engineering Report Approval by IFA	September 1, 2020
Design, Permitting and Secure Funding Complete	March 31, 2021
Notice to Proceed Issued to Contractor	April 5, 2021
Asset Management Plan to IFA	October 31, 2021
Construction Complete	September 30, 2022
Post-Construction Monitoring (3 years) and Reporting	December 31, 2026
UAA Initiated	January 1, 2027
UAA Completed	December 31, 2027
UAA Approval	December 31, 2028

6.6 CONTRACT OPERATIONS

Butler operates the wastewater system in its entirety without any contract assistance. Only sludge removal is contracted to an outside entity.

6.7 GREEN PROJECT SUSTAINABILITY INITIATIVE

Review of the Green Project reserve components did not identify any items included in this project that would qualify for Green project reserve interest rate reductions.

CHAPTER 7 – LEGAL, FINANCIAL, & MANAGERIAL CAPABILITIES

7.1 RESOLUTIONS

The following required resolutions for the State Revolving Fund (SRF) Preliminary Engineering Report are included in Appendix G of this PER:

- Authorized Representative Resolution
- PER Acceptance Resolution

7.2 PROJECT COST

The estimated total SRF loan cost including contingency for the LTCP Compliance Plan Phase A Improvements is \$____. This cost includes contingencies and non-construction costs (e.g., engineering, legal & administrative services). The Town of Butler intends to finance the proposed improvements through the SRF Loan Program administered by the Indiana Finance Authority (IFA).

7.3 SRF PROJECT FINANCING INFORMATION

The following Table 7-1 is a summary of project costs as required by the IFA for an SRF Loan.

A.	Collection/Transport System Costs	\$
B.	Treatment System Cost	\$ 5,565,000
C.	Non-Point Source (NPS) Cost	\$
D.	Capacity Reservation Fees	\$
E.	Contingencies	\$ 557,000
	(Should not exceed 10% of construction cost)	
F.	Non-Construction Costs	\$ <u>1,311,000</u>
	e.g. engineering/design services, field exploration studies, project management & construction inspection, legal & administrative services, land costs (including capitalized costs of leased lands, ROWs, & easements), startup costs (e.g., O&M manual, operator training)	
G.	Total Project Cost (lines A+B+C+D+E+F)	\$ 7,433,000
H.	Total Ineligible SRF Costs	\$ 25,000
	*Total ineligible SRF costs will not be covered by the SRF Loan	
I.	Other funding sources (list other grant/loan sources & amounts)	
(1)	Local Funds (hook-on fees, connection fees, capacity feeds,	\$
(2)	Cash on Hand	\$ 1,000,000
(3)	Indiana Department of Commerce Community Focus Fund	\$
(4)	US Department of Agriculture Rural Development (RD)	\$
(5)	Other	\$
	Total Other Funding Sources	\$ <u>1,025,000</u>
	SRF Loan Amount (Line G Minus Line H)	\$6,406,000

7.4 LETTERS OF INTENT

No letters of intent have been developed or secured for the single easement needed for the project. Verbal discussion with the DeKalb County Eastern Community School District have indicated that use of the land along the railroad owned by the school district should not be a problem.

There are no additional significant industrial flow contributions anticipated by the City of Butler. Therefore, no letters of intent are included in this PER from significant industrial flow/wasteload contributors.

7.5 INTER-LOCAL GOVERNMENTAL AGREEMENTS OR CONTRACTS

There are no Inter-Local Government Agreements or Contracts or intent to obtain either applicable to the projects addressed in this PER.

7.6 FISCAL SUSTAINABILITY PLAN

The Town of Butler will develop a Fiscal Sustainability Plan that meets the minimum requirements listed in the Federal Water Pollution Control Act Section 603(d)(1)(E)(i) and will submit a completed FSP certification form prior to a request for final disbursement related to the primary project.

CHAPTER 8 – PUBLIC PARTICIPATION

8.1 GENERAL

On [date], a public hearing was held prior to the regularly scheduled council meeting. The meeting was advertised in the _____ on _____. Prior to the hearing, copies of the PER were provided for public review at the local library (Butler Public Library) and at the Town Hall from _____ to _____. A copy of the proof of publication, the sign in sheet from the hearing and the hearing summary are included in Appendix H.

The public hearing reviewed the project history and reasons why it is required, identified the 3 alternatives investigated, along with the reasons for the selection of alternative 1. The hearing then discussed the information generally contained in each chapter of the PER focusing on the environmental considerations. A copy of the presentation is also contained in Appendix H.

Comments were accepted until [date] on the PER. No comments were received.

Appendices

Appendix A – NPDES Permit



Indiana Department of Environmental Management

We Protect Hoosiers and Our Environment.

100 N. Senate Avenue • Indianapolis, IN 46204

(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Carol S. Comer
Commissioner

VIA ELECTRONIC MAIL

August 25, 2016

The Honorable Ron Walter, Mayor
City of Butler
City Hall, 215 South Broadway
Butler, Indiana 46721

Dear Mayor Walter:

Re: Final NPDES Permit No. IN0022462
City of Butler Wastewater Treatment Plant
DeKalb County

Your application for a National Pollutant Discharge Elimination System (NPDES) permit has been processed in accordance with Sections 402 and 405 of the Federal Water Pollution Control Act as amended, (33 U.S.C. 1251, et seq.), and IDEM's permitting authority under IC 13-15. The enclosed NPDES permit covers your discharges to Big Run Creek. All discharges from this facility shall be consistent with the terms and conditions of this permit.

One condition of your permit requires monthly reporting of several effluent parameters. Reporting is to be done on the applicable state Monthly Report of Operation (MRO) form. This form is available on the internet at the following web site:

<http://in.gov/idem/cleanwater/2339.htm>

Once you are on this page, select the "IDEM Forms" page and locate the version of the MRO applicable to your plant under the "Wastewater Facilities" heading. We recommend selecting the "XLS" version as it will complete all of the calculations on the data entered.

Additionally, if you are not already using NetDMR, you will soon be receiving an email with a supply of the federal NPDES DMR form attached. Both the state and federal forms need to be completed and submitted. If you do not receive the DMR forms in a timely manner, please call this office at 317/232-8670. Please note that IDEM will no longer accept paper DMR or MRO forms after December 31, 2016. After that date all NPDES permit holders will be required to submit their monitoring data to IDEM using NetDMR.

Another condition which needs to be clearly understood concerns violation of the effluent limitations in the permit. Exceeding the limitations constitutes a violation of the permit and may bring criminal or civil penalties upon the permittee. (See Part II.A.1 and II.A.11 of this permit). It is very important that your office and treatment operator understand this part of the permit.

The Honorable Ron Walter, Mayor
Page 2

Please note that this permit issuance can be appealed. An appeal must be filed under procedures outlined in IC 13-15-6, IC 4-21.5, and the enclosed public notice. The appeal must be initiated by you within 18 days from the date this letter is postmarked, by filing a request for an adjudicatory hearing with the Office of Environmental Adjudication (OEA), at the following address:

Office of Environmental Adjudication
Indiana Government Center North
100 North Senate Avenue, Room 501
Indianapolis, IN 46204

Please send a copy of any such appeal to me at IDEM, Office of Water Quality-Mail Code 65-42, 100 North Senate Avenue, Indianapolis, Indiana 46204-2251.

The permit should be read and studied. It requires certain action at specific times by you, the discharger, or your authorized representative. One copy of this permit is also being sent to your operator to be kept at the treatment facility. You may wish to call this permit to the attention of your consulting engineer and/or attorney.

If you have any questions concerning your NPDES permit, please contact Bill Stenner at 317/233-1449. Questions concerning appeal procedures should be directed to the Office of Environmental Adjudication, at 317/232-8591.

Sincerely,

A handwritten signature in black ink, appearing to read "Paul Higginbotham", with a long horizontal flourish extending to the right.

Paul Higginbotham
Deputy Assistant Commissioner
Office of Water Quality

Enclosures

cc: Wm. Ted Miller, Certified Operator
David Wagner, Millennium Environmental LLC

STATE OF INDIANA
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et seq., the "Act"), Title 13 of the Indiana Code, and regulations adopted by the Water Pollution Control Board, the Indiana Department of Environmental Management (IDEM) is issuing this permit to the

CITY OF BUTLER

hereinafter referred to as "the permittee." The permittee owns and/or operates the **City of Butler Wastewater Treatment Plant**, a major municipal wastewater treatment plant located at 695 East Green Street in Butler, Indiana, Dekalb County. The permittee is hereby authorized to discharge from the outfalls identified in Part I of this permit to receiving waters named Big Run Creek, located within the Lake Erie drainage basin, in accordance with the effluent limitations, monitoring requirements, and other conditions set forth in the permit. The permittee is also authorized to discharge from a wet weather treatment facility outfall listed in Attachment A of this permit, to receiving waters named Big Run Creek in accordance with the effluent limitations, monitoring requirements, and other conditions set forth in this permit. This permit may be revoked for the nonpayment of applicable fees in accordance with IC 13-18-20.

Effective Date: September 1, 2016.

Expiration Date: August 31, 2021.

In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit such information and application forms as are required by the Indiana Department of Environmental Management. The application shall be submitted to IDEM at least 180 days prior to the expiration date of this permit, unless a later date is allowed by the Commissioner in accordance with 327 IAC 5-3-2 and Part II.A.4 of this permit.

Issued August 25, 2016, for the Indiana Department of Environmental Management.



Paul Higginbotham
Deputy Assistant Commissioner
Office of Water Quality

TREATMENT FACILITY DESCRIPTION

The permittee currently operates a Class III, 2.0 MGD (average design flow) extended aeration treatment facility with an average design peak flow of 3.0 MGD. The treatment facility consists of a bar screen, a fine rotary screen, a grit chamber, three aeration tanks, two secondary clarifiers, phosphorus removal through precipitation with ferric chloride, three aerobic digesters, chlorination/dechlorination facilities and influent and effluent flow meters. Biosolids are continuously returned to the aeration tanks and periodically wasted to the aerobic digesters for stabilization, thickening by decanting, pumping to onsite storage lagoons for drying and storage prior to ultimate disposal via landfill.

The collection system is comprised of combined sanitary and storm sewers with one Combined Sewer Overflow (CSO) location (CSO 003) and one wet weather treatment facility outfall (Outfall 001). The wet weather treatment facility consists of one flow equalization basin, a wet weather clarifier, and chlorination/dechlorination facilities. These outfalls are identified and subject to the provisions in Attachment A of the permit. The mass limits for CBOD₅, TSS, ammonia-nitrogen, and total residual chlorine have been calculated utilizing the peak design flow of 3.0 MGD. This is to facilitate the maximization of flow through the treatment facility in accordance with this Office's CSO policy.

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from the outfall listed below in accordance with the terms and conditions of this permit. The permittee shall take samples and measurements at a location representative of each discharge to determine whether the effluent limitations have been met. Refer to Part I.B of this permit for additional monitoring and reporting requirements.

1. Beginning on the effective date of this permit, the permittee is authorized to discharge from Outfall 002, which is located at Latitude: 41° 26' 07" N, Longitude: 84° 51' 26" W. The discharge is subject to the following requirements:

TABLE 1

Parameter	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
	Monthly Average	Weekly Average	Units	Monthly Average	Weekly Average	Units	Measurement Frequency	Sample Type
Flow [1]	Report	----	MGD	----	----	----	5 X Weekly	24-Hr. Total
CBOD ₅								
Summer [2]	500.7	751.1	lbs/day	20	30	mg/l	5 X Weekly	24-Hr. Composite
Winter [3]	625.9	1,001.4	lbs/day	25	40	mg/l	5 X Weekly	24-Hr. Composite
TSS								
Summer [2]	600.8	901.3	lbs/day	24	36	mg/l	5 X Weekly	24-Hr. Composite
Winter [3]	751.1	1,126.6	lbs/day	30	45	mg/l	5 X Weekly	24-Hr. Composite
Phosphorus [4]	----	----	----	1.0	----	mg/l	5 X Weekly	24-Hr. Composite

TABLE 2

<u>Parameter</u>	<u>Quality or Concentration</u>				<u>Monitoring Requirements</u>	
	<u>Daily Minimum</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Units</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
pH [5]	6.0	----	9.0	s.u.	5 X Weekly	Grab
Dissolved Oxygen [6]						
Summer [2]	6.0	----	----	mg/l	5 X Weekly	4 Grabs/24-Hrs.
Winter [3]	5.0	----	----	mg/l	5 X Weekly	4 Grabs/24-Hrs.
<i>E. coli</i> [7]	----	125 [8]	235 [9]	colonies/100 ml	5 X Weekly	Grab

TABLE 3

<u>Parameter</u>	<u>Quantity or Loading</u>			<u>Quality or Concentration</u>			<u>Monitoring Requirements</u>	
	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Units</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Ammonia-nitrogen								
Summer [2]	30.0	77.6	lbs/day	1.2	3.1	mg/l	5 X Weekly	24-Hr. Composite
Winter [3]	32.5	82.6	lbs/day	1.3	3.3	mg/l	5 X Weekly	24-Hr. Composite
Total Residual Chlorine								
Final[10][11]	0.250	0.501	lbs/day	0.01	0.02	mg/l	5 X Weekly	Grab

[1] Effluent flow measurement is required per 327 IAC 5-2-13. The flow meter(s) shall be calibrated at least once every twelve months.

[2] Summer limitations apply from May 1 through November 30 of each year.

[3] Winter limitations apply from December 1 through April 30 of each year.

[4] In accordance with 327 IAC 5-10-2(b), the facility must produce an effluent containing no more than 1.0 mg/l total phosphorus (P) any month that the average phosphorus level in the raw sewage is greater than 5 mg/l. Otherwise, a degree of reduction, as prescribed below, must be achieved. Such reduction is to be calculated based on monthly average raw and final concentrations.

<u>Phosphorus (P) Level in Raw Sewage (mg/l)</u>	<u>Required Removal (%)</u>
greater than or equal to 4	80%
less than 4, greater than or equal to 3	75%
less than 3, greater than or equal to 2	70%
less than 2, greater than or equal to 1	65%
less than 1	60%

- [5] If the permittee collects more than one grab sample on a given day for pH, the values shall not be averaged for reporting daily maximums or daily minimums. The permittee must report the individual minimum and the individual maximum pH value of any sample during the month on the Monthly Report of Operation forms.
- [6] The daily minimum concentration of dissolved oxygen in the effluent shall be reported as the arithmetic mean determined by summation of the four daily grab sample results divided by the number of daily grab samples. These samples are to be collected over equal time intervals.
- [7] The *Escherichia coli* (*E. coli*) limitations apply from April 1 through October 31 annually. IDEM has specified the following methods as allowable for the detection and enumeration of *Escherichia coli* (*E. coli*):
1. Coliscan MF® Method
 2. EPA Method 1603 Modified m-TEC agar
 3. mColi Blue-24®
 4. Colilert® MPN Method or Colilert-18® MPN Method
- [8] The monthly average *E. coli* value shall be calculated as a geometric mean. Per 327 IAC 5-10-6, the concentration of *E. coli* shall not exceed one hundred twenty-five (125) cfu or mpn per 100 milliliters as a geometric mean of the effluent samples taken in a calendar month. No samples may be excluded when calculating the monthly geometric mean.
- [9] If less than ten samples are taken and analyzed for *E. coli* in a calendar month, no samples may exceed two hundred thirty-five (235) cfu or mpn as a daily maximum. However, when ten (10) or more samples are taken and analyzed for *E. coli* in a calendar month, not more than ten percent (10%) of those samples may exceed two hundred thirty-five (235) cfu or mpn as a daily maximum. When calculating ten percent, the result must not be rounded up. In reporting for compliance purposes on the Discharge Monitoring Report (DMR) form, the permittee shall record the highest non-excluded value for the daily maximum.
- [10] The effluent shall be disinfected on a continuous basis such that violations of the applicable bacteriological limitations (fecal coliform or *E. coli*) do not occur from April 1 through October 31, annually. If the permittee uses chlorine for any reason, at any time including the period from November 1 through March 31, then the limits and monitoring requirements in Table 3 for Total Residual Chlorine (TRC) shall be in effect whenever chlorine is used.
- [11] The monthly average Water Quality-Based Effluent Limit (WQBEL) for total residual chlorine is less than the Limit of Quantitation (LOQ) as specified below. Compliance with the total residual chlorine concentration limitations will be demonstrated if the monthly average effluent level is less than or equal to the monthly average WQBEL. For the purpose of calculating the monthly average value, the daily effluent values that are less than the LOQ may be assigned a value of zero (0), unless, after considering the number of monitoring results that are greater than the Limit of Detection (LOD), and applying appropriate statistical techniques, a value other than zero (0) is warranted.

The daily maximum WQBEL for total residual chlorine is greater than or equal to the LOD value, but less than the LOQ value specified in the permit. Compliance with this effluent limitation will be demonstrated if the measured daily effluent concentrations are less than the LOQ. For daily maximum mass limitations based on WQBELs which are less than the LOQ value, compliance with the daily maximum mass value is based on the LOQ value. Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than **1.0 lbs/day**.

At present, two methods are acceptable to IDEM measure total residual chlorine: amperometric and DPD colorimetric methods.

<u>Parameter</u>	<u>LOD</u>	<u>LOQ</u>
Chlorine	0.02 mg/l	0.06 mg/l

Case-Specific MDL

The permittee may determine a case-specific Method Detection Level (MDL) using the analytical method specified above. The MDL shall be derived by the procedure specified for MDLs contained in 40 CFR Part 136, Appendix B, and the limit of quantitation shall be set equal to 3.18 times the MDL. Other methods may be used if first approved by the U.S. EPA and IDEM.

2. Minimum Narrative Limitations

At all times the discharge from any and all point sources specified within this permit shall not cause receiving waters:

- a. including the mixing zone, to contain substances, materials, floating debris, oil, scum or other pollutants:
 - (1) that will settle to form putrescent or otherwise objectionable deposits;
 - (2) that are in amounts sufficient to be unsightly or deleterious;
 - (3) that produce color, visible oil sheen, odor, or other conditions in such degree as to create a nuisance;
 - (4) which are in amounts sufficient to be acutely toxic to, or to otherwise severely injure or kill aquatic life, other animals, plants, or humans;
 - (5) which are in concentrations or combinations that will cause or contribute to the growth of aquatic plants or algae to such a degree as to create a nuisance, be unsightly, or otherwise impair the designated uses.
- b. outside the mixing zone, to contain substances in concentrations which on the basis of available scientific data are believed to be sufficient to injure, be chronically toxic to, or be carcinogenic, mutagenic, or teratogenic to humans, animals, aquatic life, or plants.

3. Additional Discharge Limitations and Monitoring Requirements

Beginning on the effective date of the permit, the effluent from Outfall 002 shall be limited and monitored by the permittee as follows:

TABLE 4

Parameter	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
	Monthly Average	Daily Maximum	Units	Monthly Average [4]	Daily Maximum	Units	Measurement Frequency	Sample Type
Chloride	5,842	11,683	lbs/day	350	700	mg/l	1 X Weekly	24 Hr. Comp.
Copper [1]	0.33	0.68	lbs/day	0.020	0.041	mg/l	1 X Weekly	24 Hr. Comp.
Cadmium [1]	----	Report	lbs/day	----	Report	mg/l	Quarterly	24 Hr. Comp.
Cyanide [1]	----	Report	lbs/day	----	Report	mg/l	Quarterly	See [2] Below
Lead [1]	----	Report	lbs/day	----	Report	mg/l	Quarterly	24 Hr. Comp.
Mercury [1][3][5]	0.000022	0.000053	lbs/day	1.3	3.2	ng/l	6 X Annually	Grab
Interim Discharge Limit [6]	----	----	----	2.4	Report	ng/l	6 X Annually	Grab

Note: For measurement frequencies less than once per month, the permittee shall report the result from the monitoring period on the Discharge Monitoring Report (DMR) for the final month of the reporting timeframe, beginning with January of each year. For example, for quarterly monitoring, the permittee may conduct sampling within the month of January, February or March. The result from this reporting timeframe shall be reported on the March DMR, regardless of which of the months within the quarter the sample was taken.

[1] The permittee shall measure and report this parameter as Total Recoverable Metal. Cyanide shall be reported as Free Cyanide or Cyanide Amenable to Chlorination.

The following EPA test methods and/or Standard Methods and associated Limits of Detection (LODs) and Limits of Quantitation (LOQs) are recommended for use in the analysis of the effluent samples. Alternative 40 CFR 136 approved methods may be used provided the LOD is less than the monthly average and/or daily maximum effluent limitations.

The permittee may determine a case-specific Method Detection Level (MDL) using one of the analytical methods specified below, or any other test method which is approved by IDEM prior to use. The MDL shall be derived by the procedure specified for MDLs contained in 40 CFR Part 136, Appendix B, and the limit of quantitation shall be set equal to 3.18 times the MDL. NOTE: The MDL for purposes of this document, is synonymous with the "limit of detection" or "LOD" as defined in 327 IAC 5-1.5-26: "the minimum concentration of a substance that can be measured and reported with ninety-nine percent (99%) confidence that the analyte concentration is greater than zero (0) for a particular analytical method and sample matrix".

<u>Parameter</u>	<u>EPA/Standard Method</u>	<u>LOD</u>	<u>LOQ</u>
Cadmium	3113 B	0.1 ug/l	0.32 ug/l
Chloride	4500 Cl-E	1000 ug/l	3200 ug/l
Copper	3113 B	1.0 ug/l	3.2 ug/l
Cyanide, Free	1677	0.5 ug/l	1.6 ug/l
Lead	3113 B	1.0 ug/l	3.2 ug/l
Mercury	1631, Revision E	0.2 ng/l	0.5 ng/l

- [2] The maximum holding time is 24 hours when sulfide is present. Therefore, initially the CN sample should be a grab sample that is tested with lead acetate paper before pH adjustments in order to determine if sulfide is present. If sulfide is present, it can be removed by the addition of cadmium nitrate powder until a negative spot test is obtained. The sample is filtered and then NaOH is added to pH 12. The sample may then be analyzed within 14 days. Alternatively, if the permittee can demonstrate that the wastewater contains no sulfide, the permittee may collect a composite sample and analyze it within 14 days.
- [3] Mercury monitoring shall be conducted six times annually (i.e. every other month) for the term of the permit. Monitoring shall be conducted in the months of February, April, June, August, October, and December of each year. Mercury monitoring and analysis will be performed using EPA Test Method 1631, Revision E. If Method 1631, Revision E is further revised during the term of this permit, the permittee and/or its contract laboratory is required to utilize the most current version of the method immediately after approval by EPA.
- [4] Annual average for the purpose of the mercury interim discharge limit.
- [5] The permittee applied for, and received, a variance from the water quality criterion used to establish the referenced mercury WQBELs under the streamlined mercury variance (SMV) procedures of 327 IAC 5-3.5. Compliance with the interim discharge limit will demonstrate compliance with this permit.
- [6] For the term of the NPDES permit, the permittee is subject to the interim discharge limit developed under the provisions of 327 IAC 5-3.5-8. Each reporting period (i.e., bi-monthly), the permittee shall report both a daily discharge value and an annual average discharge value for mercury. The annual average discharge value is to be calculated as the average of the measured effluent daily values for mercury over the most recent (rolling) twelve-month period. Compliance with the interim discharge limit will be achieved when the annual average discharge value for the most recent twelve-month period is less than the interim discharge limit.

4. Additional Monitoring Requirements

Beginning on the effective date of this permit, the permittee shall conduct the following monitoring activities:

a. Influent Monitoring

In addition to the requirements contained in Part I.B.2 of the NPDES permit, the permittee shall monitor the influent to its wastewater treatment facility for the following pollutants. Samples shall be representative of the raw influent in accordance with 327 IAC 5-2-13(b).

TABLE 5

<u>Parameter</u>	<u>Quality or Concentration</u>			<u>Monitoring Requirements</u>	
	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Unit</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Chloride	Report	Report	mg/l	2 X Monthly	24 Hr. Comp.
Copper [1]	Report	Report	mg/l	2 X Monthly	24 Hr. Comp.
Cadmium [1]	----	Report	mg/l	Quarterly	24 Hr. Comp.
Cyanide [1]	----	Report	mg/l	Quarterly	See [2] Below
Lead [1]	----	Report	mg/l	Quarterly	24 Hr. Comp.
Mercury [1][3]	----	Report	ng/l	6 X Annually	Grab

Note: For measurement frequencies less than once per month, the permittee shall report the result from the monitoring period on the Discharge Monitoring Report (DMR) for the final month of the reporting timeframe, beginning with January of each year. For example, for quarterly monitoring, the permittee may conduct sampling within the month of January, February or March. The result from this reporting timeframe shall be reported on the March DMR, regardless of which of the months within the quarter the sample was taken.

[1] The permittee shall measure and report this parameter as Total Recoverable Metal. Cyanide shall be reported as Free Cyanide or Cyanide Amenable to Chlorination.

[2] The maximum holding time is 24 hours when sulfide is present. Therefore, initially the CN sample should be a grab sample that is tested with lead acetate paper before pH adjustments in order to determine if sulfide is present. If sulfide is present, it can be removed by the addition of cadmium nitrate powder until a negative spot test is obtained. The sample is filtered and then NaOH is added to pH 12. The sample may then be analyzed within 14 days. Alternatively, if the permittee can demonstrate that the wastewater contains no sulfide, the permittee may collect a composite sample and analyze it within 14 days.

[3] Mercury monitoring shall be conducted six times annually (i.e. every other month) for the term of the permit. Monitoring shall be conducted in the months of February, April, June, August, October, and December of each year. Mercury monitoring and analysis will be performed using EPA Test Method 1631, Revision E. If Method 1631, Revision E is further revised during the term of this permit, the permittee and/or its contract laboratory is required to utilize the most current version of the method immediately after approval by EPA.

b. Priority Pollutants Monitoring

The permittee shall conduct an annual inventory of priority pollutants (see 40 CFR 423, Appendix A) and shall identify and quantify additional organic compounds which occur in the influent, effluent, and sludge. The analytical report shall be sent to the Pretreatment Group. This report is due in December of each year. The inventory shall consist of:

(1) Sampling and Analysis of Influent and Effluent

Sampling shall be conducted on a day when industrial discharges are occurring at normal or maximum levels. The samples shall be 24-hour flow proportional composites, except for volatile organics, which shall be taken by appropriate grab sampling techniques. Analysis for the U.S. EPA organic priority pollutants shall be performed using U.S. EPA methods 624, 625 and 608 in 40 CFR 136, or other equivalent methods approved by U.S. EPA. Equivalent methods must be at least as sensitive and specific as methods 624, 625 and 608.

All samples must be collected, preserved and stored in accordance with 40 CFR 136, Appendix A. Samples for volatile organics must be analyzed within 14 days of collection. Samples for semivolatile organics, PCBs and pesticides must be extracted within 7 days of collection and analyzed within 40 days of extraction. For composite samples, the collection date shall be the date at the end of the daily collection period.

(2) Sampling and Analysis of Sludge

Sampling collection, storage, and analysis shall conform to the U.S. EPA recommended procedures in accordance with 40 CFR 503. Special sampling and/or preservation techniques will be required for those pollutants which deteriorate rapidly.

Sludge samples for volatile organics must be analyzed within 14 days of collection. Sludge samples for semivolatile organics, PCBs and pesticides must be extracted within 14 days of collection and analyzed within 40 days of extraction.

(3) Additional Pollutant Identification

In addition to the priority organic pollutants, a reasonable attempt shall be made to identify and quantify the ten most abundant constituents of each fraction (excluding priority pollutants and unsubstituted aliphatic compounds) shown to be present by peaks on the total ion plots (reconstructed gas chromatograms) more than ten times higher than the adjacent background noise. Identification shall be attempted through the use of U.S. EPA/NIH computerized library of mass spectra, with visual confirmation by an experienced analyst. Quantification may be based on an order of magnitude estimate based upon comparison with an internal standard.

The annual pretreatment program report, required by Part III. A.7. of this permit, should identify the additional steps necessary to determine whether the pollutants that are present interfere, pass through, or otherwise violate 40 CFR 403.2. Upon such determination, the report must also identify the steps taken to develop and enforce local limitations on industrial discharges for those pollutants. This is a requirement of 40 CFR 403.5.

B. MONITORING AND REPORTING

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge flow and shall be taken at times which reflect the full range and concentration of effluent parameters normally expected to be present. Samples shall not be taken at times to avoid showing elevated levels of any parameters.

2. Data on Plant Operation

The raw influent and the wastewater from intermediate unit treatment processes, as well as the final effluent shall be sampled and analyzed for the pollutants and operational parameters specified by the applicable Monthly Report of Operation Form, as appropriate, in accordance with 327 IAC 5-2-13. Except where the permit specifically states otherwise, the sample frequency for the raw influent and intermediate unit treatment process shall be at a minimum the same frequency as that for the final effluent. The measurement frequencies specified in each of the tables in Part I.A. are the minimum frequencies required by this permit.

3. Monthly Reporting

The permittee shall submit accurate monitoring reports to the Indiana Department of Environmental Management containing results obtained during the previous monitoring period and shall be postmarked no later than the 28th day of the month following each completed monitoring period. The first report shall be submitted by the 28th day of the month following the monitoring period in which the permit becomes effective.

These reports shall include, but not necessarily be limited to, the Discharge Monitoring Report (DMR) and the Monthly Report of Operation (MRO). Permittees with metals monitoring requirements shall also complete and submit the Indiana Monthly Monitoring Report Form (MMR-State Form 30530) to report their influent and/or effluent data for metals and other toxics. Permittees with combined sewer overflow discharges must also submit the CSO Monthly Report of Operation to IDEM by the 28th day of the month following each completed monitoring period. Until December 31, 2016, all reports shall be mailed to IDEM, Office of Water Quality –Compliance Data Section, 100 North Senate Ave., Indianapolis, Indiana 46204-2251 or submitted to IDEM electronically by using the NetDMR application, upon registration and approval receipt. Electronically submitted reports (using NetDMR) have the same deadline as mailed reports. After December 31, 2016, all reports shall be submitted using NetDMR, and paper reports will no longer be accepted. The Regional Administrator may request the permittee to submit monitoring reports to the Environmental Protection Agency if it is deemed necessary to assure compliance with the permit.

A calendar week will begin on Sunday and end on Saturday. Partial weeks consisting of four or more days at the end of any month will include the remaining days of the week, which occur in the following month in order to calculate a consecutive seven-day average. This value will be reported as a weekly average or seven-day average on the MRO for the month containing the partial week of four or more days. Partial calendar weeks consisting of less than four days at the end of any month will be carried forward to the succeeding month and reported as a weekly average or a seven-day average for the calendar week that ends with the first Saturday of that month.

4. Definitions

a. Calculation of Averages

Pursuant to 327 IAC 5-2-11(a)(5), the calculation of the average of discharge data shall be determined as follows: For all parameters except fecal coliform and *E. coli*, calculations that require averaging of sample analyses or measurements of daily discharges shall use an arithmetic mean unless otherwise specified in this permit. For fecal coliform, the monthly average discharge and weekly average discharge, as concentrations, shall be calculated as a geometric mean. For *E. coli*, the monthly average discharge, as a concentration, shall be calculated as a geometric mean.

b. Terms

- (1) “Monthly Average” -The monthly average discharge means the total mass or flow-weighted concentration of all daily discharges during a calendar month on which daily discharges are sampled or measured, divided by the number of daily discharges sampled and/or measured during such calendar month. The monthly average discharge limitation is the highest allowable average monthly discharge for any calendar month.

- (2) “Weekly Average” - The weekly average discharge means the total mass or flow weighted concentration of all daily discharges during any calendar week for which daily discharges are sampled or measured, divided by the number of daily discharges sampled and/or measured during such calendar week. The average weekly discharge limitation is the maximum allowable average weekly discharge for any calendar week.
- (3) “Daily Maximum” - The daily maximum discharge limitation is the maximum allowable daily discharge for any calendar day. The “daily discharge” means the total mass of a pollutant discharged during the calendar day or, in the case of a pollutant limited in terms other than mass pursuant to 327 IAC 5-2-11(e), the average concentration or other measurement of the pollutant specified over the calendar day or any twenty-four hour period that represents the calendar day for purposes of sampling.
- (4) “24-hour Composite” - A 24-hour composite sample consists of at least four individual flow-proportioned samples of wastewater, taken by the grab sample method over equal time intervals during the period of operator attendance or by an automatic sampler, and which are combined prior to analysis. A flow proportioned composite sample shall be obtained by:
 - (a) recording the discharge flow rate at the time each individual sample is taken,
 - (b) adding together the discharge flow rates recorded from each individual sampling time to formulate the “total flow value,”
 - (c) dividing the discharge flow rate of each individual sampling time by the total flow value to determine its percentage of the total flow value, and
 - (d) multiplying the volume of the total composite sample by each individual sample’s percentage to determine the volume of that individual sample which will be included in the total composite sample.

Alternatively, a 24-hour composite sample may be obtained by an automatic sampler on an equal time interval basis over a twenty-four hour period provided that a minimum of 24 samples are taken and combined prior to analysis. The samples do not need to be flow-proportioned if the permittee collects samples in this manner.

- (5) CBOD₅: Five-day Carbonaceous Biochemical Oxygen Demand
- (6) TSS: Total Suspended Solids
- (7) *E. coli*: Escherichia coli bacteria
- (8) The “Regional Administrator” is defined as the Region V Administrator, U.S. EPA, located at 77 West Jackson Boulevard, Chicago, Illinois 60604.

- (9) The “Commissioner” is defined as the Commissioner of the Indiana Department of Environmental Management, located at the following address: 100 North Senate Avenue, Indianapolis, Indiana 46204-2251.
- (10) Limit of Detection or LOD is defined as a measurement of the concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero (0) for a particular analytical method and sample matrix. The LOD is equivalent to the Method Detection Level or MDL.
- (11) Limit of Quantitation or LOQ is defined as a measurement of the concentration of a contaminant obtained by using a specified laboratory procedure calibrated at a specified concentration about the method detection level. It is considered the lowest concentration at which a particular contaminant can be quantitatively measured using a specified laboratory procedure for monitoring of the contaminant. This term is also called the limit of quantification or quantification level.
- (12) Method Detection Level or MDL is defined as the minimum concentration of an analyte (substance) that can be measured and reported with a ninety-nine percent (99%) confidence that the analyte concentration is greater than zero (0) as determined by the procedure set forth in 40 CFR Part 136, Appendix B. The method detection level or MDL is equivalent to the LOD.

5. Test Procedures

The analytical and sampling methods used shall conform to the current version of 40 CFR, Part 136, unless otherwise specified within this permit. Multiple editions of Standard Methods for the Examination of Water and Wastewater are currently approved for most methods, however, 40 CFR Part 136 should be checked to ascertain if a particular method is approved for a particular analyte. The approved methods may be included in the texts listed below. However, different but equivalent methods are allowable if they receive the prior written approval of the State agency and the U.S. Environmental Protection Agency.

- a. Standard Methods for the Examination of Water and Wastewater
18th, 19th, or 20th Editions, 1992, 1995 or 1998 American Public Health Association, Washington, D.C. 20005.
- b. A.S.T.M. Standards, Part 23, Water; Atmospheric Analysis
1972 American Society for Testing and Materials, Philadelphia, PA 19103.
- c. Methods for Chemical Analysis of Water and Wastes
June 1974, Revised, March 1983, Environmental Protection Agency, Water Quality Office, Analytical Quality Control Laboratory, 1014 Broadway, Cincinnati, OH 45202.

6. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record and maintain records of all monitoring information and monitoring activities under this permit, including the following information:

- a. The exact place, date, and time of sampling or measurements;
- b. The person(s) who performed the sampling or measurements;
- c. The dates and times the analyses were performed;
- d. The person(s) who performed the analyses;
- e. The analytical techniques or methods used; and
- f. The results of all required analyses and measurements.

7. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Monthly Discharge Monitoring Report and on the Monthly Report of Operation form. Such increased frequency shall also be indicated on these forms. Any such additional monitoring data which indicates a violation of a permit limitation shall be followed up by the permittee, whenever feasible, with a monitoring sample obtained and analyzed pursuant to approved analytical methods. The results of the follow-up sample shall be reported to the Commissioner in the Monthly Discharge Monitoring Report.

8. Records Retention

All records and information resulting from the monitoring activities required by this permit, including all records of analyses performed and calibration and maintenance of instrumentation and recording from continuous monitoring instrumentation, shall be retained for a minimum of three (3) years. In cases where the original records are kept at another location, a copy of all such records shall be kept at the permitted facility. The three-year period shall be extended:

- a. automatically during the course of any unresolved litigation regarding the discharge of pollutants by the permittee or regarding promulgated effluent guidelines applicable to the permittee; or
- b. as requested by the Regional Administrator or the Indiana Department of Environmental Management.

C. REOPENING CLAUSES

In addition to the reopening clause provisions cited at 327 IAC 5-2-16, the following reopening clauses are incorporated into this permit:

1. This permit may be modified or, alternately, revoked and reissued after public notice and opportunity for hearing to incorporate effluent limitations reflecting the results of a wasteload allocation if the Department of Environmental Management determines that such effluent limitations are needed to assure that State Water Quality Standards are met in the receiving stream.
2. This permit may be modified due to a change in sludge disposal standards pursuant to Section 405(d) of the Clean Water Act, if the standards when promulgated contain different conditions, are otherwise more stringent, or control pollutants not addressed by this permit.
3. This permit may be modified, or, alternately, revoked and reissued, to comply with any applicable effluent limitation or standard issued or approved under section 301(b)(2)(C), (D) and (E), 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent limitation or standard so issued or approved:
 - a. contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
 - b. controls any pollutant not limited in the permit.
4. This permit may be modified or, alternatively, revoked and reissued after public notice and opportunity for hearing to incorporate monitoring requirements and effluent limitations for cadmium, cyanide and/or lead if the Department of Environmental Management determines that such monitoring requirements and effluent limitations are needed to assure that State Water Quality standards are met in the receiving streams.
5. This permit may be modified, or alternately, revoked and reissued after public notice and opportunity for hearing to include Whole Effluent Toxicity (WET) limitations or to include limitations for specific toxicants if the results of the biomonitoring and/or the Toxicity Reduction Evaluation (TRE) study indicate that such limitations are necessary.
6. This permit may be modified, or alternately, revoked and reissued, after public notice and opportunity for hearing, to include a case-specific Method Detection Level (MDL). The permittee must demonstrate that such action is warranted in accordance with the procedure specified under Appendix B, 40 CFR Part 136, or approved by the Indiana Department of Environmental Management.
7. This permit may be modified, or, alternately, revoked and reissued after public notice and opportunity for hearing to include revised SMV and/or PMPP requirements in the event that revisions to the SMV Requirements and Application Process under 327 IAC 5-3.5 occur.

D. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

The 1977 Clean Water Act explicitly states, in Section 101(3) that it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited. In support of this policy the U.S. EPA in 1995 amended the 40 CFR 136.3 (Tables IA and II) by adding testing methods for measuring acute and short-term chronic toxicity of whole effluents and receiving waters. To adequately assess the character of the effluent, and the effects of the effluent on aquatic life, the permittee shall conduct Whole Effluent Toxicity Testing. Part 1 of this section describes the testing procedures, Part 2 describes the Toxicity Reduction Evaluation which is only required if the effluent demonstrates toxicity, as described in paragraph f.

1. Whole Effluent Toxicity Tests

The permittee shall conduct the series of bioassay tests described below to monitor the toxicity of the discharge from Outfall 002.

If toxicity is demonstrated as defined under paragraph f below, the permittee is required to conduct a Toxicity Reduction Evaluation (TRE).

a. Bioassay Test Procedures and Data Analysis

- (1) All test organisms, test procedures and quality assurance criteria used shall be in accordance with the Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms; Fourth Edition Section 13, Cladoceran (*Ceriodaphnia dubia*) Survival and Reproduction Test Method 1002.0; and Section 11, Fathead Minnow (*Pimephales promelas*) Larval Survival and Growth Test Method, (1000.0) EPA 821-R-02-013, October 2002, or most recent update.
- (2) Any circumstances not covered by the above methods, or that require deviation from the specified methods shall first be approved by the IDEM's Permits Branch Toxicologist.
- (3) The determination of effluent toxicity shall be made in accordance with the Data Analysis general procedures for chronic toxicity endpoints as outlined in Section 9, and in Sections 11 and 13 of the respective Test Method (1000.0 and 1002.0) of Short-term Methods of Estimating the Chronic Toxicity of Effluent and Receiving Water to Freshwater Organisms (EPA 821-R-02-013), Fourth Edition, October 2002 or most recent update.

b. Types of Bioassay Tests

- (1) The permittee shall conduct a 7-day Cladoceran (*Ceriodaphnia dubia*) Survival and Reproduction Test and a 7-day Fathead Minnow (*Pimephales promelas*) Larval Survival and Growth Test on samples of the final effluent. All tests will be conducted on 24-hour composite samples of final effluent. All test solutions shall be renewed daily. On days three and five fresh 24-hour composite samples of the effluent collected on alternate days shall be used to renew the test solutions.

- (2) If in any control more than 10% of the test organisms die in 96 hours, or more than 20% of the test organisms die in 7 days, that test shall be repeated. In addition, if in the *Ceriodaphnia* test control the number of newborns produced per surviving female is less than 15, or if 60% of surviving control females have less than three broods; and in the fathead minnow test if the mean dry weight of surviving fish in the control group is less than 0.25 mg, that test shall also be repeated. Such testing will determine whether the effluent affects the survival, reproduction, and/or growth of the test organisms. Results of all tests regardless of completion must be reported to IDEM.

c. Effluent Sample Collection and Chemical Analysis

- (1) Samples for the purposes of Whole Effluent Toxicity Testing will be taken at a point that is representative of the discharge, but prior to discharge. The maximum holding time for whole effluent is 36 hours for a 24 hour composite sample. Bioassay tests must be started within 36 hours after termination of the 24 hour composite sample collection. Bioassay of effluent sampling may be coordinated with other permit sampling requirements as appropriate to avoid duplication.
- (2) Chemical analysis must accompany each effluent sample taken for bioassay test, especially the sample taken for the repeat or confirmation tests as outlined in paragraph f.3. The analysis detailed under Part I.A. should be conducted for the effluent sample. Chemical analysis must comply with approved EPA test methods.

d. Frequency and Duration

The toxicity tests specified in paragraph b. shall be conducted once every six months for the duration of the permit. The results of the toxicity tests are due within each six month period as calculated from the effective date of the permit.

If toxicity is demonstrated as defined under paragraph f (1), (2) or (3), the permittee is required to conduct a toxicity reduction evaluation (TRE) as specified in Section 2.

e. Reporting

- (1) Results shall be reported according to EPA 821-R-02-013, Section 10 (Report Preparation). Two copies of the completed report for each test shall be submitted to the Compliance Data Section of the IDEM no later than sixty days after completion of the test. An electronic copy of the report may be submitted to wwreports@idem.IN.gov in lieu of the two copies to the Compliance Data Section.

- (2) For quality control, the report shall include the results of appropriate standard reference toxic pollutant tests for chronic endpoints and historical reference toxic pollutant data with mean values and appropriate ranges for the respective test species *Ceriodaphnia dubia* and *Pimephales promelas*. Biomonitoring reports must also include copies of Chain-of-Custody Records and Laboratory raw data sheets.
- (3) Statistical procedures used to analyze and interpret toxicity data including critical values of significance used to evaluate each point of toxicity should be described and included as part of the biomonitoring report.

f. Demonstration of Toxicity

- (1) Acute toxicity will be demonstrated if the effluent is observed to have exceeded **1.0** TU_a(acute toxic units) based on 100% effluent for the test organism in 48 and 96 hours for *Ceriodaphnia dubia* or *Pimephales promelas*, which ever is more sensitive.
- (2) Chronic toxicity will be demonstrated if the effluent is observed to have exceeded **1.1** TU_c (chronic toxic units) for *Ceriodaphnia dubia* or *Pimephales promelas* .
- (3) If toxicity is found in any of the tests specified above, a confirmation toxicity test using the specified methodology and same test species shall be conducted within two weeks of receiving the chronic toxicity test results. During the sampling for any confirmation tests the permittee shall also collect and preserve sufficient effluent samples for use in any Toxicity Identification Evaluation (TIE) and/or Toxicity Reduction Evaluation (TRE), if necessary. If any two (2) consecutive tests, including any and all confirmation tests, indicate the presence of toxicity, the permittee must begin the implementation of a Toxicity Reduction Evaluation (TRE) as described below. The whole effluent toxicity tests required above may be suspended (upon approval from IDEM) while the TRE is being conducted.

g. Definitions

- (1) TU_c is defined as 100/NOEC or 100/IC₂₅.
- (2) TU_a is defined as 100/LC₅₀ where the LC₅₀ is expressed as a percent effluent in the test medium of an acute Whole Effluent Toxicity (WET) test that is statistically or graphically estimated to be lethal to fifty percent (50%) of the test organisms.
- (3) “Inhibition concentration 25” or “IC₂₅” means the toxicant (effluent) concentration that would cause a twenty-five percent (25%) reduction in a nonquantal biological measurement for the test population. For example, the IC₂₅ is the concentration of toxicant (effluent) that would cause a twenty-five percent (25%) reduction in mean young per female or in growth for the test population.

(4)“No observed effect concentration” or “NOEC” is the highest concentration of toxicant (effluent) to which organisms are exposed in a full life cycle or partial life cycle (short term) test, that causes no observable adverse effects on the test organisms, that is, the highest concentration of toxicant in which the values for the observed responses are not statistically significantly different from the controls.

2. Toxicity Reduction Evaluation (TRE) Schedule of Compliance

The development and implementation of a TRE (including any post-TRE biomonitoring requirements) is only required if toxicity is demonstrated as defined by Paragraph 1.f.

Milestone Dates: see sections a through e following for additional information on the TRE milestone dates.

Development and Submittal of TRE Plan	Within 90 days of two failed toxicity tests.
Initiate Effluent TRE	Within 30 days of TRE Plan submittal to IDEM.
Progress Reports	Every 90 days from the initiation date of the TRE.
Submit Final TRE Results	Within 90 days of the completion of the TRE, not to exceed 3 years from the date of the initial determination of toxicity (two failed toxicity tests).
Post-TRE Biomonitoring Requirements	Immediately upon completion of the TRE, conduct 3 consecutive months of toxicity tests, if no toxicity is shown, reduce toxicity tests to once every 6 months for the duration of the permit term. If post – TRE biomonitoring demonstrates toxicity, revert to implementation of a TRE.

a. Development of TRE Plan

Within 90 days of determination of toxicity, the permittee shall submit plans for an effluent TRE to the Compliance Data Section of the IDEM. The TRE plan shall include appropriate measures to characterize the causative toxicant and the variability associated with these compounds. Guidance on conducting effluent toxicity reduction evaluations is available from EPA and from the EPA publications listed below:

(1) Methods for Aquatic Toxicity Identification Evaluations:

Phase I Toxicity Characterization Procedures, Second Edition
(EPA/600/6-91/003), February 1991.

Phase II Toxicity Identification Procedures (EPA 600/R-92/080), September
1993.

Phase III Toxicity Confirmation Procedures (EPA/600/R-92/081), September
1993.

(2) Methods for Chronic Toxicity Identification Evaluations

Phase I Characterization of Chronically Toxic Effluents EPA/600/6-91/005F,
May 1992.

(3) Generalized Methodology for Conducting Industrial Toxicity Reduction
Evaluations (EPA/600/2-88/070), April 1989.

(4) Toxicity Reduction Evaluation Protocol for Municipal Wastewater Treatment
Plants (EPA/833-B-99-022), August 1999

b. Conduct the TRE

Within 30 days after submittal of the TRE plan to IDEM, the permittee must initiate an effluent TRE consistent with the TRE plan. Progress reports shall be submitted every 90 days to the Compliance Data Section of the Office of Water Quality (OWQ) beginning 90 days after initiation of the TRE study.

c. Reporting

Within 90 days of the TRE study completion, the permittee shall submit to the Compliance Data Section of the Office of Water Quality (OWQ) the final study results and a schedule for reducing the toxicity to acceptable levels through control of the toxicant source or treatment of whole effluent.

d. Compliance Date

The permittee shall complete items a, b, and c from Section 2 and reduce the toxicity to acceptable levels as soon as possible but no later than three years after the date of determination of toxicity.

e. Post-TRE Biomonitoring Requirements (Only Required After Completion of a TRE)

After the TRE, the permittee shall conduct monthly toxicity tests with 2 or more species for a period of three months. Should three consecutive monthly tests demonstrate no toxicity, the permittee shall conduct chronic tests every six months for the duration of the permit. These tests shall be conducted in accordance with the procedures under the Whole Effluent Toxicity Tests Section. The results of these tests shall be submitted to the Compliance Data Section of the Office of Water Quality (OWQ).

If toxicity is demonstrated as defined in paragraph 1.f after the initial three month period, testing must revert to a TRE as in Part 2 (TRE).

PART II

STANDARD CONDITIONS FOR NPDES PERMITS

A. GENERAL CONDITIONS

1. Duty to Comply

The permittee shall comply with all terms and conditions of this permit in accordance with 327 IAC 5-2-8(1) and all other requirements of 327 IAC 5-2-8. Any permit noncompliance constitutes a violation of the Clean Water Act and IC 13 and is grounds for enforcement action or permit termination, revocation and reissuance, modification, or denial of a permit renewal application.

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.

2. Duty to Mitigate

In accordance with 327 IAC 5-2-8(3), the permittee shall take all reasonable steps to minimize or correct any adverse impact to the environment resulting from noncompliance with this permit. During periods of noncompliance, the permittee shall conduct such accelerated or additional monitoring for the affected parameters, as appropriate or as requested by IDEM, to determine the nature and impact of the noncompliance.

3. Duty to Provide Information

The permittee shall submit any information that the permittee knows or has reason to believe would constitute cause for modification or revocation and reissuance of the permit at the earliest time such information becomes available, such as plans for physical alterations or additions to the facility that:

- a. could significantly change the nature of, or increase the quantity of, pollutants discharged; or
- b. the Commissioner may request to evaluate whether such cause exists.

In accordance with 327 IAC 5-1-3(a)(5), the permittee must also provide any information reasonably requested by the Commissioner.

4. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must obtain and submit a renewal of this permit in accordance with 327 IAC 5-3-2(a)(2). It is the permittee's responsibility to obtain and submit the application. In accordance with 327 IAC 5-2-3(c), the owner of the facility or operation from which a discharge of pollutants occurs is responsible for applying for and obtaining the NPDES permit, except where the facility or operation is operated by a person other than an employee of the owner in which case it is the operator's responsibility to apply for and obtain the permit. The application must be submitted at least 180 days before the expiration date of this permit. This deadline may be extended if:

- a. permission is requested in writing before such deadline;
- b. IDEM grants permission to submit the application after the deadline; and
- c. the application is received no later than the permit expiration date.

As required under 327 IAC 5-2-3(g)(1) and (2), POTWs with design influent flows equal to or greater than one million (1,000,000) gallons per day and POTWs with an approved pretreatment program or that are required to develop a pretreatment program, will be required to provide the results of whole effluent toxicity testing as part of their NPDES renewal application.

5. Transfers

In accordance with 327 IAC 5-2-8(4)(D), this permit is nontransferable to any person except in accordance with 327 IAC 5-2-6(c). This permit may be transferred to another person by the permittee, without modification or revocation and reissuance being required under 327 IAC 5-2-16(c)(1) or 16(e)(4), if the following occurs:

- a. the current permittee notified the Commissioner at least thirty (30) days in advance of the proposed transfer date.
- b. a written agreement containing a specific date of transfer of permit responsibility and coverage between the current permittee and the transferee (including acknowledgment that the existing permittee is liable for violations up to that date, and the transferee is liable for violations from that date on) is submitted to the Commissioner.

- c. the transferee certifies in writing to the Commissioner their intent to operate the facility without making such material and substantial alterations or additions to the facility as would significantly change the nature or quantities of pollutants discharged and thus constitute cause for permit modification under 327 IAC 5-2-16(d). However, the Commissioner may allow a temporary transfer of the permit without permit modification for good cause, e.g., to enable the transferee to purge and empty the facility's treatment system prior to making alterations, despite the transferee's intent to make such material and substantial alterations or additions to the facility.
- d. the Commissioner, within thirty (30) days, does not notify the current permittee and the transferee of the intent to modify, revoke and reissue, or terminate the permit and to require that a new application be filed rather than agreeing to the transfer of the permit.

The Commissioner may require modification or revocation and reissuance of the permit to identify the new permittee and incorporate such other requirements as may be necessary under the Clean Water Act or state law.

6. Permit Actions

In accordance with 327 IAC 5-2-16(b) and 327 IAC 5-2-8(4), this permit may be modified, revoked and reissued, or terminated for cause, including, but not limited to, the following:

- a. Violation of any terms or conditions of this permit;
- b. Failure of the permittee to disclose fully all relevant facts or misrepresentation of any relevant facts in the application, or during the permit issuance process; or
- c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge controlled by the permittee (e.g., plant closure, termination of the discharge by connecting to a POTW, a change in state law or information indicating the discharge poses a substantial threat to human health or welfare).

Filing of either of the following items does not stay or suspend any permit condition: (1) a request by the permittee for a permit modification, revocation and reissuance, or termination, or (2) submittal of information specified in Part II.A.3 of the permit including planned changes or anticipated noncompliance.

The permittee shall submit any information that the permittee knows or has reason to believe would constitute cause for modification or revocation and reissuance of the permit at the earliest time such information becomes available, such as plans for physical alterations or additions to the permitted facility that:

1. could significantly change the nature of, or increase the quantity of, pollutants discharged; or
2. the commissioner may request to evaluate whether such cause exists.

7. Property Rights

Pursuant to 327 IAC 5-2-8(6) and 327 IAC 5-2-5(b), the issuance of this permit does not convey any property rights of any sort or any exclusive privileges, nor does it authorize any injury to persons or private property or an invasion of rights, any infringement of federal, state, or local laws or regulations. The issuance of the permit also does not preempt any duty to obtain any other state, or local assent required by law for the discharge or for the construction or operation of the facility from which a discharge is made.

8. Severability

In accordance with 327 IAC 1-1-3, the provisions of this permit are severable and, if any provision of this permit or the application of any provision of this permit to any person or circumstance is held invalid, the invalidity shall not affect any other provisions or applications of the permit which can be given effect without the invalid provision or application.

9. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under Section 311 of the Clean Water Act.

10. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Clean Water Act or state law.

11. Penalties for Violation of Permit Conditions

Pursuant to IC 13-30-4, a person who violates any provision of this permit, the water pollution control laws; environmental management laws; or a rule or standard adopted by the Water Pollution Control Board is liable for a civil penalty not to exceed twenty-five thousand dollars (\$25,000) per day of any violation. Pursuant to IC 13-30-5, a person who obstructs, delays, resists, prevents, or interferes with (1) the department; or (2) the department's personnel or designated agent in the performance of an inspection or investigation commits a class C infraction.

Pursuant to IC 13-30-10, a person who intentionally, knowingly, or recklessly violates any provision of this permit, the water pollution control laws or a rule or standard adopted by the Water Pollution Control Board commits a class D felony punishable by the term of imprisonment established under IC 35-50-2-7(a) (up to one year), and/or by a fine of not less than five thousand dollars (\$5,000) and not more than fifty thousand dollars (\$50,000) per day of violation. A person convicted for a violation committed after a first conviction of such person under this provision is subject to a fine of not more than one hundred thousand dollars (\$100,000) per day of violation, or by imprisonment for not more than two (2) years, or both.

12. Penalties for Tampering or Falsification

In accordance with 327 IAC 5-2-8(10), the permittee shall comply with monitoring, recording, and reporting requirements of this permit. The Clean Water Act, as well as IC 13-30-10, provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under a permit shall, upon conviction, be punished by a fine of not more than ten thousand dollars (\$10,000) per violation, or by imprisonment for not more than one hundred eighty (180) days per violation, or by both.

13. Toxic Pollutants

If any applicable effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Clean Water Act for a toxic pollutant injurious to human health, and that standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition in accordance with 327 IAC 5-2-8(5). Effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants injurious to human health are effective and must be complied with, if applicable to the permittee, within the time provided in the implementing regulations, even absent permit modification.

14. Operator Certification

The permittee shall have the wastewater treatment facilities under the responsible charge of an operator certified by the Commissioner in a classification corresponding to the classification of the wastewater treatment plant as required by IC 13-18-11-11 and 327 IAC 5-22. In order to operate a wastewater treatment plant the operator shall have qualifications as established in 327 IAC 5-22-7. The permittee shall designate one (1) person as the certified operator with complete responsibility for the proper operations of the wastewater facility.

327 IAC 5-22-10.5(a) provides that a certified operator may be designated as being in responsible charge of more than one (1) wastewater treatment plant, if it can be shown that he will give adequate supervision to all units involved. Adequate supervision means that sufficient time is spent at the plant on a regular basis to assure that the certified operator is knowledgeable of the actual operations and that test reports and results are representative of the actual operations conditions. In accordance with 327 IAC 5-22-3(11), "responsible charge" means the person responsible for the overall daily operation, supervision, or management of a wastewater facility.

Pursuant to 327 IAC 5-22-10(4), the permittee shall notify IDEM when there is a change of the person serving as the certified operator in responsible charge of the wastewater treatment facility. The notification shall be made no later than thirty (30) days after a change in the operator.

15. Construction Permit

Except in accordance with 327 IAC 3, the permittee shall not construct, install, or modify any water pollution treatment/control facility as defined in 327 IAC 3-1-2(24). Upon completion of any construction, the permittee must notify the Compliance Data Section of the Office of Water Quality in writing.

16. Inspection and Entry

In accordance with 327 IAC 5-2-8(8), the permittee shall allow the Commissioner, or an authorized representative, (including an authorized contractor acting as a representative of the Commissioner) upon the presentation of credentials and other documents as may be required by law, to:

- a. Enter upon the permittee's premises where a point source, regulated facility, or activity is located or conducted, or where records must be kept pursuant to the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the terms and conditions of this permit;
- c. Inspect at reasonable times any facilities, equipment or methods (including monitoring and control equipment), practices, or operations regulated or required pursuant to this permit; and
- d. Sample or monitor at reasonable times, any discharge of pollutants or internal wastestreams for the purposes of evaluating compliance with the permit or as otherwise authorized.

17. New or Increased Discharge of Pollutants

This permit prohibits the permittee from undertaking any action that would result in a new or increased discharge of a bioaccumulative chemical of concern (BCC) or a new or increased permit limit for a regulated pollutant that is not a BCC unless one of the following is completed prior to the commencement of the action:

- a. Information is submitted to the Commissioner demonstrating that the proposed new or increased discharges will not cause a significant lowering of water quality as defined under 327 IAC 2-1.3-2(50). Upon review of this information, the Commissioner may request additional information or may determine that the proposed increase is a significant lowering of water quality and require the submittal of an antidegradation demonstration.
- b. An antidegradation demonstration is submitted to and approved by the Commissioner in accordance with 327 IAC 2-1.3-5 and 327 IAC 2-1.3-6.

B. MANAGEMENT REQUIREMENTS

1. Facility Operation, Maintenance and Quality Control

- a. In accordance with 327 IAC 5-2-8(8), the permittee shall at all times maintain in good working order and efficiently operate all facilities and systems (and related appurtenances) for collection and treatment that are:

- (1) installed or used by the permittee; and
- (2) necessary for achieving compliance with the terms and conditions of the permit.

Neither 327 IAC 5-2-8(8), nor this provision, shall be construed to require the operation of installed treatment facilities that are unnecessary for achieving compliance with the terms and conditions of the permit. Taking redundant treatment units off line does not violate the bypass provisions of the permit, provided that the permittee is at all times: maintaining in good working order and efficiently operating all facilities and systems; providing best quality effluent; and achieving compliance with the terms and conditions of the permit.

- b. The permittee shall operate the permitted facility in a manner which will minimize upsets and discharges of excessive pollutants. The permittee shall properly remove and dispose of excessive solids and sludges.
- c. The permittee shall provide an adequate operating staff which is duly qualified to carry out the operation, maintenance, and testing functions required to ensure compliance with the conditions of this permit.
- d. Maintenance of all waste collection, control, treatment, and disposal facilities shall be conducted in a manner that complies with the bypass provisions set forth below.

- e. Any extensions to the sewer system must continue to be constructed on a separated basis. Plans and specifications, when required, for extension of the sanitary system must be submitted to the Facility Construction and Engineering Support Section, Office of Water Quality in accordance with 327 IAC 3-2-2. There shall also be an ongoing preventative maintenance program for the sanitary sewer system.

2. Bypass of Treatment Facilities

Pursuant to 327 IAC 5-2-8(12):

- a. Terms as defined in 327 IAC 5-2-8(12)(A):
 - (1) “Bypass” means the intentional diversion of a waste stream from any portion of a treatment facility.
 - (2) “Severe property damage” means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
- b. Bypasses, as defined above, are prohibited, and the Commissioner may take enforcement action against a permittee for bypass, unless:
 - (1) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage, as defined above;
 - (2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance; and
 - (3) The permittee submitted notices as required under Part II.B.2.d; or
 - (4) The condition under Part II.B.2.f below is met.
- c. Bypasses that result in death or acute injury or illness to animals or humans must be reported in accordance with the “Spill Response and Reporting Requirements” in 327 IAC 2-6.1, including calling 888/233-7745 as soon as possible, but within two (2) hours of discovery. However, under 327 IAC 2-6.1-3(1), when the constituents of the bypass are regulated by this permit, and death or acute injury or illness to animals or humans does not occur, the reporting requirements of 327 IAC 2-6.1 do not apply.
- d. The permittee must provide the Commissioner with the following notice:

- (1) If the permittee knows or should have known in advance of the need for a bypass (anticipated bypass), it shall submit prior written notice. If possible, such notice shall be provided at least ten (10) days before the date of the bypass for approval by the Commissioner.
 - (2) The permittee shall orally report or fax a report of an unanticipated bypass within 24 hours of becoming aware of the bypass event. The permittee must also provide a written report within five (5) days of the time the permittee becomes aware of the bypass event. The written report must contain a description of the noncompliance (i.e. the bypass) and its cause; the period of noncompliance, including exact dates and times; if the cause of noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate and prevent recurrence of the bypass event. If a complete fax or email submittal is sent within 24 hours of the time that the permittee became aware of the unanticipated bypass event, then that report will satisfy both the oral and written reporting requirement.
- e. The Commissioner may approve an anticipated bypass, after considering its adverse effects, if the Commissioner determines that it will meet the conditions listed above in Part II.B.2.b. The Commissioner may impose any conditions determined to be necessary to minimize any adverse effects.
 - f. The permittee may allow any bypass to occur that does not cause a violation of the effluent limitations in the permit, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Part II.B.2.b.,d and e of this permit.
3. Upset Conditions

Pursuant to 327 IAC 5-2-8(13):

- a. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
- b. An upset shall constitute an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of Paragraph c of this subsection, are met.
- c. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence, that:

- (1) An upset occurred and the permittee has identified the specific cause(s) of the upset;
 - (2) The permitted facility was at the time being operated in compliance with proper operation and maintenance procedures;
 - (3) The permittee complied with any remedial measures required under “Duty to Mitigate”, Part II.A.2; and
 - (4) The permittee submitted notice of the upset as required in the “Incident Reporting Requirements,” Part II.C.3, or 327 IAC 2-6.1, whichever is applicable. However, under 327 IAC 2-6.1-3(1), when the constituents of the discharge are regulated by this permit, and death or acute injury or illness to animals or humans does not occur, the reporting requirements of 327 IAC 2-6.1 do not apply.
- d. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof pursuant to 40 CFR 122.41(n)(4).

4. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed from or resulting from treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering waters of the State and to be in compliance with all Indiana statutes and regulations relative to liquid and/or solid waste disposal.

- a. Collected screenings, slurries, sludges, and other such pollutants shall be disposed of in accordance with provisions set forth in 329 IAC 10, 327 IAC 6.1, or another method approved by the Commissioner.
- b. The permittee shall comply with existing federal regulations governing solids disposal, and with applicable provisions of 40 CFR Part 503, the federal sludge disposal regulation standards.
- c. The permittee shall notify the Commissioner prior to any changes in sludge use or disposal practices.
- d. The permittee shall maintain records to demonstrate its compliance with the above disposal requirements.

5. Power Failures

In accordance with 327 IAC 5-2-10 and 327 IAC 5-2-8(15) in order to maintain compliance with the effluent limitations and prohibitions of this permit, the permittee shall either:

- a. provide an alternative power source sufficient to operate facilities utilized by the permittee to maintain compliance with the effluent limitations and conditions of this permit, or
 - b. shall halt, reduce or otherwise control all discharge in order to maintain compliance with the effluent limitations and conditions of this permit upon the reduction, loss, or failure of one or more of the primary sources of power to facilities utilized by the permittee to maintain compliance with the effluent limitations and conditions of this permit.
6. Unauthorized Discharge

Any overflow or release of sanitary wastewater from the wastewater treatment facilities or collection system that results in a discharge to waters of the state and is not specifically authorized by this permit is expressly prohibited. These discharges are subject to the reporting requirements in Part II.C.3 of this permit.

C. REPORTING REQUIREMENTS

1. Planned Changes in Facility or Discharge

Pursuant to 327 IAC 5-2-8(11)(F) and 5-2-16(d), the permittee shall give notice to the Commissioner as soon as possible of any planned alterations or additions to the facility (which includes any point source) that could significantly change the nature of, or increase the quantity of, pollutants discharged. Following such notice, the permit may be modified to revise existing pollutant limitations and/or to specify and limit any pollutants not previously limited. Material and substantial alterations or additions to the permittee's operation that were not covered in the permit (e.g., production changes, relocation or combination of discharge points, changes in the nature or mix of products produced) are also cause for modification of the permit. However those alterations which constitute total replacement of the process or the production equipment causing the discharge converts it into a new source, which requires the submittal of a new NPDES application.

2. Monitoring Reports

Pursuant to 327 IAC 5-2-8(10), 327 IAC 5-2-13, and 327 IAC 5-2-15, monitoring results shall be reported at the intervals and in the form specified in "Data On Plant Operation", Part I.B.2.

3. Incident Reporting Requirements

Pursuant to 327 IAC 5-2-8(11) and 327 IAC 5-1-3, the permittee shall orally report to the Commissioner information on the following incidents within 24 hours from the time permittee becomes aware of such occurrence. If the incident meets the emergency criteria of item b (Part II.C.3.b) or 327 IAC 2-6.1, then the report shall be made as soon as possible, but within two (2) hours of discovery. However, under 327 IAC 2-6.1-3(1), when the constituents of the discharge are regulated by this permit, and death or acute injury or illness to animals or humans does not occur, the reporting requirements of 327 IAC 2-6.1 do not apply.

- a. Any unanticipated bypass which exceeds any effluent limitation in the permit;
- b. Any emergency incident which may pose a significant danger to human health or the environment. Reports under this item shall be made as soon as the permittee becomes aware of the incident by calling 317/233-7745 (888/233-7745 toll free in Indiana). This number should only be called when reporting these emergency events;
- c. Any upset (as defined in Part II.B.3 above) that exceeds any technology-based effluent limitations in the permit;
- d. Any release, including basement backups, from the sanitary sewer system (including satellite sewer systems operated or maintained by the permittee) not specifically authorized by this permit. Reporting of known releases from private laterals not caused by a problem in the sewer system owned or operated by the permittee is not required under Part II.C.3, however, documentation of such events must be maintained by the permittee and available for review by IDEM staff;
- e. Any discharge from any outfall from which discharge is explicitly prohibited by this permit as well as any discharge from any other outfall or point not listed in this permit; or
- f. Violation of a maximum daily discharge limitation for any of the following toxic pollutants: copper and/or mercury.

The permittee can make the oral reports by calling 317/232-8670 during regular business hours. A written submission shall also be provided within five (5) days of the time the permittee becomes aware of the circumstances. For incidents involving effluent limit violations or discharges, the written submission shall contain: a description of the event and its cause; the period of occurrence, including exact dates and times, and, if the event has not concluded, the anticipated time it is expected to continue; and steps taken or planned to reduce, mitigate and eliminate the event and steps taken or planned to prevent its recurrence. For sewer releases which do not meet the definition of a discharge, the written submission shall contain: a description of the event and its believed cause; the period of occurrence; and any steps taken or planned to mitigate the event and steps taken or planned to prevent its recurrence.

The permittee may submit a “Bypass Overflow/Incident Report” or a “Noncompliance Notification Report”, whichever is applicable, to IDEM at 317/232-8637 or 317/232-8406 or to wwreports@idem.IN.gov. If a complete fax or email submittal is sent within 24 hours of the time that the permittee became aware of the occurrence, then that report will satisfy both the oral and written reporting requirements.

4. Other Noncompliance

Pursuant to 327 IAC 5-2-8(11)(D), the permittee shall report any instance of noncompliance not reported under the “Incident Reporting Requirements” in Part II.C.3 at the time the pertinent Discharge Monitoring Report is submitted. The written submission shall contain: a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and, if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate and prevent the noncompliance.

5. Other Information

Pursuant to 327 IAC 5-2-8(11)(E), where the permittee becomes aware that it failed to submit any relevant facts or submitted incorrect information in a permit application or in any report to the Commissioner, the permittee shall promptly submit such facts or corrected information to the Commissioner.

6. Signatory Requirements

Pursuant to 327 IAC 5-2-22 and 327 IAC 5-2-8(15):

- a. All reports required by the permit and other information requested by the Commissioner shall be signed and certified by a person described below or by a duly authorized representative of that person:
 - (1) For a corporation: by a principal executive defined as a president, secretary, treasurer, any vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy-making functions for the corporation or the manager of one or more manufacturing, production, or operating facilities employing more than two hundred fifty (250) persons or having gross annual sales or expenditures exceeding twenty-five million dollars (\$25,000,000) (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
 - (2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

- (3) For a federal, state, or local governmental body or any agency or political subdivision thereof: by either a principal executive officer or ranking elected official.
- b. A person is a duly authorized representative only if:
- (1) The authorization is made in writing by a person described above.
 - (2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and
 - (3) The authorization is submitted to the Commissioner.
- c. Certification. Any person signing a document identified under paragraphs a and b of this section, shall make the following certification:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

7. Availability of Reports

Except for data determined to be confidential under 327 IAC 12.1, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Indiana Department of Environmental Management and the Regional Administrator. As required by the Clean Water Act, permit applications, permits, and effluent data shall not be considered confidential.

8. Penalties for Falsification of Reports

IC 13-30 and 327 IAC 5-2-8(15) provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 180 days per violation, or by both.

9. Progress Reports

In accordance with 327 IAC 5-2-8(11)(A), reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than fourteen (14) days following each schedule date.

10. Advance Notice for Planned Changes

In accordance with 327 IAC 5-2-8(11)(B), the permittee shall give advance notice to IDEM of any planned changes in the permitted facility, any activity, or other circumstances that the permittee has reason to believe may result in noncompliance with permit requirements.

11. Additional Requirements for POTWs and/or Treatment Works Treating Domestic Sewage

- a. All POTWs shall identify, in terms of character and volume of pollutants, any significant indirect discharges into the POTW which are subject to pretreatment standards under section 307(b) and 307 (c) of the CWA.
- b. All POTWs must provide adequate notice to the Commissioner of the following:
 - (1) Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to section 301 or 306 of the CWA if it were directly discharging those pollutants.
 - (2) Any substantial change in the volume or character of pollutants being introduced into that POTW by any source where such change would render the source subject to pretreatment standards under section 307(b) or 307(c) of the CWA or would result in a modified application of such standards.

As used in this clause, “adequate notice” includes information on the quality and quantity of effluent introduced into the POTW, and any anticipated impact of the change on the quantity or quality of the effluent to be discharged from the POTW.

- c. This permit incorporates any conditions imposed in grants made by the U.S. EPA and/or IDEM to a POTW pursuant to Sections 201 and 204 of the Clean Water Act, that are reasonably necessary for the achievement of effluent limitations required by Section 301 of the Clean Water Act.
- d. This permit incorporates any requirements of Section 405 of the Clean Water Act governing the disposal of sewage sludge from POTWs or any other treatment works treating domestic sewage for any use for which rules have been established in accordance with any applicable rules.

- e. POTWs must develop and submit to the Commissioner a POTW pretreatment program when required by 40 CFR 403 and 327 IAC 5-19-1, in order to assure compliance by industrial users of the POTW with applicable pretreatment standards established under Sections 307(b) and 307(c) of the Clean Water Act. The pretreatment program shall meet the criteria of 327 IAC 5-19-3 and, once approved, shall be incorporated into the POTW's NPDES permit.

D. ADDRESSES

1. Municipal NPDES Permits Section

Indiana Department of Environmental Management
Office of Water Quality – Mail Code 65-42
Municipal NPDES Permits Section
100 N. Senate Avenue
Indianapolis, Indiana 46204-2251

The following correspondence shall be sent to the Municipal NPDES Permits Section:

- a. NPDES permit applications (new, renewal or modifications) with fee
- b. Preliminary Effluent Limits request letters
- c. Comment letters pertaining to draft NPDES permits
- d. NPDES permit transfer of ownership requests
- e. NPDES permit termination requests
- f. Notifications of substantial changes to a treatment facility, including new industrial sources
- g. Combined Sewer Overflow (CSO) Operational Plans
- h. CSO Long Term Control Plans (LTCP)
- i. Stream Reach Characterization and Evaluation Reports (SRCER)

2. Facility Construction and Engineering Support Section

Indiana Department of Environmental Management
Office of Water Quality – Mail Code 65-42
Facility Construction and Engineering Support Section
100 N. Senate Avenue
Indianapolis, Indiana 46204-2251

The following correspondence shall be sent to the Facility Construction and Engineering Support Section:

- a. Construction permit applications with fee

3. Compliance Data Section

Indiana Department of Environmental Management
Office of Water Quality – Mail Code 65-42
Compliance Data Section
100 N. Senate Avenue
Indianapolis, Indiana 46204-2251

The following correspondence shall be sent to the Compliance Data Section:

- a. Discharge Monitoring Reports (DMRs)
- b. Monthly Reports of Operation (MROs)
- c. Monthly Monitoring Reports (MMRs)
- d. CSO MROs
- e. Gauging station and flow meter calibration documentation
- f. Compliance schedule progress reports
- g. Completion of Construction notifications
- h. Whole Effluent Toxicity Testing reports
- i. Toxicity Reduction Evaluation (TRE) plans and progress reports
- j. Bypass/Overflow Reports
- k. Anticipated Bypass/Overflow Reports
- l. Streamlined Mercury Variance Annual Reports

4. Pretreatment Group

Indiana Department of Environmental Management
Office of Water Quality – Mail Code 65-42
Compliance Data Section – Pretreatment Group
100 N. Senate Avenue
Indianapolis, Indiana 46204-2251

The following correspondence shall be sent to the Pretreatment Group:

- a. Organic Pollutant Monitoring Reports
- b. Significant Industrial User (SIU) Quarterly Noncompliance Reports
- c. Pretreatment Program Annual Reports
- d. Sewer Use Ordinances
- e. Enforcement Response Plans (ERP)
- f. Sludge analytical results

PART III

REQUIREMENT TO OPERATE A PRETREATMENT PROGRAM

A. CONDITIONS

The permittee, hereinafter referred to as the “Control Authority,” is required to operate its approved industrial pretreatment program approved on August 13, 2007, and any subsequent modifications approved up to the issuance of this permit. To ensure the program is operated as approved and consistent with 327 IAC 5-16 through 5-21, the following conditions and reporting requirements are hereby established. The Control Authority (CA) shall:

1. Legal Authority

The CA shall develop, enforce and maintain adequate legal authority in its Sewer Use Ordinance (SUO) to fully implement the pretreatment program in compliance with State and local law. As part of this requirement, the CA shall develop and maintain local limits as necessary to implement the prohibitions and standards in 327 IAC 5-18.

2. Permit Issuance

In accordance with 327 IAC 5-19-3(1) the CA is required to issue/reissue permits to Significant Industrial User(s) (SIU) as stated in the SUO. The CA must issue permits to new SIUs prior to the commencement of discharge. A SIU is defined in the SUO.

3. Industrial Compliance Monitoring

The CA is required to conduct inspection, surveillance, and monitoring activities to determine SIU compliance status with the approved program and the SUO independent of data supplied by the SIU. SIU compliance monitoring performed by the CA will be conducted in accordance with the program plan or yearly program plan. SIUs will be inspected once per year, at a minimum.

4. Enforcement

The CA is required to initiate the appropriate enforcement action against a SIU violating any provision of the SUO and/or discharge permit in accordance with the Enforcement Response Procedures (ERP) adopted by the CA. The CA must investigate violations by collecting and analyzing samples and collecting other information with sufficient care to produce evidence admissible in enforcement proceedings or in judicial actions in accordance with 40 CFR 403.8(f)(1)(iii) and 327 IAC 5-19-3(1)(F).

5. SIU Quarterly Noncompliance Report

The CA is required to report the compliance status of each SIU quarterly. The report is due by the 28th of the following months: April, July, October, and January of each year. The report shall include a description of corrective actions that have or will be taken by the CA and SIU to resolve the noncompliance situations. This report is to be sent to the Compliance Branch of the Office of Water Quality.

6. Public Participation and Annual Publishing of SIUs in Significant Noncompliance

The CA is required to comply with the public participation requirements under 40 CFR 25 and 327 IAC 5-19-3(2)(L). The CA must publish annually, by January 28, in the largest daily newspaper in the area, a list of SIUs that have been in Significant Noncompliance (SNC) with the SUO during the calendar year. The CA shall include in the ANNUAL REPORT a list of the SIUs published along with the newspaper clipping.

6. Industrial User Survey

The CA shall prepare and maintain a list of its Industrial Users meeting the criteria in 40 CFR 403.3(v)(1). The list shall identify the criteria in 40 CFR 403.3(v)(1) applicable to each Industrial User and where applicable, shall also indicate whether the CA has made a determination pursuant to 40 CFR 403.3(v)(2) that such Industrial User should not be considered a Significant Industrial User. Modifications to the list shall be submitted to the Approval Authority pursuant to 40 CFR 403.12(i)(1).

7. Annual Report

The CA is required to submit an annual report to the Pretreatment Group and EPA Region 5 by April 1, of each year. The CA shall also include a copy of the updated industrial user survey list. The annual report will be submitted in accordance with 40 CFR 403.12(i) to the following addresses:

Pretreatment Program Manager
U.S. EPA Region 5, WN-16J
NPDES Programs Branch
77 W. Jackson Blvd.
Chicago, IL 60604

Indiana Department of Environmental Management
Office of Water Quality - Mail Code 65-42
Compliance Data Section – Pretreatment Group
100 North Senate Avenue
Indianapolis, IN 46204-2251

8. Records Retention

Pursuant to 327 IAC 5-16-5.3(b), the CA shall retain any pretreatment reports from an industrial user a minimum of three (3) years and shall make such reports available for inspection and copying by IDEM or the U.S. EPA. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the industrial user, the operation of the POTW pretreatment program or when requested by IDEM or the U.S. EPA.

9. Confidentiality

The CA is required to comply with all confidentiality requirements set forth in 40 CFR 403.14, as well as the procedures established in the SUO.

10. Program Resources

Pursuant to 327 IAC 5-19-3(3), The CA shall maintain sufficient resources and qualified personnel to carry out the pretreatment program requirements.

11. Interjurisdictional Agreements

The CA must maintain sufficient legal authority to ensure compliance with all applicable pretreatment limits and requirements by all SIUs discharging to the POTW, including SIUs within governmental jurisdictions outside the immediate jurisdiction of the POTW. The CA must maintain the interjurisdictional agreements necessary to ensure full compliance by SIUs located within other jurisdictions as discussed in 40 CFR 403.8(f)(1).

12. POTW Pretreatment Program Revision Requirements

No later than 6 months after the effective date of this permit, the permittee shall re-evaluate its SUO to determine whether it provides adequate legal authority to fully implement the pretreatment program. Any modifications to the permittee's SUO shall be consistent with U.S. EPA's EPA Model Pretreatment Ordinance, available at: http://cfpub.epa.gov/npdes/docs.cfm?program_id=3&view=allprog&sort=name#model_ordinance.

In addition, the re-evaluation must include a technical re-evaluation of the local limits in accordance with 40 CFR 122.44(j)(2)(ii). The CA is to conduct the local limitations technical evaluation consistent with U.S. EPA's Local Limits Development Guidance (July 2004) document and U.S. EPA Region 5 Local Limits Spreadsheet (February 2011) available at: <http://www.epa.gov/r5water/npdestek/npdprta.htm>. The permittee shall submit these re-evaluations to U.S. EPA Region 5 and IDEM Pretreatment Group for review.

13. Program Modification

Pursuant to 327 IAC 5-19-6 and 40 CFR 403.18, any significant proposed program modification shall be submitted to the Pretreatment Group and the U.S. EPA for approval. A significant modification shall include, but not be limited to, any change in the SUO, major modification in the approval program's administrative procedures, a significant reduction in monitoring procedures, a significant change in the financial/revenue system, a significant change in the local limitations contained in the SUO, and a change in the industrial user survey.

NOTE: A summary of the revisions to the General Pretreatment Regulations (40 CFR 403) is available from the Pretreatment Group of the Compliance Data Section.

ATTACHMENT A

I. Discharge Prohibition and Reporting Requirements

Discharges from any portion of the sewer collection system, except flow from the Wastewater Treatment Plant (WWTP) via Outfall 002 or the wet weather treatment facility via Outfall 001, are prohibited. This prohibition includes discharges from the outfall(s) identified below.

In addition to complying with the monitoring and reporting requirements in Part III of this Attachment A, the permittee is also required to report prohibited discharges in accordance with Part II.C.3 of this permit.

<u>Outfall</u>	<u>Location</u>	<u>Receiving Water</u>
003	U.S. Hwy 6 Bridge Lat: 41° 25' 48" N Long: 84° 51' 26" W	Big Run Creek

II. Wet Weather Treatment Facility Effluent Limitations and Monitoring Requirements

A. The permittee is authorized to discharge treated combined sewage from Outfall 001 when influent flows exceed the Wastewater Treatment Plant (WWTP) peak hourly design rate. Wet weather flow is diverted from the WWTP headworks into the WWTF, and is discharged via Outfall 001 located at Latitude: 41° 26' 07" N, Longitude: 84° 51' 26" W. Any discharge from 001 is subject to the requirements and provisions of this permit including the following requirements:

TABLE 1

<u>Parameter [7]</u>	<u>Quantity or Loading</u>			<u>Quality or Concentration</u>			<u>Monitoring Requirements</u>	
	<u>Daily Maximum</u>	<u>Monthly Average</u>	<u>Units</u>	<u>Daily Maximum</u>	<u>Monthly Average</u>	<u>Unit</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow [1]	Report	Report	MGD	----	----	----	Daily	24-Hr. Total
CBOD ₅	----	----	----	Report	Report	mg/l	Daily	Composite [6]
TSS	----	----	----	Report	Report	mg/l	Daily	Composite [6]

TABLE 2

<u>Parameter [7]</u>	<u>Quality or Concentration</u>				<u>Monitoring Requirements</u>	
	<u>Daily Minimum</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Units</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
pH [8]	Report	----	Report	s.u.	Daily	Grab
TRC [2] [3]	----	0.01	0.02	mg/l	Daily	Grab
<i>E. coli</i> [4] [5]	----	125	235	cfu /100 ml	Daily	Grab

- [1] Effluent flow measurement is required per 327 IAC 5-2-13. The flow meter(s) shall be calibrated at least once annually.
- [2] The effluent shall be disinfected on a continuous basis such that violations of the applicable bacteriological limitations do not occur from April 1 through October 31, annually. If the permittee uses chlorine for any reason, at any time including the period from November 1 through March 31, then the limits and monitoring requirements in Table 2 for Total Residual Chlorine (TRC) shall be in effect whenever chlorine is used.
- [3] The monthly average Water Quality-Based Effluent Limit (WQBEL) for total residual chlorine is less than the Limit of Quantitation (LOQ) as specified below. Compliance with the total residual chlorine concentration limitations will be demonstrated if the monthly average effluent level is less than or equal to the monthly average WQBEL. For the purpose of calculating the monthly average value, the daily effluent values that are less than the LOQ may be assigned a value of zero (0), unless, after considering the number of monitoring results that are greater than the Limit of Detection (LOD), and applying appropriate statistical techniques, a value other than zero (0) is warranted.

The daily maximum WQBEL for total residual chlorine is greater than or equal to the LOD value, but less than the LOQ value specified in the permit. Compliance with this effluent limitation will be demonstrated if the measured daily effluent concentrations are less than the LOQ.

At present, two methods are acceptable to IDEM measure total residual chlorine: amperometric and DPD colorimetric methods.

<u>Parameter</u>	<u>LOD</u>	<u>LOQ</u>
Chlorine	0.02 mg/l	0.06 mg/l

Case-Specific MDL

The permittee may determine a case-specific Method Detection Level (MDL) using the analytical method specified above. The MDL shall be derived by the procedure specified for MDLs contained in 40 CFR Part 136, Appendix B, and the limit of quantitation shall be set equal to 3.18 times the MDL. Other methods may be used if first approved by the U.S. EPA and IDEM.

- [4] The *E. coli* limitations and monitoring requirements apply from April 1 through October 31 annually. The monthly average *E. coli* value shall be calculated as a geometric mean. IDEM has specified the following methods as allowable for the detection and enumeration of *Escherichia coli* (*E. coli*):

1. Coliscan MF® Method
2. EPA Method 1603 Modified m-TEC agar
3. mColi Blue-24®
4. Colilert® MPN Method or Colilert-18® MPN Method

[5] For *E. coli*, the daily maximum shall be the geometric mean of all grab samples on any discharge day, provided that 3 or more grab samples are collected. If less than 3 grab samples are taken then the arithmetic mean shall be reported. The *E. coli* monthly average shall be the geometric mean of all grab samples collected during the month, provided that 5 or more grab samples are collected. The goal of the effluent monitoring program is to collect at least 3 grab samples during each discharge event, and the samples shall be collected at shorter intervals at the onset of the event, if the permittee estimates that the event duration may be less than 6 hours.

If there are discharges on four (4) or more days, then the monthly average shall be reported on the Discharge Monitoring Report (DMR). For discharges of four (4) or more days during a calendar month, then the monthly average *E. coli* value shall be calculated as a geometric mean of all grab samples collected and reported on the DMR.

- [6] Effluent composite sampling, either by automatic sampler collecting samples at set intervals or by grab samples collected during discharges from the wet weather treatment component, shall be representative of the discharge and of sufficient quantity to ensure that the parameters of Table 1 of Attachment A can be measured; shall be initiated within 30 minutes from the beginning of a discharge event; and shall continue at intervals determined by the permittee, but no less than every 2 hours during the duration of the event. If an event lasts for more than 24 hours a new sampling period shall be initiated. Analysis for the parameters identified in Table 1 of Attachment A shall be from the composite sample collected as described above.
- [7] For purposes of reporting on a discharge event which lasts less than 24 hours, but occurs during two calendar days, the pollutant concentrations for the event shall be reported as daily values on the day when the majority of the discharge occurred.
- [8] If the permittee collects more than one grab sample on a given day for pH, the values shall not be averaged for reporting daily maximums or daily minimums. The permittee must report the minimum or maximum pH value of any individual sample during the month on the Discharge Monitoring Report forms.

- B. At all times the discharge from any and all CSO outfalls herein shall not cause receiving waters:
1. including the mixing zone, to contain substances, materials, floating debris, oil, scum, or other pollutants:
 - a. that will settle to form putrescent or otherwise objectionable deposits;
 - b. that are in amounts sufficient to be unsightly or deleterious;
 - c. that produce color, visible oil sheen, odor, or other conditions in such a degree as to create a nuisance;
 - d. which are in amounts sufficient to be acutely toxic to, or otherwise severely injure or kill aquatic life, other animals, plants, or humans;
 - e. which are in concentrations or combinations that will cause or contribute to the growth of aquatic plants or algae to such a degree as to create a nuisance, be unsightly, or otherwise impair the designated uses.
 2. outside the mixing zone, to contain substances in concentrations which on the basis of available scientific data are believed to be sufficient to injure, be chronically toxic to, or be carcinogenic, mutagenic, or teratogenic to humans, animals, aquatic life, or plants.
- C. Dry weather discharges from any portion of the sewer collection system, except WWTP outfall No. 002, are prohibited. If such a prohibited discharge should occur, the permittee is required to report the discharge in accordance with the provisions in Part II.C.3 of this permit.

III. Monitoring and Reporting Requirements

The permittee shall complete and submit accurate monitoring reports to the Indiana Department of Environmental Management. The permittee shall submit data specified on the CSO Monthly Report of Operation (MRO) for untreated CSO events (State Form 50546 (R3/7-13)), including but not limited to, WWTP data, precipitation data, and performance data for all discharges from untreated CSO Outfalls identified in Part I of this Attachment A. Submitted CSO MROs shall contain results obtained during each month (a monitoring period) and shall be postmarked no later than 28 days following each completed monitoring period.

The permittee shall monitor discharges from Outfall 001 in accordance with Discharge Monitoring Report (DMR) forms provided by IDEM. Submitted DMRs shall contain results obtained during each month (a monitoring period) and shall be postmarked no later than 28 days following each completed monitoring period. Discharge data from Outfall 001 shall not be included on the CSO MRO form for untreated CSO events (State Form 50546 (R3/7-13)).

All reports shall be mailed to IDEM, Office of Water Quality – Mail Code 65-42, Compliance Data Section, 100 North Senate Ave., Indianapolis, Indiana 46204-2251. Please note that IDEM will no longer accept paper DMR or MRO forms after December 31, 2016. After that date all NPDES permit holders will be required to submit their monitoring data to IDEM using NetDMR. Electronically submitted reports (using NetDMR) have the same deadline as mailed reports.

IV. CSO Operational Plan

- A. The permittee shall comply with the following minimum technology-based controls, in accordance with EPA's National CSO Control Policy:
1. The permittee shall implement proper operation and regular maintenance programs for the sewer system and the CSOs. The purpose of the operation and maintenance programs is to reduce the magnitude, frequency and duration of CSOs. The programs shall consider regular sewer inspections; sewer, catch basin, and regulator cleaning; equipment and sewer collection system repair or replacement, where necessary; and disconnection of illegal connections.
 2. The permittee shall implement procedures that will maximize the use of collection system for wastewater storage that can be accommodated by the storage capacity of the collection system in order to reduce the magnitude, frequency and duration of CSOs.
 3. The permittee shall review and modify, as appropriate, its existing pretreatment program to minimize CSO impacts from non-domestic users. The permittee shall identify all industrial users that discharge to the collection system upstream of any CSO outfalls; this identification shall also include the pollutants in the industrial user's wastewater and the specific CSO outfall(s) that are likely to discharge the wastewater.
 4. The permittee shall operate the POTW at the maximum treatable flow during all wet weather flow conditions to reduce the magnitude, frequency and duration of CSOs. The permittee shall deliver all flows to the treatment plant within the constraints of the treatment capacity of the POTW.
 5. Dry weather overflows from CSO outfalls are prohibited. Each dry weather overflow must be reported to IDEM as soon as the permittee becomes aware of the overflow. When the permittee detects a dry weather overflow, it shall begin corrective action immediately. The permittee shall inspect the dry weather overflow each subsequent day until the overflow has been eliminated.
 6. The permittee shall implement measures to control solid and floatable materials in CSO discharges.
 7. The permittee shall implement a pollution prevention program focused on reducing the impact of CSOs on receiving waters.
 8. The permittee shall implement a public notification process to inform citizens of when and where CSO discharges occur and their impacts. This notification must also be done in accordance with 327 IAC 5-2.1.
 9. The permittee shall monitor to effectively characterize CSO impacts and the efficacy of CSO controls.
- B. The permittee's implementation of each of the minimum controls in Part IV.A of this Attachment A shall be documented in its approved CSO Operational Plan (CSOOP). The permittee shall update the CSOOP, as necessary, to reflect changes in its operation or maintenance practices; changes to measures taken to implement the above minimum requirements; and changes to the treatment plant or collection system, including changes in collection system flow characteristics, collection system

or WWTP capacity or discharge characteristics (including volume, duration, frequency and pollutant concentration). All updates to the CSOOP must be submitted to IDEM, Office of Water Quality, Municipal NPDES Permits Section for approval.

The CSOOP update(s) shall include a summary of the proposed revisions to the CSOOP as well as a reference to the page(s) that have been modified. Any CSOOP updates shall not result in:

1. a lower amount of flow being sent to and through the plant for treatment, or
2. more discharges (measured either by volume, duration, frequency, or pollutant concentration) occurring from the CSO outfalls.

The permittee shall maintain a current CSO Operational Plan, including all approved updates, on file at the POTW.

V. Sewer Use Ordinance Review/Revision and Enforcement

The permittee's Sewer Use Ordinance must contain provisions which: (1) prohibit introduction of inflow sources to any sanitary sewer; (2) prohibit construction of new combined sewers outside of the existing combined sewer service area; and (3) provide that for any new building the inflow/clear water connection to a combined sewer shall be made separate and distinct from sanitary waste connection to facilitate disconnection of the former if a separate storm sewer subsequently becomes available. The permittee shall continuously enforce these provisions.

VI. Reopening Clauses

- A. This permit may be reopened to address changes in the EPA National CSO Policy or state or federal law.
- B. The permit may be reopened, after public notice and opportunity for hearing, to incorporate applicable provisions of IC 13-18.

ATTACHMENT B

Streamlined Mercury Variance

I. Introduction

The permittee submitted an application for a streamlined mercury variance (SMV) in accordance with the provisions of 327 IAC 5-3.5. The SMV establishes a streamlined process for obtaining a variance from a water quality criterion used to establish a WQBEL for mercury in an NPDES permit. Based on a review of the SMV application, IDEM has determined the application to be complete as outlined in 327 IAC 5-3.5-4(e). Therefore, the SMV has been issued concurrently with the NPDES permit in accordance with 327 IAC 5-3.5-6.

II. Term of SMV

The SMV and the interim discharge limit included in Part I.A.3., Table 4 will remain in effect until the NPDES permit expires under IC 13-14-8-9 (amended under SEA 620, May 2005). Pursuant to IC 13-14-8-9(d), when the NPDES permit is extended under IC 13-15-3-6 (administratively extended), the SMV will remain in effect as long as the NPDES permit requirements affected by the SMV are in effect.

III. Annual Reports

The annual report is a condition of the Pollutant Minimization Program Plan (PMPP) requirements of 327 IAC 5-3.5-9(a)(8). The annual report must describe the permittee's progress toward fulfilling each PMPP requirement, the results of all mercury monitoring within the previous year, and the steps taken to implement the planned activities outlined under the PMPP. The annual report may also include documentation of chemical and equipment replacements, staff education programs, and other initiatives regarding mercury awareness or reductions. The complete inventory and complete evaluation required by the PMPP may be submitted as part of the annual report. The annual report will be due by March 1st of each year.

IV. SMV Renewal

As authorized under 327 IAC 5-3.5-7(a)(1), the permittee may apply for the renewal of an SMV at any time within 180 days prior to the expiration of the NPDES permit. In accordance with 327 IAC 5-3.5-7(c), an application for renewal of the SMV must contain the following:

- All information required for an initial SMV application under 327 IAC 5-3.5-4, including revisions to the PMPP, if applicable.
- A report on implementation of each provision of the PMPP.
- An analysis of the mercury concentrations determined through sampling at the facility's locations that have mercury monitoring requirements in the NPDES permit for the two (2) year period prior to the SMV renewal application.

- A proposed alternative mercury discharge limit, if appropriate, to be evaluated by the department according to 327 IAC 5-3.5-8(b) based on the most recent two (2) years of representative sampling information from the facility.

Renewal of the SMV is subject to a demonstration showing that PMPP implementation has achieved progress toward the goal of reducing mercury from the discharge.

V. Pollutant Minimization Program Plan (PMPP)

The PMPP is a requirement of the SMV application and is defined in 327 IAC 5-3.5-3(4) as the plan for development and implementation of Pollutant Minimization Program (PMP). The PMP is defined in 327 IAC 5-3.5-3(3) as the program developed by an SMV applicant to identify and minimize the discharge of mercury into the environment. PMPP requirements are outlined in 327 IAC 5-3.5-9. In accordance with 327 IAC 5-3.5-6, the requirements of the PMPP are appended with this Attachment. The permittee is required to fully implement the PMP.

Part Two.D

Plan / Schedule for Completion of the Evaluation Identified in Part Two.C

Sector	Planned Activity	Goal	Measure of Performance	Schedule of Action(s)
Medical Facilities	Obtain and distribute AHA BMP Literature	Prevention, Education and Awareness	Verification of mailing and content	6 months after Permit modification / SMV applicability
	Annual follow-up with each identified facility	Prevention, Education and Awareness	Incorporation / verification in annual report	12 months after Permit modification / SMV applicability
Dental Clinics / Offices	Obtain and distribute ADA BMP Literature	Prevention, Education and Awareness	Verification of mailing and content	6 months after Permit modification / SMV applicability
	Annual follow-up with each identified facility	Prevention, Education and Awareness	Incorporation / verification in annual report	12 months after Permit modification / SMV applicability
Public / Private Educational Labs	Obtain and distribute BMP Literature	Prevention, Education and Awareness	Verification of mailing and content	6 months after Permit modification / SMV applicability
	Annual follow-up with each identified facility	Prevention, Education and Awareness	Incorporation / verification in annual report	12 months after Permit modification / SMV applicability
General Industry / SIUs	Distribute BMP Literature and relevant information	Prevention, Education and Awareness	Verification of mailing and content	6 months after Permit modification / SMV applicability
	Incorporate into annual pretreatment inspection for SIUs	Prevention, Education and Awareness	Incorporation / verification in annual pretreatment report	12 months after Permit modification / SMV applicability
	Incorporate into bi-annual review of all SIUs / non-SIUs	Prevention, Education and Awareness	Incorporate mercury inventory into IU Questionnaire / IWP Application	18 months after Permit modification / SMV applicability
Other Potentially Significant Sources (Including the Wastewater Utility and all Butler Municipal Functions)	Public education and outreach - Distribute literature and information to residents and other establishments	Prevention, Reduction, Education and Awareness	Verification of distribution; Web site monitoring; Dates distributed	4 months after Permit modification / SMV applicability

	<p>Clean 25% of Utility Sewers Annually</p> <p>Clean Interceptor Sewer under US 6</p> <p>Annual Inventory Review of all Municipal Buildings</p> <p>Initial training for City employees completed in 10/2014; annual update and training for new employees</p> <p>Review and evaluation of City purchasing policy and all purchases; develop SOP to include review of mercury components in all City purchases</p> <p>Evaluation of equipment / alternative equipment need to provide City services</p>	<p>Prevention and Reduction</p> <p>Prevention and Reduction</p> <p>Prevention, Reduction, Education and Awareness</p> <p>Prevention, Reduction, Education and Awareness</p> <p>Prevention, Reduction, Education and Awareness</p> <p>Prevention, Reduction, Minimization of Mercury in Components and potential discharges</p>	<p>Incorporate as part of annual pretreatment report</p> <p>Incorporate as part of annual pretreatment report</p> <p>Incorporate as part of annual pretreatment report</p> <p>Policy adopted in 9/14; verify annual review of policy and purchases of alternative equipment</p> <p>Department Participation</p> <p>Department Participation</p>	<p>12 months after Permit modification / SMV applicability</p> <p>24 months after Permit Modification / SMV applicability and every 48 months thereafter By 9/30 of each year; include in 2016 report and subsequent annual reports</p> <p>By 9/30 of each year; include in 2016 report and subsequent annual reports</p> <p>9 months after Permit modification / SMV applicability</p> <p>Ongoing</p>
PL 225-2001	Public Education and Outreach	Prevention, Reduction, Education and Awareness	Verification of distribution; Web site monitoring; Dates distributed	6 months after Permit modification / SMV applicability and quarterly thereafter

	<p>Clean Up Day – coordinate collection of mercury containing materials (thermometers, light bulbs, electronics, batteries) with NE Indiana SWD</p> <p>Coordinate efforts with NE Indiana SWD and other NE Indiana municipalities for “Tox Away” Day(s)</p>	<p>Prevention, Reduction, Education and Awareness</p> <p>Prevention, Reduction, Education and Awareness</p>	<p>Inventory of Materials Collected</p> <p>Verification of participation and coordination</p>	<p>12 months after Permit modification / SMV applicability and annually thereafter</p> <p>Include verification of participation in annual pretreatment report in 2016 and annually thereafter</p>
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Parts Three.A, B and C
Planned Activities to Eliminate or Minimize the Release of Mercury

1. Review of Purchasing Policies and Procedures (In addition to activities identified in Part Two.D)	Prevention, Reduction, Minimization and Education	Implementation of Policy adopted by Board of Public Works and Safety on 10/6/14	<p>Implementation was initiated on 10/13/14</p> <p>Environmental / Green Purchasing Policy will be reviewed annually, by 9/31 of each year</p>
2. Training and Awareness for Staff, including Education (In addition to activities identified in Part Two.D)	Prevention, Reduction, Minimization, Education and Awareness	Verification of employee training – initial and subsequent events	<p>Initial training was conducted on 10/13/14</p> <p>Follow-up training will occur within 1 month of effective date of SMV / permit modification or renewal</p> <p>After 1st follow-up training, permit requirements will be reviewed and discussed annually with all Departments</p>
3. Education Program for the Public (In addition to activities identified in Part Two.D)	Prevention, Reduction, Minimization, Education and Awareness	Verification of provision of information on City web site and information / education rack in City Hall	4 months after Permit modification / SMV applicability

			<p>Review and update information every 3 months thereafter</p> <p>Information about Butler Clean-up Day 1 month before planned event each year</p>
4. Evaluation of Alternatives to the Use of Equipment Containing Mercury (In addition to activities identified in Part Two.D)	Prevention, Reduction, Minimization and Education	Implementation of Environmental / Green Purchasing Policy and annual review verified in Pretreatment Program Report	Ongoing; 1 st Report in annual pretreatment program report for 2015, to be submitted in 2016
5. Other Activities to Reduce or Eliminate Mercury Loadings (In addition to activities identified in Part Two.D)	Prevention, Reduction and Minimization	<p>Monthly tracking of sewer cleaning; incorporate into annual pretreatment program report</p> <p>Review of Municipal Buildings and progress to eliminate / manage mercury containing equipment</p>	<p>Ongoing; 1st Report in annual pretreatment program report for 2015, to be submitted in 2016</p> <p>12 months after Permit modification and SMV applicability; annually thereafter</p>
6. Responsibilities Under PL 225-2001 (In addition to activities identified in Part Two.D)	Prevention, Reduction, Minimization, Education and Awareness	<p>Documented coordination with NE Indiana SWD</p> <p>Annual summation of materials collected during Clean-up Day and any "Tox Away" Days</p>	<p>Clean UP Day within 12 months after effective date of Permit modification / SMV applicability</p> <p>Annually thereafter</p>

Fact Sheet
May 13, 2016

City of Butler Wastewater Treatment Plant
located at 695 East Green Street
Butler, Indiana
DeKalb County

Main Plant Outfall 002 Location

Latitude: 41° 26' 07" N
Longitude: 84° 51' 26" W

Wet Weather Treatment Facility Outfall 001 Location

Latitude: 41° 26' 07" N
Longitude: 84° 51' 26" W

CSO Outfall 003 Location

Latitude: 41° 25' 48" N
Longitude: 84° 51' 26" W

NPDES Permit No. IN0022462

Background

This is the proposed renewal of the NPDES permit for the City of Butler Wastewater Treatment Plant which was issued on July 29, 2011 and has an expiration date of August 31, 2016. The permittee submitted an application for renewal which was received on February 18, 2016. The permittee currently operates a Class III, 2.0 MGD (design flow) extended aeration treatment facility with an average design peak flow of 3.0 MGD. The treatment facility consists of a bar screen, a fine rotary screen, a grit chamber, three aeration tanks, two secondary clarifiers, phosphorus removal through precipitation with ferric chloride, three aerobic digesters, chlorination/dechlorination facilities and influent and effluent flow meters. Biosolids are continuously returned to the aeration tanks and periodically wasted to the aerobic digesters for stabilization, thickening by decanting, pumping to onsite storage lagoons for drying and storage prior to ultimate disposal via landfill.

Collection System

The collection system is comprised of combined sanitary and storm sewers with one (1) Combined Sewer Overflow (CSO) location (003) and one wet weather treatment facility outfall (001). The City's collection system is approximately 60% combined and 40 % separate sewers. The CSO locations have been identified and are subject to the provisions in Attachment A of the permit.

Within Attachment A of the renewal permit, information for the wet weather treatment facility outfall has been changed from the previous permit. The location of this outfall has not changed; however, the location information has been changed in the renewal to provide a more accurate description of the outfall location.

CSO Statutory or Regulatory Basis for Permit Provisions

CSOs are point sources subject to NPDES permit requirements, including both technology-based and water quality-based requirements of the CWA and state law. Thus the permit contains provisions IDEM deems necessary to meet water quality standards, as well as technology-based treatment requirements, operation and maintenance requirements, and best management practices.

This permit is based on various provisions of state and federal law, including (1) Title 13 of the Indiana Code; (2) the water quality standards set forth in 327 IAC 2-1.5; (3) the NPDES rules set forth in 327 IAC 2 and 327 IAC 5, including 327 IAC 5-2-8 and 327 IAC 5-2-10; and (4) section 402(q) of the CWA (33 USC § 1342), which requires all permits or orders issued for discharges from municipal CSOs to conform with the provisions of EPA's National CSO Control Policy (58 Fed. Reg. 18688, April 19, 1994). EPA's CSO Policy contains provisions that, among other things, require permittees to develop and implement minimum technological and operational controls and long term control plans to meet state water quality standards. The permit's penalty provisions are based in large part on IC 13-30. In addition to the regulatory provisions previously cited, the data collection and reporting requirements are based in part on 327 IAC 5-1-3, 327 IAC 5-2-13 and section 402(q) of the CWA.

Explanation of Effluent Limitations and Conditions

The effluent limitations set forth in Part II of Attachment A are derived in part from the narrative water quality standards set forth in 327 IAC 2-1.5-8. The narrative standards are minimum standards that apply to all waters at all times, and therefore are applicable to all discharges of pollutants. Because EPA has not issued national effluent limitation guidelines for this category of discharges, the technology-based BAT/BCT provisions are based on best professional judgment (BPJ) in addition to section 402(q) of the CWA. (CSO discharges are not subject to the secondary treatment requirements applicable to publicly owned treatment works because overflow points have been determined to not be part of the treatment plant. *Montgomery Environmental Coalition v. Costle*, 646 F.2d 568 (D.C. Cir. 1980).)

CSO Long-Term Control Plan

The City of Butler's original approved CSO Long Term Control Plan (LTCP) was fully implemented and consisted of Wastewater Treatment Plant (WWTP) upgrades, floatables/solids controls, sewer separation work, a wet weather pumping station, and conversion of abandoned tanks at the WWTP to provide wet weather treatment of combined stormwater and wastewater in excess of the WWTP's peak design flow rate; however, it was determined that the City was not meeting the original level of control. Butler is currently performing additional work under a Combined Sewer Overflow Compliance Plan (CSO CP). The CSO CP involves upgrades to the WWTP equipment to

achieve full hydraulic treatment capacity, upsizing 1,200 feet of influent sewer to provide wet weather storage, improved flow monitoring within the treatment process to maximize treatment efficiency, and installation of a new overflow screening structure.

The CSO CP has an implementation schedule of seven years and is expected to reduce the number of untreated overflows to six or less per year. Full CSO CP implementation is anticipated to be completed in 2022. The implementation schedule is enforced through Agreed Order Case No. 2013-21811-W.

Spill Reporting Requirements

Reporting requirements associated with the Spill Reporting, Containment, and Response requirements of 327 IAC 2-6.1 are included in Part II.B.2.c. and Part II.C.3. of the NPDES permit. Spills from the permitted facility meeting the definition of a spill under 327 IAC 2-6.1-4(15), the applicability requirements of 327 IAC 2-6.1-1, and the Reportable Spills requirements of 327 IAC 2-6.1-5 (other than those meeting an exclusion under 327 IAC 2-6.1-3 or the criteria outlined below) are subject to the Reporting Responsibilities of 327 IAC 2-6.1-7.

It should be noted that the reporting requirements of 327 IAC 2-6.1 do not apply to those discharges or exceedences that are under the jurisdiction of an applicable permit when the substance in question is covered by the permit and death or acute injury or illness to animals or humans does not occur. In order for a discharge or exceedence to be under the jurisdiction of this NPDES permit, the substance in question (a) must have been discharged in the normal course of operation from an outfall listed in this permit, and (b) must have been discharged from an outfall for which the permittee has authorization to discharge that substance.

Solids Disposal

The permittee is required to dispose of its sludge in accordance with 329 IAC 10, 327 IAC 6.1, or 40 CFR Part 503.

Receiving Stream

The facility discharges to Big Run Creek via Outfall 002. The receiving water is located within the Lake Erie drainage basin. The receiving water has a seven day, ten year low flow ($Q_{7,10}$) of 0.9 cubic feet per second (0.58 MGD) at the outfall location. This provides a dilution ratio of receiving stream flow to treated effluent of 0.29:1. The receiving stream is designated for full body contact recreational use and shall be capable of supporting a well-balanced warm water aquatic community in accordance with 327 IAC 2-1.5-5. A TMDL study has not been completed in the Assessment Unit representing Big Run Creek and no TMDL is in progress.

Industrial Contributions

The permittee accepts industrial flow from Steel Dynamics, Inc., Heidtman Steel Products, Inc., New Millennium Building Systems, and Autoline. Based on the industrial flow received by the treatment facility, the permittee is required to operate its approved industrial pretreatment program approved on August 13, 2007. Provisions for the industrial pretreatment program are included in Part III of this permit renewal. In addition, monitoring requirements and effluent limitations for chloride and copper, and monitoring requirements for cadmium, lead, and cyanide are being included in the permit renewal.

Antidegradation

327 IAC 2-1.3 outlines the state's Antidegradation Standards and Implementation Procedures. The Tier 1 antidegradation standard found in 327 IAC 2-1.3-3(a) applies to all surface waters of the state regardless of their existing water quality. Based on this standard, for all surface waters of the state, existing uses and the level of water quality necessary to protect existing uses shall be maintained and protected. IDEM implements the Tier 1 antidegradation standard by requiring NPDES permits to contain effluent limits and best management practices for regulated pollutants that ensure the narrative and numeric water quality criteria applicable to the designated use are achieved in the water and any designated use of the downstream water is maintained and protected.

The Tier 2 antidegradation standard found in 327 IAC 2-1.3-3(b) applies to surface waters of the state where the existing quality for a parameter is better than the water quality criterion for that parameter established in 327 IAC 2-1.5. These surface waters are considered high quality for the parameter and this high quality shall be maintained and protected unless the commissioner finds that allowing a significant lowering of water quality is necessary and accommodates important social or economic development in the area in which the waters are located. IDEM implements the Tier 2 antidegradation standard for regulated pollutants with numeric water quality criteria quality adopted in or developed pursuant to 327 IAC 2-1.5 and utilizes the antidegradation implementation procedures in 327 IAC 2-1.3-5 and 2-1.3-6.

According to 327 IAC 2-1.3-1(b), the antidegradation implementation procedures in 327 IAC 2-1.3-5 and 2-1.3-6 apply to a proposed new or increased loading of a regulated pollutant to surface waters of the state from a deliberate activity subject to the Clean Water Act, including a change in process or operation that will result in a significant lowering of water quality.

The NPDES permit does not propose to establish a new or increased loading of a regulated pollutant; therefore, the Antidegradation Implementation Procedures in 327 IAC 2-1.3-5 and 2-1.3-6 do not apply to the permitted discharge.

Effluent Limitations and Rationale

The effluent limitations proposed herein are based on Indiana Water Quality Standards, NPDES regulations, and Wasteload Allocation (WLA) analyses performed by this Office's Permits Branch staff on December 15, 2000, August 25, 2010, and May 5, 2016. These limits are in accordance with antibacksliding regulations specified in 327 IAC 5-2-10(a)(11)(A). Monitoring frequencies are based upon facility size and type. IDEM has waived the 85% removal requirement for CBOD₅ and TSS under the provisions of 40 CFR 133.103(a). The periodic improvements required under the permittee's LTCP would make the percent removal level a dynamic measurement and any limitation based on percent removal impractical.

The final effluent limitations to be limited and/or monitored include: Flow, Carbonaceous Biochemical Oxygen Demand (CBOD₅), Total Suspended Solids (TSS), Ammonia-nitrogen (NH₃-N), Phosphorus, pH, Dissolved Oxygen (DO), Total Residual Chlorine (TRC), *Escherichia coli* (*E. coli*), Cadmium, Lead, Chloride, Copper, Cyanide and Mercury.

Final Effluent Limitations

The summer monitoring period runs from May 1 through November 30 of each year and the winter monitoring period runs from December 1 through April 30 of each year. The disinfection season runs from April 1 through October 31 of each year.

Pursuant to IC 13-18-19-2, the mass limits for CBOD₅, TSS and ammonia-nitrogen have been calculated utilizing the peak design flow of 3.0 MGD. This is to facilitate the maximization of flow through the treatment facility in accordance with this Office's CSO policy. Pursuant to IC 13-18-19-2(b), the average design peak flow of 3.0 MGD has been included as a requirement of the permittee's Long Term Control Plan (LTCP).

While 327 IAC 5-2-11.6(g) and 327 IAC 5-2-11.4(a)(9) suggest that the calculation of water quality-based effluent limitations (WQBELs) expressed as a concentration utilize the same flow as used in the calculation of mass limits, IDEM has determined that IC 13-18-19-2 supersedes the referenced rules. Based on the federal regulations at 40 CFR 132.4, however, the effects of the provisions of IC 13-18-19-2 are limited to those pollutants listed in Table 5 of 40 CFR 132.4. Therefore, the mass limits for copper, cyanide and mercury (those permitted pollutants not listed in Table 5) continue to be based on the design flow of 2.0 MGD.

Influent Monitoring

The raw influent and the wastewater from intermediate unit treatment processes, as well as the final effluent shall be sampled and analyzed for the pollutants and operational parameters specified by the applicable Monthly Report of Operation Form, as appropriate, in accordance with 327 IAC 5-2-13 and Part I.B.2 of the permit. Except where the permit specifically states otherwise, the sample frequency for the raw influent and intermediate unit treatment process shall be at a minimum the same frequency as that for the final effluent. The measurement frequencies specified in each of the tables in Part I.A. are the minimum frequencies required by the permit.

Flow

Flow is to be measured five times weekly as a 24-hour total. Reporting of flow is required by 327 IAC 5-2-13.

CBOD₅

CBOD₅ is limited 20 mg/l (500.7 lbs/day) as a monthly average and 30 mg/l (751.1 lbs/day) as a weekly average during the summer monitoring period. During the winter monitoring period, CBOD₅ is limited to 25 mg/l (625.9 lbs/day) as a monthly average and 40 mg/l (1,001.4 lbs/day) as a weekly average. Monitoring is to be conducted five times weekly by 24-hour composite sampling. The CBOD₅ concentration limitations included in this permit are set in accordance with the WLA analysis performed by this Office's Permits Technical Support Section staff on December 15, 2000 and are the same as the concentration limitations found in the facility's previous permit

TSS

TSS is limited to 24 mg/l (600.8 lbs/day) as a monthly average and 36 mg/l (901.3 lbs/day) as a weekly average during the summer monitoring period. During the winter monitoring period, TSS is limited to 30 mg/l (751.1 lbs/day) as a monthly average and 45 mg/l (1,126.6 lbs/day) as a weekly average. Monitoring is to be conducted five times weekly by 24-hour composite sampling. The TSS concentration limitations included in this permit are the same as the concentration limitations found in the facility's previous permit.

Ammonia-nitrogen

Ammonia-nitrogen is limited to 1.2 mg/l (30.0 lbs/day) as a monthly average and 3.1 mg/l (77.6 lbs/day) as a daily maximum during the summer monitoring period. During the winter monitoring period, ammonia-nitrogen is limited to 1.3 mg/l (32.5 lbs/day) as a monthly average and 3.3 mg/l (82.6 lbs/day) as a daily maximum. Monitoring is to be conducted five times weekly by 24-hour composite sampling. The ammonia-nitrogen concentration limitations included in this permit are set in accordance with the WLA analysis performed by this Office's Permits Technical Support Section staff on August 25, 2010. These limits are more stringent than the concentration limits found in the facility's previous permit. Based on recently reported effluent data for ammonia-nitrogen that indicates the permittee will be able to comply with the more restrictive limits, no schedule of compliance for this parameter has been included in the permit renewal.

Phosphorus

In accordance with 327 IAC 5-10-2(a) & (b), as the treatment facility discharges into receiving waters located within the Lake Erie drainage basin, phosphorus removal facilities shall achieve a degree of reduction as prescribed in the sliding scale of phosphorus removal in Footnote [4] of Table 1 of the permit, or produce an effluent containing no more than 1.0 mg/l total phosphorus (P), whichever is more stringent. Monitoring is to be conducted five times weekly by 24-hour composite sampling. These phosphorus limitations are the same as the limitations found in the facility's previous permit.

pH

The pH limitations have been based on 40 CFR 133.102 which is cross-referenced in 327 IAC 5-5-3. To ensure conditions necessary for the maintenance of a well-balanced aquatic community, the pH of the final effluent must be between 6.0 and 9.0 standard units in accordance with provisions in 327 IAC 2-1.5-8(c)(2). pH must be measured five times weekly by grab sampling. These pH limitations are the same as the limitations found in the facility's previous permit.

Dissolved Oxygen

Dissolved oxygen shall not fall below 6.0 mg/l as a daily minimum average during the summer monitoring period. During the winter monitoring period, dissolved oxygen shall not fall below 5.0 mg/l as a daily minimum average. These dissolved oxygen limitations are the same as the concentration limitations found in the facility's previous permit. Dissolved oxygen measurements must be based on the average of four grab samples taken within a 24-hr. period. This monitoring is to be conducted five times weekly.

Total Residual Chlorine

In accordance with Indiana Water Quality Standards, the final effluent limits (end-of-pipe) for TRC are 0.01 mg/l monthly average and 0.02 mg/l daily maximum. The monthly average Water Quality-Based Effluent Limit (WQBEL) for total residual chlorine is less than the limit of quantitation (LOQ), 0.06 mg/l. Compliance with this permit will be demonstrated if the monthly average effluent level is less than or equal to the monthly average WQBEL. Daily effluent values that are less than the LOQ, used to determine the monthly average effluent levels less than the LOQ, may be assigned a value of zero (0), unless, after considering the number of monitoring results that are greater than the limit of detection (LOD), and applying appropriate statistical techniques, a value other than zero (0) is warranted.

The daily maximum WQBEL for total residual chlorine is greater than or equal to the LOD value, but less than the LOQ value specified in the permit. Compliance with this permit will be demonstrated if the observed daily effluent concentrations are less than the LOQ. For daily maximum mass limitations based on WQBEL's less than the LOQ, compliance with the daily maximum mass value is based on the LOQ value. Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 1.0 lbs/day. These total residual chlorine limitations are the same as the limitations found in the facility's previous permit.

E. coli

The *E. coli* limitations and monitoring requirements apply from April 1 through October 31, annually. *E. coli* is limited to 125 count/100 ml as a monthly average, and 235 count/100 ml as a daily maximum. The monthly average *E. coli* value shall be calculated as a geometric mean. This monitoring is to be conducted five times weekly by grab sampling. These *E. coli* limitations are set in accordance with 327 IAC 2-1.5-8(e) as cross-referenced with 327 IAC 5-2-11.4(d)(2).

Mercury

A Reasonable Potential to Exceed (RPE) statistical analysis performed in conjunction with the May 5, 2016 WLA Analysis by this Office's Permits Branch staff revealed that the projected effluent quality (PEQ) for mercury is greater than the projected effluent limitations (PELs). Therefore, in accordance with 327 IAC 5-2-11.5(b), Water Quality-Based Effluent Limitations (WQBELs) for mercury are being retained in the permit renewal. The permittee submitted a Streamlined Mercury Variance (SMV) application for mercury in conjunction with the application for NPDES permit renewal (see Streamlined Mercury Variance (SMV) Renewal section below).

Metals/Non-conventional Pollutants

A Reasonable Potential to Exceed (RPE) analysis was performed in conjunction with the Wasteload Allocation Analysis performed by this Office's Permits Branch staff on May 5, 2016. The results of the RPE analysis showed that the projected effluent quality (PEQ) for chloride and copper were greater than the corresponding preliminary effluent limitations (PELs). Therefore, effluent limitations for these parameters have been included in Part I.A.3, Table 4 of the permit. Chloride is limited to 350 mg/l (5,842 lbs/day) as a monthly average and 700 mg/l (11,683 lbs/day) as a daily maximum based on the May 5, 2016 WLA Analysis. Copper is limited to 0.020 mg/l (0.33 lbs/day) as a monthly average and 0.041 mg/l (0.68 lbs/day) as a daily maximum in accordance with the antibacksliding specified in 327 IAC 5-2-10(a)(11)(A). Monitoring for each parameter is to be conducted weekly by 24-Hr. composite sampling. In addition to effluent monitoring and limitations, the permittee is required to monitor the influent wastestream for chloride and copper two times monthly.

The RPE analysis also showed that the PEQ for cadmium, lead, and cyanide were less than the corresponding PELs. Therefore, effluent limitations for these parameters have not been included in the permit. Due to the industrial contributors to the City of Butler collection system, monitoring requirements for these metals are being retained at a quarterly measurement frequency utilizing 24-Hr. composite sampling. In addition to effluent monitoring and limitations, the permittee is required to monitor the influent wastestream for cadmium, lead, and cyanide at a frequency of quarterly utilizing 24-Hr. composite sampling.

Whole Effluent Toxicity Testing

The permittee submitted a Whole Effluent Toxicity Tests (WETT) with the renewal application as required in 327 IAC 5-2-3(g). The WET results that have been submitted since the completion of the permittee's Toxicity Reduction Evaluation (TRE) show that the effluent from the treatment plant has not exhibited any acute or chronic toxicity for any of the species tested. Therefore WQBELs are not required for WET. However, the permittee is still required to conduct WET testing twice annually for the duration of the permit.

The permittee shall conduct the whole effluent toxicity tests described in Part I.D. of the permit to monitor the toxicity of the discharge from Outfall 002. This toxicity testing is to be performed biannually for the duration of this NPDES permit. Acute toxicity will be demonstrated if the effluent is observed to have exceeded 1.0 TU_a (acute toxic units) based on 100% effluent for the test organism in 48 and 96 hours for *Ceriodaphnia dubia* or *Pimephales promelas*, which ever is more sensitive. Chronic toxicity will be demonstrated if the effluent is observed to have exceeded 1.1 TU_c (chronic toxic units) for *Ceriodaphnia dubia* or *Pimephales promelas*. If acute or chronic toxicity is found in any of the tests specified above, another toxicity test using the specified methodology and same test species shall be conducted within two weeks. If any two tests indicate the presence of toxicity, the permittee must begin the implementation of a toxicity reduction evaluation (TRE) as is described in Part I.D.2. of the permit.

Streamlined Mercury Variance (SMV) Renewal

The permittee applied for the renewal of the Streamlined Mercury Variance (SMV) with renewal of the NPDES permit (in accordance with 327 IAC 5-3.5-6, the SMV remains in effect until the permit expiration date). The SMV was initially incorporated into NPDES Permit No. IN0022462 with a March 1, 2015 permit modification. The SMV renewal has been incorporated into the permit renewal.

The SMV establishes a streamlined process for obtaining a variance from a water quality criterion used to establish a WQBEL for mercury in an NPDES permit. The goal of the SMV is to reduce the effluent levels of mercury towards, and achieve as soon as practicable, compliance with the mercury WQBELs through implementation of a pollutant minimization program plan (PMPP). The SMV renewal will remain in effect until the permit expires under IC 13-14-8-9. Pursuant to IC 13-14-8-9(c), when the SMV renewal is incorporated into a permit extended under IC 13-15-3-6 (administratively extended), the renewal will remain in effect until the permit expires.

Interim Discharge Limit

The permit renewal includes an interim discharge limit for mercury of 2.4 ng/l. Compliance with the interim discharge limit will be achieved when the annual average discharge value for the most recent twelve-month period is less than the interim discharge limit.

Mercury monitoring is to be conducted bi-monthly (i.e. every other month) for the term of the permit. Bi-monthly monitoring shall be conducted in the months of February, April, June, August, October, and December of each year. Mercury monitoring and analysis will be performed using EPA Test Method 1631, Revision E. If Method 1631, Revision E is further revised during the term of this permit, the permittee and/or its contract laboratory is required to utilize the most current version of the method immediately after approval by EPA.

Pollutant Minimization Program Plan (PMPP)

PMPP requirements are outlined in 327 IAC 5-3.5-9 and are included in Attachment B of the NPDES permit in accordance with 327 IAC 5-3.5-6. The PMPP focuses on pollution prevention and source control measures to achieve mercury reduction in the effluent. The goal of the PMPP is to reduce the effluent levels of mercury towards, and achieve as soon as practicable, compliance with the mercury WQBELs established for the permitted facility.

SMV Annual Reports

The permittee is required to submit annual reports to IDEM by March 1st of each year in which the SMV is in effect. The annual report must describe the SMV applicant's progress toward fulfilling each PMPP requirement, the results of all mercury monitoring within the previous year, and the steps taken to implement the planned activities outlined under the PMPP.

Backsliding

None of the concentration limits included in this permit conflict with antibacksliding regulations found in 327 IAC 5-2-10(a)(11)(A), therefore, backsliding is not an issue.

Reopening Clauses

Seven reopening clauses were incorporated into the permit in Part I.C. One clause is to incorporate effluent limits from any further wasteload allocations performed; a second clause is to allow for changes in the sludge disposal standards; a third clause is to incorporate any applicable effluent limitation or standard issued or approved under section 301(b)(2)(C), (D) and (E), 304(b)(2), and 307(a)(2) of the Clean Water Act; a fourth clause is to incorporate monitoring requirements and effluent limitations for cadmium, cyanide and/or lead; a fifth clause is to include whole effluent toxicity limitations or to include limitations for specific toxicants; a sixth clause is to include a case-specific Method Detection Level (MDL); and a seventh clause is to include revised SMV and/or PMPP requirements.

Compliance Status

The permittee entered into an Agreed Order (Order No. 2013-21811-W) with this Office on May 29, 2014. As it was subsequently determined that the approved LTCP was not adequate to ensure compliance with the technological and water quality based requirements of the Clean Water Act (CWA), the Order required the City to develop and submit to IDEM, for approval, a Combined Sewer Overflow Compliance Plan (CSO CP) identifying additional measures that will work towards achieving the level of control of six or less events per year at Outfall 003. The Order recognizes the City's ongoing commitment to regulatory and permit compliance, and memorializes their commitment to implement the approved CSO CP.

Expiration Date

A five-year NPDES permit is proposed.

Drafted by: Bill Stenner
May 13, 2016

Appendix B – Agreed Order



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

100 N. Senate Avenue • Indianapolis, IN 46204

(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

June 2, 2014

Via Certified Mail No.: **91 7190 0005 2710 0033 3315**

Gerald M. McNerny, City Attorney
City of Butler
P.O. Box 368
Butler, IN 46721

Dear Mr. McNerny:

Re: Adoption of Agreed Order
Commissioner, Indiana
Department of Environmental
Management

v.

City of Butler
NPDES Permit No. IN0022462
Case No. 2013-21811-W
Butler, Dekalb County

This is to inform you that the Agreed Order in the above-referenced case has been approved and adopted by the Indiana Department of Environmental Management. Copies of the Agreed Order are enclosed.

Please note the terms of compliance contained in the Agreed Order. The time frames for compliance are effective upon your receipt of this correspondence. If you have any questions, please contact Dave Knox, Environmental Manager, Water Enforcement Section, at (317) 233-5975.

Sincerely,

Mary E. Hoover, Chief
Water Enforcement Section
Surface Water, Operations &
Enforcement Branch
Office of Water Quality

Enclosure

cc: Dekalb County Health Department
<http://www.in.gov/idem>



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

100 N. Senate Avenue • Indianapolis, IN 46204

(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

STATE OF INDIANA)	SS:	BEFORE THE INDIANA DEPARTMENT OF
)		ENVIRONMENTAL MANAGEMENT
COUNTY OF MARION)		
COMMISSIONER OF THE DEPARTMENT)		
OF ENVIRONMENTAL MANAGEMENT,)		
)	Complainant,	
)		
)	v.	Case No. 2013-21811-W
)		
CITY OF BUTLER,)		
)		
)	Respondent.	

AGREED ORDER

Complainant and Respondent desire to address and resolve, without hearing or adjudication of any issue of fact or law, and consent to the entry of the following facts and order, concerning the Respondent's implementation of its Combined Sewer Overflow Long Term Compliance Plan (CSO LTCP) and achievement of a level of control indicated by the Respondent after full implementation of the CSO LTCP. Pursuant to Indiana Code (IC) 13-30-3-3, entry into the terms of this Agreed Order does not constitute an admission of any violation contained herein nor shall it constitute a waiver of any defense, legal or equitable, which Respondent may have in any future administrative or judicial proceeding, except a proceeding to enforce this order.

I. FINDINGS OF FACT

1. Complainant is the Commissioner (Complainant) of the Indiana Department of Environmental Management (IDEM), a department of the State of Indiana created by IC 13-13-1-1.
2. Respondent is the City of Butler (Respondent), which owns/operates the City of Butler Wastewater Treatment Plant with National Pollutant Discharge Elimination System (NPDES) Permit No. IN0022462 (the Permit), located at 695 East Green Street in Butler, DeKalb County, Indiana (the Site).
3. IDEM has jurisdiction over the parties and the subject matter of this action pursuant to IC 13-30-3.
4. Respondent is authorized by the Permit to discharge treated wastewater from its WWTP into receiving waters named the Big Run Creek, located in the Maumee River Basin.



5. Pursuant to 327 Indiana Administrative Code (IAC) 5-2-8(1) and Part II.A.1. of the Permit, Respondent shall comply with all terms and conditions of the Permit.
6. Part II., Attachment A of Respondent's NPDES Permit addresses precipitation related combined sewer overflow discharge authorization requirements for Outfalls 001 and 003.
7. The Respondent's Wastewater System consists of approximately eighteen (18) miles of separate and combined sewers, with seven (7) lift stations serving approximately 950 customers and a population of 2,700 people; and a wastewater treatment plant that provides secondary treatment with single stage nitrification before the effluent is chlorinated / dechlorinated and discharged to the Big Run Ditch.
8. Sewers date to the early 1900's and the Wastewater Treatment Plant (WWTP) dates to the mid 1930's. Combined sewers in the Respondent's wastewater collection system were designed to convey wastewater and storm water through a single pipe to the WWTP.
9. The Respondent's combined wastewater flows (domestic, commercial, industrial, and storm water flows during wet weather) are transported through a 51-inch interceptor sewer under US highway 6 constructed in 1935 by the Indiana Department of Transportation. A weir that diverts flow into the WWTP influent sewer is located in a manhole approximately 90-feet west of the Norfolk and Southern railroad tracks.
10. Outfall 001 is located at the WWTP and is the discharge point into Big Run Creek for wet weather flows in excess of the WWTP's design peak flow that have received primary treatment and disinfection through wet weather treatment units at the WWTP.
11. Outfall 003 is located at the US Highway 6 Bridge over Big Run Creek, approximately one-half mile east of the weir in the 51-inch interceptor in Butler.
12. The Respondent's WWTP was upgraded in 2001 to treat increased flows during dry weather (increased average daily design flow from 0.9 MGD to 2.0 MGD) and during wet weather events (increased peak hydraulic capacity from 1.2 MGD to 3.0 MGD, with a maximum hydraulic capacity at 6 MGD).
 - a. This included increasing the size of the influent sewer from 12-inches to 18-inches and increasing the influent pumping from 1.2 MGD (833 gpm) to a peak flow of 3 MGD (2,083 gpm) if two of the three (3) influent pumps were in operation. If the third influent pump was placed into operation, the pumping capacity, during extreme wet weather conditions, could be maximized to 4.5 MGD (3,125 gpm).
 - b. The replacement of two (2) rectangular clarifiers that had a peak capacity of 1.2 MGD with two (2) circular clarifiers with a peak hydraulic capacity of 6 MGD.
13. Additional capital improvements were completed in 2007 that included:
 - a. addition of a wet weather pump station with a capacity of 3 MGD (2,083 gpm);
 - b. conversion of abandoned tanks at the WWTP site to increase the hydraulic flow capacity of the WWTP and to provide a flow equalization basin and primary clarification/disinfection for treatment of wet weather flows;
 - c. relocating the weir diversion structure to the manhole approximately 90-feet west of the Norfolk and Southern tracks on US 6 and raising the weir level from 36-inches to a permanent elevation of 42-inches, with an adjustable elevation to a maximum of 48-inches;

- d. addition of remote flow monitoring at the CSO diversion weir so that continuous monitoring of the wastewater/ storm water flow occurred.
14. The WWTP modifications in 2007 were completed to meet two performance objectives for wet weather:
 - a. increase and maximize flow to and through the WWTP's biological activated sludge treatment process; and
 - b. treat combined sewer system wet weather flows in excess of the WWTP's influent pump capacity.
 15. The Respondent also completed a sewer separation project in 2009 on the south side of US 6 from South Pearl Street to Maple Street to remove inflow and infiltration sources from the 51-inch interceptor under US 6.
 16. The Wastewater Department has implemented the nine minimum controls (NMCs) suggested by US EPA and Complainant to control and reduce the frequency of CSO events. The Respondent continues to address the NMCs and incorporated remaining actions into the Respondent's CSO LTCP, submitted to Complainant in 2001. The CSO LTCP was approved by Complainant in 2007, with the following goals:
 - a. there would be less than four (ultimately one) CSO activation events per year;
 - b. there will be no dry weather bypassing and no dry weather CSO activation;
 - c. no CSO activation will degrade the water quality of the receiving stream.
 17. The Respondent submitted in May 2011, at Complainant's request, Addendum Number 1 to the approved CSO LTCP that addressed the following, to meet disinfection requirements in the NPDES Permit for Outfall 001:
 - a. increased street sweeping to remove sand and debris from the streets that contributed runoff into the 51-inch interceptor to improve clarification and disinfection;
 - b. changed the disinfection method from liquid sodium hypochlorite to chlorine gas and increased the chlorination capacity to improve disinfection.
 18. The Respondent has worked with the Dekalb County Surveyor and Drainage Board since 2009 to address storm water drainage that has negatively impacted the combined sewer system and increased the amount of storm water entering the Butler collection system rather than being transported through the County drainage system. Work identified by Butler that has been completed that should positively affect the ability of the Respondent to achieve a more effective level of control and reduce CSO events at Outfall 001 and 003 includes:
 - a. clearing Big Run Creek of fallen trees and debris that had a damming effect on storm water discharges from SR 1 on the north side of Butler to below the discharge point for a Dekalb County legal drain (several miles downstream of Outfall 003). This work was completed in 2013 and required a joint effort between Dekalb County, Indiana DNR, Ohio DNR, and Williams and Fulton Counties in Ohio.
 - b. agreeing to provide \$100,000 in the specific Butler Drain Repair Fund once the Dekalb County Surveyor and County Drainage Board establish the fund. The fund is to be used for the sole purpose of making long-needed repairs to the Dekalb County legal drain known as the "Butler Drain" at South Broadway Street and east to the discharge point to Big Run Creek. This drain has been partially collapsed and plugged at a point just south of the center of the downtown area in Butler and determined to be undersized at downstream locations thus making the storm water drain nonfunctional through Butler. These problems have forced more storm water into the Butler combined sewers. The City deposited \$105,418 into the

County Drainage Fund on February 4, 2014 and the County Surveyor has begun the process to reconstruct the Butler Drain.

19. The Respondent voluntarily submitted Post Construction Monitoring Reports to Complainant in 2010, 2011, and 2012. The overall trend for the frequency, duration, and volume for overflow events has been downward since work was started in completing the actions identified in the CSO LTCP.
20. Despite the efforts before and after approval of the CSO LTCP, the level of control for achieving the goal of four events (ultimately one event) per year at Outfall 003 has not been achieved.
21. Accordingly, the Respondent and Complainant are cooperatively entering into this Agreed Order to recognize the Respondent's ongoing commitment to regulatory and permit compliance and to memorialize the Respondent's commitment to schedule the review, update, and amendment of the CSO LTCP, with implementation of the necessary actions described in the LTCP Amendment to achieve the level of control in the approved LTCP and Amendment.
22. Respondent waives issuance of a Notice of Violation and to the settlement period of sixty (60) days as provided for by IC 13-30-3-3.

II. ORDER

1. This Agreed Order shall be effective (Effective Date) when it is adopted by Complainant or Complainant's delegate (as evidenced by signature), and the adopted Agreed Order has been received by Respondent. This Agreed Order shall have no force or effect until the Effective Date.
2. Respondent will continue to comply with the provisions found in IC 13-30-2-1, 327 IAC 5-2-2, Part I.A. of the Permit, 327 IAC 5-2-8(1), Part II.A.1. of the Permit, and Attachment A of the Permit.
3. The Respondent agrees to implement the following actions to review, update, and amend, through Amendment Number 1, the Respondent's CSO LTCP and implement the actions to be identified in Amendment Number 1 to the CSO LTCP.
 - a. Retain an Engineer to assist the Respondent and their environmental consultant (Millenium Environmental, LLC) in reviewing, updating, and amending the CSO LTCP by May 31, 2014;
 - b. Submit an action plan for activities that can be completed prior to the completion of the activities identified in "c" below by July 31, 2014;
 - c. Complete a review of CSO LTCP review/amendment and submit Amendment Number 1 to Complainant by May 31, 2015. At a minimum, Amendment Number 1 will include the following:
 - 1) Complete an evaluation of alternatives to determine controls necessary for the design storm criteria and a lesser level of control;
 - 2) An updated financial analysis that includes the information detailed in the Complainant guidance document on determining the knee of the curve/cost benefit of additional actions;

- 3) A schedule for completion of additional actions to be completed during implementation of Amendment Number 2 of the CSO LTCP to achieve the selected level of control at Outfall 003;
 - 4) A schedule for progress reports to be submitted to Complainant during implementation of Amendment Number 1, including a schedule for post construction performance monitoring reports for at least three (3) years after any identified construction activities are completed.
4. Respondent may seek to amend or revise the approved LTCP in accordance with applicable laws, rules, policy, and this Agreed Order. Upon Respondent's receipt of IDEM's approval of any amendment or revision to the LTCP, the revised LTCP (including any additional post-construction monitoring and modeling) shall supersede the schedule contained in any previously approved LTCP, or any previously approved extension of deadlines, and Respondent shall implement the revised LTCP (including any additional post-construction monitoring and modeling) in accordance with the schedule in the approved revised LTCP.
5. Respondent shall notify IDEM, in writing, within thirty (30) days of completion of each action or milestone contained in the Amendment to the LTCP or any subsequent schedule that supersedes said schedule and any task or plan accepted or approved by IDEM pursuant to this Agreed Order unless such accepted or approved schedule, task, or plan contains a different time period for Respondent to notify IDEM of the completion of actions or milestones, in which case such different time period shall apply. The notification shall include a description of the action completed and the date it was completed, and a progress report that contains a summary of the activities undertaken to complete the task. Respondent shall adequately address any IDEM comments regarding the report, within the time frame identified by IDEM unless Respondent notifies IDEM in writing no less than five (5) days prior to the conclusion of the timeframe identified by IDEM that such timeframe is insufficient. Following such notification by Respondent, the parties shall mutually agree upon an alternate timeframe for Respondent to address IDEM's comments. It is understood that failure by IDEM to review submissions required by this Agreed Order in a timely fashion shall automatically extend timeframes for the elements of the Amendment or any subsequently approved revision(s) and shall not result in the imposition of penalties or interest associated with the original deadlines that are automatically extended.
6. In the event the Respondent is unable to complete a task as specified in the Amendment, Respondent shall notify IDEM in writing no later than fourteen (14) days prior to the task deadline. This notification shall include a description of the task, justification of why the deadline will be missed and a Task Compliance Plan ("Task CP") that includes a new deadline.
7. Respondent, upon written notification from IDEM of the acceptance or approval of the Task CP, shall immediately implement the accepted or approved Task CP and adhere to the schedules contained therein. The accepted or approved Task CP shall be incorporated into this Agreed Order and shall be deemed an enforceable part thereof.
8. Upon implementation of the approved LTCP Amendment 1, in the event data resulting from CSO monitoring or other information indicates that the approved LTCP is not adequate to ensure compliance with the technological and water quality based requirements of the Clean Water Act (CWA), Respondent shall, within ninety (90) days of becoming aware of such inadequacy, develop and submit to IDEM, for approval, a

CSO Compliance Plan ("CSO CP") that identifies additional measures that will be implemented by the Respondent.

9. The plans required by Paragraphs 3 and 4 above are subject to IDEM approval. In the event IDEM determines that any plan submitted by Respondent is deficient or otherwise unacceptable, Respondent shall revise and resubmit the plan to IDEM in accordance with IDEM's notice. After three submissions of such plan by Respondent, IDEM may modify and approve any such plan and Respondent must implement the plan as modified by IDEM.
10. Respondent, upon receipt of written notification from IDEM of approval of the CSO CP, shall immediately implement the approved CSO CP and adhere to the schedules contained therein. The schedule in the approved CSO CP shall supersede the portion(s) of any schedules contained in the approved LTCP that address the same issues as are addressed in the approved CSO CP. The approved CSO CP shall be incorporated into this Agreed Order and shall be deemed an enforceable part thereof.
11. The provisions of Order Paragraphs 8, 9 and 10 shall continue to apply until post-construction monitoring indicates to IDEM that water quality standards are being met. After demonstration that the water quality standards are met, this Order may be closed out as indicated in Paragraph 25.
12. All documents to be submitted by the Respondent to Complainant shall be sent to the following, unless the Respondent is notified otherwise:

OWQ Enforcement Section
 Indiana Department of Environmental Management
 Surface Water, Operations & Enforcement Branch
 Office of Water Quality – Mail Code 60-02W
 100 North Senate Avenue, Room 1255
 Indianapolis, IN 46204-2251
 and

Todd Trinkle, Environmental Manager
 Indiana Department of Environmental Management
 Wet Weather Section,
 Office of Water Quality – Mail Code 65-42
 100 North Senate Avenue, Room 1255
 Indianapolis, IN 46204-2251

13. In the event the terms and conditions of the preceding paragraphs are not met, Complainant may assess and Respondent shall pay a stipulated penalty in the amount indicated in the following table:

Order Paragraph Number(s)	Violation	Penalty Amount
3	Failure to comply with 3.a or 3.b. and/or failure to submit the amendment to the LTCP, including the implementation schedule within the required timeframes.	\$250 per each week or part thereof late
5	Failure to notify IDEM, in writing, within 30 days of completion of each action contained in the LTCP and any plan approved by IDEM pursuant to this Agreed Order.	\$200 per each week or part thereof late

5	Failure to timely address any IDEM comments within the timeframe set by IDEM.	\$200 per each week or part thereof late
6,7,8, or 9	Failure to timely submit a complete and sufficient Task CP or CSO CP.	\$250 per each week or part thereof late
10	Failure to comply with any milestone date contained in the schedule set forth in the CSO CP.	\$500 per each week or part thereof late

14. Stipulated penalties shall be due and payable no later than the 30th day after Respondent receives written notice that IDEM has determined a stipulated penalty is due; the 30th day being a "Due Date." IDEM may notify Respondent at any time that a stipulated penalty is due. Failure to notify Respondent in writing in a timely manner of a stipulated penalty assessment shall not waive IDEM's right to collect such stipulated penalty or preclude IDEM from seeking additional relief against Respondent for violation of this Agreed Order. Neither assessment nor payment of stipulated penalties shall preclude IDEM from seeking additional relief against Respondent for a violation of this Agreed Order. Such additional relief includes any remedies or sanctions available pursuant to Indiana law, including, but not limited to, civil penalties pursuant to IC 13-30-4.

15. Stipulated penalties are payable by check to the "Environmental Management Special Fund." Checks shall include the Case Number of this action and shall be mailed to:

Indiana Department of Environmental Management
 Cashier – Mail Code 50-10C
 100 North Senate Avenue
 Indianapolis, IN 46204-2251

16. This Agreed Order shall apply to and be binding upon Respondent and its successors and assigns. Respondent's signatories to this Agreed Order certify that they are fully authorized to execute this Agreed Order and legally bind the party they represent. No change in ownership, corporate, or partnership status of Respondent shall in any way alter its status or responsibilities under this Agreed Order.

17. In the event that the monies due to IDEM pursuant to this Agreed Order are not paid on or before their Due Date, Respondent shall pay interest on the unpaid balance and any accrued interest at the rate established by IC 24-4.6-1-102. The interest shall be computed as having accrued from the Due Date until the date that Respondent pays any unpaid balance. The interest shall continue to accrue on the first of each month until the civil penalty and any interest accrued are paid in full. Such interest shall be payable to the Environmental Management Special Fund, and shall be payable to IDEM in the manner specified above.

18. In the event that any terms of this Agreed Order are found to be invalid, the remaining terms shall remain in full force and effect and shall be construed and enforced as if this Agreed Order did not contain the invalid terms.

19. Force majeure, for purposes of this Agreed Order, is defined as any event arising from causes totally beyond the control and without fault of Respondent that delay or prevent the performance of any obligation under this Agreed Order despite Respondent's best efforts to fulfill the obligation. The requirement that Respondent exercise "best efforts to

fulfill the obligation" includes using best efforts to anticipate any potential force majeure event and best efforts to address the effects of any potential force majeure event: (1) as it is occurring; and (2) following the potential force majeure event, such that the delay is minimized to the greatest extent possible. Force majeure does not include: (1) changed business or economic conditions; (2) financial inability to complete the work required by this Agreed Order; or (3) increases in costs to perform the work.

Respondent shall notify IDEM by calling the case manager within three (3) calendar days and by writing no later than seven (7) calendar days after it has knowledge of any event which Respondent contends is a force majeure. Such notification shall describe: (1) the anticipated length of the delay; (2) the cause or causes of the delay; (3) the measures taken or to be taken by Respondent to minimize the delay; and (4) the timetable by which these measures will be implemented. Respondent shall include with any notice all available documentation supporting its claim that the delay was attributable to a force majeure. Failure to comply with the above requirements shall preclude Respondent from asserting any claim of force majeure for that event. Respondent shall have the burden of demonstrating that the event is a force majeure. The decision of whether an event is a force majeure shall be made by IDEM.

If a delay is attributable to a force majeure, IDEM shall extend, in writing, the time period for performance under this Agreed Order, by the amount of time that is directly attributable to the event constituting the force majeure.

20. Respondent shall provide a copy of this Agreed Order, if in force, to any subsequent owners or successors before ownership rights are transferred. Respondent shall ensure that all contractors, firms and other persons performing work under this Agreed Order comply with the terms of this Agreed Order.
21. This Agreed Order is not and shall not be interpreted to be a permit or a modification of an existing permit. This Agreed Order, and IDEM's review or approval of any submittal made by Respondent pursuant to this Agreed Order, shall not in any way relieve Respondent of its obligation to comply with the requirements of its applicable permit or any applicable Federal or State law or regulation.
22. Complainant does not, by its approval of this Agreed Order, warrant or aver in any manner that Respondent's compliance with any aspect of this Agreed Order will result in compliance with the provisions of any permit, order, or any applicable Federal or State law or regulation. Additionally, IDEM or anyone acting on its behalf shall not be held liable for any costs or penalties Respondent may incur as a result of Respondent's efforts to comply with this Agreed Order.
23. Nothing in this Agreed Order shall prevent or limit IDEM's rights to obtain penalties or injunctive relief under any applicable Federal or State law or regulation, except that IDEM may not, and hereby waives its right to, seek additional civil penalties for the same violations specified in the NOV.
24. Nothing in this Agreed Order shall prevent IDEM or anyone acting on its behalf from communicating with the EPA or any other agency or entity about any matters relating to this enforcement action. IDEM or anyone acting on its behalf shall not be held liable for any costs or penalties Respondent may incur as a result of such communications with the EPA or any other agency or entity.

25. This Agreed Order shall remain in effect until Respondent has complied with all terms and conditions of Order Paragraph Nos. 3 through 15 and IDEM issues a Resolution of Case (close out) letter.

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TECHNICAL RECOMMENDATION:
Department of Environmental
Management

By: Mary E. Hollingsworth
Mary E. Hollingsworth, Branch Chief
Surface Water, Operations &
Enforcement Branch
Office of Water Quality

Date: May 2, 2014

RESPONDENT:
City of Butler

By: Ron Walter
The Honorable Ron Walter,
Mayor, City of Butler

Date: 5-5-14

COUNSEL FOR RESPONDENT:

By: Geoff M. Moyer

Date: 5-5-14

APPROVED AND ADOPTED BY THE INDIANA DEPARTMENT OF ENVIRONMENTAL
MANAGEMENT THIS 29 DAY OF May, 2014

For the Commissioner
Bruno Pigott
Bruno Pigott
Assistant Commissioner
Office of Water Quality

Appendix C – Draft LTCP Update



Donohue & Associates, Inc.
101 West Ohio Street, Suite 1650 | Indianapolis, IN 46204
317.267.8200 | donohue-associates.com

XXXXXXXX, 2020

The Honorable Mike Hartman
Mayor
City of Butler, Indiana
215 South Broadway
Butler, IN 46721

Re: City of Butler, Indiana
Long Term Control Plan Compliance Plan Update

Dear Mayor Hartman:

This letter report is being issued as an update to the City of Butler's (City) Combined Sewer Overflow (CSO) Long Term Control Plan (LTCP) Compliance Plan. Previously the original LTCP Compliance Plan was approved by the Indiana Department of Environmental Management (IDEM) on September 9, 2015. In accordance with Indiana Code 13-8-3-2.4, a periodic review not to exceed every five (5) years is to be conducted. The City has retained the services of Donohue & Associates, Inc. (Donohue), to review and update the plan. This letter report serves to summarize those evaluations and provide a recommended alternative for the City.

Executive Summary

The City of Butler commissioned an update to the 2015 LTCP Compliance Plan previously completed by Donohue. The previous LTCP required that the City capture 85% of wet weather flow and treatment plant flows be maximized. The City's LTCP Compliance Plan additionally required that overflows not exceed six (6) occurrences annually in a typical year. Seven (7) new alternatives were evaluated to achieve the level of control established in the 2015 LTCP. Those alternatives are summarized in Table ES-1. The previous alternatives in the 2015 report were not reevaluated (except for the new Alternative 1) since they were previously rejected by IDEM or were considerably more expensive and no intervening legislation or regulatory changes have occurred to alter the evaluations.

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Table ES-1 – LTCP Update Alternatives

Alternative	Description	Engineer's Opinion of Probable Project Cost
No. 1	Modified Alternative 13 from 2015 LTCP with a UAA	\$5,398,000
No. 2	NPD 016: 1 Yr-1 Hr Storage, 10 Yr-1 Hr 30 Minute Detention	\$12,165,000
No. 3	NPD 016: 1 Yr-1 Hr Storage, 10 Yr-1 Hr Primary Level Treatment	\$24,662,000
No. 4	NPD 016: 10 Yr-1 Hr Storage	\$10,444,000
No. 5	Partial Sewer Separation + NPD 016: 1 Yr-1 Hr Storage, 10 Yr-1 Hr 30 Minute Detention	\$11,520,000
No. 6	Partial Sewer Separation + NPD 016: 1 Yr-1 Hr Storage, 10 Yr-1 Hr Primary Level Treatment	\$18,465,000
No. 7	Partial Sewer Separation + NPD 016: 10 Yr-1 Hr Storage	\$10,781,000

After reviewing the positives and negatives of each alternative with City staff, Alternative No. 1 was retained as the selected alternative. The implementation scheduled for Alternative No. 1 has been accelerated by a couple months as compared to the original 2015 LTCP Compliance Plan (due to a longer construction period and closing requirements for SRF loans) and is presented in Table ES-2.

Table ES-2 – Implementation Schedule

Task	Completion Date
Submit LTCP Update to IDEM	May 15, 2020
Submit Preliminary Engineering Report to IFA	May 1, 2020
Design Contract with Engineer for Alternative No. 1	May 1, 2020
Preliminary Engineering Report Approval by IFA	September 1, 2020
Design, Permitting and Secure Funding Complete	March 31, 2021
Notice to Proceed Issued to GMP Contractor	April 5, 2021
Asset Management Plan to IFA	October 31, 2021
Construction Complete	September 30, 2022
Post-Construction Monitoring (3 years) and Reporting	December 31, 2026
UAA Initiated	January 1, 2027
UAA Completed	December 31, 2027
UAA Approval	December 31, 2028

Project Background

The City submitted the original LTCP in 2001 and the plan was approved by the IDEM in 2008. After post construction monitoring showed that the City was not achieving four (4) or fewer CSO discharge events per year, an Agreed Order was entered into between the City and the IDEM in June 2014. In response to the Agreed Order, the LTCP Compliance Plan, prepared by the City and Donohue, was developed and IDEM agreed to the plan in September 2015. Steps to achieve compliance as part of the 2015 Compliance Plan including the following:

1. County Storm System Drainage Improvements
2. Alternative 13 project which included the following components:
 - a. New diversion structure with CSO screen.
 - b. 1,200 feet of 48-inch influent sewer.
 - c. Replacement of the WWTP influent pumps and influent screen.
 - d. Flow monitoring improvements to record flow depths and flow rates for bottleneck identification.
3. Post-Construction Monitoring and Reporting.
4. Preparation of a Use Attainability Analysis (UAA).

Since the 2015 Update, the City has completed the County Storm System Drainage Improvements (Butler Regulated Tile Drain project) in 2017-2018. Flow monitoring improvements were also made in 2016 and added 3 flow measurements to the mix of other flow monitors. In late 2019, the City contracted with Donohue to evaluate and update the 2015 Compliance Plan as part of the five year review process required by Indiana Code 13-8-3-2.4. The goal of this update was to review system improvements since the 2015 Compliance Plan, evaluate flow data, identify hydraulic bottlenecks, and re-evaluate alternatives utilizing various approaches including requiring a UAA after construction or compliance with IDEM Non-rule Policy Document (NPD) 016 requirements. This letter report summarizes the evaluations performed and provides a recommended alternative for the City.

Changes since 2015

Since the 2015 LTCP, the Butler Regulated Tile Drain project is the only storm water related project that was completed as identified in the 2015 LTCP Compliance Plan. The City also made 2 attempts to secure OCRA grant funding for sewer separation efforts in the area served by the enlarged Butler tile drain. Both of those efforts were unsuccessful. No other major improvements, i.e. sewer separations, new interceptors, collection system linings, etc. have been made to the City's system.

Flow Modeling

There have been no significant changes to the service area or flow patterns that would impact the collection system model that was prepared for the 2015 LTCP. As such an updated collection system model was not prepared as part of this LTCP Update.

Flow Data

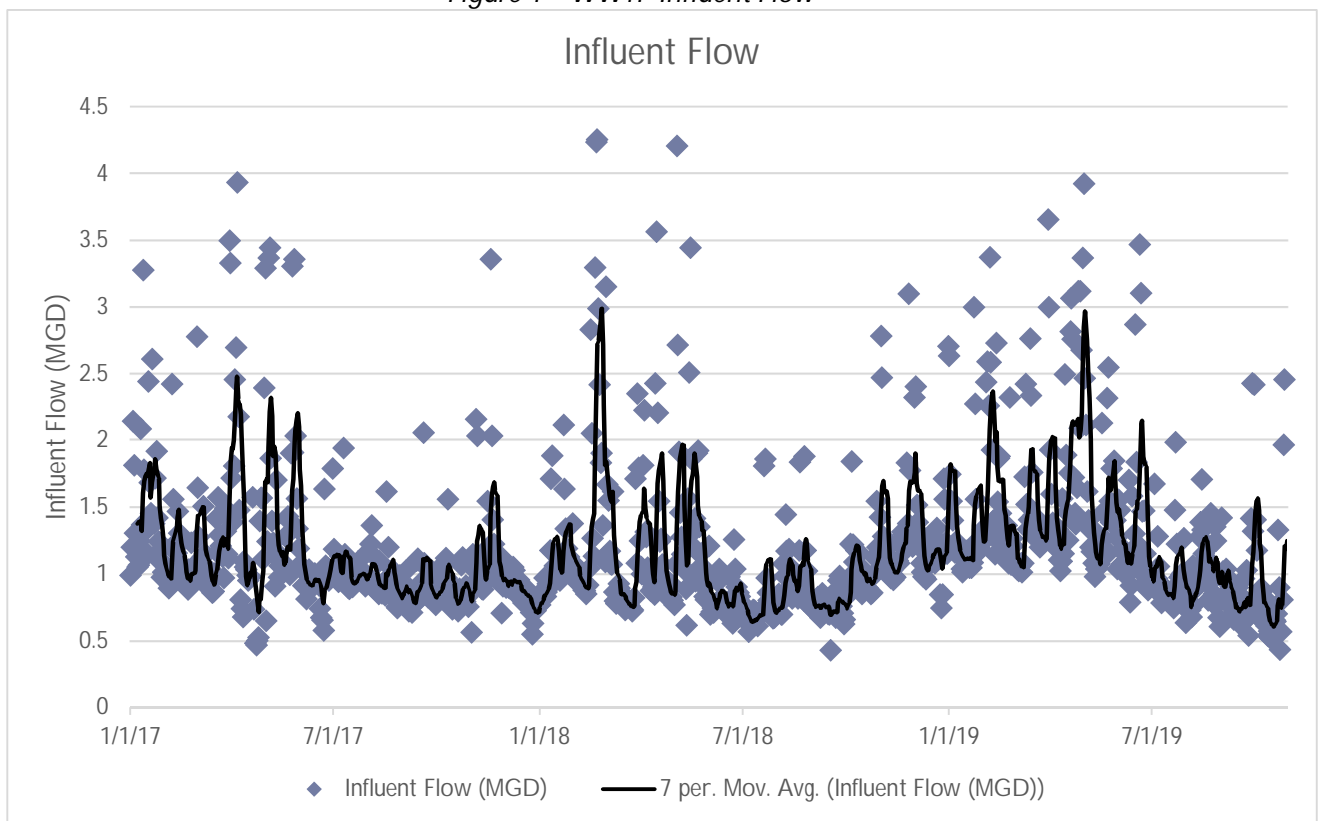
Monthly Reports of Operation (MRO) data were collected and compiled from January 2017 to October 2019 to determine if any significant changes had occurred in flow volume or influent quality that would necessitate revising the original approach of achieving six (6) overflows or less per year. Charts of the

influent (influent pump station mag meter) flow data at the Wastewater Treatment Plant (WWTP) are presented in Figure 1.

In the original LTCP Compliance Plan the peak pumping capacity was estimated to be 3.7 million gallons per day (mgd). As can be seen in Figure 1, this generally held true with the occasional day exceeding 4 mgd. It was confirmed with plant operations staff that flow rates above about 3.4-3.5 mgd were the result of using all 3 influent pumps with no capacity in reserve to maximize influent flows.

CSO Daily Monitoring Reports were reviewed from November 2018-December 2019 as a check to see if the treatment plant is maximizing flow to its best capabilities. The data selected was CSO 001 and 003 overflow volumes, as well as WWTP peak hourly flow rates (PHFs). Table 1 provides a comparison of overflow volumes to the WWTP PHF. (Note that CSO DMR's back to January 2017 were also reviewed but the peak hourly flow data was not uniformly recorded so that data was not included in the table. However, when the peak hourly data was documented and could be reviewed in the earlier CSO DMR's, it was consistent with the 11/18 to 12/19 peak hourly flow data.)

Figure 1 – WWTP Influent Flow



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Table 1 – DMR vs. WWTP Flow Comparison

Date	CSO Discharge 001 (MG)	CSO Discharge 003 (MG)	WWTP PHF (mgd)
November 1, 2018	0.437	0.058	4.150
November 2, 2018	0.000	0.079	3.500
November 25, 2018	0.000	0.153	3.800
November 26, 2018	0.400	0.000	1.500 ⁽¹⁾
December 1, 2018	0.000	0.007	4.200
December 2, 2018	0.000	0.0001	2.400
December 31, 2018	0.764	0.744	4.350
January 23, 2019	0.000	0.015	3.000
February 3, 2019	0.000	0.081	4.200
February 6, 2019	0.000	0.498	4.200
February 24, 2019	0.000	0.004	4.200
March 9, 2019	0.349	0.261	4.200
March 10, 2019	0.000	0.0001	2.400
March 14, 2019	0.230	0.377	4.200
March 30, 2019	0.453	0.617	4.800
March 31, 2019	0.000	0.014	4.200
April 19, 2019	0.041	0.000	4.200
April 20, 2019	0.717	0.000	4.200
April 21, 2019	0.030	0.000	3.100
April 25, 2019	0.001	0.000	4.200
April 26, 2019	1.340	0.036	3.000
April 27, 2019	0.002	0.000	4.200
April 28, 2019	2.469	0.044	4.200
April 29, 2019	0.100	0.036	4.200
April 30, 2019	0.100	0.027	4.500
May 1, 2019	0.000	2.097	4.800
May 17, 2019	0.000	0.073	2.900
May 22, 2019	0.000	0.029	4.200
May 23, 2019	0.000	0.042	4.200
June 1, 2019	0.000	0.022	3.850
June 10, 2019	0.000	0.098	3.300
June 16, 2019	0.510	0.666	3.600
June 20, 2019	0.684	8.675	4.200
July 3, 2019	0.000	0.010	2.700
July 21, 2019	0.894	1.024	4.500
August 14, 2019	0.000	0.030	4.200
August 18, 2019	0.000	0.038	4.200
August 21, 2019	0.000	0.049	4.200
August 22, 2019	0.000	0.0001	2.100
September 23, 2019	0.000	0.188	1.200
September 27, 2019	0.905	0.000	4.200
September 28, 2019	0.000	1.541	4.200
September 30, 2019	0.408	0.219	4.200

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Date	CSO Discharge 001 (MG)	CSO Discharge 003 (MG)	WWTP PHF (mgd)
October 21, 2019	0.000	0.008	3.900
October 26, 2019	0.511	1.260	4.500
October 27, 2019	0.000	0.001	2.700
October 31, 2019	0.721	0.767	4.500
November 27, 2019	1.720	0.368	4.200
November 30, 2019	0.029	0.000	4.200

(1) The ADF and PHF values were 3.1 and 1.5 respectively this day so it is believed the values got switched on the MRO.

This data was then reviewed against the current influent pump station capacity represented in Figure 2. Figure 2 identifies that the current firm capacity of the influent lift station is approximately 3.4 mgd and the current peak capacity with three pumps running, is approximately 3.9 mgd. When comparing Table 1 to Figure 3, 30 of the 42 days with discharges occurred on days that exceeded the influent firm pump capacity. Of the other 12 days, 7 of them were day 2 of an overflow event and overflows were generally minimal amounts so it's unclear if the peak hour pumping was already ramping down. (Note that day 2 of an overflow event wouldn't count as another overflow event since 72 hours of dry time is needed between events.) Of the other 5 events where overflows occurred and peak hourly pump rates were below the firm pumping capacity it is unclear why the pumps failed to ramp up to full speed although several of the dates have suspicious data that may be erroneous.

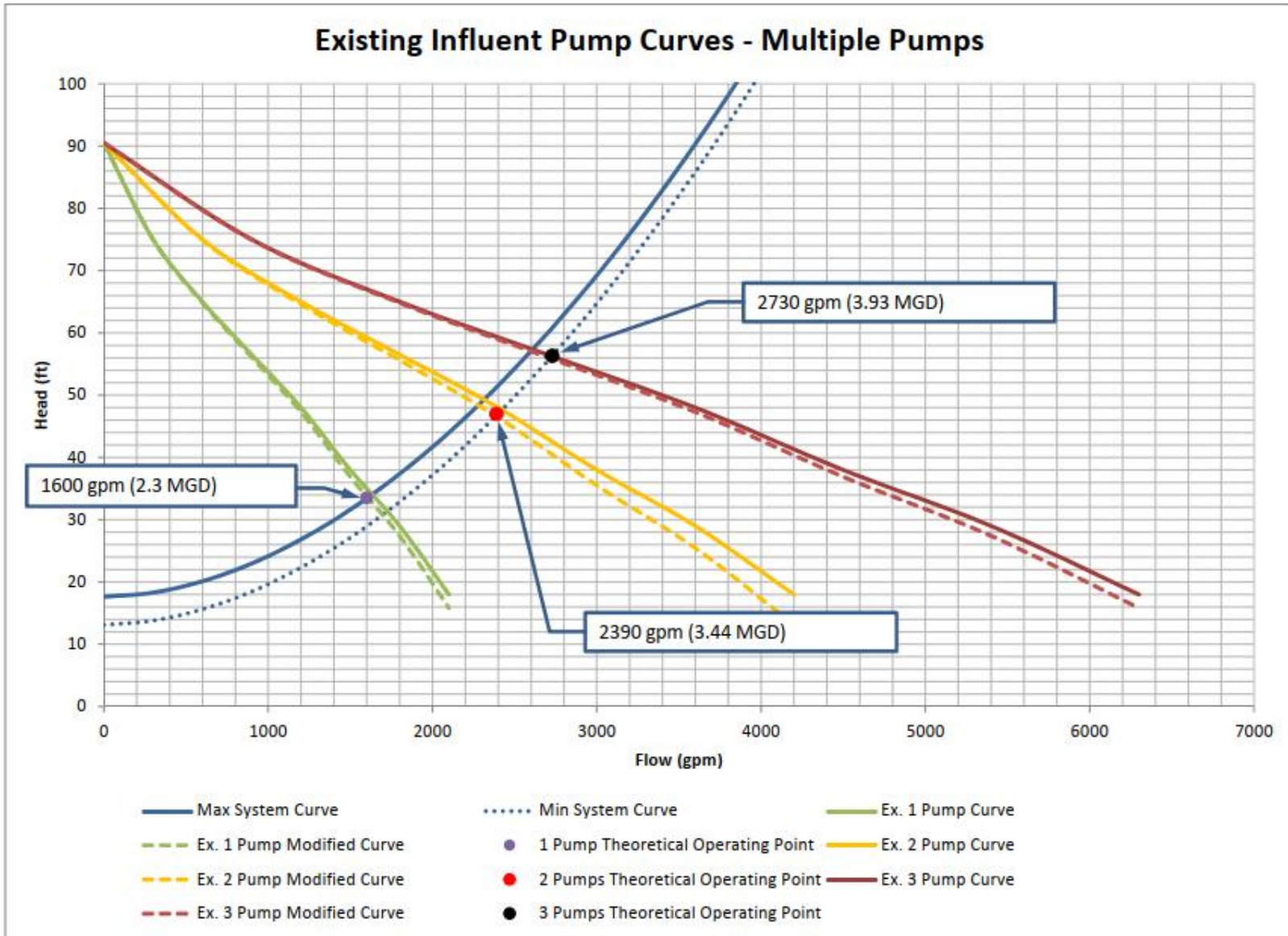


Figure 2 – Existing Influent Pump Curves

Review of Component and Piping Capacities

The previous LTCP Compliance plan stopped its evaluation at the influent pumps and at the stormwater pumps, thereby arriving at a peak capacity of roughly 7.5 MGD entering the WWTP. The influent pumps as discussed above were identified with a capacity of about 3.4-3.5 mgd (firm), the stormwater pump station has a capacity of 3 mgd (both pumps in service) and the Industrial force main having a design capacity of about 1.0 mgd. During this update a more detailed evaluation of the various pumping and treatment components was made to evaluate if more flow could be directed to the treatment system by eliminating 1 or 2 critical bottlenecks. Piping and various treatment plant component capacities were checked to verify what the limiting WWTP processes were.

First an overall process flow chart was developed as shown in Figure 3 depicting how the current system was designed to operate. Figure 3 then also documents the 2 alternative approaches to achieving CSO controls (Limited overflows and ultimately a UAA, or compliance with IDEM's NPD 016).

After developing the alternative approaches the individual capacities of the various pipes, pumps and basins were evaluated. Figure 4 was developed to document potential flow bottlenecks which are summarized in Table 2. The target capacities were developed based on the downstream limiting capacity. The limiting capacity for the WWTP is the secondary clarifiers which are rated for just over 5 mgd when chemical phosphorous treatment is used. Since the industrial force main contributes between 0.5 and 0.8 mgd per day the influent pumps cannot exceed 4.5 mgd without overloading the clarifiers. The effluent piping must convey a minimum of 5.5 mgd.

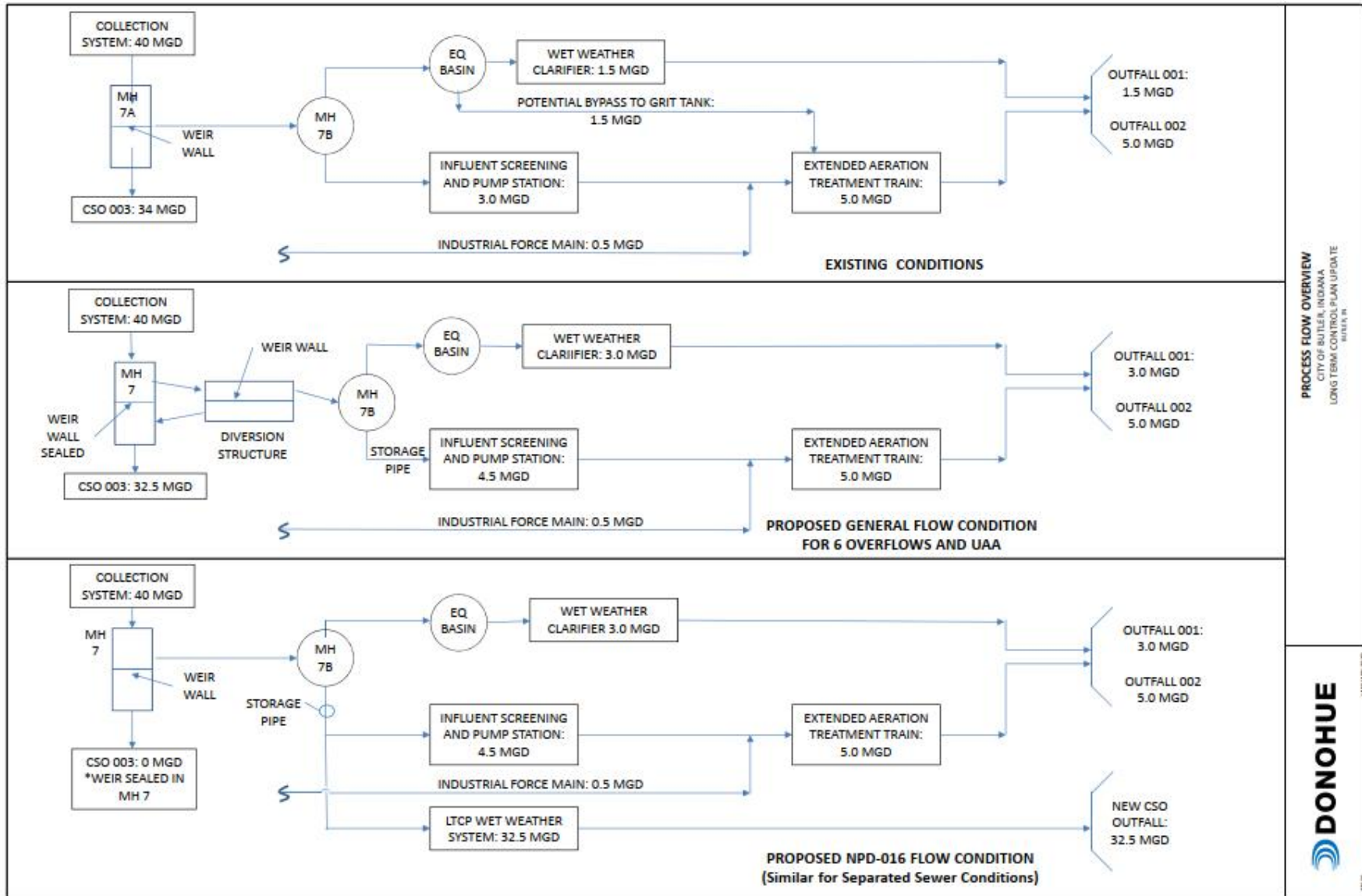


Figure 3 – Process Flow Overview

Table 2 – Capacity Table

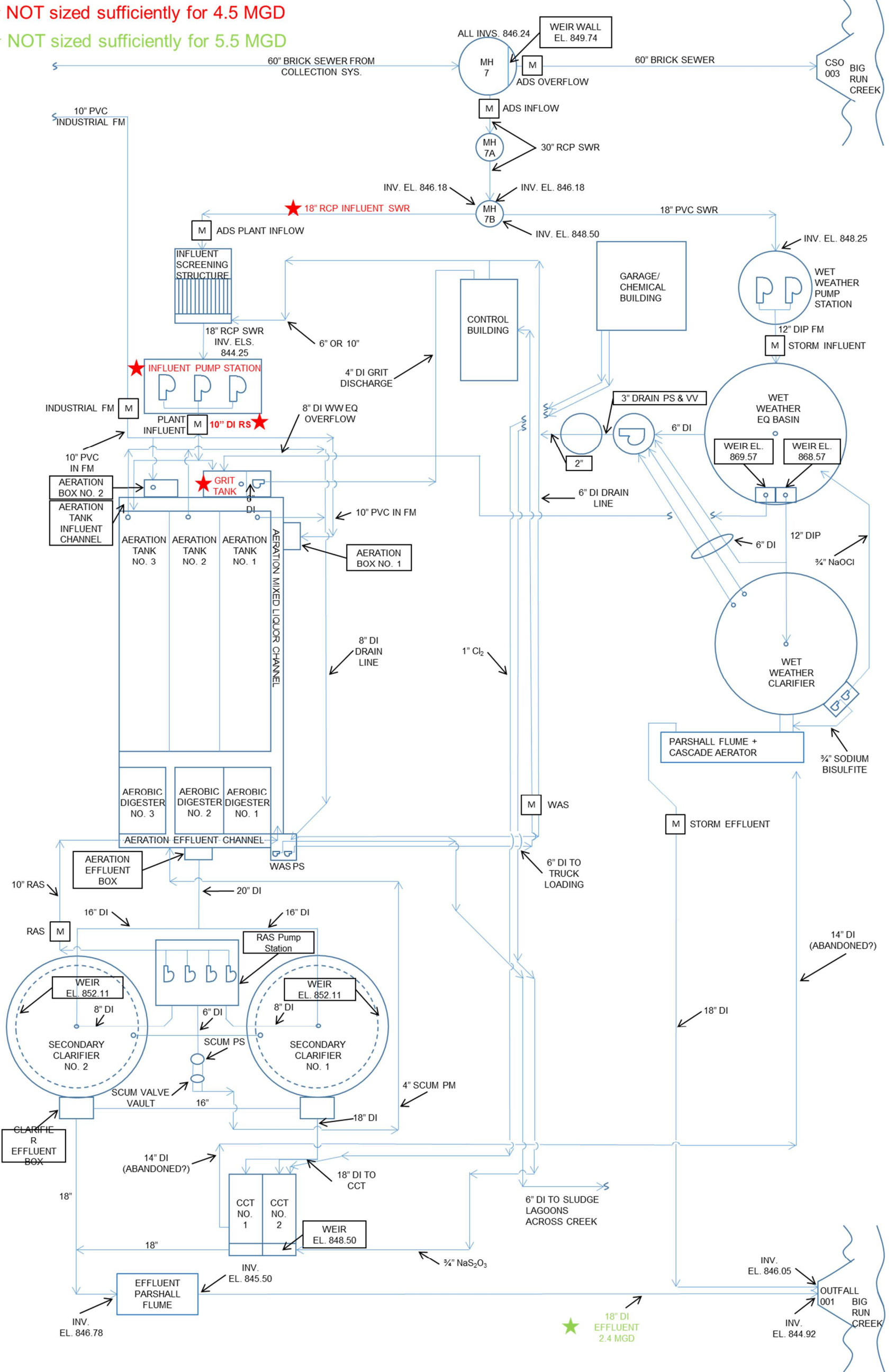
Component	Permitted Capacity (mgd)	Existing Capacity (mgd)	Target Capacity (mgd)	Target Capacity Gap (mgd)
18-inch Influent Sewer	3.0	3.3	4.5	1.2
Influent Pump Station Firm Capacity	3.0	3.4	4.5	1.1
Grit Tank	3.0	3.2	4.5	1.3
18-inch Effluent Sewer	3.0	2.4 ⁽¹⁾	5.5 ⁽²⁾	3.1

(1) Gravity Flow

(2) Parshall Flume Capacity

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★ NOT sized sufficiently for 4.5 MGD
★ NOT sized sufficiently for 5.5 MGD



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DETAILED PROCESS FLOW DIAGRAM
City of Butler
LTCP Update and WWTP PER
Butler, IN

Figure 4 – Detailed Process Flow Diagram

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The influent sewer and influent pump station were identified in the LTCP Compliance Plan for improvements based on potential capacity constraints, and end of their projected service life. The proposed firm capacity of the proposed pumps will increase by 1.1 mgd and the peak pumping capacity will increase by 0.5 mgd if the existing wet weather operational strategy is considered.

The Grit Tank is sized sufficiently for NPDES Permit limits. Wet weather flows primarily bring storm water into the system which should be fairly dilute after the "first flush". Enlargement of the grit tank and system is not felt to be necessary since only limited amounts of grit would be expected after first flush. While the 18-inch Effluent Sewer is limited based on pipe slopes under both permitted and targeted capacities the WWTP does not have operating problems with the existing effluent sewer and the hydraulic grade line of the pipe is such that it will not impact the performance of the disinfection system and other upstream processes.

It needs to be noted that a modification to the City's National Pollutant Discharge Elimination Permit (NPDES) is not being sought as part of this project. Target capacities are solely for wet weather conditions and are not intended to be normal operating conditions.

Evaluation of Alternatives

Seven (7) different alternatives were evaluated as part of this LTCP Compliance Plan Update. Each alternative was developed to achieve the regulatory requirement of six (6) overflows or less annually followed by a UAA or to achieve compliance with IDEM NPD-016. Each alternative is summarized as follows.

Alternative No. 1 – Updated Alternative 13 from 2015 LTCP Compliance Plan Compliance with of six (6) overflows or less annually followed by a UAA

Alternative No. 1 is an update to Alternative 13 which was selected for implementation as part of the 2015 LTCP Compliance Plan. This alternative includes a new CSO diversion structure with passive ROMAG type screen, 60-inch interceptor sewer from the existing diversion structure to the new diversion structure, 60-inch interceptor from the new diversion structure to the influent screening facility, new influent pumps, new influent screen, new sewer between the influent screening facility and influent lift station, new force main from the influent lift station to the Grit Tank, and associated electrical, instrumentation and control, structural and site improvements. Major changes from Alternative No. 1 to the previous Alternative No. 13 include:

1. An increase in the interceptor size from the new diversion structure to the influent screening facility from 48-inch to 60-inch. This is due to discovery that the upstream sewer was a 60-inch sewer instead of a 51-inch arch sewer and ensuring that 100,000 gallons of storage is available above the 4.5 mgd peak capacity to the plant.
2. Addition of miscellaneous improvements for items not included in the previous LTCP Compliance Plan but now known to be necessary for the required work. These include the following:
 - a. The difficulty and extent of construction connecting to the existing Diversion Structure in US 6.
 - b. Need for increased Influent Wet Well volume to allow for improved pump cycling.
 - c. Making the existing Influent Pump Station compliant with the National Fire Protection Association (NFPA) 820. Ventilation, structural, and electrical improvements are needed potentially making a new submersible pump station more cost effective.

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- d. Aeration tank and potentially even downstream piping improvements to lower hydraulic grades to address operator concerns of weirs overtopping during high flow events.
- e. Potentially increased difficulty of constructing the new interceptor adjacent to the railroad property line which is further west than previously known in a crowded utility corridor.

All of these improvements require further evaluation before inclusion in the design.

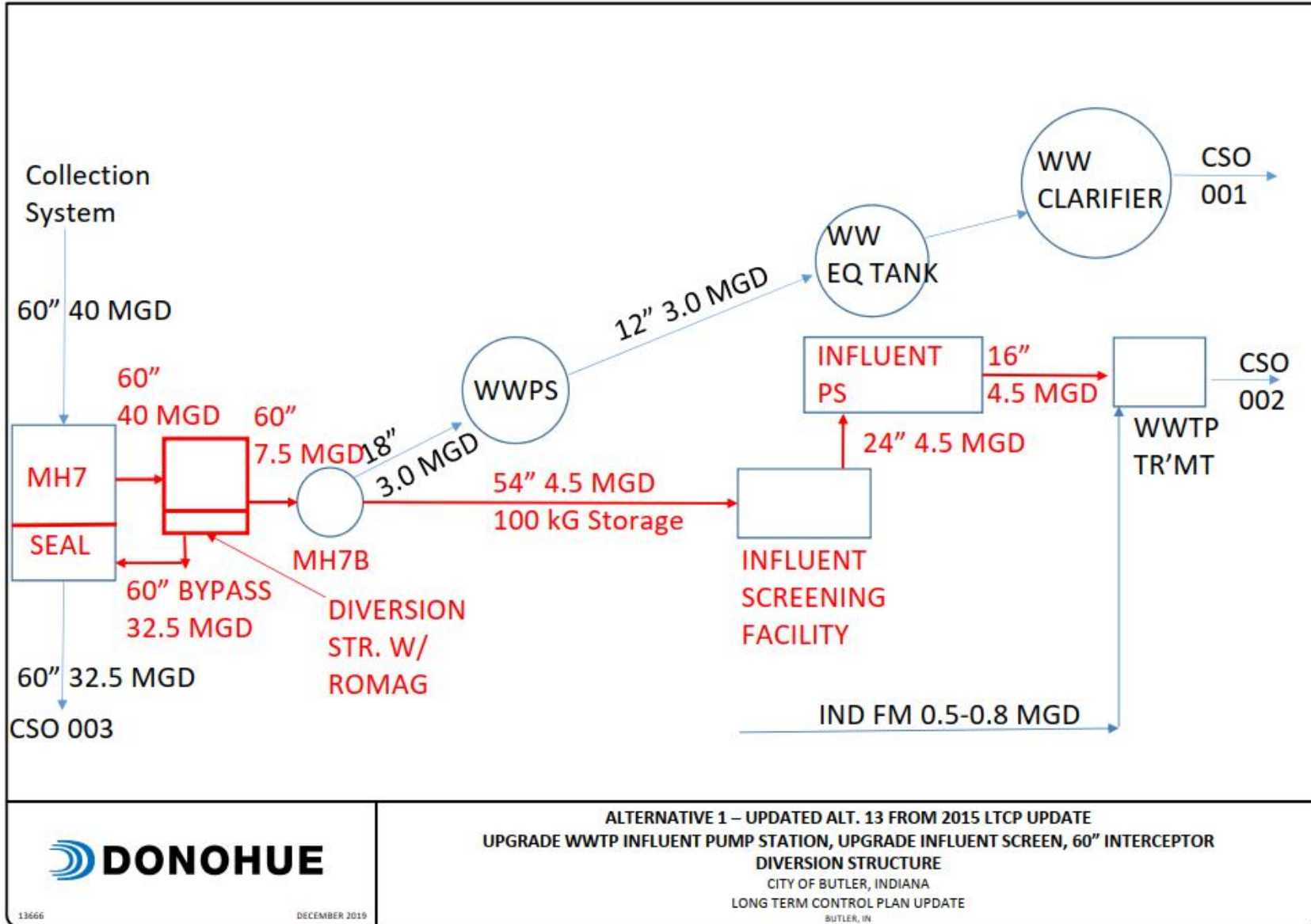
The Engineer's Opinion of Project Cost (EOPPC) is presented in Table 3. Refer to Figure 5 for a general process flow diagram for the alternative.

Table 3 – Alternative No. 1 EOPPC

Item No.	Item Description	Quantity	Units	Unit Cost	Total Cost
1	Replace Influent Pumps (4.5 MGD Firm Capacity)	3	EA	\$57,000.00	\$171,000
2	Replace Influent Screen (4.5 MGD Capacity)	1	LS	\$200,000.00	\$200,000
3	Diversion Structure w/ Romag Type Screen	1	LS	\$750,000.00	\$750,000
4	Existing Diversion Structure (MH 7) Modifications	1	LS	\$171,000.00	\$171,000
5	60-inch Sewer from new Diversion Structure to existing CSO 003 Outfall Sewer (20 feet Deep)	150	LF	\$640.00	\$96,000
6	Electrical and I&C Upgrades for Item Nos. 1-3	1	LS	\$225,000.00	\$225,000
7	60-inch Influent/Storage Sewer (20 feet Deep)	1,200	LF	\$640.00	\$768,000
8	Sewer Manholes	3	EA	\$14,000.00	\$42,000
9	Dewatering for Construction	1	LS	\$57,000.00	\$57,000
10	Pavement Replacement 8" HMA w/ 6" Aggregate Base	1,600	SYD	\$40.00	\$64,000
11	Seed and Mulch	2	AC	\$5,200.00	\$10,400
12	Erosion Control	1	LS	\$12,000.00	\$12,000
13	Site Piping Improvements	1	LS	\$100,000.00	\$100,000
14	Miscellaneous LTCP Improvements ⁽¹⁾	1	LS	\$750,000.00	\$750,000
Subtotal Construction Cost					\$3,416,000
Construction Contingency				30%	\$1,025,000
Total Opinion of Construction Cost					\$4,441,000
Engineering (Design, Bid, Construction Admin.)					18% \$799,000
Miscellaneous Administrative, Legal, Easements, etc.					3% \$133,000
Land Acquisition					1 LS \$25,000
Total Opinion of Project Cost					\$5,398,000

(1) Includes costs for improvements that require further evaluation including: US 6 construction, Influent Wet Well volume, NFPA requirements of the Influent Pump Station, unknowns associated with the adjacent railroad property line, aeration hydraulic improvements and others.

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ALTERNATIVE 1 – UPDATED ALT. 13 FROM 2015 LTCP UPDATE
 UPGRADE WWTP INFLUENT PUMP STATION, UPGRADE INFLUENT SCREEN, 60" INTERCEPTOR
 DIVERSION STRUCTURE
 CITY OF BUTLER, INDIANA
 LONG TERM CONTROL PLAN UPDATE
 BUTLER, IN

Figure 5 – Alternative No. 1

*Alternative No. 2 – NPD 16: 1 Yr, 1Hr Storage and 10 Yr, 1 Hr 30 Minute Detention
Compliance With IDEM NPD-016*

This alternative would provide full storage of the 1-Year, 1-Hour storm and 30 minutes of detention time for the 10-Year, 1-Hour Storm. This alternative includes a new combination CSO diversion/influent screening structure similar to alternate 1 but it is located on the WWTP site, 60-inch interceptor sewer from the existing diversion structure to the new diversion/screening structure, a 0.7 MG concrete storage tank with 32.5 MGD pump station, chlorination and dechlorination facilities, 42-inch outfall pipe from the storage tank to the creek, 24-inch interceptor from the new diversion/screening structure to the influent pump station, new influent pumps, new force main from the influent lift station to the Grit Tank, and associated electrical, instrumentation and control, structural and site improvements. Miscellaneous improvements associated with this alternative include, but are not necessarily limited to, construction unknowns in US 6, Influent Wet Well volume, and Influent Pump Station NFPA Requirements and similar issues discussed for alternate 1. The EOPPC is presented in Table 4. Refer to Figure 6 for a general process flow diagram for the alternative.

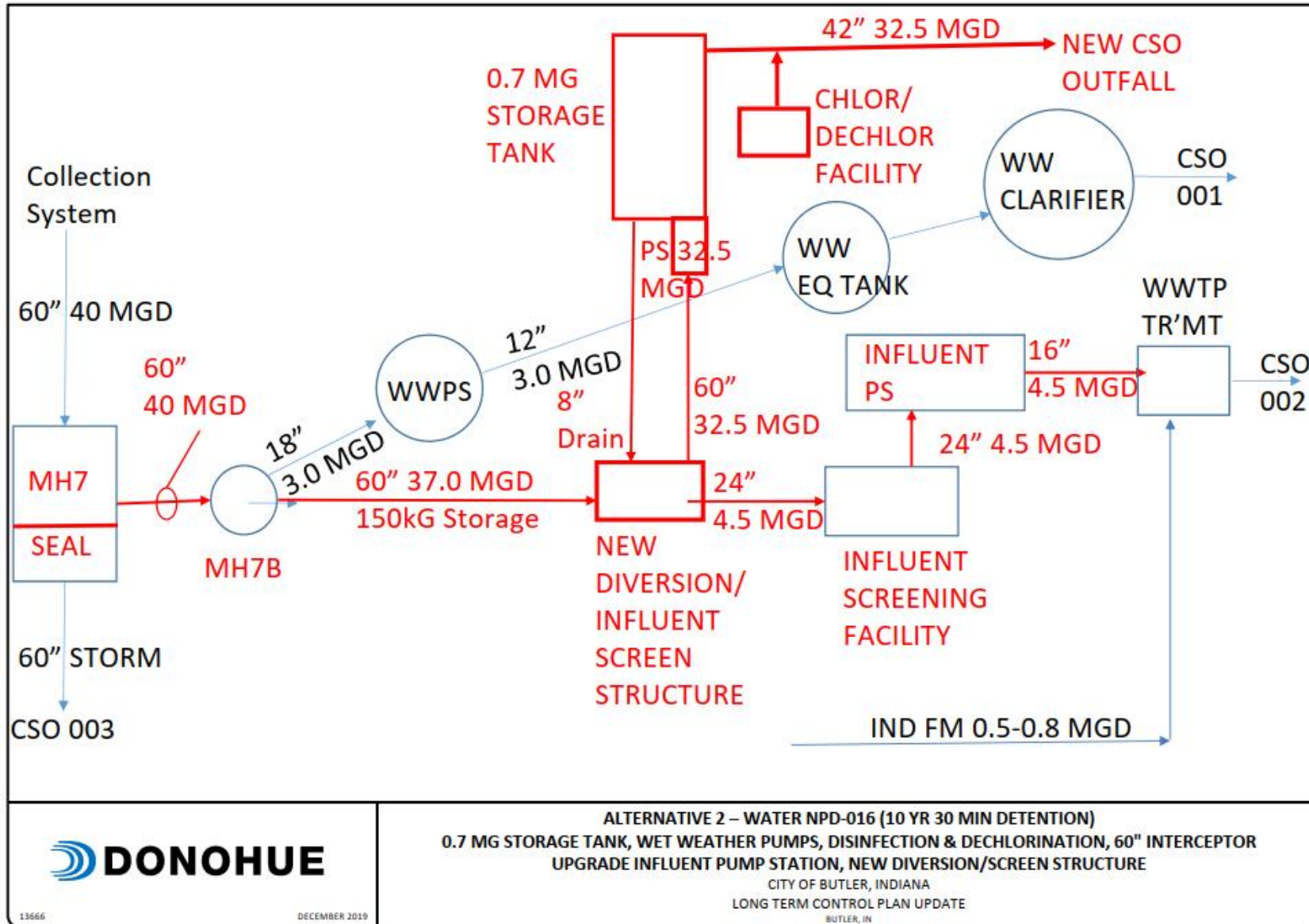
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Table 4 – Alternative No. 2 EOPPC

Item No.	Item Description	Quantity	Units	Unit Cost	Total Cost
1	Replace Influent Pumps (4.5 MGD Firm Capacity)	3	EA	\$57,000.00	\$171,000
2	New Diversion/Screening Structure	1	LS	\$1,000,000.00	\$1,000,000
3	Existing Diversion Structure (MH 7) Modifications	1	LS	\$171,000.00	\$171,000
4	60-inch Sewer from new Diversion Structure to existing CSO 003 Outfall Sewer (20 feet Deep)	150	LF	\$640.00	\$96,000
5	Electrical and I&C Upgrades for Item Nos. 1-2	1	LS	\$235,000.00	\$235,000
6	60-inch Influent/Storage Sewer (20 feet Deep)	1,200	LF	\$640.00	\$768,000
7	Sewer Manholes	3	EA	\$14,000.00	\$42,000
8	Dewatering for Construction	1	LS	\$100,000.00	\$100,000
9	Pavement Replacement 8" HMA w/ 6" Aggregate Base	1,600	SYD	\$40.00	\$64,000
10	Seed and Mulch	2	AC	\$5,200.00	\$10,400
11	Erosion Control	1	LS	\$12,000.00	\$12,000
12	0.7 MG Concrete Storage Tank including Chlorination/Dechlorination Facilities ⁽¹⁾	1	LS	\$3,604,000.00	\$3,604,000
13	32.5 MGD Wet Weather Pump Station	1	LS	\$790,000.00	\$790,000
14	Site Piping Improvements	1	LS	\$100,000.00	\$100,000
15	42-inch Outfall Pipe (10 feet Deep)	600	LF	\$174.00	\$104,400
16	Miscellaneous Improvements ⁽²⁾	1	LS	\$450,000.00	\$450,000
Subtotal Construction Cost					\$7,718,000
Construction Contingency				30%	\$2,315,000
Total Opinion of Construction Cost					\$10,033,000
Engineering (Design, Bid, Construction Admin.)					18% \$1,806,000
Miscellaneous Administrative, Legal, Easements, etc.				3%	\$301,000
Land Acquisition				1 LS	\$25,000
Total Opinion of Project Cost					\$12,165,000

(1) An earthen basin was reviewed as a storage alternative and is estimated it would reduce the cost by approximately \$1.5 M.
 (2) Includes costs for improvements that require further evaluation including: US 6 construction, Influent Wet Well volume, NFPA requirements of the Influent Pump Station, and others.

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ALTERNATIVE 2 – WATER NPD-016 (10 YR 30 MIN DETENTION)
0.7 MG STORAGE TANK, WET WEATHER PUMPS, DISINFECTION & DECHLORINATION, 60" INTERCEPTOR
UPGRADE INFLUENT PUMP STATION, NEW DIVERSION/SCREEN STRUCTURE
 CITY OF BUTLER, INDIANA
 LONG TERM CONTROL PLAN UPDATE
 BUTLER, IN

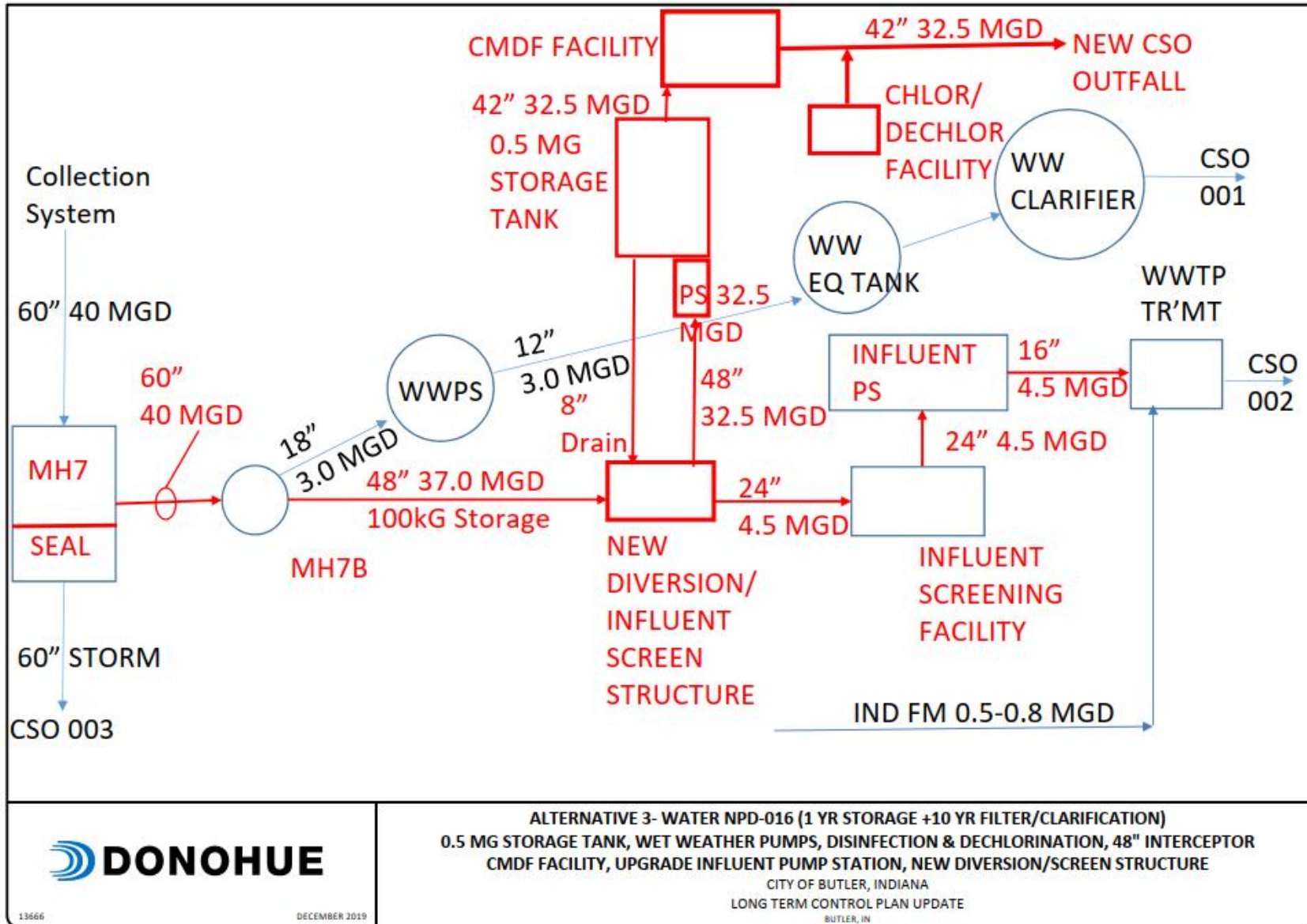


Figure 6 – Alternative No. 2

*Alternative No. 3 – NPD 16: 1 Yr, 1Hr Storage and 10 Yr, 1 Hr Primary Level Treatment
Compliance With IDEM NPD-016*

This alternative would provide full storage of the 1-Year, 1-Hour storm and primary level treatment for the 10-Year, 1-Hour Storm. This alternative includes a new combination CSO diversion/influent screening structure, 60-inch interceptor sewer from the existing diversion structure to the manhole leading to the stormwater pump station, a 60-inch interceptor to the new diversion/screening structure, a 0.5 MG concrete storage tank with 32.5 MGD pump station, a Cloth Media Disk Filter (CMDF) Facility for primary level treatment, chlorination and dechlorination facilities, 42-inch outfall pipe from the storage tank to the creek, 24-inch interceptor from the new diversion/screening structure to the influent pump station, new influent pumps, new force main from the influent lift station to the Grit Tank, and associated electrical, instrumentation and control, structural and site improvements. The EOPPC exceeded \$20 million dollars making it cost inefficient and deleting it from further consideration. Refer to Figure 7 for a general process flow diagram for the alternative.

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ALTERNATIVE 3- WATER NPD-016 (1 YR STORAGE +10 YR FILTER/CLARIFICATION)
0.5 MG STORAGE TANK, WET WEATHER PUMPS, DISINFECTION & DECHLORINATION, 48" INTERCEPTOR
CMDF FACILITY, UPGRADE INFLUENT PUMP STATION, NEW DIVERSION/SCREEN STRUCTURE
CITY OF BUTLER, INDIANA
LONG TERM CONTROL PLAN UPDATE
BUTLER, IN

Figure 7 – Alternative No. 3

*Alternative No. 4 – NPD 16: 10 Yr, 1 Hr Storage
Compliance With IDEM NPD-016*

This alternative would provide full storage of the 10-Year, 1-Hour Storm which eliminates the need to provide any disinfection facilities. This alternative includes a new combination CSO diversion/influent screening structure, 60-inch interceptor sewer from the existing diversion structure to the new diversion/screening structure, a 1.8 MG concrete storage tank with 32.5 MGD pump station, 42-inch outfall pipe from the storage tank to the creek, 24-inch interceptor from the new diversion/screening structure to the influent pump station, new influent pumps, new force main from the influent lift station to the Grit Tank, and associated electrical, instrumentation and control, structural and site improvements. Miscellaneous improvements associated with this alternative include, but are not necessarily limited to, construction unknowns in US 6, Influent Wet Well volume, and Influent Pump Station NFPA Requirements. The EOPPC is presented in Table 5. Refer to Figure 8 for a general process flow diagram for the alternative.

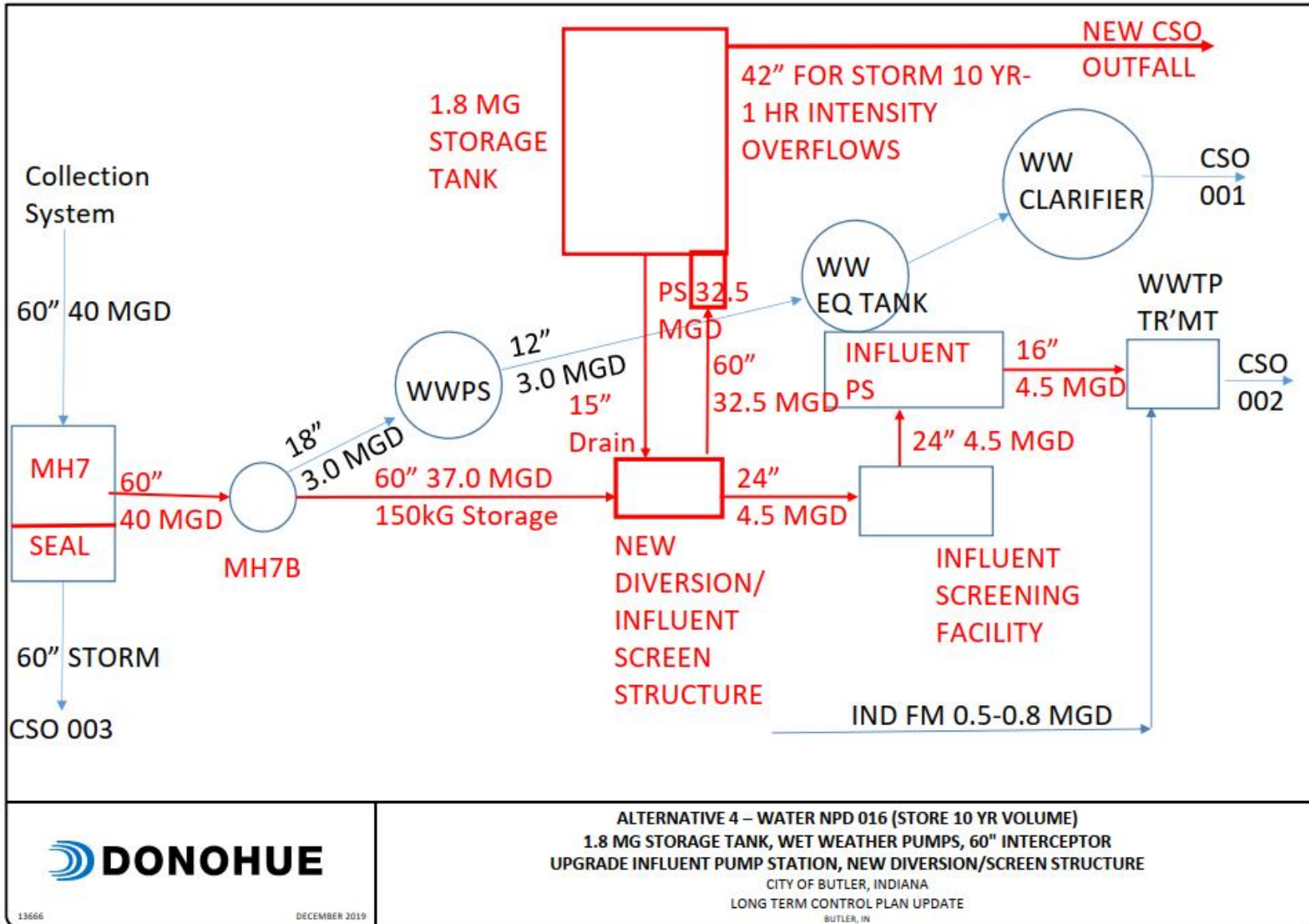
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Table 5 – Alternative No. 4 EOPPC

Item No.	Item Description	Quantity	Units	Unit Cost	Total Cost
1	Replace Influent Pumps (4.5 MGD Firm Capacity)	3	EA	\$57,000.00	\$171,000
2	New Diversion/Screening Structure	1	LS	\$1,000,000.00	\$1,000,000
3	Existing Diversion Structure (MH 7) Modifications	1	LS	\$171,000.00	\$171,000
4	60-inch Sewer from new Diversion Structure to existing CSO 003 Outfall Sewer (20 feet Deep)	150	LF	\$640.00	\$96,000
5	Electrical and I&C Upgrades for Item Nos. 1-2	1	LS	\$235,000.00	\$235,000
6	60-inch Influent/Storage Sewer (20 feet Deep)	1,200	LF	\$640.00	\$768,000
7	Sewer Manholes	3	EA	\$14,000.00	\$42,000
8	Dewatering for Construction	1	LS	\$257,000.00	\$257,000
9	Pavement Replacement 8" HMA w/ 6" Aggregate Base	1,600	SYD	\$40.00	\$64,000
10	Seed and Mulch	2	AC	\$5,200.00	\$10,400
11	Erosion Control	1	LS	\$12,000.00	\$12,000
12	1.8 MG Concrete Storage Tank including Chlorination/Dechlorination Facilities ⁽¹⁾	1	LS	\$2,353,000.00	\$2,353,000
13	32.5 MGD Wet Weather Pump Station	1	LS	\$790,000.00	\$790,000
14	Site Piping Improvements	1	LS	\$100,000.00	\$100,000
15	42-inch Outfall Pipe (10 feet Deep)	600	LF	\$174.00	\$104,400
16	Miscellaneous Improvements ⁽²⁾	1	LS	\$450,000.00	\$450,000
Subtotal Construction Cost					\$6,624,000
Construction Contingency				30%	\$1,987,000
Total Opinion of Construction Cost					\$8, 611,000
Engineering (Design, Bid, Construction Admin.)					18% \$1,550,000
Miscellaneous Administrative, Legal, Easements, etc.				3%	\$258,000
Land Acquisition				1 LS	\$25,000
Total Opinion of Project Cost					\$10,444,000

(1) An earthen basin was reviewed as a storage alternative and is estimated it would reduce the cost by approximately \$0.3 M.
 (2) Includes costs for improvements that require further evaluation including: US 6 construction, Influent Wet Well volume, NFPA requirements of the Influent Pump Station, and others.

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ALTERNATIVE 4 – WATER NPD 016 (STORE 10 YR VOLUME)
1.8 MG STORAGE TANK, WET WEATHER PUMPS, 60" INTERCEPTOR
UPGRADE INFLUENT PUMP STATION, NEW DIVERSION/SCREEN STRUCTURE
CITY OF BUTLER, INDIANA
LONG TERM CONTROL PLAN UPDATE
BUTLER, IN



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Figure 8 – Alternative No. 4

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Alternative No. 5 – Sewer Separation + NPD 16: 1 Yr, 1Hr Storage and 10 Yr, 1 Hr 30 Minute Detention Compliance With IDEM NPD-016

Similar to Alternative No. 2 this alternative would provide full storage of the 1-Year, 1-Hour storm and 30 minutes of detention time for the 10-Year, 1-Hour Storm. The difference from Alternative No. 2 is that this also includes additional sewer separation within the collection system as identified in the 2015 LTCP Compliance plan. Specifically, the combined sewers on Willow, Cherry and Walnut streets west of Broadway and Depot Street between Broadway and Federal Street would be separated. The advantage of this alternate is a lower peak flow rate due to the separation work. All other aspects of the project would be the same as Alternative No. 2. Miscellaneous improvements associated with this alternative are the same as identified in Alternative No. 2. The EOPPC is presented in Table 6. Refer to Figure 9 for a general process flow diagram for the alternative.

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Table 6 – Alternative No. 5 EOPPC

Item No.	Item Description	Quantity	Units	Unit Cost	Total Cost
1	Replace Influent Pumps (4.5 MGD Firm Capacity)	3	EA	\$57,000.00	\$171,000
2	New Diversion/Screening Structure	1	LS	\$1,000,000.00	\$1,000,000
3	Existing Diversion Structure (MH 7) Modifications	1	LS	\$171,000.00	\$171,000
4	48-inch Sewer from new Diversion Structure to existing CSO 003 Outfall Sewer (20 feet Deep)	150	LF	\$419.00	62,850
5	Electrical and I&C Upgrades for Item Nos. 1-2	1	LS	\$235,000.00	\$235,000
6	48-inch Influent/Storage Sewer (20 feet Deep)	1,200	LF	\$419.00	\$502,800
7	Sewer Manholes	3	EA	\$14,000.00	\$42,000
8	Dewatering for Construction	1	LS	\$71,000.00	\$71,000
9	Pavement Replacement 8" HMA w/ 6" Aggregate Base	1,600	SYD	\$40.00	\$64,000
10	Seed and Mulch	2	AC	\$5,200.00	\$10,400
11	Erosion Control	1	LS	\$12,000.00	\$12,000
12	Additional Sewer Separation	1	LS	\$2,400,000.00	\$2,400,000
13	0.3 MG Concrete Storage Tank including Chlorination/Dechlorination Facilities ⁽¹⁾	1	LS	\$1,544,000.00	\$1,544,000
14	14.5 MGD Wet Weather Pump Station	1	LS	\$395,000.00	\$395,000
15	Site Piping Improvements	1	LS	\$100,000.00	\$100,000
16	30-inch Outfall Pipe (10 feet Deep)	600	LF	\$129.00	\$77,400
16	Miscellaneous Improvements ⁽²⁾	1	LS	\$450,000.00	\$450,000
Subtotal Construction Cost					\$7,308,000
Construction Contingency				30%	\$2,192,000
Total Opinion of Construction Cost					\$9,500,000
Engineering (Design, Bid, Construction Admin.)					18%
Miscellaneous Administrative, Legal, Easements, etc.					3%
Land Acquisition					1 LS
Total Opinion of Project Cost					\$11,520,000

(1) An earthen basin was reviewed as a storage alternative and is estimated it would reduce the cost by approximately \$0.6 M.

(2) Includes costs for improvements that require further evaluation including: US 6 construction, Influent Wet Well volume, NFPA requirements of the Influent Pump Station, and others.

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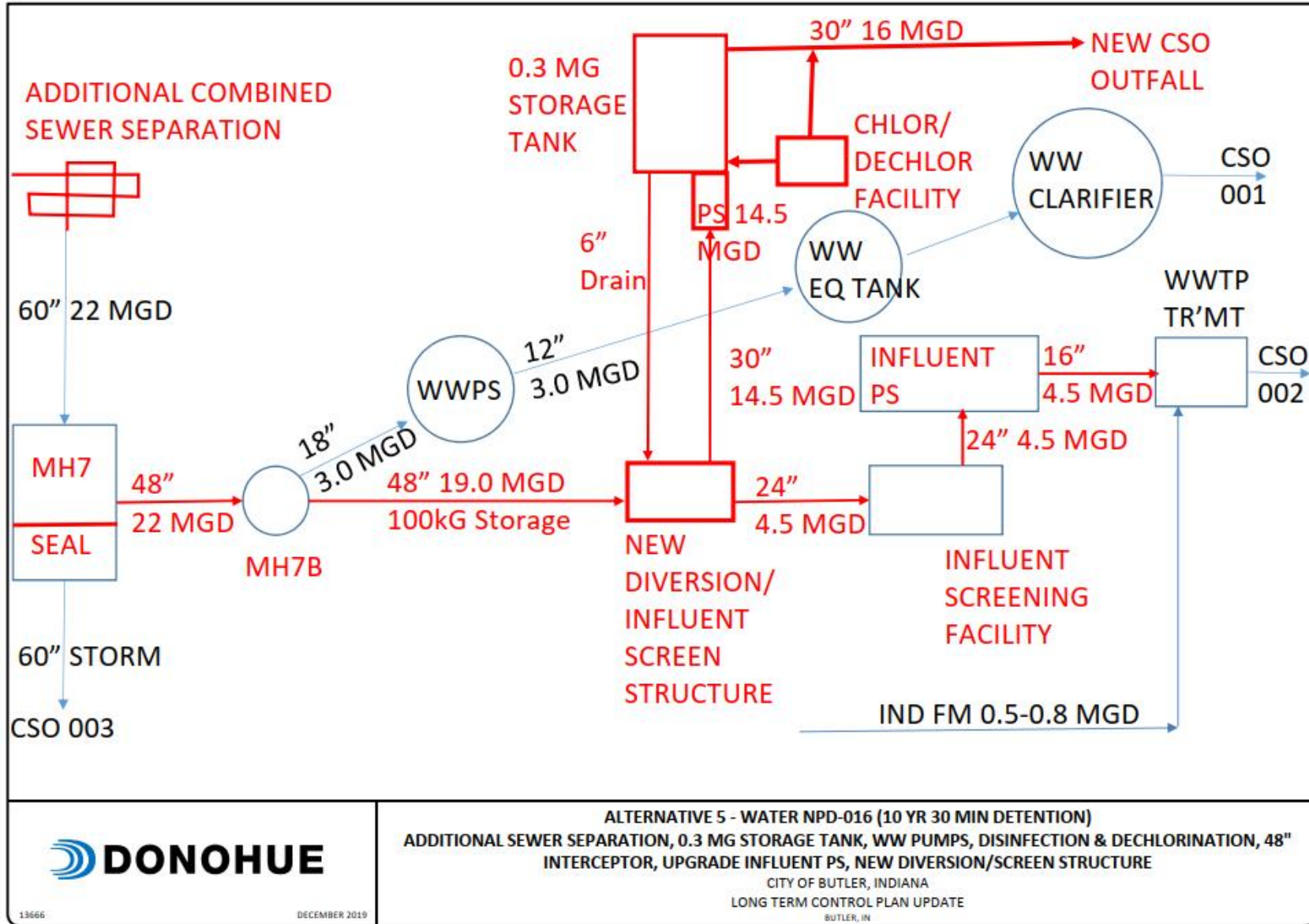


Figure 9 – Alternative No. 5



ALTERNATIVE 5 - WATER NPD-016 (10 YR 30 MIN DETENTION)
 ADDITIONAL SEWER SEPARATION, 0.3 MG STORAGE TANK, WW PUMPS, DISINFECTION & DECHLORINATION, 48"
 INTERCEPTOR, UPGRADE INFLUENT PS, NEW DIVERSION/SCREEN STRUCTURE
 CITY OF BUTLER, INDIANA
 LONG TERM CONTROL PLAN UPDATE
 BUTLER, IN

*Alternative No. 6 – Sewer Separation + NPD 16: 1 Yr, 1Hr Storage and 10 Yr, 1 Hr Primary Level Treatment
Compliance With IDEM NPD-016*

Similar to Alternative No. 3 this alternative would provide full storage of the 1-Year, 1-Hour storm and primary level treatment for the 10-Year, 1-Hour Storm. The difference from Alternative No. 3 is that this also includes additional sewer separation within the collection system and that the storage requirements can be accomplished within the proposed interceptors and separate storage is not needed. All other aspects of the project would be the same as Alternative No. 3 except the sizes are slightly smaller. As with Alternative No. 3 the costs are well in excess of the other alternatives at over \$15 million dollars making this alternate cost inefficient and removing it from further consideration. Refer to Figure 10 for a general process flow diagram for the alternative.

*Alternative No. 7 – Sewer Separation + NPD 16: 10 Yr, 1 Hr Storage
Compliance With IDEM NPD-016*

Similar to Alternative No. 4, this alternative would provide full storage of the 10-Year, 1-Hour Storm. The difference from Alternative No. 4 is that this also includes additional sewer separation within the collection system and thus a smaller storage capacity. As with Alternative No. 4 no disinfection facilities are needed. Other aspects of the alternative are similar to Alternative No. 4 but somewhat smaller in size with the storage tank being a 1.1 MG concrete storage tank with 14.5 MGD pump station instead of a 1.8 MG with a 32.5 MGD pump station. Miscellaneous improvements associated with this alternative are the same as identified in Alternative No. 4. The EOPPC is presented in Table 7. Refer to Figure 11 for a general process flow diagram for the alternative.

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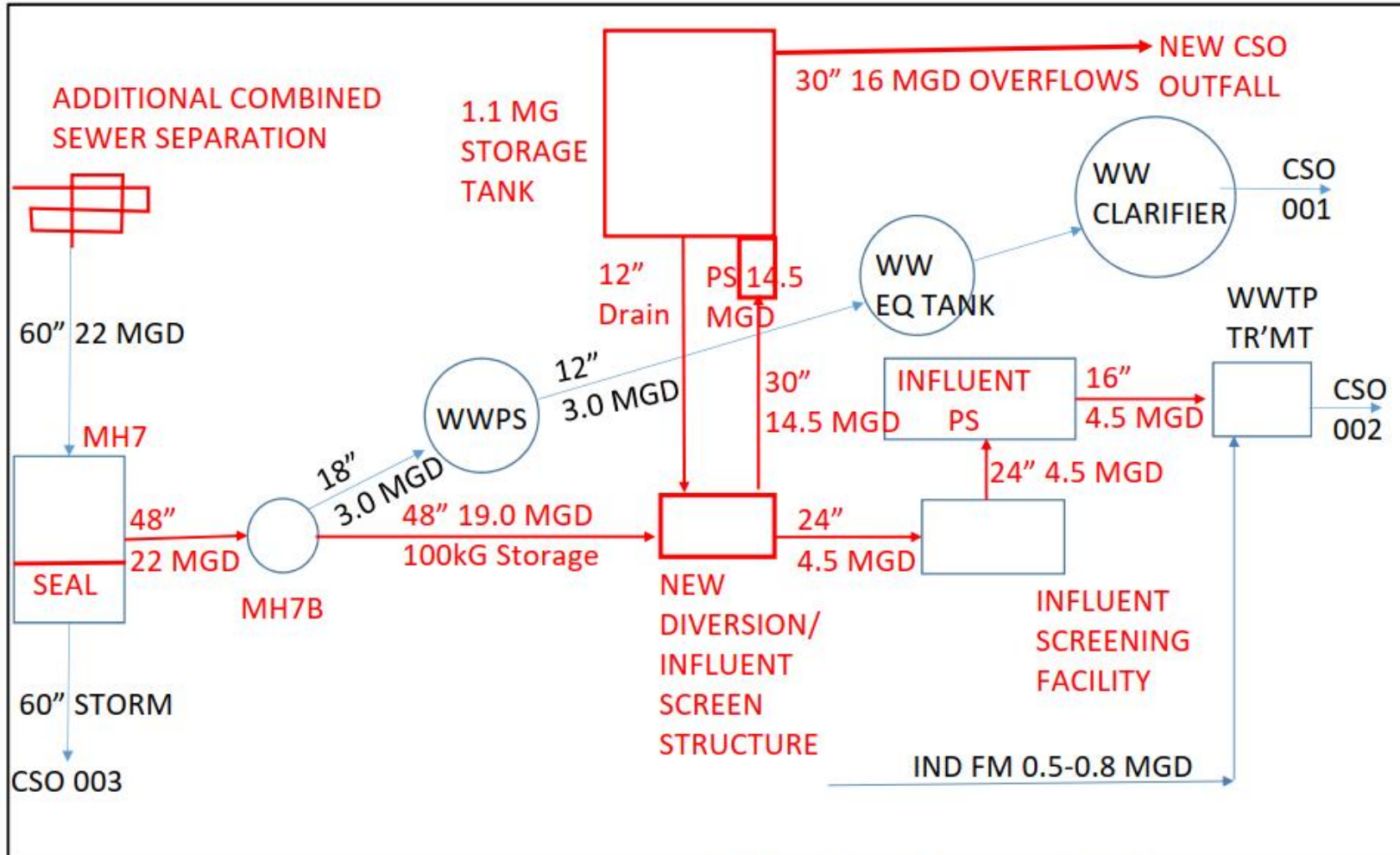
Table 7 – Alternative No. 2 EOPPC

Item No.	Item Description	Quantity	Units	Unit Cost	Total Cost
1	Replace Influent Pumps (4.5 MGD Firm Capacity)	3	EA	\$57,000.00	\$171,000
2	New Diversion/Screening Structure	1	LS	\$1,000,000.00	\$1,000,000
3	Existing Diversion Structure (MH 7) Modifications	1	LS	\$171,000.00	\$171,000
4	48-inch Sewer from new Diversion Structure to existing CSO 003 Outfall Sewer (20 feet Deep)	150	LF	\$419.00	\$62,850
5	Electrical and I&C Upgrades for Item Nos. 1-2	1	LS	\$235,000.00	\$235,000
6	48-inch Influent/Storage Sewer (20 feet Deep)	1,200	LF	\$419.00	\$502,800
7	Sewer Manholes	3	EA	\$14,000.00	\$42,000
8	Dewatering for Construction	1	LS	\$257,000.00	\$257,000
9	Pavement Replacement 8" HMA w/ 6" Aggregate Base	1,600	SYD	\$40.00	\$64,000
10	Seed and Mulch	2	AC	\$5,200.00	\$10,400
11	Erosion Control	1	LS	\$12,000.00	\$12,000
12	Additional Sewer Separation	1	LS	\$2,400,000.00	\$2,400,000
13	1.1 MG Concrete Storage Tank including Chlorination/Dechlorination Facilities ⁽¹⁾	1	LS	\$1,438,000.00	\$1,438,000
14	14.5 MGD Wet Weather Pump Station	1	LS	\$395,000.00	\$395,000
15	Site Piping Improvements	1	LS	\$100,000.00	\$100,000
16	30-inch Outfall Pipe (10 feet Deep)	600	LF	\$129.00	\$77,400
17	Miscellaneous Improvements ⁽²⁾	1	LS	\$450,000.00	\$450,000
Subtotal Construction Cost					\$6,838,000
Construction Contingency				30%	\$2,051,000
Total Opinion of Construction Cost					\$8,889,000
Engineering (Design, Bid, Construction Admin.)					18% \$1,600,000
Miscellaneous Administrative, Legal, Easements, etc.					3% \$267,000
Land Acquisition					1 LS \$25,000
Total Opinion of Project Cost					\$10,781,000

(1) An earthen basin was reviewed as a storage alternative and is estimated it would reduce the cost by approximately \$0.1 M.

(2) Includes costs for improvements that require further evaluation including: US 6 construction, Influent Wet Well volume, NFPA requirements of the Influent Pump Station, and others.

DRAFT




 <p>13666</p> <p>DECEMBER 2019</p>	<p>ALTERNATIVE 7 – WATER NPD 016 (STORE 10 YR VOLUME) 1.1 MG STORAGE TANK, WET WEATHER PUMPS, 48" INTERCEPTOR UPGRADE INFLUENT PUMP STATION, NEW DIVERSION/SCREEN STRUCTURE CITY OF BUTLER, INDIANA LONG TERM CONTROL PLAN UPDATE BUTLER, IN</p>
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Figure 11 – Alternative No. 7

Selection of Recommended Long Term Control Plan

After review of the various alternatives and in discussions with City staff, Alternative No. 1 is the recommended alternative. Alternative No. 1 provides the City with most cost affordable solution while achieving the regulatory requirement of six (6) overflows or less annually. The project cost opinion for Alternative No. 1 is \$5.4 Million. Refer to Table 3 for the cost details.

In order to comply with water quality standards, the City will need to seek a temporary suspension of the water quality standards through the development of a UAA following construction of Alternative No. 1 improvements and the post construction monitoring period. The City believes that it is entitled to seek a temporary suspension through the financial hardship and other criteria codified in USEPA's water quality standards regulation 40 CR 131.10g.

Public Participation

At a Board of Public Works and Safety meeting which was open to the public on [REDACTED], 2020 the findings of the LTCP Update were presented to members of the public in attendance. Alternative No. 1 was tentatively selected by the Board of Public Works and Safety pending public comments. This alternative requires continuing to maximize flows to the WWTP by replacing equipment and improving influent conditions to maximize the hydraulic capacity of the existing wastewater plant components. This alternate does not eliminate untreated overflows so a UAA will be needed in 2027 to seek temporary relief during wet weather from water quality standards.

A draft copy of this LTCP Update was delivered to City Hall, the WWTP and the Butler Library, for public examination 2 weeks prior to the Public Hearing. The Public Hearing was conducted at 7:00 PM on [REDACTED], 2020 in the Butler City Hall to present the findings of the LTCP to the public and afford them the opportunity to ask questions and make comments. The public hearing was advertised in the Butler Bulletin on [REDACTED], 2020 and [REDACTED], 2020. A copy of the public notice is attached to this letter report. A copy of the proof of publication for the public notice is also attached to this letter report.

The public hearing was attended by the Board of Public Works and Safety members, City Council members, City Clerk, City Attorney, Wastewater Superintendent, Dave Wagner acting as Environmental consultant for the Wastewater Department, and Donohue & Associates. Discussion during the hearing included a brief summary of the findings of the LTCP Update, the recommended alternative, and the purpose of the hearing. The public hearing was closed and the Board voted to approve the LTCP Update for submission to IDEM with Alternative No. 1 as the desired alternate.

Copies of the public handout, sheets indicating reviewers at the 3 public sites, and public hearing summary are also attached to this letter report.

Implementation Schedule

The selected alternative was selected as the low cost alternate while maintaining the level of control accepted by the IDEM in the 2015 LTCP. Table 11 below presents the proposed schedule for implementation:

Table 11 – Implementation Schedule

Task	Completion Date
Submit LTCP Update to IDEM	June 15, 2020
Submit Preliminary Engineering Report to IFA	May 1, 2020
Design Contract with Engineer for Alternative No. 1	May 1, 2020
Preliminary Engineering Report Approval by IFA	September 1, 2020
Design, Permitting and Secure Funding Complete	March 31, 2021
Notice to Proceed Issued to GMP Contractor	April 5, 2021
Asset Management Plan to IFA	October 31, 2021
Construction Complete	September 30, 2022
Post-Construction Monitoring (3 years) and Reporting	December 31, 2026
UAA Initiated	January 1, 2027
UAA Completed	December 31, 2027
UAA Approval	December 31, 2028

The proposed schedule identifies that contracts for design will commence the 2nd quarter of this year and construction activities will commence in the 2nd quarter of 2021. Both milestones have been accelerated by approximately 3 months from the dates stated in the 2015 LTCP Compliance Plan to better align with Indiana Finance Authority (IFA) funding deadlines and allow for a full 16 months of construction.

Following construction a 3-year post construction monitoring period is still proposed in order to observe the system performance and impacts on Big Run Creek. Preparation of the UAA will be initiated after the completion of the monitoring period when sufficient data has been accumulated to identify the required criteria needed for the UAA.

As required by the Agreed Order, the City will continue to advise IDEM annually on the status of implementation activities. Notification will continue to occur on or before December 31 of each year. Items to be documented and include notification for are: completion of Alternative No. 1, and documenting that Outfall 003 does not discharge until after flows exceeding the plant maximum capacity were received and treated.

Post Construction Compliance Monitoring Program

No changes are proposed to the Post Construction Compliance Monitoring Program proposed in the 2015 LTCP. Bioassessments and the flow monitoring program will continue as they have been since the 2015 LTCP was approved.

DRAFT

The LTCP Update is hereby for your review and approval. Please contact me at 317-500-4214 or pelling@donohue-associates.com should have any questions or require additional information.

Sincerely,

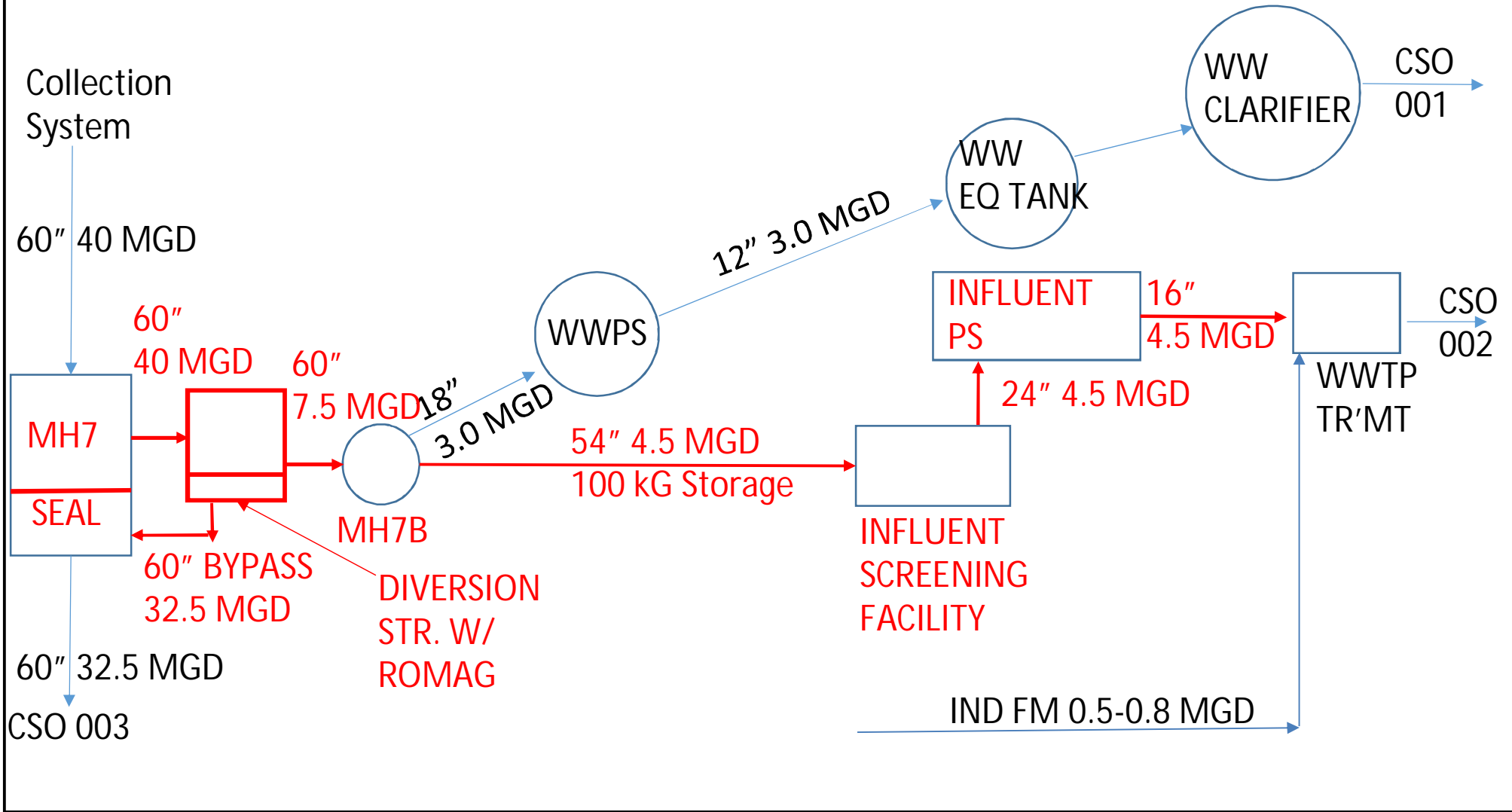
Paul Elling, P.E.
Senior Civil Engineer/Project Manager

Enclosures: As noted

Copy: Angela Eck, City of Butler
Brian Moore, City of Butler
David Wagner
Trent Montemayor, P.E., BCEE, Donohue & Associates
File

Appendix D – Alternative Schematics and Cost Estimates

Red Lines, figures and text indicates new facilities by this alternative



ALTERNATIVE 1 – UPDATED ALT. 13 FROM 2015 LTCP UPDATE
 UPGRADE WWTP INFLUENT PUMP STATION, UPGRADE INFLUENT SCREEN, 60" INTERCEPTOR
 DIVERSION STRUCTURE
 CITY OF BUTLER, INDIANA
 LONG TERM CONTROL PLAN UPDATE
 BUTLER, IN



**Alternative 1 - Updated Alt. 13 from 2015 LTCP Update
 Upgrade WWTP Influent Pump Station, Upgrade Influent Screen, 60" Interceptor
 Diversion Structure, WWTP UV, SCADA Improvements.**

Cost Opinion Date April, 2020

Project Number

Item No.	Item Description	Quantity	Units	Unit Cost	Total Cost
1	Upgrade Pumps (4.5 MGD Firm)	3	EA	\$67,000.00	\$201,000
2	Upgrade Influent Screen for Peak WWTP Flows	1	LS	\$236,000.00	\$236,000
3	Diversion Structure w/Romag Type Screen	1	LS	\$885,000.00	\$885,000
4	Existing Diversion Structure Modification	1	LS	\$201,000.00	\$201,000
5	60" Connection to CSO 003, 20 feet Deep	150	LF	\$755.00	\$113,250
6	Electrical and Instrumentation Facilities (20% of Items 1-3,20,22-23)	1	LS	\$484,000.00	\$484,000
7	60" Influent/Storage sewer, 20 feet Deep	1,200	LF	\$755.00	\$906,000
8	Access MH's and connection MH's	3	EA	\$17,000.00	\$51,000
9	Dewatering	1	LS	\$67,000.00	\$67,000
10	Pavement Replacement 8" Bituminous over 6" Aggregate	1,600	SYD	\$47.00	\$75,200
11	Seed and Mulch	2	AC	\$6,100.00	\$12,200
12	Erosion Control	1	LS	\$12,000.00	\$12,000
13	Misc. Site Piping Imps. (Infl. Swr, PS FM,)	1	LS	\$118,000.00	\$118,000
14	Misc. Imps. (US 6, NFPA, New Wet Well)	1	LS	\$885,000.00	\$885,000
15	Aeration Tank Weir & Piping Improvements	1	LS	\$57,000.00	\$57,000
16	Aeration Tank Structural Improvements	1	LS	\$114,000.00	\$114,000
17	Aeration Tank Slide Gate Replacements	1	LS	\$36,000.00	\$36,000
18	Aeration Tank Grating and Handrail Additions	1	LS	\$48,000.00	\$48,000
19	Aerobic Digester Structural Improvements	1	LS	\$43,000.00	\$43,000
20	UV System	1	LS	\$685,000.00	\$685,000
21	SCADA Improvements plus Lift Station Monitoring	1	LS	\$295,000.00	\$295,000
22	Stormwater Influent Flow Meter Replacement	1	LS	\$20,000.00	\$20,000
23	Industrial Flow Meter Replacement	1	LS	\$20,000.00	\$20,000
Subtotal Construction Cost					\$5,565,000
	Contingency (10%)	10%			\$557,000
Total Estimated Construction Cost					\$6,122,000
	Engineering (Design, Construction)	18%			\$1,102,000
	Miscellaneous Administrative, Legal, Easements, Etc.	3%			\$184,000
	Land Acquisition	1	LS		\$25,000
Total Estimated Project Cost					\$7,433,000



**Alternative 1 - Updated Alt. 13 from 2015 LTCP Update
Upgrade WWTP Influent Pump Station, Upgrade Influent Screen, 60" Interceptor
Diversion Structure, WWTP UV, SCADA Improvements.**

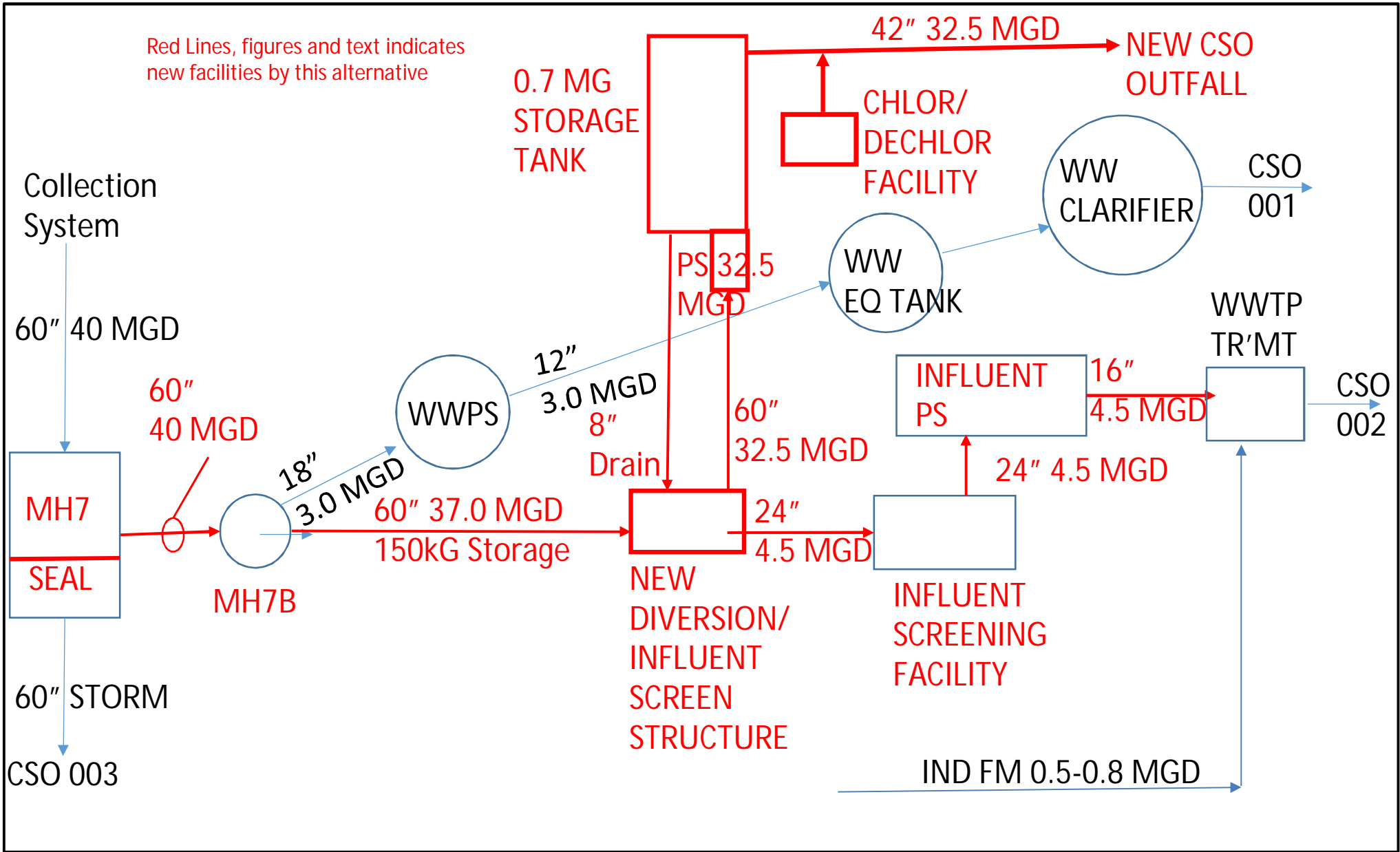
Operation and Maintenance and Salvage Values Cost Opinion as of April, 2020

Project Number

13666

Item No.	Item Description	Quantity	Units	Unit Cost	Total Cost	O&M	Salvage
1	Upgrade Pumps (4.5 MGD Firm)	3	EA	\$67,000.00	\$201,000	\$9,000	\$0
2	Upgrade Influent Screen for Peak WWTP Flows	1	LS	\$236,000.00	\$236,000	\$3,400	\$0
3	Diversion Structure w/Romag Type Screen	1	LS	\$885,000.00	\$885,000	\$1,600	\$381,000
4	Existing Diversion Structure Modification	1	LS	\$201,000.00	\$201,000		\$120,600
5	60" Connection to CSO 003, 20 feet Deep	150	LF	\$755.00	\$113,250		\$67,950
6	Electrical and Instrumentation Facilities (20% of Items 1-3,20,22-23)	1	LS	\$484,000.00	\$484,000	\$11,300	\$0
7	60" Influent/Storage sewer, 20 feet Deep	1,200	LF	\$755.00	\$906,000		\$543,600
8	Access MH's and connection MH's	3	EA	\$17,000.00	\$51,000		\$30,600
9	Dewatering	1	LS	\$67,000.00	\$67,000		\$0
10	Pavement Replacement 8" Bituminous over 6" Aggregate	1,600	SYD	\$47.00	\$75,200		\$0
11	Seed and Mulch	2	AC	\$6,100.00	\$12,200		\$0
12	Erosion Control	1	LS	\$12,000.00	\$12,000		\$0
13	Misc. Site Piping Imps. (Infl. Swr, PS FM,)	1	LS	\$118,000.00	\$118,000		\$70,800
14	Misc. Imps. (US 6, NFPA, New Wet Well)	1	LS	\$885,000.00	\$885,000		\$531,000
15	Aeration Tank Weir & Piping Improvements	1	LS	\$57,000.00	\$57,000		\$34,200
16	Aeration Tank Structural Improvements	1	LS	\$114,000.00	\$114,000		\$68,400
17	Aeration Tank Slide Gate Replacements	1	LS	\$36,000.00	\$36,000		\$21,600
18	Aeration Tank Grating and Handrail Additions	1	LS	\$48,000.00	\$48,000		\$28,800
19	Aerobic Digester Structural Improvements	1	LS	\$43,000.00	\$43,000		\$25,800
20	UV System	1	LS	\$685,000.00	\$685,000	\$25,000	\$0
21	SCADA Improvements plus Lift Station Monitoring	1	LS	\$295,000.00	\$295,000	\$11,300	\$0
22	Stormwater Influent Flow Meter Replacement	1	LS	\$20,000.00	\$20,000	\$1,000	\$6,000
23	Industrial Flow Meter Replacement	1	LS	\$20,000.00	\$20,000	\$1,000	\$6,000
Subtotal Construction Cost					\$5,565,000	\$63,600	\$1,936,350
Contingency (10%)		10%			\$557,000		\$193,800
Total Estimated Construction Cost					\$6,122,000	\$63,600	\$2,130,150
Engineering (Design, Construction)		18%			\$1,102,000		
Miscellaneous Administrative, Legal, Easements, Etc.		3%			\$184,000		
Land Acquisition		1	LS		\$25,000		\$25,000
Total Estimated Project Cost					\$7,433,000	\$63,600	\$2,155,150

Red Lines, figures and text indicates new facilities by this alternative



ALTERNATIVE 2 – WATER NPD-016 (10 YR 30 MIN DETENTION)
 0.7 MG STORAGE TANK, WET WEATHER PUMPS, DISINFECTION & DECHLORINATION, 60" INTERCEPTOR
 UPGRADE INFLUENT PUMP STATION, NEW DIVERSION/SCREEN STRUCTURE
 CITY OF BUTLER, INDIANA
 LONG TERM CONTROL PLAN UPDATE
 BUTLER, IN

Alternative 2

0.7 MG Storage Tank, Wet Weather Pumps, Disinfection & Dechlorination, 60" Interceptor Upgrade Influent Pump Station, New Diversion/Screen Structure, WWTP UV, SCADA Imps.

Cost Opinion Date April, 2020

NPD 16: 1 Yr, 1 Hr Storage and 10 Yr, 1 Hr 30 Minute Detention

Project Number 13666

Item No.	Item Description	Quantity	Units	Unit Cost	Total Cost
1	Upgrade Pumps (4.5 MGD Firm)	3	EA	\$67,000.00	\$201,000
2	New Diversion / Screening Structure	1	LS	\$1,180,000.00	\$1,180,000
3	Existing Diversion Structure Modification	1	LS	\$201,000.00	\$201,000
4	60" Connection to CSO 003, 20 feet Deep	150	LF	\$755.00	\$113,250
5	Electrical and Instrumentation Facilities (20% of Items 1-3,20,22-23)	1	LS	\$581,000.00	\$581,000
6	60" Influent/Storage sewer, 20 feet Deep	1,200	LF	\$755.00	\$906,000
7	Access MH's and connection MH's	3	EA	\$17,000.00	\$51,000
8	Dewatering	1	LS	\$67,000.00	\$67,000
9	Pavement Replacement 8" Bituminous over 6" Aggregate	1,600	SYD	\$47.00	\$75,200
10	Seed and Mulch	2	AC	\$6,100.00	\$12,200
11	Erosion Control	1	LS	\$12,000.00	\$12,000
12	0.7 MG Concrete Storage Tank (includes Chlor/Dechlor) ⁽¹⁾⁽²⁾	1	LS	\$4,252,000.00	\$4,252,000
13	32.5 MGD Wet Weather Pump Station	1	LS	\$933,000.00	\$933,000
14	Misc. Site Piping Imps. (Infl. Swr, PS FM,)	1	LS	\$118,000.00	\$118,000
15	42" Outfall Pipe, <10 feet Deep	600	LF	\$205.00	\$123,000
16	Misc. Imps. (US 6, NFPA, New Wet Well)	1	LS	\$885,000.00	\$885,000
17	Aeration Tank Weir & Piping Improvements	1	LS	\$57,000.00	\$57,000
18	Aeration Tank Structural Improvements	1	LS	\$114,000.00	\$114,000
19	Aeration Tank Slide Gate Replacements	1	LS	\$36,000.00	\$36,000
20	Aeration Tank Grating and Handrail Additions	1	LS	\$48,000.00	\$48,000
21	Aerobic Digester Structural Improvements	1	LS	\$43,000.00	\$43,000
22	UV System	1	LS	\$685,000.00	\$685,000
23	SCADA Improvements	1	LS	\$295,000.00	\$295,000
24	Stormwater Influent Flow Meter Replacement	1	LS	\$20,000.00	\$20,000
25	Industrial Flow Meter Replacement	1	LS	\$20,000.00	\$20,000
Subtotal Construction Cost					\$11,029,000
	Contingency (10%)	10%			\$1,103,000
Total Estimated Construction Cost					\$12,132,000
	Engineering (Design, Bid, Construction)	18%			\$2,184,000
	Miscellaneous Administrative, Legal, Easements, Etc.	3%			\$364,000
	Land Acquisition	1	LS		\$25,000
Total Estimated Project Cost					\$14,705,000

Notes (1) Cost based on inflation adjusted average of \$6.07/gal capacity from previous projects

(2) Cost could be reduced by approx. \$1.5 M using Earthen Basin for storage but O&M would be higher due to cleanout cost

Alternative 2

0.7 MG Storage Tank, Wet Weather Pumps, Disinfection & Dechlorination, 60" Interceptor Upgrade Influent Pump Station, New Diversion/Screen Structure, WWTP UV, SCADA Imps.

Operation and Maintenance and Salvage Values Cost Opinion as of April, 2020
NPD 16: 1 Yr, 1 Hr Storage and 10 Yr, 1 Hr 30 Minute Detention

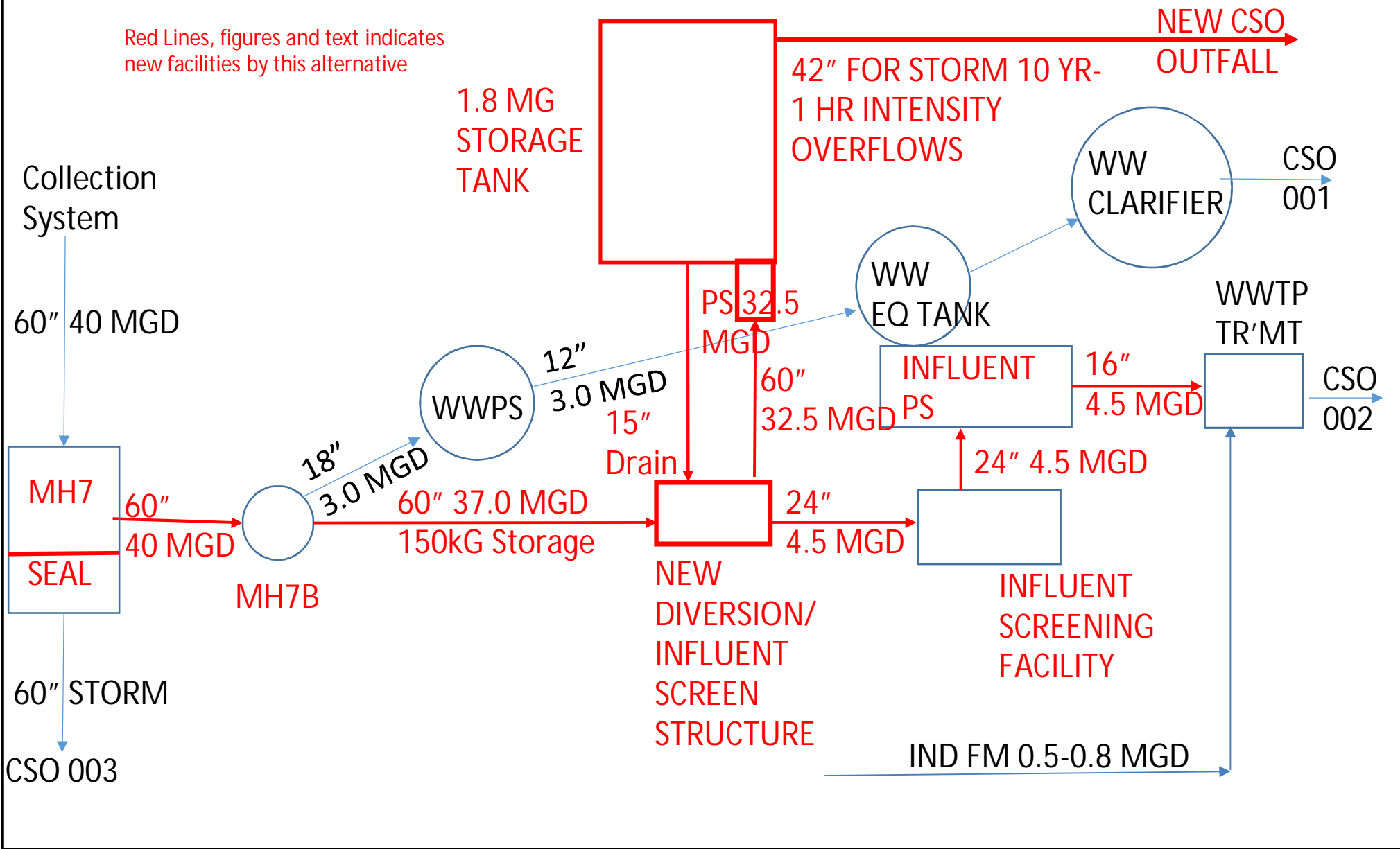
Project Number 13666

Item No.	Item Description	Quantity	Units	Unit Cost	Total Cost	O&M	Salvage
1	Upgrade Pumps (4.5 MGD Firm)	3	EA	\$67,000.00	\$201,000	\$9,000	\$0
2	New Diversion / Screening Structure	1	LS	\$1,180,000.00	\$1,180,000	\$5,000	\$408,000
3	Existing Diversion Structure Modification	1	LS	\$201,000.00	\$201,000		\$120,600
4	60" Connection to CSO 003, 20 feet Deep	150	LF	\$755.00	\$113,250		\$67,950
5	Electrical and Instrumentation Facilities (20% of Items 1-3,20,22-23)	1	LS	\$581,000.00	\$581,000	\$12,300	\$0
6	60" Influent/Storage sewer, 20 feet Deep	1,200	LF	\$755.00	\$906,000		\$543,600
7	Access MH's and connection MH's	3	EA	\$17,000.00	\$51,000		\$30,600
8	Dewatering	1	LS	\$67,000.00	\$67,000		\$0
9	Pavement Replacement 8" Bituminous over 6" Aggregate	1,600	SYD	\$47.00	\$75,200		\$0
10	Seed and Mulch	2	AC	\$6,100.00	\$12,200		\$0
11	Erosion Control	1	LS	\$12,000.00	\$12,000		\$0
12	0.7 MG Concrete Storage Tank (includes Chlor/Dechlor) ⁽¹⁾⁽²⁾	1	LS	\$4,252,000.00	\$4,252,000	\$23,200	\$1,200,000
13	32.5 MGD Wet Weather Pump Station	1	LS	\$933,000.00	\$933,000	6900	\$210,000
14	Misc. Site Piping Imps. (Infl. Swr, PS FM,)	1	LS	\$118,000.00	\$118,000		\$70,800
15	42" Outfall Pipe, <10 feet Deep	600	LF	\$205.00	\$123,000		\$73,800
16	Misc. Imps. (US 6, NFPA, New Wet Well)	1	LS	\$885,000.00	\$885,000		\$531,000
17	Aeration Tank Weir & Piping Improvements	1	LS	\$57,000.00	\$57,000		\$34,200
18	Aeration Tank Structural Improvements	1	LS	\$114,000.00	\$114,000		\$68,400
19	Aeration Tank Slide Gate Replacements	1	LS	\$36,000.00	\$36,000		\$21,600
20	Aeration Tank Grating and Handrail Additions	1	LS	\$48,000.00	\$48,000		\$28,800
21	Aerobic Digester Structural Improvements	1	LS	\$43,000.00	\$43,000		\$25,800
22	UV System	1	LS	\$685,000.00	\$685,000	\$25,000	\$0
23	SCADA Improvements	1	LS	\$295,000.00	\$295,000	\$11,300	\$0
24	Stormwater Influent Flow Meter Replacement	1	LS	\$20,000.00	\$20,000	\$1,000	\$6,000
25	Industrial Flow Meter Replacement	1	LS	\$20,000.00	\$20,000	\$1,000	\$6,000
Subtotal Construction Cost					\$11,029,000	\$94,700	\$3,447,150
	Contingency (10%)	10%			\$1,103,000		\$345,000
Total Estimated Construction Cost					\$12,132,000	\$94,700	\$3,792,150
	Engineering (Design, Bid, Construction)	18%			\$2,184,000		
	Miscellaneous Administrative, Legal, Easements, Etc.	3%			\$364,000		
	Land Acquisition	1	LS		\$25,000		\$25,000
Total Estimated Project Cost					\$14,705,000	\$94,700	\$3,817,150

Notes (1) Cost based on inflation adjusted average of \$6.07/gal capacity from previous projects

(2) Cost could be reduced by approx. \$1.5 M using Earthen Basin for storage but O&M would be higher due to cleanout cost

Red Lines, figures and text indicates new facilities by this alternative



ALTERNATIVE 3 – WATER NPD 016 (STORE 10 YR VOLUME)
 1.8 MG STORAGE TANK, WET WEATHER PUMPS, 60" INTERCEPTOR
 UPGRADE INFLUENT PUMP STATION, NEW DIVERSION/SCREEN STRUCTURE
 CITY OF BUTLER, INDIANA
 LONG TERM CONTROL PLAN UPDATE
 BUTLER, IN

Alternative 3

1.8 MG Storage Tank, Wet Weather Pumps, 60" Interceptor

Upgrade Influent Pump Station, New Diversion/Screen Structure, WWTP UV, SCADA Imps.

Cost Opinion Date April, 2020

NPD 16: 10 Yr, 1 Hr Storage

Project Number 13666

Item No.	Item Description	Quantity	Units	Unit Cost	Total Cost
1	Upgrade Pumps (4.5 MGD Firm)	3	EA	\$67,000.00	\$201,000
2	New Diversion / Screening Structure	1	LS	\$1,180,000.00	\$1,180,000
3	Existing Diversion Structure Modification	1	LS	\$201,000.00	\$201,000
4	60" Connection to CSO 003, 20 feet Deep	150	LF	\$755.00	\$113,250
5	Electrical and Instrumentation Facilities (20% of Items 1-2)	1	LS	\$581,000.00	\$581,000
6	60" Influent/Storage sewer, 20 feet Deep	1,200	LF	\$755.00	\$906,000
7	Access MH's and connection MH's	3	EA	\$17,000.00	\$51,000
8	Dewatering	1	LS	\$67,000.00	\$67,000
9	Pavement Replacement 8" Bituminous over 6" Aggregate	1,600	SYD	\$47.00	\$75,200
10	Seed and Mulch	2	AC	\$6,100.00	\$12,200
11	Erosion Control	1	LS	\$12,000.00	\$12,000
12	1.8 MG Concrete Storage Tank ⁽¹⁾⁽²⁾	1	LS	\$2,776,000.00	\$2,776,000
13	32.5 MGD Wet Weather Pump Station	1	LS	\$933,000.00	\$933,000
14	Misc. Site Piping Imps. (Infl. Swr, PS FM, Air Piping Leaks)	1	LS	\$118,000.00	\$118,000
15	42" Outfall Pipe, <10 feet Deep	600	LF	\$205.00	\$123,000
16	Misc. Imps. (US 6, NFPA, New Wet Well)	1	LS	\$885,000.00	\$885,000
17	Aeration Tank Weir & Piping Improvements	1	LS	\$57,000.00	\$57,000
18	Aeration Tank Structural Improvements	1	LS	\$114,000.00	\$114,000
19	Aeration Tank Slide Gate Replacements	1	LS	\$36,000.00	\$36,000
20	Aeration Tank Grating and Handrail Additions	1	LS	\$48,000.00	\$48,000
21	Aerobic Digester Structural Improvements	1	LS	\$43,000.00	\$43,000
22	UV System	1	LS	\$685,000.00	\$685,000
23	SCADA Improvements	1	LS	\$295,000.00	\$295,000
24	Stormwater Influent Flow Meter Replacement	1	LS	\$20,000.00	\$20,000
25	Industrial Flow Meter Replacement	1	LS	\$20,000.00	\$20,000
Subtotal Construction Cost					\$9,553,000
	Contingency (10%)	10%			\$955,000
Total Estimated Construction Cost					\$10,508,000
	Engineering (Design, Bid, Construction)	18%			\$1,891,000
	Miscellaneous Administrative, Legal, Easements, Etc.	3%			\$315,000
	Land Acquisition	1	LS		\$25,000
Total Estimated Project Cost					\$12,739,000

Notes (1) Cost based on inflation adjusted average of \$1.53/gal capacity from previous projects

(2) Cost could be reduced by approx. \$310,000 using Earthen Basin for storage



Alternative 3
1.8 MG Storage Tank, Wet Weather Pumps, 60" Interceptor
Upgrade Influent Pump Station, New Diversion/Screen Structure, WWTP UV, SCADA Imps.

Operation and Maintenance and Salvage Values Cost Opinion as of April, 2020
NPD 16: 10 Yr, 1 Hr Storage

Project Number 13666

Item No.	Item Description	Quantity	Units	Unit Cost	Total Cost	O&M	Salvage
1	Upgrade Pumps (4.5 MGD Firm)	3	EA	\$67,000.00	\$201,000	\$9,000	\$0
2	New Diversion / Screening Structure	1	LS	\$1,180,000.00	\$1,180,000	\$5,000	\$408,000
3	Existing Diversion Structure Modification	1	LS	\$201,000.00	\$201,000		\$120,600
4	60" Connection to CSO 003, 20 feet Deep	150	LF	\$755.00	\$113,250		\$67,950
5	Electrical and Instrumentation Facilities (20% of Items 1-2)	1	LS	\$581,000.00	\$581,000	\$12,300	\$0
6	60" Influent/Storage sewer, 20 feet Deep	1,200	LF	\$755.00	\$906,000		\$543,600
7	Access MH's and connection MH's	3	EA	\$17,000.00	\$51,000		\$30,600
8	Dewatering	1	LS	\$67,000.00	\$67,000		\$0
9	Pavement Replacement 8" Bituminous over 6" Aggregate	1,600	SYD	\$47.00	\$75,200		\$0
10	Seed and Mulch	2	AC	\$6,100.00	\$12,200		\$0
11	Erosion Control	1	LS	\$12,000.00	\$12,000		\$0
12	1.8 MG Concrete Storage Tank ⁽¹⁾⁽²⁾	1	LS	\$2,776,000.00	\$2,776,000	\$6,300	\$1,665,600
13	32.5 MGD Wet Weather Pump Station	1	LS	\$933,000.00	\$933,000	\$6,900	\$210,000
14	Misc. Site Piping Imps. (Infl. Swr, PS FM, Air Piping Leaks)	1	LS	\$118,000.00	\$118,000		\$70,800
15	42" Outfall Pipe, <10 feet Deep	600	LF	\$205.00	\$123,000		\$73,800
16	Misc. Imps. (US 6, NFPA, New Wet Well)	1	LS	\$885,000.00	\$885,000		\$531,000
17	Aeration Tank Weir & Piping Improvements	1	LS	\$57,000.00	\$57,000		\$34,200
18	Aeration Tank Structural Improvements	1	LS	\$114,000.00	\$114,000		\$68,400
19	Aeration Tank Slide Gate Replacements	1	LS	\$36,000.00	\$36,000		\$21,600
20	Aeration Tank Grating and Handrail Additions	1	LS	\$48,000.00	\$48,000		\$28,800
21	Aerobic Digester Structural Improvements	1	LS	\$43,000.00	\$43,000		\$25,800
22	UV System	1	LS	\$685,000.00	\$685,000	\$25,000	\$0
23	SCADA Improvements	1	LS	\$295,000.00	\$295,000	\$11,300	\$0
24	Stormwater Influent Flow Meter Replacement	1	LS	\$20,000.00	\$20,000	\$1,000	\$6,000
25	Industrial Flow Meter Replacement	1	LS	\$20,000.00	\$20,000	\$1,000	\$6,000
Subtotal Construction Cost					\$9,553,000	\$77,800	\$3,912,750
	Contingency (10%)	10%			\$955,000		\$391,300
Total Estimated Construction Cost					\$10,508,000	\$77,800	\$4,304,050
	Engineering (Design, Bid, Construction)	18%			\$1,891,000		
	Miscellaneous Administrative, Legal, Easements, Etc.	3%			\$315,000		
	Land Acquisition	1	LS		\$25,000		\$25,000
Total Estimated Project Cost					\$12,739,000	\$77,800	\$4,329,050

Notes (1) Cost based on inflation adjusted average of \$1.53/gal capacity from previous projects

(2) Cost could be reduced by approx. \$310,000 using Earthen Basin for storage

Appendix E – NRCS Prime Farmland Conversion Form



Donohue & Associates, Inc.
100 North Michigan Street, Suite 510 | South Bend, IN 46601
260.267.6851 | donohue-associates.com

March 31, 2020

Allen Haynes
DeKalb County Soil and Water Conservation District
942 W. 15th Street
Auburn, IN. 46706

Re: Farmland Conversion Impact Rating Review
Butler, Indiana
Wastewater Treatment Plant and Sewer System Improvements
Donohue Project # 13666

Dear Mr. Haynes:

This letter briefly describes the project and attachments which should allow you to complete a review of the attached Farmland Conversion Impact Rating form for the project. The forms and the attached information are being included in a Preliminary Engineering Report being prepared for Butler in order to secure State Revolving Loan Funds for construction of the project. Soils information and mapping were obtained from the National Resources Conservation Services US Department of Agriculture Web Soil Survey site (<http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>).

The project consists of an upgrade to the existing wastewater treatment plant (WWTP), and improvements to the south of the plant site extending down to US 6 on the west side of the Norfolk Southern Railroad. The project location and site maps are included on the following pages along with the impact rating form.

Improvements at the WWTP are intended improve performance at the plant through improvements to existing pumps, wastewater screening and various piping and tank upgrades. South of the plant a new 54-inch diameter buried gravity sewer will be installed to just north of US 6. A new overflow screening structure and new 60-inch diameter buried pipes will connect to the existing 60-inch sewer in US 6. The project will involve the disturbance of about 3 acres of land although the entire project area is 6.3 acres in size.

The attached soil maps indicate that the vast majority of the affected area consists of Blount Loam 2-6 % slopes and the northern portion of the project area consists of Glynwood Loam 2-6% slopes.

The current site is entirely developed and no work outside of the currently developed area is expected. We believe that the potential farmland impacts are minimal and have filled out the form accordingly in conformance with the instructions.

Please contact me if you have any questions or need additional information by phone at 317-500-4214 or by email at pelling@donohue-associates.com.

Sincerely,

A handwritten signature in black ink that reads 'Paul M. Elling' with a stylized flourish at the end.

Paul Elling, P.E.

Enclosures: As noted

Soil Map—De Kalb County, Indiana
(Soil Types On Site)

86° 51' 53" W

86° 51' 23" W

41° 26' 9" N

41° 26' 9" N



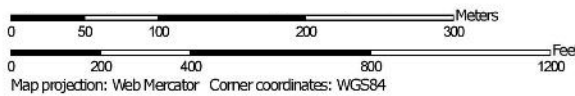
41° 25' 39" N

41° 25' 39" N

Map Unit Legend

Map Unit Symbol	Map Unit Name
BlixB	Blount loam, 2 to 6 percent slopes
GnB2	Glynwood loam, 2 to 6 percent slopes, eroded
Pe	Pewamo silty clay
Re	Rensselaer loam, 0 to 1 percent slopes

86° 51' 53" W



Map projection: Web Mercator Corner coordinates: WGS84



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey



FARMLAND CONVERSION IMPACT RATING

PART I (To be completed by Federal Agency)		Date Of Land Evaluation Request				
Name of Project LTCP CP Phase A Implementation		Federal Agency Involved EPA through Indiana SRF				
Proposed Land Use Wastewater plant		County and State Town of Butler, DeKalb Co. Indiana				
PART II (To be completed by NRCS)		Date Request Received By NRCS 3/31/2020		Person Completing Form:		
Does the site contain Prime, Unique, Statewide or Local Important Farmland? <i>(If no, the FPPA does not apply - do not complete additional parts of this form)</i>		YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>	Acres Irrigated	Average Farm Size	
Major Crop(s)	Farmable Land In Govt. Jurisdiction Acres: %	Amount of Farmland As Defined in FPPA Acres: %				
Name of Land Evaluation System Used	Name of State or Local Site Assessment System	Date Land Evaluation Returned by NRCS 4/8/2020				
PART III (To be completed by Federal Agency)		Alternative Site Rating				
		Site A	Site B	Site C	Site D	
A. Total Acres To Be Converted Directly		0				
B. Total Acres To Be Converted Indirectly		0				
C. Total Acres In Site		6.3				
PART IV (To be completed by NRCS) Land Evaluation Information						
A. Total Acres Prime And Unique Farmland						
B. Total Acres Statewide Important or Local Important Farmland						
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted						
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value						
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)						
PART VI (To be completed by Federal Agency) Site Assessment Criteria <i>(Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)</i>		Maximum Points	Site A	Site B	Site C	Site D
1. Area In Non-urban Use		(15)	8			
2. Perimeter In Non-urban Use		(10)	5			
3. Percent Of Site Being Farmed		(20)	0			
4. Protection Provided By State and Local Government		(20)	0			
5. Distance From Urban Built-up Area		(15)	0			
6. Distance To Urban Support Services		(15)	0			
7. Size Of Present Farm Unit Compared To Average		(10)	0			
8. Creation Of Non-farmable Farmland		(10)	10			
9. Availability Of Farm Support Services		(5)	4			
10. On-Farm Investments		(20)	0			
11. Effects Of Conversion On Farm Support Services		(10)	0			
12. Compatibility With Existing Agricultural Use		(10)	0			
TOTAL SITE ASSESSMENT POINTS		160	27	0	0	0
PART VII (To be completed by Federal Agency)						
Relative Value Of Farmland (From Part V)		100	0	0	0	0
Total Site Assessment (From Part VI above or local site assessment)		160	27	0	0	0
TOTAL POINTS (Total of above 2 lines)		260	27	0	0	0
Site Selected:	Date Of Selection	Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input type="checkbox"/>				
Reason For Selection:						
Name of Federal agency representative completing this form:					Date:	

April 7, 2020

Paul Elling, P.E.
Donohue & Associates, Inc.
100 North Michigan Street, Suite 510
South Bend, Indiana 46601

Dear Mr. Elling:

The proposed project to make wastewater treatment plant and sewer system improvements in the City of Butler, DeKalb County, Indiana, (Donohue project number 13666) as referred to in your letter received March 31, 2020, will not cause a conversion of prime farmland.

If you need additional information, please contact John Allen at 317-295-5889.

Sincerely,

RICK NEILSON
State Soil Scientist



Appendix F – Cost & Effectiveness Certification Form

Cost & Effectiveness Certification Form

(Pursuant to Section 602(B)(13) of the Federal Water Pollution Control Act)
(Applies to all assistance recipients submitting an application on or after October 1, 2015)
(To be submitted prior to Participant's Wastewater Loan Closing)

Participant Name City of Butler, Indiana		
Street Address 215 South Broadway	P. O. Box Number	
City Butler	State Indiana	Zip Code 46721

Section 602(B)(13) of the Federal Water Pollution Control Act (FWPCA) requires a recipient of a loan to certify that the recipient:

- 1) has studied and evaluated the cost and effectiveness of the processes, materials, techniques, and technologies for carrying out the proposed project or activity for which assistance is sought under the Clean Water State Revolving Fund Loan Program; and
- 2) has selected, to the maximum extent practicable, a project or activity that maximizes the potential for efficient water use, reuse, recapture, and conservation, and energy conservation, taking into account –
 - (i) the cost of constructing the project or activity;
 - (ii) the cost of operating and maintaining the project or activity over the life of the project or activity; and
 - (iii) the cost of replacing the project or activity

Certification

We hereby certify pursuant to Section 602(B)(13) that the Participant has completed the requirements of Section 602(B)(13) as set forth in items (1) and (2) above.

Signature of the Authorized Representative

Printed Name: Mike Hartman, Mayor

Signature: Mike Hartman

Date: 4/17/20

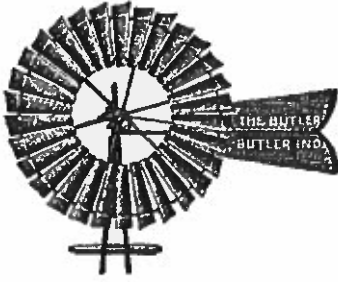
Signature of Consulting Engineer

Printed Name: Paul Elling

Signature: Paul M. Elling

Date: 4/16/20

Appendix G– PER Resolutions



City of Butler

215 S Broadway, Butler, IN 46721
260-868-5200 Main Line
260-868-5882 Fax
260-868-2121 Attorney
www.butler.in.us

Mike Hartman, Mayor
Angela M. Eck, Clerk-Treasurer
Steve Bingham, City Planner
Cedric M. Hollabaugh, Attorney

AUTHORIZED REPRESENTATIVE RESOLUTION

WHEREAS, the City of Butler, Indiana, herein called the City, has plans for Combined Sewer Overflow improvements and other modifications at the wastewater treatment plant to meet State and Federal regulations, such as the NPDES discharge limitations, and the community intends to proceed with the construction of such works:

WHEREAS, the City has adopted this Resolution dated April 20, 2020.

NOW, THEREFORE, BE IT RESOLVED by the Board of Works for said City, that:

1. Mike Hartman, Mayor, be authorized to make application for an SRF Loan and provide the State Revolving Fund Loan Program such information, data and documents pertaining to the loan process as may be required, and otherwise act as the authorized representative of the community.
2. The community agrees to comply with the Indiana Finance Authority, State of Indiana and Federal requirements as they pertain to the SRF.
3. That two copies of the resolution be prepared and submitted as part of the community's Preliminary Engineering Report.

ADOPTED this 20 day of April, 2020.

THE CITY OF BUTLER, INDIANA BY AND THROUGH ITS BOARD OF WORKS

AUTHORIZED SIGNATORY

Mike Hartman

BY:

[Signature]

ATTEST:

Angela M. Eck

PER ACCEPTANCE RESOLUTION

WHEREAS, the City of Butler of DeKalb County, Indiana, has caused a Preliminary Engineering Report, PER, dated April 2020, to be prepared by the consulting firm of Donohue & Associates, Inc.; and

WHEREAS, said PER has been presented to the public at a public hearing held on _____ for their comments; and

WHEREAS, the City of Butler finds that there was not sufficient evidence presented in objection to the recommended project in the Preliminary Engineering Report.

NOW, THEREFORE BE IT RESOLVED THAT:

The Combined Sewer Overflow Improvements and other modifications at the wastewater treatment plant Preliminary Engineering Report dated April ,2020 be approved and adopted by the City of Butler, Board of Works; and

That said PER be submitted to the State Revolving Fund Loan Program for review and approval.

Passed and adopted by the City of Butler Board of Works this _____ day of _____, at their regularly scheduled meeting.

Mayor

Member

Member

Member

Attest: _____

Appendix H – Public Participation Information