STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

IN THE MATTER OF THE PETITION OF THE TOWN OF WINFIELD, LAKE COUNTY, INDIANA, FOR APPROVAL OF A REGULATORY ORDINANCE ESTABLISHING A SERVICE TERRITORY FOR THE TOWN'S MUNICIPAL SEWER SYSTEM PURSUANT TO IND. CODE § 8-1.5-6 ET SEQ	**CAUSE NO. 45992**

VERIFIED DIRECT TESTIMONY
of
MARK C. JACOB

On
Behalf of
Intervenor,

LBL DEVELOPMENT, LLC

Intervenor's Exhibit No. 2

INTRODUCTION AND BACKGROUND

Q1. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A1. My name is Mark C. Jacob. My business address is 8837 Capstone Lane, Indianapolis, IN 46259.

Q2. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A2. I am the President of Jacob Associates, LLC, a consulting firm specializing in and supporting infrastructure strategies that include: utility operations, capital improvement program planning and management, infrastructure planning, regulatory strategies and negotiations, rate analyses, infrastructure funding, program management services, program infrastructure controls, business development, organizational consulting, and leadership training, all predominantly in the stormwater, water, and wastewater industries.

Q3. HOW LONG HAVE YOU BEEN PRESIDENT OF JACOB ASSOCIATES, LLC?

A3. In 2025 I formed Jacob Associates, LLC after retiring on March 31, 2025 as a Vice President and Officer for the Department of Public Utilities of the City of Indianapolis, which does business as Citizens Energy Group ("Citizens" or "CEG"). I have been providing consulting services through Jacob Associates, LLC since April 2025.

Q4. WHAT WAS YOUR ROLE AT CITIZENS?

A4. I was employed by Citizens since the acquisition of the water and wastewater systems in August 2011 and served as the Vice President of Capital Programs & Engineering and the Quality Systems Department for CEG, overseeing all capital works for all eight (8) utilities of CEG. I was also responsible for CEG's Fleet and Facilities operations, the Real Estate Department, as well as the deployment and adherence for Citizens' Quality Lean Six Sigma program throughout the CEG organization. As my experience relates to this case, I oversaw the planning, design, and construction of all Citizens Water and CWA Authority, Inc ("CWA") capital works. Citizens Water is the water utility serving the City of Indianapolis and many surrounding communities, while CWA is the wastewater utility serving the City of Indianapolis, Indiana. Citizens' combined water and wastewater capital plans averaged approximately $250 million annually, with the wastewater capital being approximately $150 million of that amount. The types of capital projects I oversaw for CEG's wastewater included: (i) combined sewer overflow projects; (ii) septic tank elimination projects; (iii) all forms of collection system projects; and (iv) treatment plant projects. Collection system projects included improvements to the overall collection system network, public improvement relocation projects, collection system modeling, planning, design, and construction of all lift station projects regardless of size (CEG's collection system included approximately 280 lift stations), new mains and interceptors (e.g. 2" – 120"), as well as rehabilitation of all wastewater infrastructure.

Q5. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND YOUR WORK EXPERIENCE PRIOR TO JOINING CITIZENS ENERGY GROUP.

A5. I received a Bachelor of Science Degree in Civil Engineering from Purdue University in 1983. Through 1987, I worked as a construction field engineer for the (f/k/a) Indiana Department of Highways. In 1987, I started working for the City of Indianapolis ("City"). During most of the 1990s through most of 1999, I worked for the City as the Administrator of, and then Deputy Director of, the Asset Management Division, managing and overseeing all wastewater, stormwater, and transportation capital programs, as the well as the Strategic Planning and Contract Compliance Division overseeing the privatization contracts of Operations at the Advanced Wastewater Treatment Plants and in the sanitary and storm water collection systems. From 1999 through 2011, I was the Division Manager, then Vice President, then Senior Vice President, for DLZ, Indiana LLC ("DLZ"), a larger Midwestern architectural and engineering consulting firm. In addition to other duties for DLZ, I was the project manager, via DLZ, for the City's technical due diligence when the City acquired the Indianapolis Water Company in 2001. Still working for DLZ, I became the Program Manager for the establishment and management of the City's Stormwater Utility in 2002. Starting in 2005 and still working for DLZ, I became the Program Manager for the consolidated wastewater, stormwater, and combined sewer overflow ("CSO") programs for the City. I was the Program Manager during the negotiation of the 2006 Federal Combined Sewer Overflow Consent Decree approved by the United States District Court for the

Southern District of Indiana on December 19, 2006, as well as the two subsequent amendments thereto in 2009 and 2010 (the "Consent Decree"). I remained in that position (via DLZ) until I joined Citizens in August 2011.

Q6. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?

A6. Yes, on numerous occasions. I testified in Citizens Water rate cases, including Cause No. 44644, in support of that utility's extensions and replacements ("E&R") revenue requirement and capital improvement plan. In addition, I testified in CWA's first rate case, Cause No. 44305, in which I provided an overview of the Consent Decree and offered information concerning the capital improvement projects CWA performed and anticipated performing under the terms of the Consent Decree, as well as CWA's proposal to continue the Septic Tank Elimination Program ("STEP"). I also testified in subsequent CWA rate cases (including Cause Nos. 44685 and 45151) in support of CWA's capital improvement plan and its associated E&R revenue requirement, which also included the continuation of the conversion of over 15,000 homes with septic systems to the CWA wastewater system. I also testified in support of Citizens Water's first two distribution system improvement project ("DSIC") cases, in which I provided an overview of the capital projects Citizens Water included in its DSIC as "eligible infrastructure improvements."

Q7. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY IN THIS PROCEEDING?

A7. The purpose of my direct testimony in this proceeding is to provide my opinions with respect to the respective positions and capabilities of the Town of Winfield, Indiana ("Winfield") and the City of Crown Point, Indiana ("Crown Point") to provide wastewater collection service in the area that is owned or controlled by Intervenor, Edward J. Hein and LBL Development, LLC ("LBL") (the "Development Area"), as well as Winfield's position with respect to providing wastewater service in other portions of its proposed regulated territory, including the area near the Town of Hebron, which is approximately four miles south of the Town of Winfield. I was retained by LBL to review the evidence in this Cause and the area and provide testimony.

Q8. ARE YOU SPONSORING ANY ATTACHMENTS?

A8. Yes. A list of the Attachments I am sponsoring is attached to my testimony as Appendix A.

Q9. WHAT HAVE YOU DONE TO PREPARE YOURSELF TO TESTIFY IN THIS PROCEEDING?

A9. I began by reviewing the testimony and attachments filed by both Crown Point and Winfield in this proceeding. I also reviewed discovery responses provided by both Crown Point and Winfield. I also traveled to the area to review the topography in the area, the location of Crown Point's new wastewater treatment plant, and the location of Winfield's wastewater treatment plant. I also visited each of the sites on which Winfield has indicated it intends to construct, or require LBL to construct, a lift station(s). In addition, I participated in technical discussions with Crown Point

engineer, Albert Stong, P.E., to discuss the status of Crown Point's wastewater treatment plant, as well as cost estimates his firm either prepared and/or reviewed. I also helped prepare discovery requests that were sent to Winfield and reviewed Winfield's responses to those discovery requests. Finally, I have reviewed the testimony of LBL's other witnesses in this proceeding.

Q10. DO YOU USE ANY TERMS TO DEFINE THE VARIOUS AREAS AT ISSUE IN THIS PROCEEDING?

A10. Yes. I use the following terms to define the various areas at issue in this proceeding:

- "Disputed Area" refers to the overlapping area in Lake County in which both Winfield and Crown Point are seeking to become the exclusive provider of wastewater service.
- "Development Area" and "LBL development" are used interchangeably, and both terms refer to a parcel of land owned or controlled by LBL and Edward J. Hein near Crown Point and Winfield on which LBL plans to build a master-planned community comprising residential, commercial, and industrial properties. The Development Area includes land in both the Disputed Area and within the municipal boundaries of the Town of Winfield.
- "Winfield Requested Territory" refers to the entire rural area in which Winfield seeks to become the exclusive provider of wastewater service in this Cause. The Winfield Requested Territory is defined by Winfield's Ordinance No. 358.
- "Crown Point Requested Territory" refers to the entire rural area in which Crown Point seeks to become the exclusive provider of water and wastewater

service in this Cause and Cause No. 46035. The Crown Point Requested Territory is defined by Crown Point's Ordinance No. 2025-02-08.

SUMMARY OF CONCLUSION

Q11. PLEASE PROVIDE AN OVERVIEW OF YOUR OPINION AS TO WHETHER CROWN POINT OR WINFIELD IS BETTER POSITIONED TO SERVE THE DEVELOPMENT AREA.

A11. In my opinion, Crown Point is better positioned and more capable to safely, adequately, and efficiently provide wastewater service to the Development Area. Crown Point's proposed plans to serve the Development Area appear to be more resilient, more sustainable, and significantly more cost effective. Crown Point will be able to more readily extend facilities to serve the Development Area as LBL's construction proceeds and has infrastructure already located near the Disputed Area and the planned site of its new Southeast Wastewater Treatment Plant ("SE WWTP"). Crown Point witness Stong has verified that Crown Point has developed capital plans for its wastewater utility and utilizes system modeling in order to carefully plan how it will maintain its existing system and expand wastewater service into new areas like the Development Area.

Winfield, on the other hand, has not provided any clear, well-developed plan or cost estimate for it to extend wastewater service to the Winfield Requested Territory and apparently does not intend to conduct any detailed planning to do so until a specific request for service is received, which is not prudent utility planning. While Winfield is currently providing wastewater service to some of the inhabitants

living within its corporate boundaries, I do not believe Winfield has demonstrated its ability to serve such a large and complex development as that planned by LBL. I have reached this conclusion based on my review of Winfield's testimony in this Cause, its lack of any proper capital plans, its lack of prudent monitoring of its collection system infrastructure, its lack of experience with similar type and size development projects, and its responses to data requests in this Cause.

LBL and Crown Point have been working collaboratively on a plan for Crown Point to provide service to the Development Area and beyond since before 2023, as reflected in the Real Estate Donation Agreement ("Donation Agreement"), which is attached to LBL witness John Lotton's testimony as Attachment JL-4. Crown Point has started the process to move forward with the building of the SE WWTP on the site donated to it by LBL. LBL's donation of land to Crown Point and Crown Point's plan to build the SE WWTP began before Winfield adopted its regulatory ordinance. Under Crown Point's plan, wastewater in the Development Area would flow to Crown Point's SE WWTP without the need for the installation of any off-site lift stations. In other words, all off-site infrastructure will flow by gravity to the SE WWTP. The two receiving pipes Crown Point will build pursuant to the Donation Agreement extend to LBL's property line. As a result, no lift station is needed for wastewater to flow from LBL's property to connect to the Crown Point gravity main. In addition, wastewater from areas outside the Development Area would flow to that plant by gravity. Accordingly, Crown Point has the ability to serve areas along the Lake County/Porter County line as far south as Hebron with the addition of two lift stations. A depiction of the gravity main that would be

used to connect the Development Area to the SE WWTP is attached as Attachment MCJ-14, page 1.

Q12. ARE THERE OTHER REASONS YOU BELIEVE CROWN POINT IS BETTER POSITIONED TO SERVE THE DEVELOPMENT AREA AND THE REST OF THE WINFIELD REQUESTED TERRITORY?

A12. Yes. As I discuss throughout my testimony, I question Winfield's ability to properly and cost-effectively service the Development Area and the Winfield Requested Territory. Winfield's possible plans for needed infrastructure are set forth in its witness Duffy's Exhibits 8 and 10, which are attached hereto for convenient reference as Attachments MCJ-12 and MCJ-13, respectively. The Winfield proposed infrastructure appears to be inefficient and negatively impactful in terms of lift stations (most of which are daisy-chained to each other) and force mains. Such a system as is being proposed by Winfield would be much more susceptible to failures than a gravity system, more susceptible to environmental impacts, more costly, both from a capital standpoint and an operational standpoint, and more negatively impactful to neighboring property values (existing and proposed).

Q13. YOU MENTIONED EARLIER THAT YOU VISITED THE WINFIELD REQUESTED TERRITORY. HOW DID THAT VISIT INFORM YOUR CONCLUSIONS?

A13. After visiting the Winfield Requested Territory and considering the LBL and Crown Point plan primarily involving gravity sewers, as opposed to Winfield's proposal to use a number of various lift stations and miles of force main, I believe

the Winfield lift station plan would face significant challenges to construct safely and operate reliably, given the uphill terrain in the area and the need to pump through these numerous lift stations (existing and proposed) uphill to Winfield's treatment plant due to its existing elevation above the adjacent topography. According to Winfield's Sanitary Master Plan, the existing Winfield wastewater treatment plan is at an approximate elevation of 725 feet versus the surrounding terrain which varies from 25' to 50' below the existing plant elevation.[1]

Q14. ARE THERE OTHER REASONS YOU BELIEVE CROWN POINT IS MORE CAPABLE OF ADEQUATELY AND EFFICIENTLY SERVING THE DEVELOPMENT AREA THAN WINFIELD?

A14. Yes. Based on my review of the information Winfield provided in response to discovery requests, it appears Winfield has a number of unserved areas within its corporate boundaries.[2] One of those areas is owned by LBL, and, as LBL witness Lotton testifies, LBL has unsuccessfully tried to obtain wastewater service to that site from Winfield since it began acquiring property in Winfield in 2004 and would have significant concerns about attempting to develop any property in an area where Winfield controlled the provision of utility service. Moreover, according to the testimony of Winfield witness Beaver, as well as other information provided by Winfield, there are a number of neighborhoods within Winfield on septic systems. Winfield's Exhibit. 1.30, produced in response to Crown Point's First Set of Data

[1] Attachment MCJ-10, Winfield's 2016 Sanitary Master Plan at 86, Section 10.1, "Relocate WWTP."
[2] See Attachment MCJ-11, Map of Winfield from Winfield's Exhibit 1.30.

Requests (Attachment MCJ-11[3]), illustrates how much of the Town is on septic systems and how little of the Town is connected to the wastewater system. In my opinion and based upon my decades of utility experience, I believe Winfield's focus would be better invested in addressing the unserved areas in the Town before undertaking projects to serve rural areas outside of the Town, and certainly before extending or attempting to regulate service approximately four miles to the south of Winfield in an area adjacent to an area that the Town of Hebron already is serving.

Q15. DO OTHER ISSUES GIVE YOU CONCERNS ABOUT WINFIELD'S PROPOSAL TO CONTROL THE PROVISION OF WASTEWATER SERVICE OUTSIDE OF ITS CORPORATE BOUNDARIES?

A15. Yes. Statements in the Sanitary Master Plan prepared by Winfield, such as "the problem of infiltration and inflow still exists[,]"[4]and "overall impact to the system is not fully understood[,]"[5]are concerning and would be so to any prudent utility operator. Winfield has also provided discovery responses reflecting that it lacks:

(i) an understanding of the magnitude of septic tank conversion needs in its Town (see Winfield's Response to LBL's Data Request No. 2.1, Attachment MCJ-2 at 1-2);

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[3] Attachment MCJ-11 is a "collage" version of the map produced by Winfield as Exhibit 1.30, combining all the pages of Exhibit 1.30 into a single map (rather than a map that is split over multiple pages).
[4]Attachment MCJ-10 at 39, Winfield Sanitary Master Plan, Section 2.2.2, "Identified Issues."
[5] *Id.*

(ii) an understanding of the amount of residential versus commercial property inside the Town limits (*id.*);

(iii) an understanding of the amount of unserved area in the Town limits (see Winfield's Response to LBL's Data Request No. 2.10, Attachment MCJ-2 at 3-4);

(iv) any actual capital improvement plans (see Winfield's Response to LBL's Data Request No. 1.1, Attachment MCJ-1 at 1);

(v) adequate information as to total cost impacts of its proposal to serve the Development Area and the Winfield Requested Territory (see Winfield's Response to LBL's Data Request No. 3.16, Attachment MCJ-3 at 8, and Winfield's Response to Crown Point's Data Request No. 2.12, Attachment MCJ-6 at 2-3),

(vi) modeling of its treatment plant and collection system flows (i.e., to know what infrastructure is needed and whether that infrastructure is being under- or oversized) (see Winfield's Response to LBL's Data Request No. 3.11, Attachment MCJ-3 at 6).

Q16. WHAT ARE POSSIBLE REPERCUSSIONS OF A UTILITY NOT HAVING MANY OF THESE PRUDENT UTILITY PRACTICES IN THEIR STANDARD OPERATING PROCEDURES?

A16. A prudent utility would know that having these elements—which have been benchmarks of prudent utility practices for over a century—as a part of its standard operating procedures has many benefits. For example, not having a properly

prepared and regularly updated capital plan aligned with available and/or proposed revenues does not allow said utility to know how its system will operate in the future nor properly plan for new developments. Additionally, lack of a well-developed capital plan identifying infrastructure needs and conditions can lead to not installing infrastructure at the right time (i.e. at the end of its useful life), which in turn can result in delays and failures that end up being much more expensive to address. Not having such a capital plan also does not allow current and potential customers to know how the system will operate or even what costs may be borne by those customers in the future.

Modeling is another critical aspect of a properly run system. Without modeling, a prudent operator cannot ensure that infrastructure being planned and built is of the right location and size; such infrastructure could be under- or over-sized, both of which add additional costs to the customer that may otherwise not be necessary. Modeling, one project at a time, through "mathematical calculations,"[6] as Winfield claims to do, does not provide the necessary multi-faceted analysis imperative to evaluate the impacts of new developments on the system, especially when more than one development is happening at any one time.

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[6] See Winfield's Response to LBL Data Request No. 1.11, Attachment MCJ-1 at 4 (stating that Winfield does not perform modeling on its collection system nor wastewater treatment plant as these systems can more easily and efficiently be assessed by applying mathematical calculations to its anticipated and actual system operation than through modeling).

Q17. DO YOU BELIEVE WINFIELD SHOULD BE GRANTED THE RIGHT TO CONTROL THE PROVISION OF WASTEWATER SERVICE IN ANY PORTION OF THE WINFIELD REQUESTED TERRITORY?

A17. No. All of these issues give me pause as to Winfield's ability to serve and properly manage and operate mega-large growth development projects such as the one planned in the Development Area by LBL and its ability to extend service to such a large area outside its corporate boundaries. As I discuss in greater detail below, Winfield's various plans to serve the Winfield Requested Territory are deficient and conflicting. I also will explain that, based on my review of Winfield's responses to Data Requests, Winfield does not demonstrate a full understanding of the much smaller service area of its own Town. In my opinion, smaller towns such as Winfield should focus on addressing these issues within their own town limits and learn from those experiences before taking on such a large, long-lived development project *outside* its corporate boundaries and before attempting to control wastewater service adjacent to the municipalities that are four miles away.

CROWN POINT'S PLAN IS FAVORABLE TO WINFIELD'S PLAN FOR SERVING THE DEVELOPMENT AREA

Q18. PLEASE EXPLAIN FURTHER WHY YOU BELIEVE CROWN POINT IS WELL POSITIONED TO SERVE THE DEVELOPMENT AREA.

A18. Crown Point and LBL entered into the Donation Agreement, whereby LBL donated 44 acres of land to Crown Point as the site of Crown Point's proposed SE WWTP, and, in return, Crown Point agreed to make available water and sewage utility service to the Development Area within five years. Crown Point, at its cost, also

agreed to install two receiving pipes, which will provide non-exclusive service to LBL's property. Those receiving pipes will be constructed at the south property line of the donated property. Wastewater exiting LBL's on-site infrastructure will flow by gravity to the new SE WWTP property. In essence, LBL and Crown Point worked collaboratively to develop a plan to safely and efficiently provide wastewater service that will benefit Crown Point and the areas around it and at a cost that is approximately $4.6 million, less than one-quarter of the cost of Mr. Stong's estimate for the infrastructure needed to execute Winfield's plan to serve the Development Area (at least $25 million) as I will discuss later. See Attachment MCJ-14.

Q19. HOW CLOSE IS THE NEW CROWN POINT SE WWTP TO THE LBL DEVELOPMENT AREA?

A19. The new proposed SE WWTP is adjacent to the Development Area. In contrast, the Winfield wastewater treatment plant is over two miles further from the northern edge of the Development Area, facing significant geographic and topography issues to reach the plant from the LBL site. The map provided on page 1 of Attachment MCJ-14 (Exhibit 1 – Figure 1) depicts the location of the new Crown Point SE WWTP in relation to the LBL site. Exhibit 8 to Winfield witness Duffy's testimony depicts the location of the Winfield Plant. Not only is the Winfield plant further away from the Development Area, it is significantly higher in elevation than the connecting and surrounding areas.

Q20. PLEASE FURTHER DESCRIBE YOUR ATTACHMENT MCJ-14.

A20. Exhibit MCJ-14 contains maps prepared by Commonwealth Engineers, including a map (Exhibit 1 – Figure 1) that presents the gravity flow of wastewater from the LBL development to the Crown Point SE WWTP. As evidenced on this map, there is approximately 11 feet of fall from the LBL development to the connecting invert at the SE WWTP, allowing all flows to be via gravity, all at relatively shallow depths that are not significant (in contrast to the Winfield plan which requires installation of mains at depths that are exceedingly difficult to construct and maintain). Additionally, according to my discussion regarding the SE WWTP design with Mr. Stong, wastewater from other areas outside of the Development Area can also flow by gravity to the new SE WWTP. In essence, LBL and Crown Point have selected a site for the new Crown Point SE WWTP that will provide a means to accept flows via gravity from the Development Area and southeast to the Lake County line. As I explain further below, the ability to rely on gravity as opposed to lift stations is much more efficient as it is less costly and avoids a number of operational, maintenance, and reliability issues.

Q21. HAVE YOU DISCUSSED CROWN POINT'S PLANT CONSTRUCTION SCHEDULE WITH MR. STONG?

A21. Yes. Crown Point witness Al Stong has indicated to me that the SE WWTP design will commence prior to January 2026 and meet the requirements of the Donation Agreement ("The City covenants and agrees within five (5) years of the Donation Date that the city will provide availability for sanitary sewer service connections by the Donor[.]"). Moreover, if service is needed to the Development Area prior to

that time, Mr. Stong has indicated that it can be provided via 3,900 lineal feet of gravity sewer extending west along U.S. 231.

Q22. IS WINFIELD ABLE TO SERVE THE DEVELOPMENT AREA USING GRAVITY SEWERS?

A22. No. As shown and described on Exhibit 10 to the testimony of Winfield witness Duffy, which is attached hereto as Attachment MCJ-13, Winfield's proposed methodology for serving the Development Area relies on at least one new lift station (Lift Station #3) and the expansion of at least one lift station (i.e. Gibson Street Lift Station) and possibly expansion of other existing lift stations (at 117th Street and at the WWTP). In other words, wastewater will need to flow through three lift stations before it reaches the Winfield treatment plant.

Finally, as discussed further below, based on my visit to the area and review of the possible routes and terrains, Winfield's proposed plan to provide service to the Development Area is significantly more complicated than Crown Point's plan with unclear scenario planning and costs that are not well defined. Winfield's use of the lift stations and force mains will add more cost for Winfield's customers and residents[7] and/or the developer. It is my understanding that LBL would not be willing to develop its property in the Development Area under Winfield's proposed

[7] Crown Point Request No. 1.75: What is Winfield's source of revenue for Winfield's rental payments to the Building Corporation?
Response: Without waiving the objections Winfield previously raised regarding this Request, Winfield states the following: The Lease Rental Payments paid by the Town of Winfield under the Lease are payable from an ad valorem property tax to be levied on all taxable property in the Town of Winfield.
Attachment MCJ-5 at 3.

plan and would consider selling the property if Winfield's requested relief is granted in this Cause.

Q23. BASED ON YOUR EXPERIENCE IN THE UTILITY INDUSTRY, ARE THERE OTHER REASONS CROWN POINT'S PLAN IS SUPERIOR TO WINFIELD'S PLAN?

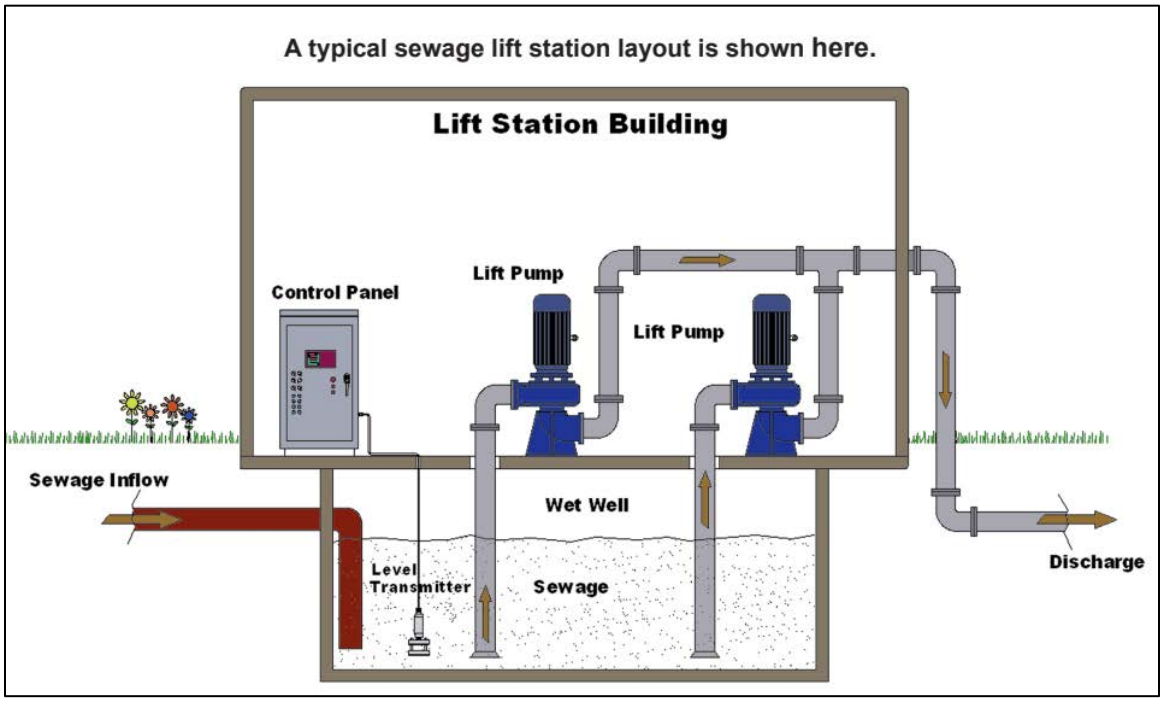
A23. Yes. As I mentioned previously, Crown Point and LBL have been working together collaboratively to develop an optimal plan to provide wastewater service to the Development Area and areas beyond. LBL donated land to Crown Point with the specific intent of providing for the extension of wastewater service throughout the Winfield Requested Territory to promote economic development in Lake County. Winfield, on the other hand, simply adopted a regulatory ordinance and has presented, without seeking any input from LBL, a proposal for service to the Development Area that is expensive, deficient, and which LBL has indicated it would never build. Crown Point's approach to serving the Development Area and Winfield Requested Territory is the way a prudent utility operator would and should be incented to act.

BENEFITS OF GRAVITY SYSTEMS VERSUS LIFT STATION SYSTEMS GENERALLY

Q24. WHAT IS A LIFT STATION?

A24. A lift station transports wastewater from a lower elevation to a higher elevation, in a location where gravity cannot effectively move the wastewater. Lift stations include more mechanical components than a gravity sewer, including, but not

limited to, control panels, pumps, and force mains. The illustration below presents the layout of a lift station.



Q25. WHAT CONSIDERATIONS SHOULD BE MADE WHEN DECIDING WHETHER TO SERVE AN AREA WITH LIFT STATIONS?

A25. While lift stations are a necessity in most wastewater utility systems, the decision to use either a lift station or a gravity system should be made carefully, with due diligence and cost and operational analyses in mind. Most often, gravity systems are preferable, although limited use of lift stations may be necessary in certain areas due to the terrain or some other reason. While gravity systems can serve even in hilly terrain, the depth of construction for gravity systems in such locations can be significant and expensive. Generally, however, gravity systems are preferrable to lift stations. Accordingly, route selection for gravity systems must also be a key consideration.

Q26. WHAT ARE SOME REASONS THAT MAKE GRAVITY SYSTEMS PREFERABLE TO LIFT STATIONS?

A26. A significant issue with lift stations is increased cost. Typically, building a lift station and associated piping, which includes both the force main(s) and the needed gravity sewer, entails more construction costs versus a gravity system alone. Once constructed, lift stations require frequent attention to issues such as cleaning of the pipes, wet wells, and screens. They also have component repairs that the utility owner must be attentive to on a timely basis. Chemical treatment is also sometimes required at lift stations. Electricity costs, as well as supervisory control of the lift stations, are also constant cost issues. Conversely, while gravity systems are not free from all maintenance costs and do age, requiring pipe rehabilitation at some future time, they are typically less costly to repair and require significantly less in oversight, as gravity pipes face fewer impacts from clogs, vandalism, and failures, relying entirely on the force of gravity to function without the constant need for electricity to operate. Importantly, gravity pipe infrastructure is much longer-lived than lift station infrastructure.

Q27. ASIDE FROM CONSTRUCTION AND ONGOING MAINTENANCE COSTS, ARE THERE OTHER ONGOING COSTS OF OPERATING LIFT STATIONS?

A27. Yes. To the extent that a lift station has components such as pumps, instruments, screens, impellers, force mains, control panels, valves, floats, and wiring, these components typically do not have the life cycle longevity of a gravity pipe, and

accordingly, require more systematic attention and more frequent repairs or replacements. In addition, a prudent utility's inventory of lift station components and maintenance items should constantly be evaluated, as increased inventories lead to increased costs. Conversely, gravity systems typically require much less inventory which supports lower costs to the utility owner.

A lift station system also has a constant, never-ending energy need. Depending upon the size of a lift station, energy needs can be significant. The cost of that energy has historically increased regularly. In other words, there are perpetual energy costs that exist for a lift station, in contrast to the virtually nonexistent energy costs of a gravity system.

Q28. DO LIFT STATIONS PRESENT OTHER COMPLICATIONS?

A28. Yes. Lift stations are susceptible to power outages, whether due to an area energy provider outage, vandalism, or storms. When a lift station is down, the system can very quickly face wastewater backups once the wet well is filled, causing neighborhood problems like sewer backups and area flooding. Most lift stations also have standby generators, as repeatedly referenced in Winfield's 2016 Sanitary Master Plan,[8] to prevent catastrophic issues should it go without power for any reason. However, standby generators can fail, and their operations and maintenance requirements also contribute to higher costs to the utility and customers.

[8] See, e.g., Attachment MCJ-10 at 14-37, referencing need for standby generators at various Winfield lift stations.

Q29. ARE THERE OTHER PROBLEMS WITH USING LIFT STATIONS?

A29. Yes. Lift stations can be more susceptible to failures and backups than gravity sewers, leading to more frequent and more significant overflows, depending upon the site conditions. These overflows can not only lead to environmental penalties, but can cause harm to aquatic life, as well as water pollution, potentially contaminating an area's potable water supply. Overflows can also occur on lands near lift stations but that do not lead to waterways, leading to adverse environmental impacts in the area.

Lift stations are exposed to the same non-sewage debris found inside gravity systems. For example, items such as clothing, rags, cleaning cloths, wipes, plastics, metals, and storm debris often end up in any wastewater collection system. However, in gravity systems, these items are typically carried in the flow of the pipe and transported to the treatment plant for screening and disposal. In a system heavily dependent on lift stations, on the other hand, these items must be screened and possibly pass through a grinder pump at the lift station site. Such items can often be more impactful to lift stations and can cause failures that can include reduced capacity, clogs, pump and impeller impacts and damage, screen blindings, sewer overflows, and backups. Lack of adherence to proper maintenance can contribute to odor issues that may require chemical treatments, all which contribute to the increased maintenance costs of lift stations.

Q30. PLEASE DISCUSS THE ODOR ISSUES PRESENTED BY LIFT STATIONS IN GREATER DETAIL.

A30. Typically, a lift station will accumulate matter in its wet well that is organic in nature. If not pumped or maintained properly, that organic matter decomposes, which can become septic (i.e. anaerobic – decomposition in the absence of oxygen) releasing gases containing foul odors, including hydrogen sulfide, which is frequently described as smelling like rotten eggs, and can be smelled from outside the lift station. In addition to its foul smell, hydrogen sulfide gas reacts with moisture, creating sulfuric acid which causes corrosion within the lift station itself, decreasing its life and increasing maintenance costs. Consequently, frequent and proper maintenance of the lift stations must occur, including the use of chemicals or biological treatments to control odors.

Q31. ASIDE FROM THE ODOR ISSUE, DO LIFT STATIONS POSE OTHER ISSUES FOR NEIGHBORING PROPERTY OWNERS?

A31. Yes. A common complaint of the existence of a lift station adjacent to or within a neighborhood is abnormal or unique noises. Lift stations, by their nature, create noise. These noises can include mechanical or pump noises, such as starting and stopping of pump motors, noise of maintenance crews attending to the lift station, vibration noses, alarm noises, emergency generators starting, and buzzing sounds. While some of these noises can be mitigated within the station or by a housing or fencing, it is virtually impossible to negate all of these noises, and accordingly, is often a complaint of adjacent property owners.

Q32. ARE SOME OF THESE PROBLEMS EXACERBATED BY WINFIELD'S PROPOSAL TO DAISY CHAIN LIFT STATIONS TO SERVE THE DEVELOPMENT AREA AND WINFIELD REQUESTED TERRITORY?

A32. Yes. Winfield is proposing to "daisy chain" multiple lift stations together. Daisy-chaining lift stations is a practice of connecting two or more collection system lift stations in series. While an allowable practice, the maintenance and operation of such a scenario is much more complicated to plan, design, build, and operate than a traditional gravity sewer. Additionally, the capital costs of lift stations and associated force mains and the receiving gravity pipes are typically significantly more expensive than a simple gravity system. Mr. Stong prepared cost estimates of Winfield's proposed plan to service the Development Area showing its daisy-chaining approach to be much more expensive than Crown Point's and LBL's collaborative approach.

Q33. ASIDE FROM COST, WHAT ARE SOME OF THE CHALLENGES OF DAISY-CHAINING LIFT STATIONS?

A33. While sometimes needed, daisy-chaining lift stations should be avoided if other options exist, utilizing less costly and simpler-to-operate gravity systems. The greater the number of lift stations in a wastewater system, the higher chance that parts of the collection system will experience system failures resulting in odor, backups, overflows, or other operations and maintenance problems. Additionally, more lift stations typically lead to higher costs to the utility and its customers.

EVALUATION OF PLANS TO SERVE THE DEVELOPMENT AREA AND WINFIELD REQUESTED TERRITORY

Q34. WHAT IS WINFIELD'S EXHIBIT 8?

A34. Mr. Duffy describes Exhibit 8, an attachment to his Amended and Restated Direct Testimony, as "a diagram that depicts Winfield's existing facilities and the to-be-constructed extension of the existing facilities into the Winfield Service Territory." Winfield Exhibit 5 at 7, lines 6-8.

Q35. WHAT IS WINFIELD'S EXHIBIT 10?

A35. Mr. Duffy describes Exhibit 10, also attached to Mr. Duffy's Amended and Restated Direct Testimony, as "a map which depicts Winfield's existing lift station and the proposed nine thousand feet (9,000) of force main (following existing roadways)" and depicts the area of the proposed LBL development in much greater detail. Winfield Exhibit 5 at 12, lines 4-6.

Q36. HAS WINFIELD PROVIDED CLEAR PLANS FOR EXTENDING SERVICE TO THE DEVELOPMENT AREA IN EXHIBIT 8, EXHIBIT 10, MR. DUFFY'S DIRECT TESTIMONY, OR ANYWHERE ELSE?

A36. No, it has not. The information provided by Winfield in this Cause about its proposed plans to serve the Development Area is confusing, inconsistent, and difficult to parse. Winfield witness Duffy discusses several timeframes and development scenarios that seem to conflict with one another. Mr. Duffy also fails to explain how choosing one scenario over another would affect Winfield's further plans to provide wastewater service in each scenario. For example, Mr. Duffy

testifies that Winfield's existing Gibson Street Lift Station "has sufficient capacity to extend into the LBL development and serve as a connection point for all flows generated from this area." Winfield Exhibit 5 at 10, lines 15-17. However, he goes on to suggest that if the LBL development needs wastewater service before other areas in the Winfield Requested Territory, service should be extended "at sufficient depth to collect the sewage from LBL development via a gravity sewer network (installed within the LBL development)" to a new Lift Station # 3, as illustrated in his Exhibit 10. *Id.* at 10, lines 20-22.

Q37. DO EXHIBITS 8 AND 10 DEPICT THE SAME AREA?

A37. Exhibit 8 is a map of a much larger area, including much of Crown Point and Winfield and the entire Winfield Requested Territory. Exhibit 10 depicts a much smaller area, centered around LBL's planned development adjacent to Crown Point. All of the area depicted in Exhibit 10 is present in Exhibit 8, in a much smaller and less detailed form.

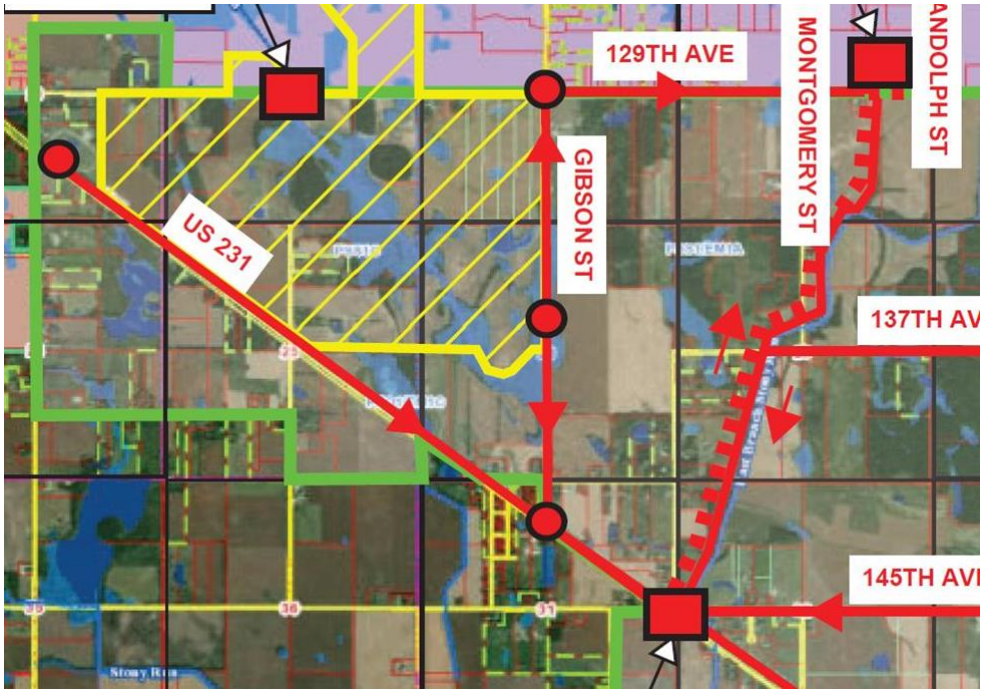
Q38. SINCE THE AREA DEPICTED IN EXHIBIT 10 IS ALSO INCLUDED IN EXHIBIT 8, IS WINFIELD'S COMPLETE PROPOSED INFRASTRUCTURE FOR THE DEVELOPMENT AREA PRESENT IN BOTH MAPS?

A38. No, it is not. Exhibit 8, the larger map, does not contain details of the location and direction of gravity sewers and force mains in and around the Development Area that are depicted in Exhibit 10.

Q39. ARE THERE INCONSISTENCIES BETWEEN EXHIBITS 8 AND 10?

A39. Yes. For example, in Exhibit 10, Winfield indicates that it proposes to build a gravity sewer starting at the south side of the Development Area, which then flows northwest along a path roughly parallel to U.S. 231 to proposed Lift Station # 3. From Lift Station # 3, flows continue east along 129th Avenue through a 16-inch force main. At the intersection of 129th Avenue and Gibson Street, the flow continues north via 16" force main along Gibson Street to the Gibson Street Lift Station as shown in the excerpt from Exhibit 10 below.

In Exhibit 8, on the other hand, Winfield depicts flows traveling southeast along U.S. 231 via gravity sewer to proposed Lift Station # 2 (south of the Development Area). From there, flows travel north by force main to proposed Lift Station # 1 as shown in the excerpt from Exhibit 8 below.



So, among other things, Winfield apparently plans to have roughly parallel gravity sewers very close to each other traveling in opposite directions: one traveling to the northwest and one traveling to the southeast. This is not good utility practice, as it would be completely wasteful and illogical to build two gravity sewers flowing in opposite directions so close together.

Winfield's proposal to have a gravity sewer sending flows southeast along U.S. 231 from almost as far north as 129th Avenue to a lift station south of the Development Area on 145th Avenue, then back north via force main to a lift station on 129th Avenue, is also highly inefficient and poor utility planning.

Q40. CAN YOU TELL, FROM REVIEWING EXHIBITS 8 AND 10, HOW THE PROPOSED INFRASTRUCTURE DEPICTED ON EACH MAP WOULD INTERCONNECT?

A40. No, it is completely unclear how the facilities depicted on both maps would interconnect. The only common element on both maps is the Gibson Street Lift Station and proposed Lift Station #3, but Exhibit 8 provides no information about the flows in or out of either lift station. If the plan in Exhibit 10 were completed first and then the plan in Exhibit 8 to serve the rest of the Winfield Regulated Territory were implemented, it is not clear how the Exhibit 10 infrastructure would remain useful or how the connections to the Gibson Street Lift Station would occur.

Q41. MR. DUFFY'S EXHIBIT 8 SHOWS ALL OF THE WASTEWATER FROM THE DEVELOPMENT AREA FLOWING THROUGH WINFIELD'S GIBSON STREET LIFT STATION. IS THAT POSSIBLE?

A41. Winfield's response to an LBL Data Request does not make it clear to me if this is possible. Below is Crown Point's Data Request No. 2.23 and Winfield's response:

> **Request 2.23:**
>
> It was stated that the Gibson Street Lift Station will be used initially to convey flow from the expanded service territory to 117th Ave. Lift Station, which then conveys flow to the existing WWTP. It was also stated that Gibson Street Lift Station could be upgraded to increase its ability to convey flow from the expanded serviced territory.
>
> a. How much flow can Gibson Street accept from the expanded service territory prior to an upgrade to the Gibson Street Lift Station being required? At what flow level would Winfield begin the upgrade?
>
> **Response:**
>
> As indicated in the Gibson St Lift Station Capacity Certification and Application for Construction Permit, the Gibson St Lift Station has capacity for an additional 330 EDUs. If the Town were to plan for additional development to be served by this station, an expansion

> would be planned, designed and constructed as growth in the area is planned and progresses.

Attachment MCJ-7 at 1. According to LBL, even if the additional 330 EDU capacity is not reserved for other projects, it will be insufficient to serve the Development Area. LBL intends to develop a master-planned community comprising the following: 1) approximately 4,000 residential units, including 3,100 single-family detached and attached housing units, 400 multifamily apartment units, and 500 mixed-use condo units over commercial or parking; 2) 19 industrial lots; and 3) 32 commercial lots with eight units per building, for a total of 256 commercial units. The currently projected daily use of the master planned community by the end of its 20-year build is 1.5 million gallons per day ("MGD").

Q42. OVERALL, WHAT IS YOUR OPINION OF THE LEVEL OF DETAIL THAT IS INCLUDED IN WINFIELD'S "PLAN" FOR THE DEVELOPMENT AREA AND THE REGULATED TERRITORY AS REFLECTED IN EXHIBITS 8 AND 10?

A42. The level of detail is materially deficient. In regard to the Development Area, I believe it is important to comment on Winfield's overall service plan. In Winfield's overall plan that includes the Development Area, it proposes to route flows via gravity approximately two miles further south and heading southeast of Winfield's southern town limits to proposed Lift Station #2. Winfield also proposes to route flows north along Gibson Street to 129th Avenue, then east to proposed Lift Station #1, then south to proposed Lift Station #2. At proposed Lift Station #2, Winfield will then pump flows via a force main two miles north again back to the southern

town limits, to proposed Lift Station #1. Winfield's plan then appears to pump flows via a force main to the wastewater treatment plant, another approximately two miles north into the Town's limits.

Q43. IS WINFIELD'S PLAN ANY MORE CLEAR WITH RESPECT TO WASTEWATER FROM THE DEVELOPMENT AREA AND WINFIELD REQUESTED TERRITORY ONCE IT ENTERS THE TOWN?

A43. No. As I mentioned, once inside the corporate boundaries, wastewater must flow another two miles to Winfield's treatment plant. It appears to cross the areas of the Stonegate Lift Station and the Stonegate Commons Lift Station. The Stonegate Lift Station pumps to a gravity sewer that discharges to the Stonegate Commons Lift Station, which pumps via a force main to the WWTP. It is not clear how that network of pipes and all lift stations mentioned herein will be addressed and or used during Winfield's proposed construction. Winfield's proposal on Exhibit 8, which has sewage needlessly zigzagging north, then south, then north again for miles on its way to its WWTP, is another clear example of why Crown Point's simple, one-directional, and short gravity sewer is exceedingly better than Winfield's complex and costly plans.

In addition, based on the minimal data Winfield has provided, it appears Winfield's plan to route flows to the Gibson Street Lift Station may address short-term needs, but there are a number of scenarios discussed in Mr. Duffy's testimony that may include possibly routing flows to proposed Lift Station #1 if development flows occur differently than discussed. Mr. Duffy's testimony discussed routing the

LBL flows to the excess capacity Winfield claims exists in the Gibson Street Lift Station. However, Mr. Duffy also testifies that "additional capacity can easily be added[,]" but that those flows would be directed to the 117th Avenue Lift Station. Winfield Exhibit 5 at 11, line 4.

Q44. IN YOUR OPINION, ARE WINFIELD'S PLANS SUFFICIENT TO UNDERSTAND HOW EITHER THE DEVELOPMENT AREA OR WINFIELD REQUESTED TERRITORY WILL BE SERVED?

A44. No. In considering how the growth of a development can be planned, Winfield's scenarios lack significantly detailed data and modeling, creating significant uncertainty. Without more detailed information, this lack of information would effectively prevent development from proceeding with known costs and schedules. Without better cost certainty, development cannot reasonably proceed without substantial and unnecessary risk.

Q45. WHAT IS YOUR OPINION OF WINFIELD'S PLAN TO SERVE THE AREA NEAR HEBRON?

A45. Based upon Winfield's discovery responses, it appears it has no plan to serve the area near Hebron, i.e., the area east, between the Development Area and the Porter County line. In its response to LBL's Data Request No. 1.7, Winfield states: "[t]o the extent it receives a request for service east of the Disputed Area, Winfield will determine the facilities necessary and the cost of the same." Attachment MCJ-1 at 2-3.

Winfield should not be given the exclusive right to serve an area that it has no plan to serve. Moreover, it is my understanding that both Crown Point and Hebron could serve development in this area. According to witness Lotton, LBL has constructed a connection point and mains that would convey wastewater from the southern portion of the Winfield Requested Territory directly to Hebron.

EVALUATION OF COST TO SERVE THE DEVELOPMENT AREA AND WINFIELD REQUESTED TERRITORY

Q46. HAVE YOU REVIEWED ANY ESTIMATES OF THE COST OF THE FACILITIES THAT WINFIELD PROPOSES BE CONSTRUCTED IN ORDER TO SERVE THE DEVELOPMENT AREA?

A46. Yes. I have reviewed discovery responses from Winfield but, as I discuss below, it remains unclear what those costs include or do not include. Accordingly, I cannot report as to how those cost estimates can be used or reasonably relied upon. However, Crown Point witness Stong has caused estimates of the facilities shown on Winfield's Exhibits 8 and 10 to be prepared, and, as I discuss below, I find Mr. Stong's estimates to be reasonable.

Q47. CAN YOU SUMMARIZE MR. STONG'S ESTIMATES?

A47. Yes. Mr. Stong evaluated the collection system parts of both Winfield's and Crown Point's plans (i.e. does not include plant expansions) which reflect that Winfield's plan to serve just the Development Area could cost at least $25 million (which does not include the proposed sanitary sewer main running through the Development Area) depending on which of Mr. Duffy's alternative plans are used, while Crown

Point's plan to serve the Development Area is estimated to cost LBL approximately $4.6 million – and this is generally on-site infrastructure that LBL would have to build to connect to either utility, as indicated by LBL witness Lotton. Moreover, Mr. Stong estimates that Winfield's plan to serve the entire Winfield Requested Territory as shown in Mr. Duffy's Exhibit 8 would cost approximately $139 million. See generally Attachment MCJ-14. I reviewed Mr. Stong's estimates and find them to be sound.

Q48. WHY ARE YOU RELYING ON MR. STONG'S ESTIMATES FOR THE COST OF THE LIFT STATIONS AND INFRASTRUCTURE NEEDED TO SERVE THE DEVELOPMENT AREA AND WINFIELD REQUESTED TERRITORY?

A48. Winfield has not provided comprehensive cost estimates for its proposed or expanded lift stations, nor its proposal for how those facilities will be paid for. While not clear, it appears that Winfield has estimated the cost of extending its facilities to the Gibson Street Lift Station, which is just one of the two to three lift stations it intends to use to serve the Development Area to be $9,000,000. See Winfield's Response to LBL's Request No. 3.6, Attachment MCJ-3 at 4-5; Winfield's Response to Crown Point's Request No. 2.23(b), Attachment MCJ-6 at 4. LBL has requested that Winfield provide a breakdown of the $9,000,000 in several discovery requests, but Winfield has not provided this information.

Q49. DOES THE $9,000,000 COST INCLUDE THE COST OF LIFT STATION #3 SHOWN ON MR. DUFFY'S EXHIBITS 8 AND 10?

A49. It is not clear what the $9,000,000 estimate includes. According to Winfield's response to Crown Point's Data Request No. 2.23(b), Attachment MCJ-6 at 4, $1.5 million of the $9,000,000 estimate:

> is associated with the Gibson Street Lift Station capacity upgrade. As previously noted, the $9 million cost includes not only the pumps within the Gibson Street Lift Station, but also constructing a new, parallel force main from the Gibson Street Lift Station to the 117th Street Lift Station. This amount includes a 30% contingency.

Winfield has repeatedly refused to provide any complete cost estimate breakdowns such as those presented by Mr. Stong. While Winfield represents that $1.5 million of the $9 million is for a capacity upgrade to the Gibson Street Lift Station, it provides no information about the components of that $1.5 million or how the remaining $7.5 million breaks down. All Winfield has provided is a vague statement that the $9 million includes such items as pumps and a force main, plus a 30% contingency, without identifying how much each of these items is estimated to cost. I am concerned that this estimate may be materially low based on the lack of information provided about the estimate. Moreover, as noted above, Mr. Duffy acknowledges that serving the Development Area also may require a new lift station, Lift Station #3.

Q50. HAS WINFIELD CONSIDERED THE COST OF THE OTHER FACILITIES THAT ARE SHOWN ON MR. DUFFY'S EXHIBIT 8 TO SERVED THE WINFIELD REQUESTED TERRITORY?

A50. It is unclear whether Winfield has considered such costs – and if it has, Winfield has certainly not provided them to the parties. LBL asked in its Data Request 1.7

that Winfield provide any cost estimates and/or design documents for the facilities Winfield has identified as being necessary on Exhibit 8 (and by extension Exhibit 10) to Mr. Duffy's testimony, including without limitation:

- The in Town force main;
- In Town lift stations;
- Lift stations outside the Town;
- The force main outside the Town;
- The gravity sewer along US 231;
- The gravity sewer along Gibson Street;
- The gravity sewer along 137th
- The gravity sewer along 145th

In its response to LBL's Data Request 1.7, Winfield states:

> With the adoption of Indiana Code 8-1-2-101.5, Winfield is subject to the Commission's Main Extension Rules. As such, developers will be responsible for the construction of wastewater infrastructure inside their respective developments. In addition, Winfield has used other forms of agreement to cost share with developers. While the facilities identified on Exhibit 8 to Mr. Duffy's testimony illustrate a plan of service, final design of facilities and their estimated costs will not be completed until Winfield receives definitive requests for service. At this point, the only indication of a need for service is from LBL which owns or controls much of the property within the Proposed Service Area. As noted in the Response to Crown Point's data requests, the extension of service from Winfield's existing facilities to the proposed lift station #3 on 129th Avenue would cost $9,000,000. LBL would, in turn, be able to immediately connect to these facilities. LBL's only interest concerns service to the Disputed Area. Due to LBL's limited interest and the lack of any specific request for service outside of the Disputed Area at this time, any further facilities identified on Exhibit 8 are not "necessary" at this time. To the extent it receives a request for service east of the Disputed Area, Winfield will determine the facilities necessary and

> the cost of the same. Exhibit 8 does, however, provide a plan for servicing those areas east of the Disputed Area.

Attachment MCJ-1 at 2-3. Based on Winfield's response to LBL Data Request 1.7, it appears that Winfield has not considered the cost of the majority of the facilities included in Mr. Duffy's Exhibits 8 or 10 because Winfield is planning on the developer being "responsible for the construction of wastewater infrastructure." In other words, based upon the information LBL has been provided, it appears that Winfield's "plan" is for the developer to build and pay for any facilities that might be necessary to pump wastewater up to it its plant – no matter the cost.

Q51. IS IT APPROPRIATE FOR WINFIELD TO IGNORE THE COST OF ITS PROPOSED FACILITIES BECAUSE IN ITS VIEW THAT IS SOMEONE ELSE'S PROBLEM?

A51. No. Prudence, managerial ability, and utility expertise would suggest that, regardless of who pays for what infrastructure, the utility should have a clear, accurate cost estimate so that entities requiring specific facilities fully understand the financial impacts of their requests. This then allows both parties to discuss how best to move forward with those costs (i.e., whether costs will be paid for by one party or shared). Absent that process of providing accurate cost estimates, a developer would be signing onto a "blank check," which would be a bad business practice. That lack of accurate cost estimates can also lead to regulatory and legal disputes over extension costs and cost recovery. Sound utility engineering planning and transparent cost estimates is the better path. LBL is on that preferred path with Crown Point.

Q52. DO THE COMMISSION'S MAIN EXTENSION RULES THAT ARE CITED IN WINFIELD'S RESPONSE TO LBL DATA REQUEST 1.7 REQUIRE DEVELOPERS TO FULLY FUND THE COST OF THE MAIN EXTENSION TO SERVE NEW DEVELOPMENT UNDER ALL CIRCUMSTANCES?

A52. No. It is my understanding that, while the primary focus of 170 IAC 8.5-4 is for the regulation and fair implementation of sewer main extensions, it also supports economic development in Indiana by enabling development to access reliable sewage disposal services. The rules provide a clear framework for how and when sewer mains can be extended, supporting the proper planning of development and ability to move projects forward. Accordingly, the Commission's main extension rules only require the developer to pay for the facilities when the cost of the main extension exceeds the revenues that the utility can be expected to derive from customers that connect to the extension. Specifically, 170 IAC 8.5-4-26 provides:

> A utility, upon written request for service by an applicant, shall extend a main and connect the applicant free of charge to provide the service requested if:
> (1) the cost of the main extension does not exceed the immediate revenue allowance for the applicant; and
> (2) the applicant agrees to take service within nine (9) months following the completion date of the main extension.

Importantly, the Commission's main extension rules require that the utility's revenues from the applicant be taken into consideration when determining whether the applicant is required to pay for an extension or not. Winfield seems to ignore this provision and appears to expect that LBL will pay for the entirety of the cost of the lift stations and force mains in its proposed plan, and that Winfield will reap

the benefits of all revenues from providing wastewater service in the area. Prudent utility planning dictates that Winfield understand the cost of the facilities it is requiring LBL to construct and some idea of how much it might need to share in that cost based on the revenues generated from customers in the area in order to comply with the Commission's main extension rules.

WINFIELD MAY BE UNDERESTIMATING THE FACILITIES INVOLVED IN SERVING THE DEVELOPMENT AREA AND WINFIELD REGULATED TERRITORY

Q53. ARE YOU CERTAIN WHAT FACILITIES WINFIELD WILL NEED TO CONSTRUCT TO PROVIDE SERVICE TO THE DEVELOPMENT AREA AND THE WINFIELD REQUESTED TERRITORY?

A53. No. While it is understood that development plans evolve, a utility can develop a plan in response to known parameters, which LBL has provided. Winfield's response to LBL's Data Request No. 1.7 states, in part, that "while the facilities identified on Exhibit 8 to Mr. Duffy's testimony illustrate a plan of service, final design of facilities and their estimated costs will not be completed until Winfield receives definitive requests for service." Attachment MCJ-1 at 3. This plan to delay design and cost estimates until Winfield receives "definitive requests for service" will leave a development project with too many scheduling, as well as cost, unknowns, to the point where it may be a bad business decision to proceed with the development. A definitive request for service from a new development is not needed to plan the sewer system and calculate the cost to serve that development. Here, Winfield itself is not certain what facilities will be needed to serve the Development Area, since it does not intend to develop a better plan with more

accurate cost estimates until "definitive requests for service" are received. Waiting to complete detailed planning with more accurate cost estimates like this is not a typical or prudent utility practice. Not determining a service plan for a prospective development discourages development and is not consistent with providing reasonable public sewer service.

Q54. HOW DOES WINFIELD'S PROPOSED PLAN TO WAIT FOR "DEFINITIVE REQUESTS FOR SERVICE" COMPARE TO CROWN POINT'S PLAN TO SERVE THE DEVELOPMENT AREA?

A54. Crown Point knows what infrastructure will be constructed to serve the Development Area. Under the Donation Agreement, LBL and Crown Point have agreed that Crown Point will extend two sanitary gravity mains from the new SE WWTP to which LBL's "on-site" infrastructure will interconnect. LBL and Crown Point chose locations where wastewater from the development will flow by gravity. This straightforward presentation of known infrastructure needs by Crown Point to serve the Development Area is a further demonstration of the relatively simple nature of providing its gravity sewers versus Winfield's complex options of daisy-chaining lift stations, proposing new and expanded lift stations, adding force mains, and still working to determine sizing and routes in "what-if" scenarios. It is also a demonstration of how a sewer utility can prudently and constructively work with a developer.

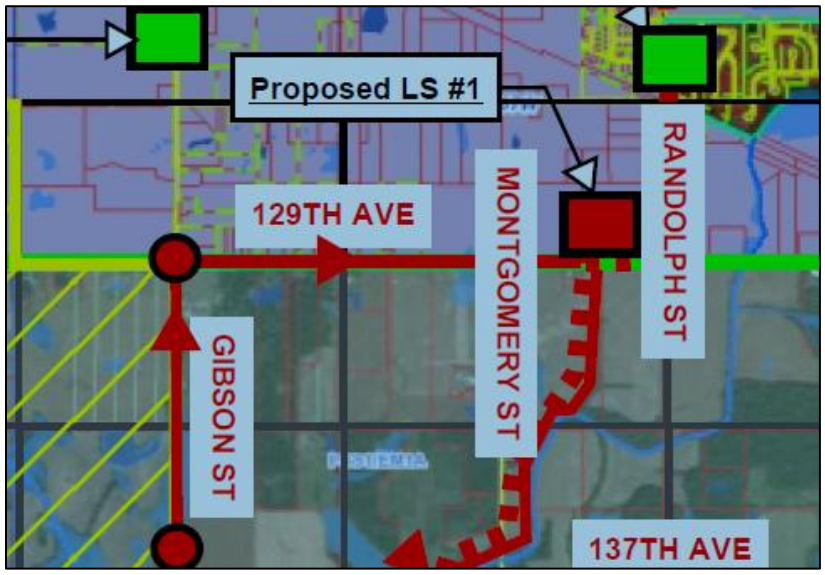
Q55. DO YOU HAVE REASON TO BELIEVE THAT THE INFRASTRUCTURE NEEDS TO SERVE THE DEVELOPMENT AREA AND WINFIELD

REQUESTED TERRITORY MAY BE GREATER THAN REFLECTED IN MR. DUFFY'S EXHIBITS 8 AND 10?

A55. Yes. I reviewed the area and am concerned that Winfield serving the Development Area and the Winfield Requested Territory may be far more difficult than Winfield anticipates. Parts of the Development Area and Winfield Requested Territory are very hilly and forested, making construction difficult. For example, in reviewing Mr. Duffy's Exhibit 10, it appears Winfield's proposed (initial) gravity sewer starting on the south side of the Development Area starts at approximately 5 feet in depth, but as it moves northward to proposed Lift Station #3, it reaches a depth of approximately 30 feet, in the proximity of a stream (Niles Ditch) and 129th Ave; this is considered significantly deep, and while constructable, underground construction at such a depth is quite difficult. Working in trenches also is dangerous. Walls can collapse suddenly and without warning. In general, any trench construction requires construction protections. Additionally, Winfield's plant is at a higher elevation than the area to be served, meaning ***all*** flows to the plant will need to be pumped up to the plant. Several of the areas that are shown in Mr. Duffy's Exhibit 8 as being served by gravity are in fact located in hilly areas.

Q56. DO YOU HAVE ANY EXAMPLES OF AREAS THAT WINFIELD CLAIMS CAN BE SERVED BY GRAVITY SEWER THAT YOU BELIEVE WILL BE DIFFICULT TO SERVE IN THAT WAY?

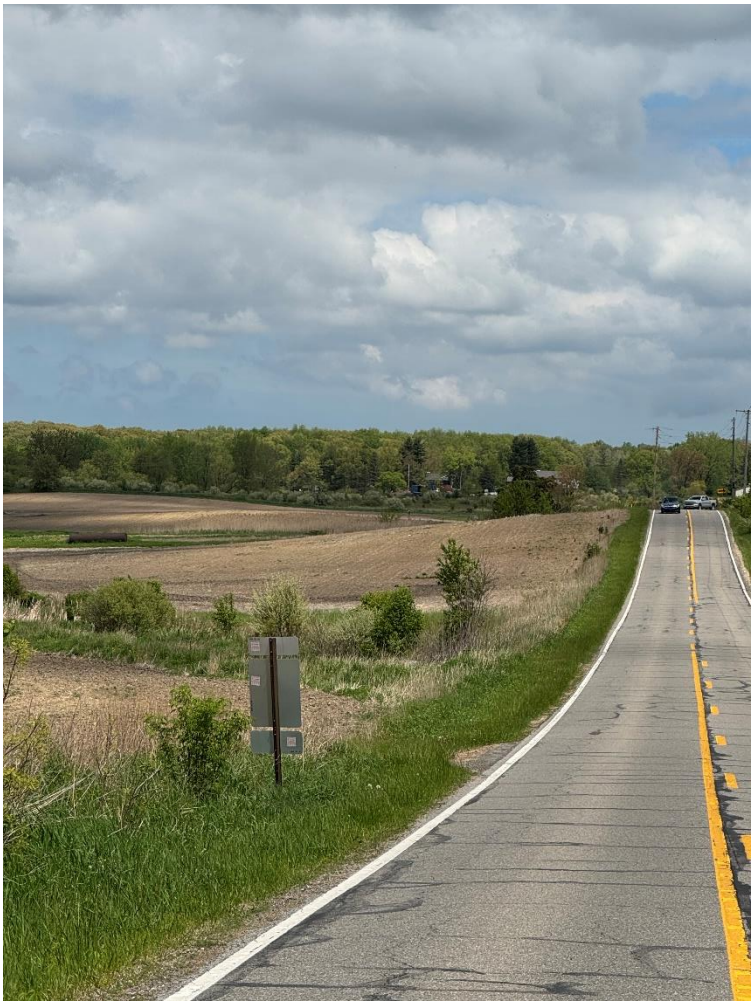
A56. Yes, Mr. Duffy's Exhibit 8 shows that wastewater will flow via a gravity sewer east along 129th Avenue from Gibson Street to a new proposed Lift Station #1 as shown in the excerpt below from Exhibit 8:



However, that path gains significant elevation as one moves east along 129th Avenue. Below is a picture looking east along 129th Avenue from the east side of the Gibson Street and 129th Avenue intersection (i.e., a red dot shown on the map). Again, while this is constructable, there will be utility impacts to relocate utility poles, as well as possible service lines to the abutting homes, and land acquisition required to construct such pipes at those depths. Significant cut depths will be needed to install such pipes, making construction difficult, more dangerous, and expensive.

Q57. IS THAT THE ONLY PLACE 129TH AVENUE GAINS ELEVATION BEFORE IT REACHES WINFIELD'S PROPOSED LIFT STATION #1?

A57. No. The street shown in the above photograph actually ends and the terrain levels off before once again gaining elevation. Below is a photograph taken from Montgomery Street looking north. Proposed Lift Station #1 would be located approximately 400 yards east of where the cars are turning.



Note that the elevation toward proposed Lift Station #1 continues to increase. In order to get wastewater to flow by gravity, and in reviewing contour maps of the area, it appears the main may have to be extremely deep, perhaps on the order of 40-50 feet. Constructing such a main would be very expensive and difficult, and more dangerous than shallow ground sewers. It is my understanding that Mr. Stong has estimated that some of Winfield's proposed infrastructure will need to be built at even greater depths.

Q58. IS THE REST OF THE AREA THAT WINFIELD PROPOSES TO SERVE SIMILARLY DOWNHILL FROM THE WINFIELD WASTEWATER TREATMENT PLANT?

A58. Yes. Everything from the Development Area would need to be transported uphill to the Winfield plant, which is 30 to 40 feet above the Development Area. In addition, the eastern portion of the Winfield Requested Territory is also all downhill from the Winfield plant. The location of the Winfield WWTP is not conducive to serving Winfield's proposed expansion area. That plant was originally located by a private developer to serve its adjacent areas development. It is not ideally located to serve the Development Area or the Winfield Requested Territory.

Although Winfield decided not to relocate its WWTP, it had previously acknowledged the challenges it faces in pumping flows throughout its collection system due to its terrain, uphill to its wastewater treatment plant. Winfield's 2016 Sanitary Master Plan discusses three options for the relocation of the wastewater treatment plant to a lower elevation (25' or more lower). Winfield's Sanitary Master Plan report proposed this, in significant part, to specifically address the current requirement to pump most flows via lift stations to Winfield's wastewater treatment plant (see Attachment MCJ-10, Sections 3, Concepts A1 and A2 (pages 51-57) and Section 4, Concept B of Winfield's Sanitary Master Plan (pages 59-62)[9]), thereby eliminating a number of lift stations and utilizing gravity mains and interceptors. In

[9] See also Attachment MCJ-10, Winfield Sanitary Master Plan, pages 85-88, Section 10, "WWTP Master Plan Concepts," and Section 10.1, "Relocate WWTP."

reviewing Figure 2-1 of Winfield's Sanitary Master Plan, it appears that all flows to the plant are via lift stations. See in Attachment MCJ-10 at 13.

Q59. DID WINFIELD MOVE THE PLANT AS PART OF ITS CURRENT UPGRADES?

A59. No. While repeatedly discussed and analyzed in Winfield's 2016 Sanitary Master Plan—for example, Winfield states that "the Town is leading towards an expansion due to projected growth in the foreseeable future[,]" Attachment MCJ-10 at 86—Winfield has chosen to keep the plant in its current location, which seems to contradict the recommendations and assumptions mentioned in that Sanitary Master Plan of why a plant relocation would be beneficial.

WINFIELD SHOULD FOCUS ON CHALLENGES IN ITS OWN COMMUNITY

Q60. FROM YOUR REVIEW OF THE INFORMATION PROVIDED BY WINFIELD, DO YOU BELIEVE WINFIELD'S TIME AND RESOURCES ARE BEST SPENT ATTEMPTING TO RESERVE AND SERVE AREAS OUTSIDE OF ITS CORPORATE BOUNDARIES?

A60. No, I do not. First of all, the size of the LBL development is daunting; no other single project located or proposed to be located in Winfield is of the same scale. Winfield has a land area of approximately 12 square miles. To consider adding over two square miles of development (i.e., the Development Area) would constitute a single increase of over 20% of Winfield's current land area. For Winfield to pursue this increased service territory while still not even addressing sewer service issues

and unsewered areas within its town limits, in my opinion, reflects Winfield's misplaced priorities.

According to Jeremy C. Lin's Direct Testimony, "Winfield currently has a daily average flow of 0.41 mgd (average of last twelve (12) 13 calendar months) to the Winfield WWTP". Winfield Exhibit 11 at 4, lines 12-13. Additionally, according to Jennifer Wilson's Direct Testimony, "The Utility has grown from 42 connections in the year 1997 to 2,545 as of April 2025. In the past three years the Utility has averaged 168 new customers per year."[10] Winfield Exhibit 15 at 5, lines 19-20. However, LBL intends to develop a master planned community with a currently projected daily use by the end of its 20-year build of 1.5 MGD. I believe that this type of complex and large development in one planned project would give any smaller utility pause. Smaller utilities like Winfield have typically not experienced the needs of such a development including the resources needed from local government, the permitting, and the needed infrastructure expansion.

Finally, I believe that Winfield focusing its efforts on the Development Area would detract from the current Winfield populace's needs. Winfield has a number of areas in its own community where it is not providing wastewater service, including property owned by LBL. Many of the areas within the corporate boundaries of Winfield are served by septic systems, and the north and east portions of the Town of Winfield currently include approximately 1,050 acres of vacant land

[10] Crown Point's population is almost four times the population of Winfield, based upon American Community Survey 2023 data (approximately 35,000 for Crown Point versus approximately 7,500 for Winfield).

not being served by sewers at all as reflected in the map attached as Attachment MCJ-11, which Winfield produced in response to Crown Point's Data Request 1.30.

Q61. IS IT COMPLETELY CLEAR WHETHER WINFIELD INTENDS TO PROVIDE SEWER SERVICE TO THE UNSEWERED AREAS WITHIN ITS CORPORATE BOUNDARIES?

A61. No. The map provided in Winfield's response to Crown Point's Data Request 1.30 and attached hereto as Attachment MCJ-11 is only partially responsive to that data request, as it is not clear from the map the entirety of septic areas and sewered areas. For example, there are a number of areas on the map labeled as "COMPLETED & BEING ADDED." While this map does illustrate some areas that are sewered and a number of septic neighborhoods, it does not clearly respond to this data request, as it further directs one to exhibits (e.g., Exhibit 1.27 and Exhibit 1.26) that are not fully responsive to this data request, as noted below:

> **Request No. 1.30:**
> Please state if areas within Winfield's existing sewer service area (corporate limits) are currently not receiving sewer service (no wastewater collection and conveyance facilities). If so, list and clearly identify and clearly show on a Winfield map, these areas and state if Winfield intends to provide sewer service to said areas. If Winfield intends to provide sewer service to these areas, please provide all planning materials for such service, and state when the service will be provided.
>
> **Response:**
> For the location of Winfield's sewer facilities as of 2016, please see the attached Exhibit 1.27. There are many areas within Winfield's existing municipal boundaries that are currently unoccupied, undeveloped farm ground, or large rural settings with no desire or

> need for wastewater collection and conveyance facilities. If and when these areas develop at some point in the future, Winfield can make arrangements to extend service consistent with Indiana law. For a copy of Winfield's plans with respect to providing municipal services, please see Petitioner's Exhibits 3 and 4 attached to Mr. Beaver's April 21, 2025 Prefiled Direct Testimony and Exhibits, Petitioner's Exhibits 6, 8, and 10 attached to Mr. Duffy's Amended and Restated Prefiled Direct Testimony and Exhibits, Petitioner's Exhibits 12, 13, and 14 that are attached to Mr. Lin's Amended and Restated Prefiled Direct Testimony and Exhibits, as well as Exhibit 1.26.

Attachment MCJ-4 at 3-4. Winfield's Exhibit 1.26 includes documents regarding the design and permitting of improvements to Winfield's WWTP, and Exhibit 1.27 is Winfield's 2016 Sanitary Master Plan. See Attachments MCJ-9 and MCJ-10. Neither of these exhibits 1) list, identify, and clearly show on a map areas in Winfield using septic systems; 2) state if Winfield intends to provide sewer service to those areas; and 3) provide all planning materials for such service, and state when the service will be provided. As a result, it is unclear what, if any, plans Winfield has to connect septic customers to its wastewater system.

Q62. WHY SHOULD WINFIELD PRIORITIZE CONNECTING PROPERTIES USING SEPTIC SYSTEMS TO ITS WASTEWATER SYSTEM?

A62. While septic systems continue to be used throughout areas in the country where access to sanitary sewers are not available, there is a trend in the wastewater industry to encourage extending sewers into unsewered areas to provide for additional land availability and to provide sewers to address aging septic systems. The United States Environmental Protection Agency ("EPA") has even gone so far as to provide funding for septic-to-sewer conversions for homeowners and

communities to address failing septic systems. This push to convert septic systems to sanitary sewers addresses issues of wastewater treatment efficiency, environmental benefits such as reducing water quality impacts, and soil limitations. If a septic system is not maintained properly and repaired or replaced as required, it can contribute to groundwater contamination and neighborhood health hazards.

The lifespan of a septic system is approximately 20-30 years, although failures are likely to occur as a system ages. It appears that there is a large proportion of properties on septic systems in Winfield. Again, while allowed, a prudent utility owner would see this as an opportunity to reduce the number of septic systems for the benefits stated above, which also creates the added benefit of increasing Winfield's customer base. Additionally, allowing septic systems to continue to be built while many of the current ones are aging is setting the stage for a more massive septic tank elimination program in the future, which is an issue many cities with septic systems are dealing with, creating more stress on available revenues that could have been directed to other system needs. Moreover, Crown Point witness Guerrettaz testifies that a significant portion of the cost associated with Winfield's wastewater treatment operations are collected through taxes. Accordingly, making sewer service available to all Winfield taxpayers should be a consideration in the extension of these sewers to these areas.

Q63. HOW DOES INDIANA LAW ADDRESS PROPERTIES THAT ARE ADJACENT TO SANITARY SEWERS, BUT STILL USING SEPTIC SYSTEMS?

A63. Indiana Code § 36-9-23-30 states that, subject to some possible exceptions and conditions, a municipality can require a property producing sewage or similar waste to discontinue of use of a septic system if there is an available sanitary sewer within three hundred (300) feet of the property line. I am familiar with this statute and its application through my work at Citizens, including my involvement in CWA's STEP.

Q64. WHY IS THIS LAW IMPORTANT?

A64. This law aids a municipality by giving it the power to require customers to connect to sewers when they are built into neighborhoods. This allows the municipality to recoup its investments in extending sewer mains.

Q65. DO YOU HAVE OTHER CONCERNS ABOUT SEPTIC SYSTEMS IN WINFIELD?

A65. Yes. Winfield appears to lack knowledge of the condition and status of the septic systems inside the Town. For example, in response to LBL's Data Request 2.1, asking how many properties in Winfield's corporate boundaries use septic systems and how many properties using septic systems have been connected to Winfield's wastewater system within the past one to ten years, Winfield responded that it did not know: "The Lake County Health Department is responsible for overseeing and maintaining records associated with septic systems installed in and around Lake County, Indiana. Consequently, *Winfield does not have information responsive to this request*." Attachment MCJ-2 at 1 (emphasis added). LBL's Data Requests 2.2 and 2.3 sought further information about septic systems within Winfield's

corporate boundaries, any related problems, pre-failures, failures, and complaints, and requests to connect to Winfield's wastewater system. Winfield again responded to these requests by referring LBL to the Lake County Health Department for responsive information. Attachment MCJ-2 at 2.

Again, although septic systems are permitted in Winfield if sewers are not available, the fact that Winfield does not know the magnitude of septic system conversion needs within its Town, whether now or for the future, could lead to a larger future liability for Winfield, especially if a large number of properties on failing septic systems need to be connected to its sewer system around the same time.

Q66. WHY IS WINFIELD'S LACK OF KNOWLEDGE ABOUT THE SEPTIC SYSTEMS IN THE TOWN CONCERNING?

A66. Without general awareness of the age and condition of septic systems in its service area, a wastewater utility cannot accurately estimate the number of new connections and capacity that may be needed in the future, nor can it properly plan for or estimate any future liability it may incur from these future conversions. The fact that Winfield seems to have no information about the condition or age of the septic systems within its corporate boundaries would suggest that its estimates of needed future wastewater capacity (for both existing properties and new development) are likely underestimated, further calling into question Winfield's claims that it can effectively serve the Development Area. Additionally, as the utility provider of the Town, knowledge of the magnitude of septic systems and a general sense of their

condition within its corporate boundaries would be considered prudent utility practice. As septic systems fail, those homes would eventually come onto Winfield's wastewater system as sanitary sewers are made available.

Q67. DO YOU BELIEVE THAT WINFIELD IS PROPERLY MONITORING AND MAINTAINING ITS WASTEWATER SYSTEM AS IT EXISTS TODAY?

A67. Based upon the information that has been provided, I do not. For example, Winfield states in its response to LBL's Data Request No. 3.11 that "it does not perform modeling on its collection nor wastewater treatment" but that it "continuously monitors its wastewater system." Attachment MCJ-3 at 6. However, Winfield also continues to refuse to provide any detailed information about its claims of monitoring its wastewater system. LBL's Data Request No. 3.12 requested the following:

> Please explain and provide documents or reports demonstrating what Winfield means in its response to LBL's Data Request No. 1.12 that Winfield "continuously monitors its wastewater system." What monitoring system or protocol does Winfield use, and what data is collected thereby? Please provide all wastewater monitoring data Winfield has collected since 2020.

Id. at 7. In response, Winfield provided no concrete information:

> As part of its operations, Winfield and its professional engineers monitor the amount of flows at its wastewater treatment plant, as well the anticipated flows from future development. In this way, Winfield is able to determine both current and prospective flows at its wastewater treatment plant. As Winfield approaches 80% of its treatment capacity, it will begin to plan the next expansion to the Winfield WWTP.

Id.

In reviewing the Indiana Department of Environmental Management ("IDEM") Discharge Monitoring Reports ("DMR") from Winfield from 2015 to date, it appears Winfield has been providing the legally required reports to IDEM related to its wastewater system. Based upon that review, however, Winfield appears to have a number of instances of exceedances and violations related to system maintenance and equipment conditions. *See* Attachment MCJ-8 (Winfield's Exhibit 1.20). Winfield does not have a combined sewer overflow part of its system ("CSO"), so the complexity of system maintenance and compliance is not as significant as a municipality that has CSOs as a part of its system. While a system without CSOs may still experience exceedances and violations, possibly due to infrastructure failures, Winfield has a number of exceedances and violations related to maintenance and system condition that I believe Winfield should be more attentive to. See *id.*

Q68. DO YOU BELIEVE THAT WINFIELD CAN ADEQUATELY PROVIDE WASTEWATER SERVICE TO ALL OF THE AREAS IT CLAIMS IT CAN, INCLUDING THE DEVELOPMENT AREA AND THE WINFIELD REQUESTED TERRITORY?

A68. No. While it is apparent Winfield has the ***desire*** to control and serve the Development Area, Winfield's sewer utility has never experienced a rate of growth such as what LBL is planning for its properties in the Development Area or that is possible in the proposed regulated territory. I do not believe Winfield has demonstrated its managerial and technical ability that is necessary to serve such a

large area so quickly. From a planning and operational perspective, Winfield is not ready to serve the Development area. Additionally, as stated above, its WWTP is not located in a suitable geographic position to serve the Development Area. Adding a few homes at a time over years (as development has typically proceeded in Winfield in the past) is very different than adding a large planned development moving with significant speed and varying residential, commercial, and industrial property types.

Q69. DO YOU BELIEVE WINFIELD HAS A WELL-DEVELOPED, SAFE AND COST-EFFECTIVE PLAN FOR EXPANDING ITS WASTEWATER UTILITY SYSTEM?

A69. No, I do not. LBL has served multiple discovery requests on Winfield seeking information and documents about its long-term wastewater utility planning, including requests for copies of any capital improvement plans that may exist. LBL's Data Request No. 1.1 asked that Winfield "produce any capital improvement plans containing information about Winfield's planned capital improvements" over certain time frames. In response, Winfield stated that it "is able to design projects on an as needed basis" and that it believes "capital improvement plans [as] described in this Request [are] speculative and wasteful" due to the "unpredictable nature of when and where development will occur[.]" Attachment MCJ-1 at 1.

LBL followed up on Winfield's response to Data Request No. 1.1 in its Data Request No. 3.1. Winfield responded, in part, "Winfield has not identified (or

planned for) the specific areas that will develop as this is speculative in nature and not a particularly good use of the ratepayers' funds." Attachment MCJ-3 at 2.

Q70. DOES WINFIELD'S LACK OF CAPITAL PLANNING RAISE DOUBTS ABOUT WINFIELD'S ABILITY TO SERVE THE DEVELOPMENT AREA AND THE WINFIELD REQUESTED TERRITORY?

A70. Yes. Winfield's prior strategy of designing capital improvement projects "on an as needed basis" may have worked for small developments in the Town that occurred slowly and sporadically. However, for significant future development like that planned by LBL for the Development Area, proper capital improvement planning is extremely important, especially to a municipality that anticipates growth. A capital improvement plan should contain general schedules showing cost estimates for capital expenditure projects and clearly demonstrate what capital improvement projects are currently funded or to be funded; this is standard practice among well-run utilities. However, the Town of Winfield appears to be unwilling or unable to engage in the long-term, detailed capital improvement planning that would be necessary to effect such a significant expansion of its wastewater system over a relatively short period of time. Winfield's dismissal of capital improvement planning as "wasteful" further supports my concerns regarding Winfield's ability to successfully provide wastewater service to LBL's large, sophisticated development. Winfield's lack of a capital improvement plan or modeling of its wastewater system has also resulted in many confusing and inconsistent scenarios to provide service to the Winfield Requested Territory and the Development Area,

such as those described by Mr. Duffy in his testimony and depicted in his Exhibits 8 and 10.

Q71. IN ITS RESPONSE TO LBL DATA REQUEST NO. 1.7, WINFIELD STATES, IN PART, THAT IT "CAN SERVE LBL['S] INITIAL DEVELOPMENT WITHIN ONE YEAR."[11] DO YOU BELIEVE THIS TO BE TRUE?

A71. Based upon information received thus far, I do not. Despite LBL's multiple discovery requests, Winfield still has not provided concrete evidence of its ability and plan to serve LBL's property, instead providing only vague assertions that it is able to provide service to LBL. LBL's Data Request 3.5 explicitly followed up on Winfield's response to Data Request 1.7 and requested information about "Winfield's specific plans to serve LBL's property within a year[.]" Winfield also stated in its response to LBL's Data Request No. 1.17 that it

> has calculated the estimated maximum flows from the Disputed Area, applied general engineering principles to determine the capacity of the existing Gibson Street facilities (and the future need for their expansion), and used this information to develop a plan to serve the LBL development within one year.

Attachment MCJ-1 at 5. Winfield also stated in response to LBL Data Request 1.7 that "[a]t this point, the only indication of a need for service is from LBL, which owns or controls much of the property in the Proposed Service Area." *Id.* at 3.

[11] Attachment MCJ-1 at 3.

Then, in its response to LBL Data Request 3.5, Winfield accused LBL of misstating its response to Data Request 1.7 and that it "stated in its Response to Request 1.7 that it 'can' serve LBL's development, ***not that it is planning to do so within one year***." Attachment MCJ-3 at 4 (emphasis added).

CONCLUSION

Q72. WHAT IS YOUR RECOMMENDATION FOR THE COMMISSION IN THIS CAUSE?

A72. I recommend that the Commission deny all relief requested by Winfield in this Cause and grant Crown Point's request to be the exclusive wastewater service provider in the Disputed Area for a number of reasons, as noted:

- Crown Point is in a better position, from a geographic and capability standpoint, to serve the Disputed Area much more efficiently via gravity sewers and at significantly less cost, with a significantly simpler and more resilient plan.
- I believe Winfield's plan to serve the Disputed Area, as well as the Winfield Requested Territory, would be significantly more expensive, impractical, and require multiple new lift stations and system capacity expansions.
- Managing a very small utility with a very small number of customers is not the same as managing the growth of this mega-size project and Winfield's evidence and Data Request responses demonstrate it is not prepared to do so.
- The cost of sending wastewater by gravity to Crown Point is approximately $4.6 million as opposed to approximately $25 million for Winfield's plan.

Accordingly, a prudent utility operator would opt for a plan similar to the Crown Point plan.

- Winfield has not presented appreciable evidence of its ability to plan concurrent capital plans and model needed infrastructure needs in either its testimony or in response to Data Requests and has gone so far as to suggest that these tools are "wasteful" and not needed for proper planning.
- Winfield has also not presented information on its ability to properly plan infrastructure needs within its existing borders.
- While Winfield has demonstrated the start of some good initiatives such as its 2016 Sanitary Master Plan, even its own responses to any questions about needed updates to address concerns stated in that plan demonstrates that it is a "one-and-done" report, which is concerning.
- As stated in the testimonies from Winfield witnesses Lin, Duffy, Beaver, and Wilson, Winfield would like to encourage economic development, but Winfield's focus on utility services ***within its Town limits*** provides them this opportunity, as there is significant remaining undeveloped property within the Town limits. As a part of that, Winfield has recently expanded its plant to 1.6 MGD which allows it, in part to expand sewer service ***within its Town limits***. The data presented shows that plant expansion is needed and useful ***within its Town limits***.

In my opinion, Winfield customers and residents would be better served by Winfield focusing its efforts on extending wastewater services to existing properties within its corporate boundaries and addressing the many septic systems

that exist there before endeavoring to provide wastewater service to a large new development outside the Town, on a scale Winfield has never experienced or prepared for; such a pursuit would likely detract from proper attention to its existing populace.

Q73. DOES THAT CONCLUDE YOUR PREPARED DIRECT TESTIMONY?

A73. Yes, at this time.

APPENDIX A

The following attachments are referenced in the Direct Testimony of Mark C. Jacob:

1) **Attachment MCJ-1**—Excerpts from Winfield's Response to LBL's First Set of Data Requests
2) **Attachment MCJ-2**—Excerpts from Winfield's Response to LBL's Second Set of Data Requests
3) **Attachment MCJ-3**—Excerpts from Winfield's Response to LBL's Third Set of Data Requests
4) **Attachment MCJ-4**—Excerpts from Winfield's Response to Crown Point's First Set of Data Requests
5) **Attachment MCJ-5**—Excerpts from Winfield's Supplemental Response to Crown Point's First Set of Data Requests
6) **Attachment MCJ-6**—Excerpts from Winfield's Response to Crown Point's Second Set of Data Requests
7) **Attachment MCJ-7**—Excerpts from Winfield's Supplemental Response to Crown Point's Second Set of Data Requests
8) **Attachment MCJ-8**—Winfield Exhibit 1.20, produced in response to Crown Point's First Set of Data Requests to Winfield
9) **Attachment MCJ-9**—Winfield Exhibit 1.26, produced in response to Crown Point's First Set of Data Requests to Winfield
10) **Attachment MCJ-10**—Winfield Exhibit 1.27, Winfield's 2016 Sanitary Master Plan, produced in response to Crown Point's First Set of Data Requests to Winfield

11) **Attachment MCJ-11**—Map of Winfield illustrating existing wastewater infrastructure and septic areas created from Winfield Exhibit 1.30, produced in response to Crown Point's First Set of Data Requests to Winfield

12) **Attachment MCJ-12**—Exhibit 8 from the Amended and Restated Direct Testimony of Winfield witness Michael Duffy, P.E.

13) **Attachment MCJ-13**—Exhibit 10 from the Amended and Restated Direct Testimony of Winfield witness Michael Duffy, P.E.

14) **Attachment MCJ-14**—Maps created by Commonwealth Engineers, Inc.

VERIFICATION

The undersigned affirms under the penalties for perjury that the foregoing testimony is true to the best of his knowledge, information and belief.

Mark C. Jacob

Attachment MCJ-1

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

IN THE MATTER OF THE PETITION OF THE TOWN OF WINFIELD, LAKE COUNTY, INDIANA, FOR APPROVAL OF A REGULATORY ORDINANCE ESTABLISHING A SERVICE TERRITORY FOR THE TOWN'S MUNICIPAL SEWER SYSTEM PURSUANT TO IND. CODE 8-1.5-6 ET. SEQ.	**CAUSE NO. 45992**

TOWN OF WINFIELD, LAKE COUNTY, INDIANA'S RESPONSE TO LBL DEVELOPMENT, LLC'S FIRST SET OF DATA REQUESTS

Town of Winfield, Lake County, Indiana ("Winfield"), by counsel, hereby provides its response to LBL Development, LLC's ("LBL") First Set of Data Requests:

Request No. 1.1:

Please produce any comprehensive capital improvement plans containing information about Winfield's planned capital improvements over the next one to five years. If a capital improvement plan using this time frame does not exist, please provide Winfield's capital improvement plan(s) on whatever horizon(s) that do exist.

To be clear, a master plan or a comprehensive plan is not a capital improvement plan. A capital improvement plan contains schedules showing costs for capital expenditure projects and demonstrates what capital improvement projects are currently funded or to be funded.

Response: Winfield objects to this request as it seeks information which is irrelevant and not reasonably calculated to lead to discoverable information in that the request seeks comprehensive capital improvement plans unrelated to Winfield's wastewater utility. Without waiving this objection, Winfield states the following: Winfield is cost conscious in its wastewater planning and construction. The Town creates comprehensive and master plans to guide it in building a modular system that can readily provide service in different configurations to meet actual development, regardless of the development's pace and geographic placement. Through this flexibility, the Town is able to design projects on an as needed basis, as opposed to spending resources predesigning projects that later may not be built because of a change in growth patterns, are not needed until a distant future, or must be reconfigured to meet changed development needs. These considerations plus rapidly changing construction and equipment costs and the unpredictable nature of when and where development will occur render the creation of capital improvement plans described in this Request as speculative and wasteful. As noted in prior discovery responses, Winfield has significant cash on hand that can be used for capacity related projects and it has the ability to issue short and long term debt to fund capacity related projects on an as needed basis without changing its rates. See Exhibit 1.26 provided as part of Winfield's Response to Crown Point's Data Request No. 1, as well as the prefiled testimony and exhibits of Zach Beaver.

April 8, 2022, and December 22, 2023 Crowe Consulting reports; see also prefiled testimony and exhibits of Mike Duffy and Jeremy Lin; and any and all MROs and related documentation on file with IDEM in its virtual filing cabinet (all of which is a public document equally available to LBL as it is to Winfield).

Request No. 1.6:

Please provide copies of all written communications between any representative of Winfield and any representative of LBL Development LLC or HLLB Development LLC, including, but not limited to, Edward J. Hein, John Lotton, or Jonathan C. Lotton regarding the potential for Winfield to provide wastewater service to LBL properties or real estate.

Response: Winfield objects to this Request because it seeks information that is as equally accessible to LBL Development, LLC as it is to Winfield.

Request No. 1.7:

Please explain, in detail and identifying dates, Winfield's plans to develop the area it has defined as "Priority Two: Strategic Growth" on pages 69-70 of the 2023 Winfield Comprehensive Plan (available at https://www.winfield.in.gov/media/326).

A. Please specifically address when wastewater service will be available to serve the Priority Two area and what construction or expansion projects to Winfield's wastewater utility system will be required to serve this area, their cost, and the timeline for their completion.

B. Please produce any documents identified in your response to this request or otherwise related to Winfield's plans to develop the Priority Two area.

C. Please provide any cost estimates and/or design documents for the facilities Winfield has identified as being necessary on Exhibit 8 to Witness Duffy's testimony, including without limitation:

i) The in Town force main;

ii) In Town lift stations;

iii) Lift stations outside the Town;

iv) The force main outside the Town;

v) The gravity sewer along US 231;

vi) The gravity sewer along Gibson Street;

vii) The gravity sewer along 137th

viii) The gravity sewer along 145th

Response: Winfield objects to this Request due to vagueness as the phrase "plans to develop" is unclear. Without waiving this objection Winfield states the following: Winfield intends to install appropriate infrastructure at a time that will be determined by the date when developer(s) are ready to develop this area. See Response to the above Request 1.1.

A: Winfield can serve LBL Development, LLC's initial development within one year. If development occurs such that service would need to be provided through Lift Station No. 1, then Winfield could provide service within 24 months. See Response to the above Request 1.2.

B: See previously provided as a response to Crown Point's data requests.

C: With the adoption of Indiana Code 8-1-2-101.5, Winfield is subject to the Commission's Main Extension Rules. As such, developers will be responsible for the construction of wastewater infrastructure inside their respective developments. In addition, Winfield has used other forms of agreement to cost share with developers. While the facilities identified on Exhibit 8 to Mr. Duffy's testimony illustrate a plan of service, final design of facilities and their estimated costs will not be completed until Winfield receives definitive requests for service. At this point, the only indication of a need for service is from LBL which owns or controls much of the property within the Proposed Service Area. As noted in the Response to Crown Point's data requests, the extension of service from Winfield's existing facilities to the proposed lift station #3 on 129th Avenue would cost $9,000,000. LBL would, in turn, be able to immediately connect to these facilities. LBL's only interest concerns service to the Disputed Area. Due to LBL's limited interest and the lack of any specific request for service outside of the Disputed Area at this time, any further facilities identified on Exhibit 8 are not "necessary" at this time. To the extent it receives a request for service east of the Disputed Area, Winfield will determine the facilities necessary and the cost of the same. Exhibit 8 does, however, provide a plan for servicing those areas east of the Disputed Area. See also the attached Exhibit 1.7.

Request No. 1.8:

Please explain, in detail, what is meant by the statement on page 86 of the 2023 Winfield Comprehensive Plan that "Winfield will prioritize strategic investments in water and wastewater infrastructure to meet the needs of our current and future residents."

A. Please identify specific actions that Winfield has taken and plans to take to accomplish this goal and projected timelines and dates for such actions.

B. Please produce any documents identified in your response to this request or otherwise related to plans to accomplish this goal.

Response: This quotation is to help the reader understand Winfield will rank such investments higher than other investments in terms of funding order. While there are other factors involved, the primary rationale for prioritizing certain investments concerns the timing and need for service in a given area. If a property owner seeks to develop and needs wastewater service, Winfield will prioritize the request to ensure that service is available within the time needed. Some specific actions that Winfield has taken to accomplish this goal include constructing a wastewater infrastructure that is adaptable and scalable in ways that promote economic development. Winfield plans to continue this effort in the future. See for example previously provided Exhibit 1.27.

Response: The quote "Implement asset management strategies to optimize the lifecycle of water and wastewater infrastructure" was meant to highlight Winfield's commitment to perform regular maintenance.

A: "Asset management strategies," as used in this context does not refer to a particular set of procedures, but rather, it is a general referral to reasonable maintenance processes. Some such strategies which Winfield has employed in the past and will continue to use in the future include addressing the maintenance items set forth in its Wastewater Contract Management Agreement, provided in the attached Exhibit 1.19.

B: This phrase "the lifecycle of water and wastewater infrastructure" is meant to convey Winfield's commitment to long-term investments in its infrastructure from the planning phase through the infrastructure's end-of-life.

C: Some of the actions which Winfield has taken include conducting smoke tests and video observations as necessary and timely addressing maintenance needs through collaboration with Utility Services. The smoke tests and video observations will be performed on an as-needed basis, dictated by Winfield's observations of its flows and capacity. Additionally, as Winfield upgrades it wastewater system, Winfield is working to standardize its equipment to make future maintenance needs easier to understand and accomplish.

Request No. 1.11:

Please provide any modeling data or reports for the existing Winfield collection system and the existing Winfield wastewater treatment plant.

Response: Winfield does not perform modeling on its collection system nor wastewater treatment plant as these systems can more easily and efficiently be assessed by applying mathematical calculations to its anticipated and actual system operation than through modeling. See also Response to the above Request 1.5.

Request No. 1.12:

Does Winfield have a current Storm Water Management Model ("SWMM")? If so, please provide outputs of that modeling information that demonstrates current system, capacity, and its influence from rain events. If not, what modeling tool does Winfield utilize to model collection system capacity and its influence from rainfall events?

Response: Because Winfield's wastewater system is a separated system, this Request seeks information that is not relevant nor reasonably calculated to lead to admissible evidence. Notwithstanding the objection, Winfield does not have a Storm Water Management Model. Winfield notes it continuously monitors its wastewater system. See Response to the below Request 1.22.

Request No. 1.16:

A. Does Winfield plan to increase its rates for wastewater utility service within the next five years? If so, what capital expenditures will be included in any such rate increase?

B. If no rate increases are planned, how does Winfield plan to pay for the planned future expansions to the Winfield wastewater treatment plant discussed in Mr. Lin's Amended Testimony?

Response: Winfield does not have current plans to increase its rates. As noted in the Response to the above Request 1.1, Winfield has significant cash on hand that can be used for capacity related projects and it has the ability to issue short and long term debt to fund capacity related projects on an as needed basis without changing its rates. With the to-be-completed expansion of Winfield's WWTP, Winfield also has the ability to add a significant number of customers which will increase revenues and its borrowing power.

Request No. 1.17:

In Winfield witness Michael P. Duffy, Jr.'s Amended and Restated Prefiled Direct Testimony ("Duffy Amended Testimony"), Winfield proposes to bring flows to its Gibson Street Lift Station. Please provide any modeling data that demonstrates the Gibson Street Lift Station's current operations and any modeling data that demonstrates the Gibson Street Lift Station's ability to handle both its current flows and any proposed future flows that might be added.

Response: Winfield does not have responsive modeling data; however, Winfield has calculated the estimated maximum flows from the Disputed Area, applied general engineering principles to determine the capacity of the existing Gibson Street facilities (and the future need for their expansion), and used this information to develop a plan to serve the LBL development within one year. See Responses to the above Request 1.11 and 1.7.

Request No. 1.18:

Please define the specific roles of Winfield's private contract operator in relation to Winfield's wastewater treatment plant, its collection system (including all lift stations), and its customer service issues including, but not limited to, call centers and billings.

Response: See attached Exhibit 1.19.

Request No. 1.19:

Please provide a copy of any and all contracts and/or agreements between Winfield and its private contract operator, Utility Services Corporation.

Response: See attached Exhibit 1.19, which consists of the January 2025, January 2023, January 2022, January 2021, and April 2017 Wastewater Contract Management Agreement.

Attachment MCJ-2

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

IN THE MATTER OF THE PETITION OF THE TOWN OF WINFIELD, LAKE COUNTY, INDIANA, FOR APPROVAL OF A REGULATORY ORDINANCE ESTABLISHING A SERVICE TERRITORY FOR THE TOWN'S MUNICIPAL SEWER SYSTEM PURSUANT TO IND. CODE 8-1.5-6 ET. SEQ.	)))))))	**CAUSE NO. 45992**

TOWN OF WINFIELD, LAKE COUNTY, INDIANA'S
RESPONSE TO LBL DEVELOPMENT, LLC'S SECOND SET OF DATA REQUESTS

Request No. 2.1:

In the area within the town of Winfield's corporate boundaries, please provide:

1) How many properties within Winfield's corporate boundaries use septic systems;

2) How many plots of land within Winfield are residential; and

3) How many septic systems within Winfield's corporate boundaries have been replaced with connections to Winfield's sewer system within the prior:

   a. 1 year;

   b. 2 years;

   c. 5 years; and

   d. 10 years or other term.

Response:

1) Winfield does not exercise jurisdiction over or maintain records regarding the installation of septic systems. The Lake County Health Department is responsible for overseeing and maintaining records associated with septic systems installed in and around Lake County, Indiana. Consequently, Winfield does not have accurate information responsive to this request.

2) Winfield does not know how many plots of land within Winfield are residential. Such information may be investigated, researched, and potentially determined by reviewing Lake County's GIS system.

3) As stated above, Winfield does not exercise jurisdiction over or maintain records regarding the installation or replacement of individual septic systems. Winfield would, however, estimate that less than 5 customers per year abandon their septic or on-site sewage disposal systems and connect to Winfield's sewer system.

Request No. 2.2:

Winfield's 2016 Sanitary Master Plan ("Master Plan") suggests that most septic systems within Winfield's corporate boundaries were operating properly in 2015. Please provide the following requested information by year, or whatever time interval is available, since 2016 when the Master Plan was completed:

1) What was the total number of septic systems in each year and how many were not operating properly?

2) Oftentimes septic systems are not properly maintained leading to environmental concerns or impacts and or septic system failures. What analysis has been done since 2016 to evaluate the condition of those systems?

3) How many of these septic systems have experienced partial or full failure and required work to restore their functionality?

4) Of those properties with failed or malfunctioning septic systems, how many have since been connected to Winfield's sewer system? For those that have not been connected to the sewer system, why have they not been connected?

Response:

1) Based on the Response to Request No. 2.1, please contact the Lake County Health Department for the information responsive to this request.

2) Based on the Response to Request No. 2.1, please contact the Lake County Health Department for the information responsive to this request.

3) Based on the Response to Request No. 2.1, please contact the Lake County Health Department for the information responsive to this request.

Request No. 2.3:

Please describe any Winfield septic tank inspection program that exists, including the logging of failures and pre-failures, septic-user complaints, and requests to connect to the Winfield sewer system, since 2016 when the Master Plan was completed.

Response:

1) Based on the Response to Request No. 2.1, please contact the Lake County Health Department for the information responsive to this request.

position to extend its existing sewer facilities to these areas and provide service when such service is needed.

Request No. 2.7:

On page 8, lines 11 through 15 of the Verified Direct Testimony of Jennifer Z. Wilson, Winfield witness Wilson states, "The principal and interest on the 2023 Building Corporation Bonds are payable from lease rental payments due from the Town of Winfield to the Building Corporation and are payable solely from and secured exclusively by the trust estate, which includes the rent received by the Building Corporation. The 2023 Building Corporation Bonds are not secured or payable by the revenues of the [Winfield Municipal Sewer Utility.]"

For capital expenditure sewer utility projects that Winfield implements, how much of that capital, on an annual and/or project basis, is subsidized by non-utility revenues?

Response:

Please see Response to Request No. 2.11.

Request No. 2.8.

Please provide the Indenture, the Ordinance and the other documents that state or show the terms of and approval of the Building Corporation, the Building Corporation Bonds, the Winfield buildings and other assets that are transferred to or now owned by the Building Corporation, the charges to be paid by Winfield for the use of those buildings and all related terms and conditions.

Response:

Please see a copy of the transcript attached as Exhibit 2-8.

Request No. 2.9:

Exhibit 8 to the Amended and Restated Prefiled Direct Testimony and Exhibits of Michael P. Duffy, Jr. includes a line described as a "Proposed Gravity Sewer" intersecting at 137th Avenue and Montgomery Street with a "Proposed Force Main" that has arrows indicating the line goes two separate directions down Montgomery Street. Which way is the wastewater intended to flow in the line on Montgomery Street in this Exhibit?

Response:

There will be two different lines in this area. The arrow pointing southward represents the gravity sewer main which will flow the sewage by gravity to the proposed Lift Station No. 2. The northward arrow represents the force main which will pump the sewage northward towards the Randall Street Lift Station.

Request No. 2.10:

Winfield witness Jeremy C. Lin states on page 4, lines 3 through 7 of his Amended and Restated Refiled Direct Testimony that Winfield intends to double the rated treatment capacity of the

existing plant from 0.8 million gallons per day ("MGD") to 1.6 MGD, and that Winfield believes this capacity will be sufficient to serve the flows from both the current and future economic development within Winfield's existing corporate limits and the Winfield Service Territory for the foreseeable future. What part of Winfield's unserved area is included in that "foreseeable future," assuming Winfield provides service to the Disputed Territory? Please provide this information in terms of percent of total land area in Winfield or in some quantifiable number compared to the total area of Winfield.

Response:

As stated above, there are still many undeveloped areas in and around Winfield. In its testimony and prior discovery responses, Winfield has explained that Winfield's management and professional engineers continually monitor and analyze development and flows throughout its service area. Based on this monitoring and analysis, Winfield is able to plan well in advance when it will need the WWTP to meet the service needs of property owns both inside and outside its existing corporate limits (including in the Winfield Service Territory). This approach has effectively been used for decades in Indiana by utilities in fast growing (primarily suburban) areas. Because it would be a waste of time and resources, Winfield has not quantified in terms of acres the amount of unserved area within its municipal boundaries. Winfield does understand, however, that approximately 400 acres of the proposed LBL Development is currently within Winfield's municipal boundaries and approximately 800 acres is within the Winfield Service Territory. It only makes sense that Winfield provides service to all of the proposed development, not a portion of such development.

Request No. 2.11:

Please specifically identify all non-rate and charge utility revenues or funding available and being utilized for the Winfield Municipal Sewer Utility, including but not limited to, grants, bonds (including those from the Building Corporation of the Town of Winfield, as noted in Ms. Wilson's Verified Direct Testimony), or funding from Tax Increment Financing ("TIF") districts, that are being used for any expense, capital or non-capital, associated with this wastewater utility.

If applicable, please provide documents demonstrating the amount of any such subsidies for which Winfield residents are responsible and how those subsidies are charged to Winfield residents.

Response:

In addition to the assets provided from the 2023 Building Corporation Bonds, the Winfield sewer utility has received benefit from the Town's general fund for the payment of the expenses occurred due to this proceeding. As to the requested documents, please see Exhibit 2.11.

Request No. 2.12:

Winfield witness Michael P. Duffy, Jr. states on page 16, lines 8 through 10 of his Amended and Restated Prefiled Direct Testimony that "Winfield has received a Preliminary Effluent Limitation from [the Indiana Department of Environmental Management ("IDEM")] to further expand the plant to serve up to 4.0 MGD." Winfield witness Jeremy C. Lin further notes on page 7, line 8, and page 12, line 11, of his Amended and Restated Prefiled Direct Testimony that "Winfield also

Attachment MCJ-3

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

IN THE MATTER OF THE PETITION OF THE TOWN OF WINFIELD, LAKE COUNTY, INDIANA, FOR APPROVAL OF A REGULATORY ORDINANCE ESTABLISHING A SERVICE TERRITORY FOR THE TOWN'S MUNICIPAL SEWER SYSTEM PURSUANT TO IND. CODE 8-1.5-6 ET. SEQ.	)))))))	**CAUSE NO. 45992**

TOWN OF WINFIELD, LAKE COUNTY, INDIANA'S
RESPONSE TO LBL DEVELOPMENT, LLC'S THIRD SET OF DATA REQUESTS

Request No. 3.1:

In its response to LBL's Data Request No. 1.1, Winfield describes capital improvement plans as "speculative and wasteful" due to the "unpredictable nature of when and where development will occur[.]"

a. Please confirm that Winfield does not have a yearly (or some time interval) capital improvement plan that is linked to certain Town budgets or any other conditions. If not confirmed, please explain the reason for not confirming in detail.

b. Please confirm that Winfield proceeds with capital improvement projects individually "on an as needed basis." If not confirmed, please explain in detail the reason for not confirming.

c. Please provide examples of capital improvement projects undertaken by Winfield for its wastewater system "on an as needed basis" and the timelines for same over the last three years.

d. Often, when specific capital improvement projects are not yet known, capital improvement projects are associated with assignable balances or assignable budgets, for capital needs that will arise. Does Winfield have any such protocol to associate capital improvement projects with assignable balances or budgets? If not, how will those "scalable" (as stated by Winfield in its response to LBL's Data Request No. 1.8) plans be funded (bonds, grants, cost share, rate revenue, rate increases, etc.)?

Response: Winfield objects to this request on grounds that it is not clear as to LBL's use and meaning of the term "capital improvement plan". Notwithstanding the objection, Winfield would note that many years ago it purchased an existing sewer system from a private party. Unfortunately, the system was in need of repair and required a great deal of planning and improvements. As one of the steps to address the issues with the existing system, Winfield retained Mr. Mike Duffy with DLZ Engineers to complete a Master Plan that identified the

capital improvements that needed to be made to Winfield's existing collection and treatment systems.

In the 2016 Sanitary Sewer Master Plan, Winfield identified issues and a number of capital improvements that needed to be addressed with its wastewater system. As noted in the response to LBL Request No. 1.3, Winfield has (since completion of its 2016 Sanitary Sewer Master Plan) expanded its wastewater treatment plant (twice) and associated infrastructure; upgraded its oxidation ditch; installed new clarifiers, blower building, fine screen building, UV disinfectant system, and belt press; constructed the 117th Street Lift Station, Gibson Street Lift Station, Grand Lift Station, and Aylesworth Lift Station; extended the Randall Street sewer; completed force main extensions; added new infrastructure in numerous developments; and completed miscellaneous utility extensions. Winfield has also retained numerous vendors to video its existing system and complete smoke testing which assisted Winfield in identifying the areas in need of repair.

At this point the primary capital improvements that need to be made are extensions of sanitary sewer lines to new developments when such development occurs. Winfield has not identified (or planned for) the specific areas that will develop as this is speculative in nature and not a particularly good use of the ratepayers' funds.

In addition to the numerous capital improvements, Winfield regularly performs periodic maintenance to ensure that its facilities are well maintained and conducts the replacements to its system. The cost of these repairs and replacements are outlined in Jennifer Wilson's Financial Analysis filed with the Commission on April 21, 2025.

Request No. 3.2:

In response to LBL's Data Request No. 1.2, Winfield refers to Exhibits 3 and 4 attached to Zachary Beaver's Prefiled Direct Testimony, which are the 2006 Comprehensive Master Plan and 2023 Comprehensive Master Plan, respectively. However, neither Comprehensive Master Plan contains project-specific capacity projects that are linked to any Winfield budget for capital projects. The 2023 Comprehensive Master Plan also refers to the 2016 Sanitary Master Plan, which contains references to "recommended" and "concept" projects.

a. Do planning, engineering, and/or construction documents related to any of the "recommended" or "concept" projects from Winfield's 2016 Sanitary Master Plan that are referenced in Winfield's response to LBL's Data Request No. 1.2 exist?

b. If so, please produce said documents.

Response: Please see the Responses to Request No. 3.1 herein, as well as the Response to LBL Request No. 1.3. Many of the projects identified in the Response to Request 1.3 (and 3.1) required approval from the Indiana Department of Environmental Management ("IDEM"). For information regarding the permitting and planning documents associated with IDEM approval, please see IDEM's virtual filing cabinet. Because these projects have all been budgeted, planned, financed, and completed, there are no prospective planning, engineering, and construction documents for these improvements. If LBL would like to view the construction documents, videos of the lines, or other documents associated with Winfield

projects over the prior ten (10) years, such documents are voluminous in nature. Please contact the undersigned counsel to discuss the need for and scope of the information. Winfield would note, however, that these documents are not relevant, will not lead to the discovery of information that is admissible in this proceeding, and Winfield therefore objects to this request.

Request No. 3.3:

Without referring generally to the 2006 Comprehensive Master Plan, 2016 Sanitary Master Plan, or the 2023 Comprehensive Master Plan, please identify specific completed or pending capital improvement projects that have been a part of Winfield's wastewater system since 2020, and please produce planning, engineering, and/or construction documents related hereto.

Response: See Winfield's Response to LBL Development, Inc. Requests 1.2 and 1.3.

Request No. 3.4:

Please produce all annual, periodic, or other reports—whether produced by Winfield for internal or external use or produced by a third party like Utility Services Corporation—including information about Winfield's wastewater utility from 2020 through the present, including, but not limited to:

- Monthly reports of operations;
- Discharge monitoring reports;
- Capital improvement reports;
- Any regular operational reports provided by Utility Services Corporation;
- Reports on environmental compliance;
- Equipment performance reports;
- Any wastewater compliance bypass or overflow incident report;
- Any wastewater NPDES Permit non-compliance reports; and
- Annual reports of operations provided to the Commission.

Response: Winfield objects to this Request on grounds it is (i) overly broad in that the term "report" is not defined; and (ii) is unduly burdensome in that the requested records are public records available through IDEM's virtual filing cabinet which is equally accessible to LBL as it is to Winfield. Notwithstanding the objection, please see, e.g. Winfield's response to Crown Point Data Request 1.7 and the Supplemental Response thereto.

Request No. 3.5:

In response to LBL's Data Request No. 1.7, subsection A, Winfield states, without further explanation, that "Winfield can serve LBL Development, LLC's initial development within one year."

a. Please describe Winfield's specific plans to serve LBL's property within a year, including by identifying specific projects required to do so and providing a timeline with projected construction milestones.

b. Please provide any analyses, reports, calculations, plans, and other documents demonstrating Winfield's ability to serve LBL's development within a year and identifying specific projects needed to serve LBL's development within a year.

Response:

Winfield objects to this Request because subsection (a) misstates Winfield's Response to LBL Request 1.7. Winfield stated in its Response to Request 1.7 that it "can" serve LBL's development, not that it is planning to do so within one year. Importantly, a significant portion of the LBL Development is within Winfield's existing municipal limits and in relative close proximately to the Gibson Street Lift Station. At this point, Winfield has not received a specific request for service for the portion of the LBL Development that is within the Town's boundaries or the area that is in the Disputed Area. Once such a request is made and Winfield can ascertain exactly when and where LBL first needs service, specific plans can be completed.

Although LBL has not shared its specific development plans with Winfield, Winfield has identified the existing and proposed facilities that can be used to serve the entire LBL Development within one year. This information was provided as part of Winfield's April 21, 2025 prefiled testimony and exhibits as well as in the information previously provided in the discovery process. Winfield further objects to this Request as it is unduly burdensome for Winfield to continually reproduce the previously provided records. Without waiving these objections, Winfield states the following: see Winfield's discovery responses in general, including its Responses to LBL Requests 1.7, 1.11, 1.17, and Crown Point Request 1.49; and Michael Duffy's and Jeremy Lin's April 21, 2025 prefiled testimony and exhibits.

Request No. 3.6:

In response to LBL's Data Request No. 1.7, subsection C, Winfield states that "the extension of service from Winfield's existing facilities to the proposed lift station #3 on 129th Avenue would cost $9,000,000."

a. Please provide a breakdown of what costs are included in this $9,000,000 figure, including, but not limited to, real estate, design, inspection, and construction costs of the lift station and any associated force mains and/or gravity sewers.

b. How does Winfield plan to pay for the $9,000,000 in construction costs (bonds, grants, cost share, revenue from rates, etc.)?

c. Has a cost estimate been developed for the infrastructure upgrades depicted on Exhibit 8 to Winfield Witness Duffy's testimony? If a cost estimate has been developed for the infrastructure upgrades depicted on Exhibit 8 to Witness Duffy's testimony, please provide that estimate, including a breakdown of costs by component, and the date of such estimate.

d. If no cost estimates have been prepared for Exhibit 8 to Witness Duffy's testimony, please explain: (1) why no cost estimate has been developed; and (2) the source of funding for each of the infrastructure upgrades depicted therein.

Response:

a. Please see the response to Crown Point Data Request 2.23.

b. As has been stated in prior discovery responses, Winfield has additional borrowing authority at this time, as well as significant funds of cash on hand. At the same time, recent Commission Orders have made it very clear that utilities, such as Winfield, must follow the Commission's Main Extension Rules. In light of the above, Winfield could pay for the construction costs with proceeds from bonds, grants, cost sharing, revenues from rates, and through a Main Extension Agreement. Some or all of these costs may be avoided or deferred as the Gibson Street Lift Station has existing capacity and not all improvements would need to be made at this time.

c. Please see the responses to Crown Point Data Request 2.24 and 2.25.

d. Please see the responses to Crown Point Data Request 2.24 and 2.25.

Request No. 3.7:

While page 86 of Winfield's 2023 Comprehensive Master Plan states that "Winfield will actively engage and collaborate with stakeholders to ensure efficient water and wastewater infrastructure service delivery[,]" Winfield states in its response to LBL's Data Request No. 1.9 that "Winfield does not maintain a list of stakeholders with whom it has communicated[.]" Please verify how Winfield will ensure the appropriate stakeholders are included in discussions and collaboration regarding Winfield's wastewater infrastructure if it keeps no record of what stakeholders have been contacted.

Response: Winfield objects to this request on grounds that it is not relevant and will not lead to the discovery of admissible evidence. Winfield has regularly communicated with LBL, described in detail its ability to serve, and offered to do so within a reasonable period of time. LBL does not have standing to represent the interests of all other stakeholders and therefore this request is inappropriate, irrelevant, and Winfield objects to the same. Notwithstanding the objections, Winfield maintains regular contact with residents, developers, landowners, and businessowners throughout the community. Through these efforts, Winfield engages with any and all stakeholders who discuss an interest in helping develop Winfield and the surrounding area. See Winfield's Response to LBL Request 1.9.

Request No. 3.8:

Please state whether Winfield has applied for and/or received funding from any loan or grant programs under the Indiana Finance Authority ("IFA") for infrastructure or operations regarding Winfield's wastewater utility.

Response: No, not at this time. As explained above, Winfield has already expended significant funds to upgrade its system in light of the findings in the 2016 Sanitary Master Plan. As development occurs and the need to construct future improvements arises, the IFA will be considered as a funding source.

Request No. 3.9:

Under Ind. Code § 5-1.2-10-16, Clean Water State Revolving Fund ("CWSRF") and Drinking Water State Revolving Fund ("DWSRF") (collectively, "SRF") loan recipients are required to provide "[d]ocumentation demonstrating that the participant has the financial, managerial, technical, and legal capability of operating and maintaining its water or wastewater collection and treatment system." Under Ind. Code § 5-1.2-10-16, a loan recipient must also "demonstrate that it has developed . . . an asset management program, as defined in the guidelines of the authority[.]"

If Winfield has applied for SRF funding, please provide the documentation it has submitted under Ind. Code § 5-1.2-10-16 supporting the fact that Winfield "has the financial, managerial, technical, and legal capability of operating and maintaining" its wastewater collection and treatment system and that it "has developed . . . an asset management program[.]"

Response: Not applicable; see Response to Request 3.8 herein.

Request No. 3.10:

Please provide copies of the "mathematical calculations [applied] to [Winfield's] anticipated and actual system operation" referenced by Winfield in its response to LBL's Data Request No. 1.11.

Response: Please see the Response to Crown Point Data Request Nos. 2.3, 2.5, and 2.6.

Request No. 3.11:

Please explain why Winfield does not have a Storm Water Management Model ("SWMM"), as stated in its response to LBL's Data Request No. 1.12, or some other form of model of its wastewater collection system.

Response: Because Winfield's wastewater system is a separated system (not a "CSO"), this Request seeks information that is not relevant nor reasonably calculated to lead to admissible evidence. Notwithstanding the objection, Winfield states it does not perform modeling on its collection system nor wastewater treatment and Winfield would however, note that it continuously monitors its wastewater system. See Response to LBL Request 1.11 and 1.22.

Request No. 3.12:

Please explain and provide documents or reports demonstrating what Winfield means in its response to LBL's Data Request No. 1.12 by the statement that Winfield "continuously monitors its wastewater system." What monitoring system or protocol does Winfield use, and what data is collected thereby? Please provide all wastewater monitoring data Winfield has collected since 2020.

Response: As part of its operations, Winfield and its professional engineers monitor the amount of flows at its wastewater treatment plant, as well the anticipated flows from future development. In this way, Winfield is able to determine both current and prospective flows at its wastewater treatment plant. As Winfield approaches 80% of its treatment capacity, it will begin to plan the next expansion to the Winfield WWTP.

Request No. 3.13:

If Winfield is not using sanitary sewer modeling to account for current and planned conditions in its sewer system, please provide any documents, analyses, reports, and the like that demonstrate Winfield's ability to service its current customers and connect planned customers.

Response: See Winfield's Response to Crown Point Request 1.27 and its Supplemental Response to Crown Point Request 1.14.

Request No. 3.14:

Winfield stated in its response to LBL's Data Request No. 1.14 that its wastewater treatment plant "would still have 0.9 [million gallons per day ('MGD')] reserve capacity at its current 1.6 MGD capacity if all remaining lots were immediately built out."

a. What does Winfield mean by "immediately built out"? Identify the approximate timeline of such an "immediate" build-out.

b. If all vacant lots in Winfield were immediately developed, would the existing 1.6 MGD plant still have 0.9 MGD of reserve average day capacity? Please provide calculations supporting this assertion, demonstrating the number of lots to be built out, the capacity needed for this development, and the timeline of such development.

Response:

a. **The term immediately built out means that all remaining lots are immediately constructed with waste producing structures on them. In terms of timing, Winfield has already provided a specific answer to this question in its original response to Request No. 1.14. In addition, Winfield has provided a specific response to estimated growth within its service territory and the anticipated flows therefrom as part of its response to Crown Point Data Request No. 2.3. A copy of this request was served on LBL.**

b. Yes.

Request No. 3.15:

Please provide copies of the "general engineering estimates associated with the cost of expanding wastewater treatment capacity" referenced in Winfield's response to LBL's Data Request No. 1.15.

Response: Winfield has not prepared a formal estimate or study as to final or total cost for expansion of its existing plant from 1.6 MGD to 4.0 MGD. This should not be a surprise as Winfield completed the expansion to its existing wastewater treatment plant approximately two weeks ago. Winfield's general engineering estimates have not been reduced to a study, but instead based on the cost of completing its most recent expansion. Finally, Winfield would note that it may not immediately expand its WWTP from 1.6 MGD to 4.0 MGD. Depending on the level of and needs for future development, the WWTP may be expanded in smaller increments to avoid rate shock for its customers. For these reasons, no costs have been formalized at this time.

Request No. 3.16:

Please provide documentation for how the wastewater treatment plant expansions from 1.6 MGD to 4.0 MGD would be paid for, whether through grants, rate increases, or existing revenues.

Response: As explained in the Response to Request No. 3.15, Winfield completed the current expansion to its wastewater treatment plant approximately two weeks ago. Winfield has not prepared a formal study as to the final cost of a 4.0 MGD expansion due to the speculative nature of if and when such an expansion would be needed and necessary. As indicated previously, Winfield's borrowing power continues to increase as it adds new customers to its system and its cash reserves also continue to grow. Fortunately, Winfield is like many growing communities in that it has a relatively new system with rapidly increasing revenues that will (also with its SDC's) help fund the costs of future expansion with hopefully very little impact on its rates.

Request No. 3.17:

Please provide financial account statements to support Winfield's assertion, made in response to LBL's Data Request No. 1.16 and elsewhere, that it has "significant cash on hand that can be used for capacity related projects[.]"

Response: See page 9 of the Financial Analysis prepared and filed by Jennifer Wilson as part of her prefiled direct testimony. In addition, Winfield would note that the current balance in its system development charge account is $3,366,856.12.

Request No. 3.18:

Please provide any updated or amended version of Winfield's agreement with Utility Services Corporation since January 2025.

Attachment MCJ-4

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

IN THE MATTER OF THE PETITION OF THE TOWN OF WINFIELD, LAKE COUNTY, INDIANA, FOR APPROVAL OF A REGULATORY ORDINANCE ESTABLISHING A SERVICE TERRITORY FOR THE TOWN'S MUNICIPAL SEWER SYSTEM PURSUANT TO IND. CODE 8-1.5-6 ET. SEQ.	)))))))	**CAUSE NO. 45992**

TOWN OF WINFIELD, INDIANA'S
RESPONSE TO THE CITY OF CROWN POINT'S DATA REQUEST SET NO. 1

Town of Winfield, Indiana ("Winfield"), by counsel, hereby provides its response to the City of Crown Point's Data Request Set No. 1 as follows:

II. Data Request

Request No. 1.1:

Please provide copies of any amendments to the Town of Winfield Ordinance No. 358 approved after December 27, 2023, together with all exhibits.

Response:

There are no documents responsive to this Request.

Request No. 1.2:

Please provide copies of all Winfield ordinances, operative on, and after, December 27, 2023, relating to Winfield's sewer service, including, but not limited to, sewer rates and charge, sewer user terms, conditions, rules and regulations, and non-recurring charges and fees, including exhibits.

Response:

See Petitioner's Exhibits 17 and 18 attached to Jennifer Wilson's April 21, 2025 Prefiled Direct Testimony and Exhibits.

Request No. 1.3:

Please provide copies of any amendments to Winfield's Sewer Rate Ordinance No. 143-F and Winfield's System Development Charge Ordinance No. 143-G approved after December 27, 2023, including all exhibits thereto.

decades. As noted in its prefiled testimony and exhibits, Winfield has adopted Comprehensive Master Plans dating back to 2006, in which Winfield exercised jurisdiction over planning and the delivery of municipal services to an area that includes the Winfield Service Territory. In addition, Winfield has prepared a 2016 Sanitary Sewer Master Plan that identifies the facilities that are immediately adjacent to the Winfield Service Territory which will have sufficient capacity to provide service to Winfield Service Territory. Based on its planning efforts and expenditure of funds to provide service to the Winfield Service Territory, it is fair to Winfield and its existing rate payers that Winfield have exclusive territorial rights to the Winfield Service Territory.

Request No. 1.26:

Please provide the planning reports and/or materials assembled by Winfield in support of and/or relating to the current 0.8 MGD to 1.6 MGD WWTP expansion.

Response:

The term "planning reports and/or materials" is vague, ambiguous, and unclear. Consequently, Winfield does not know or understand the information that Crown Point seeks. Notwithstanding the objection, please see Exhibit 1.26 and Mr. Jeremy Lin's April 21, 2025 Amended and Restated Prefiled Direct Testimony and Exhibits.

Request No. 1.27:

Please provide the planning reports and/or materials assembled by Winfield in support of and/or relating to future Winfield wastewater collection, conveyance, and treatment capabilities required for Winfield to provide sewer service in the proposed Winfield Requested Area.

Response:

Winfield objects to this Request as the term "planning reports and/or materials" is vague, ambiguous, and unclear, and Winfield does not know or understand the information that Crown Point seeks. Notwithstanding this objection, please see the Amended and Restated Prefiled Testimony and Exhibits of Mr. Michael Duffy and Jeremy Lin that were filed in this Cause on April 21, 2025. In addition, attached as Exhibit 1.27, is a complete copy of the 2016 Sanitary Sewer Master Plan. Please see also Petitioner's Exhibits 8 and 10 attached to Mr. Duffy's Amended and Restated Prefiled Direct Testimony and Exhibits, as well as the attached Exhibit 1.26.

Request No. 1.28:

Please identify Winfield's existing sewer facilities and provide corresponding capacity capabilities, including, but not limited to, the following:

(1) WWTP – design flows and loadings capabilities;

(2) major lift stations – design flows capabilities; and

(3) major transmission and collection system pipes, diameters, and corresponding full flow capacities.

Response:

See Mr. Duffy's and Mr. Lin's Amended and Restated Prefiled Direct Testimony and Exhibits and the attached Exhibit 1.27. As Mr. Duffy explained, the Gibson Street Lift Station is designed to have three (3) pumps and two (2) force mains for the Proposed Service Area; but now only has two (2) pumps and one (1) force main. Winfield can either add a pump or enlarge the current pumps and it could also add a force main. Winfield could then build a line from the Gibson Street Lift Station to 129th Street and then west to a lift station (i.e., Lift Station 3). See also Exhibit 1.26.

Request No. 1.29:

Please provide Winfield Sewer Utility's last three (3) years of Monthly Reports of Operations ("MRO") and corresponding monthly average flows and loadings. Please clearly denote the maximum monthly flows and loadings, (including, Biological Oxygen Demand, Suspended Solids, Ammonia, and Phosphorus) recognized over this time frame.

Response:

Winfield objects to this Request on grounds that it is redundant and unduly burdensome in that these records are public records available through IDEM's virtual filing cabinet, which is as equally accessible to Crown Point as it is Winfield Without waiving said objection, please see the Response to Request No. 1.7. The MROs speak for themselves.

Request No. 1.30:

Please state if areas within Winfield's existing sewer service area (corporate limits) are currently not receiving sewer service (no wastewater collection and conveyance facilities). If so, list and clearly identify and clearly show on a Winfield map, these areas and state if Winfield intends to provide sewer service to said areas. If Winfield intends to provide sewer service to these areas, please provide all planning materials for such service, and state when the service will be provided.

Response:

For the location of Winfield's sewer facilities as of 2016, please see the attached Exhibit 1.27. There are many areas within Winfield's existing municipal boundaries that are currently unoccupied, undeveloped farm ground, or large rural settings with no desire or need for wastewater collection and conveyance facilities. If and when these areas develop at some point in the future, Winfield can make arrangements to extend service consistent with Indiana law. For a copy of Winfield's plans with respect to providing municipal

services, please see Petitioner's Exhibits 3 and 4 attached to Mr. Beaver's April 21, 2025 Prefiled Direct Testimony and Exhibits, Petitioner's Exhibits 6, 8, and 10 attached to Mr. Duffy's Amended and Restated Prefiled Direct Testimony and Exhibits, Petitioner's Exhibits 12, 13, and 14 that are attached to Mr. Lin's Amended and Restated Prefiled Direct Testimony and Exhibits, as well as Exhibit 1.26.

Request No. 1.31:

Please describe in detail the condition of Winfield's existing sewer facilities including, but not limited to, the WWTP, lift stations, gravity sewers, etc. Please provide copies of any documents, reports, studies, analysis, and the like that describe the condition of those facilities, and note which were used or referred to in preparing the descriptions provided in your response above.

Response:

Please see the 2016 Sanitary Sewer Master Plan which is attached to this Response as Exhibit 1.27. The master plan represents the facilities' conditions as of 2016. Since that time, the Town has made a number of upgrades and improvements which will be reflected in the next master plan. Please also see Exhibit 1.26.

Request No. 1.32:

Please provide a to-scale drawing of the Winfield existing WWTP site showing property boundaries, existing treatment structures/facilities, existing piping connecting existing treatment structures/facilities, and discharge location.

Response:

Please see Petitioner's Exhibits 12 and 13 attached to Mr. Lin's Amended and Restated Prefiled Direct Testimony and Exhibits. Please also see Exhibit 1.26.

Request No. 1.33:

Please provide a to-scale drawing of Winfield's existing collection system showing main lift stations and force mains, and corresponding pumping capacities, force main pipe diameters, routing, and discharge locations.

Response:

Please see Exhibit 1.27 which represents the facilities as of 2016. As Winfield continues to develop and its needs change, Winfield will update its master plan.

Request No. 1.34:

Please provide a to-scale drawing of Winfield's existing collection and conveyance sewers showing diameters, routing, and corresponding full pipe flow conveyance capacities.

Response:

Is Ms. Wilson aware of any Indiana municipal wastewater utilities that have issued debt with Building Corporation debt? If so, please identify those utilities and explain the circumstances of such debt issuance. State which of those municipal wastewater utilities were clients of Ms. Wilson.

Response:

Ms. Wilson is aware that the City of Boonville, Indiana, has used a building corporation structure to construct utility facilities and another utility in northwestern Indiana has used or is considering using this structure as well. These utilities were not clients of Ms. Wilson.

Request No. 1.72:

Of those municipal wastewater utilities Ms. Wilson has represented, how many tried to issue additional debt when it could not satisfy parity requirements?

Response:

Ms. Wilson would further note that the Winfield Sewer Utility could easily have achieved parity by increasing its rates. By way of example, Crown Point satisfied its parity requirements by increasing its rates to almost $160.00 per month for an out-of-town customer. Winfield, on the other hand, chose to use a building corporation financing bond in order to maintain the low user rates and attract economic development to the Winfield Service Territory.

Request No. 1.73:

Is it common practice for a municipal utility to issue additional debt when it cannot satisfy parity requirements? If yes, please identify those municipal utilities which you know to have engaged in such debt issuances and provide details of those debt issuances.

Response:

Winfield objects to this Request as it assumes facts not in evidence. Winfield’s decision to use a building corporation structure is permissible under Indiana law and a creative solution to maintain low rates and to attract economic development.

Request No. 1.74:

What happens to the Building Corporation Bonds if Winfield does not pay the required rent to the Building Corporation?

Response:

If Winfield does not pay the required rent to the building corporation, then it would be a breach of the lease between the parties.

Request No. 1.75:

What is Winfield's source of revenue for Winfield's rental payments to the Building Corporation?

Response:

Winfield objects to this Request on grounds that it seeks information that it is not relevant nor reasonably calculated to lead to the discovery of admissible evidence in that Winfield is not using utility ratepayer funds as repayment for these bonds.

Request No. 1.76:

Why does Winfield's sewer utility not have sufficient revenue to allow for the issuance of additional sewer revenue bonds?

Response:

Winfield objects to this Request on grounds that the Request misstates the facts in evidence. Based on the Prefiled Testimony and Exhibits of Ms. Wilson, Winfield does have sufficient revenue and can issue additional sewer bonds without raising rates.

Request No. 1.77:

When did Winfield last increase its sewage rates and by how much? Please provide the schedule of increased rates and charges

Response:

Please see Petitioner's Exhibits 17 and 18 attached to Ms. Wilson's April 21, 2025 Prefiled Direct Testimony and Exhibits.

Request No. 1.78:

When does Winfield expect it will next increase its sewage rates, and how much of an increase will it likely be? Provide Winfield's projections and calculations of estimated possible future wastewater rate increases.

Response:

Winfield does not currently anticipate increasing its sewer rates for the foreseeable future. Therefore, there are no projections and calculations of estimated of future wastewater rate increases.

Request No. 1.79:

Describe in detail what Winfield has done to determine if its current sewage rates will be increased and provide the accounting and finance analysis that was performed.

Response:

Attachment MCJ-5

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

IN THE MATTER OF THE PETITION OF THE TOWN OF WINFIELD, LAKE COUNTY, INDIANA, FOR APPROVAL OF A REGULATORY ORDINANCE ESTABLISHING A SERVICE TERRITORY FOR THE TOWN'S MUNICIPAL SEWER SYSTEM PURSUANT TO IND. CODE 8-1.5-6 ET. SEQ.	)))))))	**CAUSE NO. 45992**

TOWN OF WINFIELD, INDIANA'S
FIRST SUPPLEMENTAL RESPONSE TO THE CITY OF CROWN POINT'S DATA REQUEST SET NO. 1

Town of Winfield, Indiana ("Winfield"), by counsel, hereby provides its first supplemental response to the City of Crown Point's Data Request Set No. 1 as follows:

II. Data Request

Request No. 1.2:

Please provide copies of all Winfield ordinances, operative on, and after, December 27, 2023, relating to Winfield's sewer service, including, but not limited to, sewer rates and charge, sewer user terms, conditions, rules and regulations, and non-recurring charges and fees, including exhibits.

Response:

Winfield supplements its prior Response to this Request as follows: See Exhibit 1.2.

Request No. 1.7:

Please provide copies of all of Winfield's sewer system Monthly Reports of Operations submitted to the Indiana Department of Environmental Management ("IDEM") for 2021, 2022, 2023, and 2024 and to date.

Response:

Without waiving the objection Winfield previously raised regarding this Request, see previously provided Monthly Reports of Operations for 2023–2025 and the attached Monthly Reports of Operations for 2021 and 2022 which collectively constitute Exhibit 1.7.

Request No. 1.17:

How much WWTP capacity does Winfield project it will need to serve current and future sewer requirements within Winfield's Requested Area expansion each year for the next twenty (20) years? Provide the Winfield planning documents that support those annual projected capacity needs.

Response:

Winfield supplements its prior Response to this Request as follows: See also Exhibit 1.43 and Exhibit 1.27.

Request No. 1.30:

Please state if areas within Winfield's existing sewer service area (corporate limits) are currently not receiving sewer service (no wastewater collection and conveyance facilities). If so, list and clearly identify and clearly show on a Winfield map, these areas and state if Winfield intends to provide sewer service to said areas. If Winfield intends to provide sewer service to these areas, please provide all planning materials for such service, and state when the service will be provided.

Response:

Winfield supplements its prior Response to this Request as follows: See Exhibit 1.30.

Request No. 1.33:

Please provide a to-scale drawing of Winfield's existing collection system showing main lift stations and force mains, and corresponding pumping capacities, force main pipe diameters, routing, and discharge locations.

Response:

Winfield supplements its prior Response to this Request as follows: See Response to Request 1.30.

Request No. 1.34:

Please provide a to-scale drawing of Winfield's existing collection and conveyance sewers showing diameters, routing, and corresponding full pipe flow conveyance capacities.

Response:

Winfield supplements its prior Response to this Request as follows: See Response to Request 1.30.

Request No. 1.72:

Of those municipal wastewater utilities Ms. Wilson has represented, how many tried to issue additional debt when it could not satisfy parity requirements?

Response:

Winfield supplements its prior Response to this Request as follows: Ms. Wilson has not represented a wastewater utility that tried to issue additional debt when it could not satisfy parity requirements.

Request No. 1.73:

Is it common practice for a municipal utility to issue additional debt when it cannot satisfy parity requirements? If yes, please identify those municipal utilities which you know to have engaged in such debt issuances and provide details of those debt issuances.

Response:

Without waiving the objections Winfield previously raised regarding this Request, Winfield states the following: An option available to a utility to issue additional debt when it cannot satisfy parity requirements is to issue debt junior to the senior bonds, thus avoiding the requirements to issue parity bonds. Ms. Wilson, in her decades long career, can recollect one entity that issued junior bonds. Fort Wayne Municipal Sewage Works issued junior bonds that were junior to the Fort Wayne Municipal Sewage Works Refunding Revenue Bonds of 1985.

Request No. 1.75:

What is Winfield's source of revenue for Winfield's rental payments to the Building Corporation?

Response:

Without waiving the objections Winfield previously raised regarding this Request, Winfield states the following: The Lease Rental Payments paid by the Town of Winfield under the Lease are payable from an ad valorem property tax to be levied on all taxable property in the Town of Winfield.

Request No. 1.80:

What sewage rate increase, over the sewage rates in effect at the time of the enactment of Winfield's Ordinance No. 358, would be needed to allow Winfield to meet its parity requirements?

Attachment MCJ-6

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

IN THE MATTER OF THE PETITION OF THE TOWN OF WINFIELD, LAKE COUNTY, INDIANA, FOR APPROVAL OF A REGULATORY ORDINANCE ESTABLISHING A SERVICE TERRITORY FOR THE TOWN'S MUNICIPAL SEWER SYSTEM PURSUANT TO IND. CODE 8-1.5-6 ET. SEQ.	)))))))	**CAUSE NO. 45992**

TOWN OF WINFIELD, LAKE COUNTY, INDIANA'S RESPONSE TO THE CITY OF CROWN POINT, INDIANA'S SECOND SET OF DISCOVERY REQUESTS

Request 2.1:

Please provide a copy of the analysis referenced in Lin Q & A 12 that points to Winfield's ability to serve the flows "from both the current and future economic development within the Town's existing municipal limits and the Winfield Service Territory for the foreseeable future."

Response:

See Response to the below Request 2.3 and the 2016 Sanitary Master Plan previously provided as Exhibit 1.27 attached to Winfield's Response to Crown Point's First Set of Discovery Requests. In addition, please see the June 6, 2025 Supplemental Response to Crown Point Request No. 1.17.

Request 2.2:

Is the area Mr. Lin refers to as "the Winfield Service Territory" the requested expansion south from Winfield's corporate limits?

Response:

The Winfield Service Territory refers to the proposed service territory described in Ordinance No. 358.

Request 2.3:

Mr. Lin state at page 6 Based on our analysis, we believe this capacity will be sufficient to serve the flows from both the current and future economic development within the Town's existing municipal limits and the Winfield Service Territory for the foreseeable future."

a. How long is that "foreseeable future"?

-20-Year Growth Projections - including areas and customers/home within Winfield's existing service area that are currently unserved, known growth areas, and anticipated growth areas and projections;
-Facilities Improvements Alternatives – Analysis of alternative improvements to best serve the 20-year growth projections and identified anticipated new user needs and present worth cost analyses to aid in selection of alternatives;
-Recommended Improvements Projects – Selection of alternative improvements and planning level timelines for implementation;
-Costs – Engineer's Opinions of Probable Construction, Non-Construction, and Total Project Costs, anticipated means of financing recommended improvements, mechanisms of financing recommended improvements, and rate impacts.

If so, please provide a copy of this, or any, planning material for the 4 MGD WWTP. If not already prepared, please explain what planning has occurred and why these "typical" planning level materials have not yet been assembled, and state if, and when, you anticipate assembling this information.

Response:

Winfield completed an expansion to its wastewater treatment plant from .8 MGD to 1.6 MGD. See Response to the above Request 2.9, the below Request 2.12, and Winfield's Response to Crown Point's Request 1.52.

Request 2.11: The existing WWTP process facilities appear to primarily consist of: (1) a screen building, (2) an oxidation ditch, (3) blowers, (4) clarifiers, (5) UV disinfection and post aeration. The WWTP sludge facilities appear to primarily consist of: (1) an anaerobic digester, (2) aerobic digesters, (3) decant tank, (4) sludge drying bed, (5) sludge dewatering facilities. Is this correct? If not, what additional unit processes/facilities have been omitted or misdescribed?

Response:

There is no anaerobic digester. The drying bed is misdescribed as it is the vactor truck dump containment pad.

Request 2.12: Does Winfield plan on performing the improvements illustrated in Exhibit 12 or does Winfield plan on performing phased improvements that provide incremental capacity increases to its WWTP? If phased improvements, please identify the planning level phasing projects, and corresponding Opinions of Probable Construction, Non-Construction, and Total Project Costs and the dates they were prepared.

Response:

As stated above, Winfield has only recently completed the expansion of its wastewater treatment plant form .8 MGD to 1.6 MGD. In terms of future planning, Winfield has received preapproval to use the existing treatment plant site to expand at minimum to 4 MGD. Because a future expansion to the wastewater treatment plant is most likely years in the future, Winfield has not

completed any detailed planning or preparation of cost estimates for the new plant. Winfield would note, however, that future expansions can be done in phases depending upon the need of Winfield and its customers.

Request 2.13:

Does Winfield have adequate collection and conveyance facilities in place to fully utilize its remaining 1.2MGD treatment capacity for the expanded service territory? If not, what are the planning level project details, costs, timeline, mechanism of financing, and user rate impacts to achieve these collection and conveyance capabilities? If yes document and show how they are adequate.

Response:

In its prefiled testimony and exhibits, as well as in its prior response to Crown Point's Data Request, Winfield has outlined its existing transmission facilities that would be used to serve the Disputed Area. As part of its prior discover responses, Winfield has estimated that the cost to extend the transmission facilities necessary to service the entire Disputed Area would cost $9,000,000.00. To the extent additional facilities are needed to serve the Disputed Area, Winfield has significant cash on hand, additional borrowing capacity, and the ability to share costs with the developer consistent with Indiana law and the Commission's Main Extension Rule.

Request 2.14.

Aside from the Exhibit 12 concept of WWTP expansion, what planning have you performed with respect to capacity expansion needs for the WWTP?

a. Have you assembled a preliminary engineering report inclusive of:
    1. Planning Area
    2. Existing Facilities Conditions and Needs
    3. Existing Service Area – Identification Potential Users Currently Not Served by the Utility
    4. 20-year Growth Projection
    5. Alternative Improvements
    6. Recommended Projects
    7. Schedule
    8. Financing and Rate Impact

If not, specifically what planning efforts have occurred for the next expansion of the WWTP from 1.6 MGD to 9 4.0 MGD?

Response:

Please see responses to Crown Point Request No. 2.3 and 2.12.

some of all of its costs when new customers connect to the facilities initially paid by the developer or property owner.

Request 2.22:

Will Winfield require in town sewer customers in to incur the costs of collection and conveyance facilities, required to transport wastewater from the expanded service territory to Winfield's WWTP? If not, detail from whom and how those costs will be collected.

Response:

See Response to the above Request 2.21.

Request 2.23:

It was stated that the Gibson Street Lift Station will be used initially to convey flow from the expanded service territory to 117th Ave. Lift Station, which then conveys flow to the existing WWTP. It was also stated that Gibson Street Lift Station could be upgraded to increase its ability to convey flow from the expanded serviced territory.

a. How much flow can Gibson Street accept from the expanded service territory prior to an upgrade to the Gibson Street Lift Station being required? At what flow level would Winfield begin the upgrade?

Response:

Winfield will provide an appropriate objection or response under separate cover.

b. What is the general planning level scope of work and project costs associated with upgrading the Gibson Street Lift Station to increase flow conveyance capacity (and what is this increased flow conveyance capacity and its total expected cost)?

Response:

Winfield has planned on this eventuality. Winfield estimates that it would cost $9 million to extend 9,000 feet of force main from the existing Gibson Street Lift Station to the new Lift Station No. 3 on 129th Street. Of the $9 million estimate, only $1.5 million is associated with the Gibson Street Lift Station capacity upgrade. As previously noted, the $9 million cost includes not only the pumps within the Gibson Street Lift Station, but also constructing a new, parallel force main from the Gibson Street Lift Station to the 117th Street Lift Station. This amount includes a 30% contingency. The sewage from the Winfield Service Area would then be transported to the Winfield WWTP. Winfield may phase in these improvements to reduce the upfront cost and allow it to maintain highly competitive user rates. See also Michael P. Duffy's Amended and Restated Prefiled Direct Testimony and Exhibits.

c. Once Gibson Street Lift Station is upgraded, will any downstream improvements be required to accommodate the increased flow? If so, please generally identify those improvements, the corresponding costs of each, and who will pay those costs.

Response:

Yes, there will be minor upgrades at the 117th Street Lift Station, which are included in the $9 million estimate referenced in referenced in Winfield's Response to Crown Point's Request 1.51. Winfield will address the associated costs consistent with Indiana law and the Commission's Main Extension Rules.

Request 2.24:

Once the improved Gibson Street Lift Station reaches its capacity, what do you anticipate the basis of design for Proposed Lift Station #2 and its discharging force main to Lift Station #1 will be and what is the corresponding planning level cost?

Response:

Based upon engineering analysis, the Gibson Street Lift Station has existing capacity to meet the initial needs of the Disputed Area. As development expands and approaches build out, improvements will need to be made to the Gibson Street Lift Station. However, Winfield and its professional engineers believe the Gibson Street Lift Station with appropriate upgrades will be able to receive all flows from the Disputed Area. If there is other development outside of the Disputed Area in Winfield's proposed service territory, there may be a need for Lift Stations #1 and #2. It is anticipated that Lift Station #2 and its associated force main to Lift Station #1 will be approximately $5.8 million and is sized as an equivalent to a 21 inch HDPE force main. This amount includes a 30% contingency. Based upon Winfield's current understanding of anticipated development in the Winfield Service Territory, it is not anticipated that Lift Station #2 will be needed for many years.

Request 2.25.

What is the basis of design for Proposed Lift Station #1 and its discharging force main to the existing WWTP and what is its corresponding planning level cost?

Response:

This is a conceptual design. As previously stated, the sizing timing and ultimate capacities of each of the lift stations will be based on how the service area develops. However, currently it is anticipated that lift station number one will be approximately $8.0 million and is sized as an equivalent to a 24 inch HDPE force main. This amount includes a 30% contingency. As noted above, Lift Station #1 is not needed to meet the anticipated sanitary sewer service of the Disputed Area. If and when development occurs outside the Disputed Area and within Winfield's Service Territory, Winfield will actively consider this option for service.

Attachment MCJ-7

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

IN THE MATTER OF THE PETITION OF THE TOWN OF WINFIELD, LAKE COUNTY, INDIANA, FOR APPROVAL OF A REGULATORY ORDINANCE ESTABLISHING A SERVICE TERRITORY FOR THE TOWN'S MUNICIPAL SEWER SYSTEM PURSUANT TO IND. CODE 8-1.5-6 ET. SEQ.	**)))) CAUSE NO. 45992)))**

TOWN OF WINFIELD, LAKE COUNTY, INDIANA'S
FIRST SUPLEMENTAL RESPONSE TO THE CITY OF CROWN POINT, INDIANA'S
SECOND SET OF DISCOVERY REQUESTS

Request 2.23:

It was stated that the Gibson Street Lift Station will be used initially to convey flow from the expanded service territory to 117th Ave. Lift Station, which then conveys flow to the existing WWTP. It was also stated that Gibson Street Lift Station could be upgraded to increase its ability to convey flow from the expanded serviced territory.

a. How much flow can Gibson Street accept from the expanded service territory prior to an upgrade to the Gibson Street Lift Station being required? At what flow level would Winfield begin the upgrade?

Response:

As indicated in the Gibson St Lift Station Capacity Certification and Application for Construction Permit, the Gibson St Lift Station has capacity for an additional 330 EDUs. If the Town were to plan for additional development to be served by this station, an expansion would be planned, designed and constructed as growth in the area is planned and progresses.

Attachment MCJ-8

Exhibit 1.20

Month/Year	Violations		Responses
January 2014	N/A		
February 2014	N/A		
March 2014	N/A		
April 2014	N/A		
May 2014	N/A		
June 2014	N/A		
July 2014	N/A		
August 2014	N/A		
September 2014	N/A		
October 2014	N/A		
November 2014	N/A		
December 2014	N/A		
January 2015	6	Ammonia Total Suspended Solids	Effluent Violations caused by clarifier drive unit failing. The assembly had to be removed and sent in for repair. The two backup claifiers were plcaed online after an extended period of time of preparation. The cause for the extended period of time was primarily weather related. Effluent results returned back under permit limits in early February.
February 2015	1	Ammonia	The one (1) ammonia effluent limit exceedance is a daily maximum violation that occurred on the 1st day of the month which was a carry-over from last month's maintenance problems. All effluent results for the remainder of the month are under permit limits.
March 2015	N/A		
April 2015	1	E. coli	
May 2015	2	TSS	TSS exeedances occurred in the early month while the main clarifier was still offline for repairs. The main clarifier was placed back online May 13. Effluent TSS dropped back below permit limits in the latter part of the month.
June 2015	N/A		

July 2015	N/A		
August 2015	N/A		
September 2015	2	TSS	TSS exceedances caused by Nocardia bacteria, heavy sludge wasting rectified issue, effluent contact chambers were cleaned out.
October 2015	N/A		
November 2015	N/A		
December 2015	N/A		
January 2016	N/A		
February 2016	N/A		
March 2016	N/A		
April 2016	4	Ammonia	Excessive effluent exceedances this month due to loss of nitrifiers. The WWTP developed a filamentous organism problem that was addressed by chlorinating the clarifier return sludge. Unfortunately, the amount of chlorine needed to kill off the filamentous also killed off the nitrifying organisms. Once the filamentous organisms were in check, activated seed sludge was brough in from a near nitrifying WWTP. Effluent quality returned back under permits limits in May.
May 2016	3	Ammonia	The three (3) effluent ammonia exceedances are from the plant upset that occured in April. As explained on the April 2016 DMR, the plant upset has been resolved.
June 2016	N/A		
July 2016	4	Ammonia	Approximately 618 gallons of ferric chloride siphoned from teh day tank into the WWTP headworks. This acidic overload caused a drastic decrease in the pH in teh biomass which halted all treatment. 900 pounds of lime was added to the WWTP immediately to neutralize the pH and 9,000 gallons of activated sludged was brough in from another local WWTP to restore nitrification. All effluent analytical results returned under permit limits the following week.

August 2016	1	Chlorine, Total Residual	Chlorine total residual violation was due to high flows caused by heavy precipitation.
September 2016	N/A		
October 2016	N/A		
November 2016	N/A		
December 2016	N/A		
January 2017	N/A		
February 2017	N/A		
March 2017	N/A		
April 2017	N/A		
May 2017	1	E. coli	
June 2017	N/A		
July 2017	N/A		
August 2017	1	Ammonia	The main blower failed over the weekend which caused lack of air to treatment plant resulting in high ammonia. Repair was made on Monday and everything returned to normal by the end of the week.
September 2017	N/A		
October 2017	N/A		
November 2017	N/A		
December 2017	N/A		
January 2018	N/A		
February 2018	N/A		
March 2018	N/A		
April 2018	1	E. coli	Issues with the chemical feed system caused E. coli exceedances. Repairs to the pump were completed and E. coli results returned to under permit limits.
May 2018	N/A		
June 2018	N/A		
July 2018	N/A		
August 2018	N/A		
September 2018	N/A		

October 2018	2	Ammonia Total Phosphorus	Unknown cause for the ammonia exceedance. Results returned under permit limits the following day. Ferric addition has been increased to help lower the Phosphorus levels.
November 2018	N/A		
December 2018	1	Ammonia	Unknown cause for the ammonia exceedance. Results returned under permit limits the following day.
January 2019	N/A		
February 2019	N/A		
March 2019	N/A		
April 2019	3	Ammonia Total Chlorine Residual	The TRC lbs/day monthly average limit was exceeded due to extremely high average daily flow rates on the 29th and 30th of the month. Effluent ammonia exceedances cause during the week of 4/21-4/27 when we began transferring the MLSS from teh primary aeration basin to the secondary aeration basin in order to thoroughly inspect the inside of the basin as a part of our routine preventative maintenance plan. The event caused two days of high effluent ammonia. In which the effluent ammonia returned back under permit limits to date.
May 2019	N/A		
June2019	N/A		
July 2019	N/A		
August 2019	N/A		
September 2019	1	Phosphorus	Heavy rain caused high flows at the end of the month. Issues with the Ferric pump caused phosphorus violations.
October 2019	N/A		
November 2019	N/A		
December 2019	N/A		
January 2020	N/A		
February 2020	N/A		
March 2020	N/A		
April 2020	1	TRC	Violation due to heavy rain and high flows.

May 2020	N/A		
June2020	N/A		
July 2020	N/A		
August 2020	N/A		
September 2020	N/A		
October 2020	N/A		
November 2020	N/A		
December 2020	N/A		
January 2021	14	Ammonia	Due to holiday weekend. unpreserved samples were accidently disposed of. Therefore, there are no samples results for CBOD & TSS sampling. Power surge took out phase monitor, aeration blower, and influent. When trying to recoverthe plant, we beleive too many solids were pumped out.
February 2021	6	Ammonia	High flows due to rapid snow melt. High ammonia is due to extreme cold weather.
March 2021	3	Ammonia, Phosphorus	Overnight blower failure caused a spike in effluent ammonia results. TPO4 exceedance due to problems related to the ferrous chloride pump and discharging tube. Replaced all discharge tubing .
April 2021	N/A		
May 2021	N/A		
June2021	N/A		
July 2021	N/A		
August 2021	N/A		
September 2021	N/A		
October 2021	N/A		
November 2021	N/A		

December 2021	3	Ammonia	We experienced both blowers falling simultaneously which left us without air for 3 days. Repairs were completed ASAP. Bacteria-cultured nitrifiers were added to expedite nitrogen removal.
January 2022	5	Ammonia Phosphorus	The main gear box on teh clarifier drive failed, perventing sludge wasting. The result was high ammonia effluent numbers for a short period of time. The drive was repaired and placed back online ASAP.
February 2022	5	Ammonia Phosphorus	Several mechanical problems caused by current construction of new WWTP are the causes of the elavated effluent parameter results. Attemped to bring in activated sludge to assist with building the biomass back up, but limited due to construction.
March 2022	4	Ammonia	The effluent exceedances that occured in March were all a result last month's mechanical problems and plant upset. By the third week of the month, all effluent test results were back under their permit limits.
April 2022	1	Phosphorus	UV system was placed online on 4/28. Ongoing construction at WWTP has caused challenges for chemical deliveries and being able to continuously feed ferric chloride for phosphorus removal.
May 2022	7	Ammonia BOD E. Coli Phosphorus	Exceedances due to the transfer of the old WWTP to the new WWTP. The transfer was completed on May 22.
June 2022	1	E. Coli	The E. coli violation was due to the wiper not working properly due to an electrical error. The electrical error was repaired and teh wiper has since been working properly and results have been within permit limits.
July 2022	N/A		
August 2022	N/A		
September 2022	N/A		
October 2022	N/A		
November 2022	N/A		

December 2022	N/A		
January 2023	N/A		
February 2023	N/A		
March 2023	N/A		
April 2023	1	E. Coli	UV bulbs not working at 100% at the start of disinfection season. UV bulbs were cleaned and replaced. E. coli returned to permit limits.
May 2023	N/A		
June 2023	1	TSS	TSS exceedance not caused by operational problem, but due to the composite sapmler intake falling to bottom of final chamber and picking up sand. You will see all TSS were satisfactory. THe sampler intake was pulled, cleaned, and braced more securely to prevent a recurrence.
July 2023	1	Phosphorus	Phosphorus exceedance due to clog in the ferrous discharging tube. The discharging tube has been cleaned out and results have returned to normal limits.
August 2023	N/A		
September 2023	N/A		
October 2023	N/A		
November 2023	N/A		
December 2023	N/A		
January 2024	N/A		
February 2024	N/A		
March 2024	4	Ammonia	An emergency repair was conducted on teh oxidation ditch that forced us to isolate each ditch ring to complete the repairs. During this week of repairs, March 5-7, is when we exceeded teh ammonia limits a total of eight times. Since the week of March 11 to current, we have met all ammonia limits.
April 2024	3	Phophorus	Phosphorus exceedance due to malfunction of ferric pump. New ferric pump has been ordered and ferric was added manually. E. coli

April 2024	3	E. Coli	pump has been ordered and ferric was added manually. E. coli exceedance was immediatley resampled and was within permit limits.
May 2024	1	Phophorus	Ferric injection point to process was clogged and caused numerous pump issues. The clog has been cleared and ferric dosage has returned to normal.
June2024	1	E. Coli	All bulbs were pulled and manually cleaned as soon as the exceedances were observed. All remaining E coli results were under the permit limits.
July 2024	N/A		
August 2024	N/A		
September 2024	N/A		
October 2024	N/A		
November 2024	N/A		
December 2024	N/A		
January 2025	N/A		
February 2025	N/A		
March 2025	N/A		
April 2025	N/A		

2501 Chicago St. Suite 4
Valparaiso, IN. 46383
Ph: (219) 759-0193 - Fax: (219) 759-0292
www.utilityservicescorp.com

July 1, 2021

Indiana Department of Environmental Management
Attn: Mr. Eddy Depositar
100 North Senate Ave.
Indianapolis, IN. 46204

Re: Complaint Investigation Response – Town of Winfield WWTP, IN0058343

Dear Mr. Depositar:

The Town of Winfield and the Town's contracted certified operator, Utility Services, are in receipt of the Complaint Investigation Summary Letter dated June 29, 2021.

Utility Services is contractually responsible for the overall operation of the wastewater treatment plant and the sanitary collection system, including all reporting. Utility Services takes full responsibility for missing the 24-hour reporting deadline. The reporting deadline was not met mainly due to all efforts were concentrated on properly addressing the overflow, which included; stopping the overflow ASAP, troubleshooting the cause, testing all electrical components, cleaning up the affected grounds, and ultimately assuring another outage and overflow would not occur again. In addition, an email error was found later in the day that prevented the original submittal from actually sending when the email was originally attempted to send. Please note the time of the signature on the overflow report. The report was supposed to be emailed minutes after the report was signed.

As reported on the Bypass/Overflow Incident Report, we believe severe thunderstorms in the area caused power surges and an incoming voltage imbalance that ultimately interrupted the operation of the lift station, including the cellular wireless monitoring unit. Because the telemetry unit was out of service at that time, no one was notified of this lift station being without power before it was too late, and the station was allowed to overflow. As soon as we were notified of the overflow, we had technicians onsite within 30 minutes, in which they were able to restore power to the lift station and stop the overflow immediately.

The wireless cellular monitoring unit on this lift station was thoroughly inspected and tested for proper operation. The only issue is a semi-scrambled screen, which is not essential to the success of this unit.

If you have any further questions concerning this matter, please do not hesitate to contact us.

Best Regards,
UTILITY SERVICES
Robert Gertzen Jr.
Bob Gertzen
President/CEO

Cc: Gerald Stiener, Town Council President, Town of Winfield
Town of Winfield Sewer Board

BYPASS / OVERFLOW INCIDENT REPORT

State Form 48373 (R6 / 6-15)
Indiana Department of Environmental Management
Office of Water Quality

☐ Follow-up to Bypass report previously sent on: _____

INSTRUCTIONS: *Complete all parts of this form and email signed copies to **wwreports@idem.IN.gov** or fax it to the Office of Water Quality (OWQ) at (317) 232-8637 or (317) 232-8406. Submittal of this report will satisfy the Office of Water Quality (OWQ) telephone and written bypass/overflow reporting requirements of your NPDES permit. You **must** use separate reports for different Overflow Types. **IDEM will not accept multiple reports on the same form.** You **must** fill out the form completely or it will be sent back to you for completion. If you have any questions while filling out the report form, please call the Compliance Program Coordinator at (317) 232-6770.*

To report a spill or if the release is resulting in a fish kill or other severe environmental damage, immediately report the release to the Emergency Response Section spill response line at: (317) 233-7745 or toll free within Indiana at (888) 233-7745.

GENERAL INFORMATION

(1) Facility Name *(Organization)*	(2) Mailing Address *(reporting organization)*	(3) County	(4) NPDES Permit
Town of Winfield	10645 Randolph St. Winfield, IN 46307	Lake	IN000058343

RELEASE INFORMATION (Location 1)

(5) Outfall Number:	(6) Date *(mm/dd/yy)* and Time Release Began:		(7) Date *(mm/dd/yy)* and Time Release Stopped:		(8) Location of Release: *(streets address or Manhole, Lift Station, Force Main etc.)*	(9) Latitude: *(Deg Min Sec)*	(9) Longitude: *(Deg Min Sec)*
N/A	5/6/24 6:30	☑ AM ☐ PM	5/6/24 8:15	☑ AM ☐ PM	101st Lift Station	41.434414	87.239141

(10) Amount of Flow Released *(Always provide a volume.)*	(11) WWTP Flow During Release	(12) Peak Hourly Flow
Check one: ☑ Estimated ☐ Actual 500 gallons	0.300 MGD	1.44 MGD

(13) Overflow Type *(Select one.)*
☑ Sanitary Sewer Overflow
☐ Treatment Bypass *(at wastewater plant)*
☐ Prohibited Combined Sewer Overflow
☐ Dry Weather Combined Sewer Overflow

(14) Describe any damage to aquatic life or receiving stream.

(15) Reason for Bypass/Overflow *(Select one or more.)*
☐ Construction Related ☐ Power Failure ☐ Equipment Failure ☐ Other ☐ Exceeded Max Capacity ☐ Precipitation Inches
☐ Line Blockage

(16) System Component(s) *(Select one or more.)*
☑ Manhole
☐ House Lateral
☐ Pipe Failure
☑ Pump Station Failure
☐ Treatment Bypassed
☐ Other
☐ Influent Structure
☐ Air Relief Valve
☐ Sewer Clean Out

Describe Other: *(in the box below)*

(17) Additional Description of the Bypass / Overflow Event:

The uninterruptible power supply unit was found tripped when arrived onsite. Electrician called the manufacturer to reset the unit. While on the phone with the manufacturer and unable to reset the unit it was discovered something internally was determined bad. A float was found sucked up into pump 2 in the down position. This caused the backup system into thinking the level was low, so the pumps didn't turn on.

(18) Description of the Area Impacted *(Check all that apply.)*
☑ Affected Private Property
☐ Basement Backup
☐ Occurred at Treatment Plant
☐ Reached Public Land
☐ Reached Receiving Water

Name of Receiving Water Impacted:

(19) Organizations Notified by Facility *(Select one or more.)*
☐ IDEM Emergency Response ☐ Health Dept ☐ DNR Fish and Wildlife ☐ Local Emergency Management ☐ Other:

(20) Actions Taken to Prevent, Minimize, or Mitigate Damage including Clean-up and Treatment of Affected Area
(Select one or more of the following, then add a written description.)
☐ Removed Blockage ☐ Repaired Pipe ☑ Repaired Pump Station ☐ Other ☐ Lime ☐ Clean-up Debris
Pumps were removed, pump 1 was unclogged reinstalled and tested for proper functionality. Pumps 2 was also pulled inspected and tested for proper fucnctioanlity and reinstalled.

(21) Resolution: Actions Taken or Planned to Prevent Recurrence

The float has been readjusted to a higher level to prevent the float from being sucked up by pump in the future. The uninterruptible power supply unit is currently being wired arouind until replacement unit is installed.

CERTIFICATION AND SIGNATURE

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. *(The area below is for a handwritten signature or an electronic substitute then fax or scan to PDF for emailing.)*

SIGNATURE: _____ DATE *(mm/dd/yy)*: 05/06/24

Individual Making Report *(printed)*	Telephone Number	Contact Email	Date *(mm/dd/yy)* / Time IDEM Notified	☐ AM ☐ PM
Sean Treece	219-707-1078	streece@utilityservicescorp.com		

Bypass/Overflow Incident Report Instructions

Below are numbered instructions for completing the Bypass/Overflow Incident Report State Form 48373. Do not leave any fields blank. Incomplete forms will be returned. Bypass/Overflow Reports must be submitted by the facility/system that is responsible for the maintenance and oversight of the collection system where the discharge occurred. Please refer to these instructions while filling out the report:

1. Facility Name (Organization): The facility name as it appears on the NPDES permit. For wastewater systems which do not have an active NPDES permit please enter NONE in the box.

2. Mailing Address: The address where all IDEM communication is sent.

3. County: The County in which the permitted facility is physically located.

4. NPDES Permit: The permit number associated with the facility. For wastewater systems which do not have an active NPDES permit mark this space as either "Terminated" for systems which had an NPDES permit in the past or "NA" for systems which have never had an NPDES wastewater permit.

5. Outfall Number: The number of the outfall associated with the Bypass/Overflow Incident as identified in the NPDES permit. For discharge locations which have not been specifically listed in the permit, mark as "NA".

6. Date and Time Release Began: If the exact date and time is not known, please indicate the date and time you became **aware** of the release.

7. Date and Time Release Ended: The exact date and time the release ended. If the release is ongoing at the time of the initial report submitted to meet the 24 reporting requirement, please leave this field blank and later resubmit an additional "Follow-up" report with the date and time that the discharge ended and check the "Follow-up to Bypass report previously sent on : ___" box in the upper right corner of the form.

8. Location of Release: The actual physical location of the release: Such as a Street Address; closest cross streets; Manhole ID; Lift Station; Force Main, etc. **NOTE:** Please give the most accurate information in regards to manholes, lift stations and force mains that can be referenced back to documentation at your facility.

9. Latitude and Longitude: The latitude and longitude fields on this report **are now required** by EPA; however, these fields can be left blank on the report if the sewer overflows are caused by an extreme weather event that flood the entire sewer system and are too numerous to count.

10. Amount of Flow Released: The flow released should be the best professional judgement from the facility on the estimated number of gallons (in MGD) of sewer overflow for **each** Sewer Overflow Discharge.

11. WWTP Flow During Release: The flow of the treatment plant when the release occurs.

12. WWTP Peak Design Flow: The observed peak flow rate treated through the wastewater treatment plant in one hour.

13. Overflow Type: Check one and only one box that best applies to the type of incident. **NOTE:** Dry weather CSO is generally interpreted as where there has been less than 0.1 inch of precipitation within the proceeding seventy-two (72) hours (three (3) days). Prohibited CSO discharges are defined as discharges from CSO outfalls identified in Attachment A of the NPDES permit as being "prohibited".

14. Describe any damage to aquatic life or receiving stream: Describe the conditions of the receiving stream and any aquatic life impaired by the incident.

15. Reason for Bypass/Overflow: Check **all** the boxes that apply to the specific incident.

16. Systems Component(s): Check **all** the boxes of components that are/were involved in the incident.

17. Additional Description of the Bypass/Overflow Incident: Provide additional detailed information regarding why the incident occurred that does not fit in the check boxes and supplemental details about the discharge event.

18. Description of the Area Impacted: Check **all** boxes of area(s) that were/are directly impacted by the discharge. If the discharge reached receiving waters identify those by name whenever possible.

19. Organizations Notified by Facility: Check **all** of the boxes that apply.

20. Actions Taken to Prevent, Minimize, or Mitigate Damage Including Clean-up and Treatment of Affected Area: Select **all** boxes that apply and then add additional description in box below.

21. Resolution: Actions Taken or Planned to Prevent Recurrence: Describe all actions taken and actions that **will** be taken to prevent the incident from reoccurring in the future.

    Certification and Signature: Complete this box in its **entirety**. NOTE: The person signing the document should be authorized to legally sign as a representative for the facility.

BYPASS / OVERFLOW INCIDENT REPORT

State Form 48373 (R7 / 4-16)
Indiana Department of Environmental Management
Office of Water Quality

☐ Follow-up to Bypass report previously sent on: _____

INSTRUCTIONS: *Complete all parts of this form and email signed copies to **wwreports@idem.IN.gov**. Submittal of this report will satisfy the Office of Water Quality (OWQ) telephone and written bypass/overflow reporting requirements of your NPDES permit. Please use and the second page of this form as necessary to identify **separate locations caused by the same event**. If you have any questions while filling out the report form, please contact Renee Repar at (317) 232-6770 or **rrepar@idem.in.gov**.*

To report a spill or if the release is resulting in a fish kill or other severe environmental damage, immediately report the release to the Emergency Response Section spill response line at: (317) 233-7745 or toll free within Indiana at (888) 233-7745.

GENERAL INFORMATION

(1) Facility Name *(Organization)*	(2) Mailing Address *(reporting organization)*	(3) County	(4) NPDES Permit
Town of Winfield	10645 Randolph St. Winfield IN 46307	Lake	IN0058343

RELEASE INFORMATION (Location 1)

(5) Outfall Number	(6) Date *(mm/dd/yy)* and Time Release Began	(7) Date *(mm/dd/yy)* and Time Release Stopped	(8) Location of Release *(streets address or Manhole, Lift Station, Force Main etc.)*	(9) Latitude *(Deg Min Sec)*	(9) Longitude *(Deg Min Sec)*
	11/14/18 6:00 ☑ AM ☐ PM	11/14/18 7:50 ☑ AM ☐ PM	NE corner of 101st and Randolph	41 26'04.8"	87 14'20.1"

(10) Amount of Flow Released *(Always provide a volume.)*	(11) WWTP Flow During Release	(12) WWTP Peak Design Flow Rate
Check one: ☑ Estimated ☐ Actual 1000 Gallons	0.288 MGD	0.4 MGD

(13) Overflow Type *(Select one.)*
- ☑ Sanitary Sewer Overflow
- ☐ Treatment Bypass *(at wastewater plant)*
- ☐ Prohibited Combined Sewer Overflow
- ☐ Dry Weather Combined Sewer Overflow
- ☐ Combined Sewer System Release

(14) Describe any damage to aquatic life or receiving stream:

(15) Reason for Bypass / Overflow *(Select one or more.)*
☐ Construction Related ☐ Power Failure ☑ Equipment Failure ☐ Unknown ☐ Exceeded Max Capacity ☐ Precipitation Inches

(16) System Component(s) *(Select one or more.)*
- ☑ Manhole
- ☐ House Lateral
- ☐ Pipe Failure
- ☐ Pump Station Failure
- ☐ Treatment Bypassed
- ☐ Other
- ☐ Influent Structure
- ☐ Air Relief Valve
- ☐ Sewer Clean Out

Describe Other: *(in the box below)*

(17) Additional Description of the Bypass / Overflow Event:

101st liftstation backed up due to controller failure. SSO occurred at 2nd manhole upstream on the NE corner of 101st and Randolph. Approximately 1000 gallons enter the ditch to the north.

(18) Description of the Area Impacted *(Check all that apply.)*
- ☐ Affected Private Property
- ☐ Basement Backup
- ☐ Occurred at Treatment Plant
- ☑ Reached Public Land
- ☐ Reached Receiving Water

Name of Receiving Water Impacted:

(19) Additional organizations notified by facility, if necessary *(Select one or more.)*
☐ IDEM Emergency Response ☐ Health Dept. ☐ DNR Fish and Wildlife ☐ Local Emergency Management ☐ Other:

(20) Actions Taken to Prevent, Minimize, or Mitigate Damage including Clean-up and Treatment of Affected Area
(Select one or more of the following, then add a written description.)
☐ Removed Blockage ☐ Repaired Pipe ☑ Repaired Pump Station ☐ Other ☐ Lime ☐ Clean-Up Debris

(21) Resolution: Actions Taken or Planned to Prevent Recurrence

Controller power was repaired and back up floats were checked.

(22)

CERTIFICATION AND SIGNATURE

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. *(The area below is for a handwritten signature or an electronic substitute then fax or scan to PDF for emailing.)*

SIGNATURE: _____ DATE *(month, day, year)*: 11/14/2018

Individual Making Report *(printed)*	Telephone Number	Contact Email	Date *(month, day, year)* / Time IDEM Notified	
Bob Gertzen Jr.	219-759-0193	bgertzen@utilityservicescorp.com	11/14/2018 11:15	☑ AM ☐ PM

BYPASS / OVERFLOW REPORT *(Supplemental Locations)*

State Form 48373 (R7 / 4-16)
Indiana Department of Environmental Management
Office of Water Quality

☐ Follow-up to Bypass report previously sent on: _____

(23) *Complete all parts of each table for additional discharge locations caused by the same event as on the first page. For any locations identified in the NPDES permit, include the Outfall number for that location from the permit.*

RELEASE INFORMATION (Location 2)

Outfall Number	Date *(mm/dd/yy)* and Time Release Began	Date *(mm/dd/yy)* and Time Release Stopped	Location of Release *(streets address or Manhole, Lift Station, Force Main etc.)*	Latitude *(Deg Min Sec)*	Longitude *(Deg Min Sec)*
	☐ AM ☐ PM	☐ AM ☐ PM			

Amount of Flow Released	Description of the Area Impacted *(Check all that apply.)*	Name of Receiving Water Impacted
☐ Estimated ☐ Actual Gallons	☐ Affected Private Property ☐ Basement Backup ☐ Reached Public Land ☐ Reached Receiving Water	

RELEASE INFORMATION (Location 3)

Outfall Number	Date *(mm/dd/yy)* and Time Release Began	Date *(mm/dd/yy)* and Time Release Stopped	Location of Release *(streets address or Manhole, Lift Station, Force Main etc.)*	Latitude *(Deg Min Sec)*	Longitude *(Deg Min Sec)*
	☐ AM ☐ PM	☐ AM ☐ PM			

Amount of Flow Released	Description of the Area Impacted *(Check all that apply.)*	Name of Receiving Water Impacted
☐ Estimated ☐ Actual Gallons	☐ Affected Private Property ☐ Basement Backup ☐ Reached Public Land ☐ Reached Receiving Water	

RELEASE INFORMATION (Location 4)

Outfall Number	Date *(mm/dd/yy)* and Time Release Began	Date *(mm/dd/yy)* and Time Release Stopped	Location of Release *(streets address or Manhole, Lift Station, Force Main etc.)*	Latitude *(Deg Min Sec)*	Longitude *(Deg Min Sec)*
	☐ AM ☐ PM	☐ AM ☐ PM			

Amount of Flow Released	Description of the Area Impacted *(Check all that apply.)*	Name of Receiving Water Impacted
☐ Estimated ☐ Actual Gallons	☐ Affected Private Property ☐ Basement Backup ☐ Reached Public Land ☐ Reached Receiving Water	

RELEASE INFORMATION (Location 5)

Outfall Number	Date *(mm/dd/yy)* and Time Release Began	Date *(mm/dd/yy)* and Time Release Stopped	Location of Release *(streets address or Manhole, Lift Station, Force Main etc.)*	Latitude *(Deg Min Sec)*	Longitude *(Deg Min Sec)*
	☐ AM ☐ PM	☐ AM ☐ PM			

Amount of Flow Released	Description of the Area Impacted *(Check all that apply.)*	Name of Receiving Water Impacted
☐ Estimated ☐ Actual Gallons	☐ Affected Private Property ☐ Basement Backup ☐ Reached Public Land ☐ Reached Receiving Water	

RELEASE INFORMATION (Location 6)

Outfall Number	Date *(mm/dd/yy)* and Time Release Began	Date *(mm/dd/yy)* and Time Release Stopped	Location of Release *(streets address or Manhole, Lift Station, Force Main etc.)*	Latitude *(Deg Min Sec)*	Longitude *(Deg Min Sec)*
	☐ AM ☐ PM	☐ AM ☐ PM			

Amount of Flow Released	Description of the Area Impacted *(Check all that apply.)*	Name of Receiving Water Impacted
☐ Estimated ☐ Actual Gallons	☐ Affected Private Property ☐ Basement Backup ☐ Reached Public Land ☐ Reached Receiving Water	

RELEASE INFORMATION (Location 7)

Outfall Number	Date *(mm/dd/yy)* and Time Release Began	Date *(mm/dd/yy)* and Time Release Stopped	Location of Release *(streets address or Manhole, Lift Station, Force Main etc.)*	Latitude *(Deg Min Sec)*	Longitude *(Deg Min Sec)*
	☐ AM ☐ PM	☐ AM ☐ PM			

Amount of Flow Released	Description of the Area Impacted *(Check all that apply.)*	Name of Receiving Water Impacted
☐ Estimated ☐ Actual Gallons	☐ Affected Private Property ☐ Basement Backup ☐ Reached Public Land ☐ Reached Receiving Water	

(ATTACH ADDITIONAL SHEETS IF NECESSARY.)

CERTIFICATION AND SIGNATURE

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.

SIGNATURE: _____ DATE *(month, day, year)*: _____

Bypass/Overflow Incident Report Instructions

Below are numbered instructions for completing the Bypass/Overflow Incident Report State Form 48373. Please fill all fields that you can and as accurately as you can. Bypass/Overflow Reports must be submitted by the facility/system that is responsible for the maintenance and oversight of the collection system where the discharge occurred. Please refer to these instructions while filling out the report:

1. Facility Name (Organization): The facility name as it appears on the NPDES permit. For wastewater systems which do not have an active NPDES permit please enter NONE in the box.

2. Mailing Address: The address where all IDEM communication is sent.

3. County: The County in which the permitted facility is physically located.

4. NPDES Permit: The permit number associated with the facility. For wastewater systems which do not have an active NPDES permit mark this space as either "Terminated" for systems which had an NPDES permit in the past or "N/A" for systems which have never had an NPDES wastewater permit.

5. Outfall Number: The number of the outfall associated with the Bypass/Overflow Incident as identified in the NPDES permit. For discharge locations which have not been specifically listed in the permit, mark as "N/A".

6. Date & Time Release Began: If the exact date and time is not known please indicate the date and time you became **aware** of the release.

7. Date & Time Release Ended: The exact date and time the release ended. If the release is ongoing at the time of the initial report submitted to meet the 24 reporting requirement, please leave this field blank and later resubmit an additional "Follow-up" report with the date and time that the discharge ended and check the "Follow-up to Bypass report previously sent on : ___" box in the upper right corner of the form.

8. Location of Release: The actual physical location of the release: Such as a Street Address; closest cross streets; Manhole ID; Lift Station; Force Main, etc. **NOTE:** Please give the most accurate information in regards to manholes, lift stations and force mains that can be referenced back to documentation at your facility.

9. Latitude and Longitude: Latitude and Longitude shall be reported in decimal degrees (e.g. 77.029289) or degrees, minutes and seconds. The latitude and longitude fields on this report will **soon be required** by EPA; however, these fields can be left blank on the report if the sewer overflows are caused by an extreme wet weather event that inundates a large sewer basin and individual overflow locations (i.e. manholes) are difficult to quantify. At this time, the report will not be sent back if the boxes are blank; however, please attempt to fill in these two fields as accurately as possible.

10. Amount of Flow Released: The flow released should be the best professional judgment from the facility on the estimated number of gallons of sewer overflow for **each** Sewer Overflow Discharge.

11. WWTP Flow During Release: The flow of the treatment plant when the release was observed, often reported in a one hour time increment.

12. WWTP Peak Design Flow Rate: The peak WWTP design flow rate as identified in the respective NPDES permit and/or most recent IDEM OWQ Facilities Construction Permit/Design Summary (commonly listed as peak daily or peak hourly) that included a hydraulic capacity expansion.

13. Overflow Type: Check one and only one box that best applies to the type of incident. **NOTE:** Dry weather CSO is generally interpreted as where there has been less than 0.1 inch of precipitation within the proceeding 72 hours (three (3) days). Prohibited CSO discharges are defined as discharges from CSO outfalls identified in Attachment A of the NPDES permit as being "prohibited". A Combined Sewer Release may include a basement backup in a sewer basin designated as being comprised of combined storm and sanitary sewers.

14. Describe any damage to aquatic life or receiving stream: Describe the conditions of the receiving stream and any aquatic life impaired by the incident.

15. Reason for Bypass/Overflow: Check **all** the boxes that apply to the specific incident.

16. Systems Component(s): Check **all** the boxes of components that are/were involved in the incident.

17. Additional Description of the Bypass/Overflow Incident: Provide additional detailed information regarding why the incident occurred that does not fit in the check boxes and supplemental details about the discharge event.

18. Description of the Area Impacted: Check **all** boxes of area(s) that were/are directly impacted by the discharge. If the discharge reached the receiving waters identify those by name whenever possible.

19. Organizations Notified by Facility: Check **all** of the boxes that apply.

20. Actions Taken to Prevent, Minimize, or Mitigate Damage Including Clean-up and Treatment of Affected Area: Select **all** boxes that apply and then add additional description in box below.

21. Resolution: Actions Taken or Planned to Prevent Recurrence: Describe all actions taken and actions that will be taken to prevent the incident from reoccurring in the future.

22. Certification and Signature: Complete this box in its **entirety**. A qualified person that has properly gathered the information in the report is authorized to sign and submit. NOTE: In circumstances where the certified operator is unavailable, the person on call at the facility may sign and submit.

23. Second Page Instructions: Complete all parts of each table for additional discharge locations caused by the same event as on the first page. For any locations identified in the NPDES permit, include the Outfall number for that location from the permit.

BYPASS / OVERFLOW INCIDENT REPORT

State Form 48373 (R6 / 6-15)
Indiana Department of Environmental Management
Office of Water Quality

Follow-up to Bypass report previously sent on: _____

INSTRUCTIONS: *Complete all parts of this form and email signed copies to **wwreports@idem.IN.gov** or fax it to the Office of Water Quality (OWQ) at (317) 232-8637 or (317) 232-8406. Submittal of this report will satisfy the Office of Water Quality (OWQ) telephone and written bypass/overflow reporting requirements of your NPDES permit. You **must** use separate reports for different Overflow Types. **IDEM will not accept multiple reports on the same form.** You **must** fill out the form completely or it will be sent back to you for completion. If you have any questions while filling out the report form, please call the Compliance Program Coordinator at (317) 232-6770.*

To report a spill or if the release is resulting in a fish kill or other severe environmental damage, immediately report the release to the Emergency Response Section spill response line at: (317) 233-7745 or toll free within Indiana at (888) 233-7745.

GENERAL INFORMATION

Winfield WWTP collection system	Utility Services 2501 Chicago St Valparaiso,IN 46383	(3) County Lake	(4) NPDES Permit IN0058343

RELEASE INFORMATION (Location 1)

(5) Outfall Number:	(6) Date *(mm/dd/yy)* and Time Release Began:		(7) Date *(mm/dd/yy)* and Time Release Stopped:		(8) Location of Release: *(streets address or Manhole, Lift Station, Force Main etc.)*	(9) Latitude: *(Deg Min Sec)*	(9) Longitude: *(Deg Min Sec)*
001	3/17/16	2pm	3/17/16	5:30pm	manhole/10703 Randolph St	41.4232	-87.238522

Gravity feed to lift station, approximately 1 gpm. 171GPM

(13) Overflow Type *(Select one.)*
Sanitary Sewer Overflow

(14) Describe any damage to aquatic life or receiving stream.
None

(15) Reason for Bypass/Overflow *(Select one or more.)*
Line Blockage

(16) System Component(s) *(Select one or more.)*
Manhole

Describe Other: *(in the box below)*

(17) Additional Description of the Bypass / Overflow Event:
Was alerted to slow plumbing drainage at 10651 Ontario St. Traced collection system, discovered blockage just south of manhole located at 10703 Randolph St.

(18) Description of the Area Impacted *(Check all that apply.)*
Reached Public Land

(19) Organizations Notified by Facility *(Select one or more.)*
IDEM Emergency Response Health Dept DNR Fish and Wildlife Local Emergency Management Other: Town Administrator

(20) Actions Taken to Prevent, Minimize, or Mitigate Damage including Clean-up and Treatment of Affected Area *(Select one or more of the following, then add a written description.)*

Removed Blockage Affected area of collection system was pumped down, blockage was jetted clear. Confirmed gravity flow to lift station restored without issue.

(21) Resolution: Actions Taken or Planned to Prevent Recurrence
The lift stations are cleaned twice annually, we have been adding certain manholes of the collection system to the list, the manhole at 10703 Randolph has been added. We will also monitor on a weekly basis.

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. *(The area below is for a handwritten signature or an electronic substitute then fax or scan to PDF for emailing.)*

SIGNATURE: _____ DATE *(mm/dd/yy)*: 3/18/16

Individual Making Report *(printed)*	Telephone Number	Contact Email	Date *(mm/dd/yy)* / Time IDEM Notified	7am
Christopher Pruitt	219-759-0193	cpruitt@utilityservicescorp.com	3/18/16	

BYPASS / OVERFLOW INCIDENT REPORT

State Form 48373 (R8 / 2-19)
Indiana Department of Environmental Management
Office of Water Quality

☐ Follow-up to Bypass report previously sent on: _____

INSTRUCTIONS: *Complete all parts of this form and e-mail signed copies to wwreports@idem.IN.gov. Submittal of this report will satisfy the Office of Water Quality (OWQ) telephone and written bypass/overflow reporting requirements of your NPDES permit. Please use and the second page of this form as necessary to identify **separate locations caused by the same event**. If you have any questions while filling out this form, please call (317) 232-6770.*

To report a spill or if the release is resulting in a fish kill or other severe environmental damage, immediately report the release to the Emergency Response Section spill response line at: (317) 233-7745 or toll free within Indiana at (888) 233-7745.

GENERAL INFORMATION

(1) Facility Name *(Organization)*	(2) Mailing Address *(reporting organization)*	(3) County	(4) NPDES Permit
Town of Winfield	10645 Randolph St. Winfield, IN 46307	Lake	IN000058343

RELEASE INFORMATION (Location 1)

(5) Outfall Number	(6) Date *(mm/dd/yy)* and Time Release Began		(7) Date *(mm/dd/yy)* and Time Release Stopped		(8) Location of Release *(streets address or Manhole, Lift Station, Force Main etc.)*	(9) Latitude *(Deg Min Sec)*	(9) Longitude *(Deg Min Sec)*
N/A	7/16/24 10:00	☑ AM ☐ PM	7/17/24 9:00	☐ AM ☑ PM	The Meadows Community Lift Station	41.419786	87.253434

(10) Amount of Flow Released *(Always provide a volume.)*
Check one: ☑ Estimated ☐ Actual ~7500 Gallons

(11) WWTP Flow During Release: ~0.300 MGD

(12) WWTP Peak Design Flow Rate: 1.44 MGD

(13) Overflow Type *(Select one.)*
☑ Sanitary Sewer Overflow
☐ Treatment Bypass *(at wastewater plant)*
☐ Prohibited Combined Sewer Overflow
☐ Dry Weather Combined Sewer Overflow
☐ Combined Sewer System Release

(14) Describe any damage to aquatic life or receiving stream:
N/A

(15) Reason for Bypass / Overflow *(Select one or more.)*
☐ Construction Related ☐ Power Failure ☑ Equipment Failure ☐ Unknown ☐ Exceeded Max Capacity ☐ Precipitation Inches

(16) System Component(s) *(Select one or more.)*
☑ Manhole
☐ House Lateral
☐ Pipe Failure
☑ Pump Station Failure
☐ Treatment Bypassed
☐ Other
☐ Influent Structure
☐ Air Relief Valve
☐ Sewer Clean Out

Describe Other: *(in the box below)*

(17) Additional Description of the Bypass / Overflow Event:
A severe thunderstorm/tornado caused several power outages in this area for long periods of time. Upon being notified of a communication fail alarm we arrived onsite to notcie that a manhole was overflowing. The technician was able to manually start the generator powering the lift station pumps.

(18) Description of the Area Impacted *(Check all that apply.)*
☑ Affected Private Property
☐ Basement Backup
☐ Occurred at Treatment Plant
☐ Reached Public Land
☐ Reached Receiving Water

Name of Receiving Water Impacted:

(19) Additional organizations notified by facility, if necessary *(Select one or more.)*
☐ IDEM Emergency Response ☐ Health Department ☐ DNR Fish and Wildlife ☐ Local Emergency Management ☐ Other:

(20) Actions Taken to Prevent, Minimize, or Mitigate Damage including Clean-up and Treatment of Affected Area
(Select one or more of the following, then add a written description.)
☐ Removed Blockage ☐ Repaired Pipe ☐ Repaired Pump Station ☐ Other ☑ Lime ☑ Clean-Up Debris

Lime was spread over the affected grounds. Same area will be raked/cleaned up in the next day or two when the ground drys up some.

(21) Resolution: Actions Taken or Planned to Prevent Recurrence

Immediately upon arrival, the technician was able to get the generator to this station going to provide power to the lift station pumps. Generator technician showed up to confirm that starter malfunction and didn't start in auto. Technician is schedule to be onsite when power is restored to make adequate repairs to generator so it operates as designed in auto.

(22)

CERTIFICATION AND SIGNATURE

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. *(The area below is for a handwritten signature or an electronic substitute. Scan the completed form to PDF and e-mail to wwReports@idem.IN.gov)*

SIGNATURE: Sean Treece DATE *(month, day, year)*: 7/18/2024

Individual Making Report *(printed)*	Telephone Number	Contact E-mail	Date *(month, day, year)* / Time IDEM Notified	
Sean Treece	(219) 759-0193	streece@utilityservicescorp.com	7/18/2024 7:30	☑ AM ☐ PM

BYPASS / OVERFLOW INCIDENT REPORT

State Form 48373 (R8 / 2-19)
Indiana Department of Environmental Management
Office of Water Quality

☐ Follow-up to Bypass report previously sent on: _____

INSTRUCTIONS: *Complete all parts of this form and e-mail signed copies to **wwreports@idem.IN.gov**. Submittal of this report will satisfy the Office of Water Quality (OWQ) telephone and written bypass/overflow reporting requirements of your NPDES permit. Please use and the second page of this form as necessary to identify **separate locations caused by the same event**. If you have any questions while filling out this form, please call (317) 232-6770.*

To report a spill or if the release is resulting in a fish kill or other severe environmental damage, immediately report the release to the Emergency Response Section spill response line at: (317) 233-7745 or toll free within Indiana at (888) 233-7745.

GENERAL INFORMATION

(1) Facility Name *(Organization)*	(2) Mailing Address *(reporting organization)*	(3) County	(4) NPDES Permit
Town of Winfield	10645 Randolph St. Winfield, IN 46307	Lake	IN000058343

RELEASE INFORMATION (Location 1)

(5) Outfall Number	(6) Date *(mm/dd/yy)* and Time Release Began		(7) Date *(mm/dd/yy)* and Time Release Stopped		(8) Location of Release *(streets address or Manhole, Lift Station, Force Main etc.)*	(9) Latitude *(Deg Min Sec)*	(9) Longitude *(Deg Min Sec)*
N/A	6/21/21 8:30	☑ AM ☐ PM	6/21/21 12:30	☐ AM ☑ PM	The Meadows Community Lift Station	41.419786	87.253434

(10) Amount of Flow Released *(Always provide a volume.)*	(11) WWTP Flow During Release	(12) WWTP Peak Design Flow Rate
Check one: ☑ Estimated ☐ Actual ~1500 Gallons	~0.300 MGD	1.44 MGD

(13) Overflow Type *(Select one.)*
- ☑ Sanitary Sewer Overflow
- ☐ Treatment Bypass *(at wastewater plant)*
- ☐ Prohibited Combined Sewer Overflow
- ☐ Dry Weather Combined Sewer Overflow
- ☐ Combined Sewer System Release

(14) Describe any damage to aquatic life or receiving stream:

N/A

(15) Reason for Bypass / Overflow *(Select one or more.)*

☐ Construction Related ☐ Power Failure ☑ Equipment Failure ☐ Unknown ☐ Exceeded Max Capacity ☐ Precipitation Inches

(16) System Component(s) *(Select one or more.)*
- ☑ Manhole
- ☐ House Lateral
- ☐ Pipe Failure
- ☑ Pump Station Failure
- ☐ Treatment Bypassed
- ☐ Other
- ☐ Influent Structure
- ☐ Air Relief Valve
- ☐ Sewer Clean Out

Describe Other: *(in the box below)*

(17) Additional Description of the Bypass / Overflow Event:

A severe thunderstorm caused several power outages in a short period of time. The power surge caused a voltage imbalance that ultimately tripped the main control breaker. In addition, the telemetry on this lift station endured a catastrophic failure during the same power surge. Upon being notified of the manhole that was overflowing, the main control breaker was reset and power was restored to the lift station.

(18) Description of the Area Impacted *(Check all that apply.)*
- ☑ Affected Private Property
- ☐ Basement Backup
- ☐ Occurred at Treatment Plant
- ☐ Reached Public Land
- ☐ Reached Receiving Water

Name of Receiving Water Impacted:

(19) Additional organizations notified by facility, if necessary *(Select one or more.)*

☐ IDEM Emergency Response ☐ Health Department ☐ DNR Fish and Wildlife ☐ Local Emergency Management ☐ Other:

(20) Actions Taken to Prevent, Minimize, or Mitigate Damage including Clean-up and Treatment of Affected Area *(Select one or more of the following, then add a written description.)*

☐ Removed Blockage ☐ Repaired Pipe ☐ Repaired Pump Station ☐ Other ☑ Lime ☑ Clean-Up Debris

Lime was spread over the affected grounds. Same area will be raked/cleaned up in the next day or two when the ground drys up some.

(21) Resolution: Actions Taken or Planned to Prevent Recurrence

Immediately upon arrival, the technician was able to restore power to this station by resetting the main control breaker. All electrical components were confirmed to be in good condition, except for the telemetry unit. We are currently working with the distributor to replace this unit.

(22)

CERTIFICATION AND SIGNATURE

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. (*The area below is for a handwritten signature or an electronic substitute. Scan the completed form to PDF and e-mail to wwReports@idem.IN.gov*)

SIGNATURE: Robert Gertzen Jr. Digitally signed by Robert Gertzen Jr. Date: 2021.06.22 07:13:36 -05'00' DATE *(month, day, year)*: 6/21/2021

Individual Making Report *(printed)*	Telephone Number	Contact E-mail	Date *(month, day, year)* / Time IDEM Notified	
Bob Gertzen	(219) 759-0193	bgertzen@utilityservicescorp.com	6/21/2021 6:30	☐ AM ☑ PM

BYPASS / OVERFLOW REPORT *(Supplemental Locations)*

State Form 48373 (R8 / 2-19)
Indiana Department of Environmental Management
Office of Water Quality

☐ Follow-up to Bypass report previously sent on: _____

(23) *Complete all parts of each table for additional discharge locations caused by the same event as on the first page. For any locations identified in the NPDES permit, include the Outfall number for that location from the permit.*

RELEASE INFORMATION (Location 2)

Outfall Number	Date *(mm/dd/yy)* and Time Release Began	Date *(mm/dd/yy)* and Time Release Stopped	Location of Release *(streets address or Manhole, Lift Station, Force Main etc.)*	Latitude *(Deg Min Sec)*	Longitude *(Deg Min Sec)*
	☐ AM ☐ PM	☐ AM ☐ PM			

Amount of Flow Released	Description of the Area Impacted *(Check all that apply.)*	Name of Receiving Water Impacted
☐ Estimated ☐ Actual Gallons	☐ Affected Private Property ☐ Basement Backup ☐ Reached Public Land ☐ Reached Receiving Water	

RELEASE INFORMATION (Location 3)

Outfall Number	Date *(mm/dd/yy)* and Time Release Began	Date *(mm/dd/yy)* and Time Release Stopped	Location of Release *(streets address or Manhole, Lift Station, Force Main etc.)*	Latitude *(Deg Min Sec)*	Longitude *(Deg Min Sec)*
	☐ AM ☐ PM	☐ AM ☐ PM			

Amount of Flow Released	Description of the Area Impacted *(Check all that apply.)*	Name of Receiving Water Impacted
☐ Estimated ☐ Actual Gallons	☐ Affected Private Property ☐ Basement Backup ☐ Reached Public Land ☐ Reached Receiving Water	

RELEASE INFORMATION (Location 4)

Outfall Number	Date *(mm/dd/yy)* and Time Release Began	Date *(mm/dd/yy)* and Time Release Stopped	Location of Release *(streets address or Manhole, Lift Station, Force Main etc.)*	Latitude *(Deg Min Sec)*	Longitude *(Deg Min Sec)*
	☐ AM ☐ PM	☐ AM ☐ PM			

Amount of Flow Released	Description of the Area Impacted *(Check all that apply.)*	Name of Receiving Water Impacted
☐ Estimated ☐ Actual Gallons	☐ Affected Private Property ☐ Basement Backup ☐ Reached Public Land ☐ Reached Receiving Water	

RELEASE INFORMATION (Location 5)

Outfall Number	Date *(mm/dd/yy)* and Time Release Began	Date *(mm/dd/yy)* and Time Release Stopped	Location of Release *(streets address or Manhole, Lift Station, Force Main etc.)*	Latitude *(Deg Min Sec)*	Longitude *(Deg Min Sec)*
	☐ AM ☐ PM	☐ AM ☐ PM			

Amount of Flow Released	Description of the Area Impacted *(Check all that apply.)*	Name of Receiving Water Impacted
☐ Estimated ☐ Actual Gallons	☐ Affected Private Property ☐ Basement Backup ☐ Reached Public Land ☐ Reached Receiving Water	

RELEASE INFORMATION (Location 6)

Outfall Number	Date *(mm/dd/yy)* and Time Release Began	Date *(mm/dd/yy)* and Time Release Stopped	Location of Release *(streets address or Manhole, Lift Station, Force Main etc.)*	Latitude *(Deg Min Sec)*	Longitude *(Deg Min Sec)*
	☐ AM ☐ PM	☐ AM ☐ PM			

Amount of Flow Released	Description of the Area Impacted *(Check all that apply.)*	Name of Receiving Water Impacted
☐ Estimated ☐ Actual Gallons	☐ Affected Private Property ☐ Basement Backup ☐ Reached Public Land ☐ Reached Receiving Water	

RELEASE INFORMATION (Location 7)

Outfall Number	Date *(mm/dd/yy)* and Time Release Began	Date *(mm/dd/yy)* and Time Release Stopped	Location of Release *(streets address or Manhole, Lift Station, Force Main etc.)*	Latitude *(Deg Min Sec)*	Longitude *(Deg Min Sec)*
	☐ AM ☐ PM	☐ AM ☐ PM			

Amount of Flow Released	Description of the Area Impacted *(Check all that apply.)*	Name of Receiving Water Impacted
☐ Estimated ☐ Actual Gallons	☐ Affected Private Property ☐ Basement Backup ☐ Reached Public Land ☐ Reached Receiving Water	

(ATTACH ADDITIONAL SHEETS IF NECESSARY.)

CERTIFICATION AND SIGNATURE

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. (*The area below is for a handwritten signature or an electronic substitute. Scan the completed form to PDF and e-mail to wwReports@idem.IN.gov*)

SIGNATURE: _____ DATE *(month, day, year)*: _____

Bypass/Overflow Incident Report Instructions

Below are numbered instructions for completing the Bypass/Overflow Incident Report State Form 48373. Please fill all fields that you can and as accurately as you can. Bypass/Overflow Reports must be submitted by the facility/system that is responsible for the maintenance and oversight of the collection system where the discharge occurred. Please refer to these instructions while filling out the report:

1. Facility Name (Organization): The facility name as it appears on the NPDES permit. For wastewater systems which do not have an active NPDES permit please enter NONE in the box.

2. Mailing Address: The address where all IDEM communication is sent.

3. County: The County in which the permitted facility is physically located.

4. NPDES Permit: The permit number associated with the facility. For wastewater systems which do not have an active NPDES permit mark this space as either "Terminated" for systems which had an NPDES permit in the past or "N/A" for systems which have never had an NPDES wastewater permit.

5. Outfall Number: The number of the outfall associated with the Bypass/Overflow Incident as identified in the NPDES permit. For discharge locations which have not been specifically listed in the permit, mark as "N/A".

6. Date & Time Release Began: If the exact date and time is not known please indicate the date and time you became **aware** of the release.

7. Date & Time Release Ended: The exact date and time the release ended. If the release is ongoing at the time of the initial report submitted to meet the 24 reporting requirement, please leave this field blank and later resubmit an additional "Follow-up" report with the date and time that the discharge ended and check the "Follow-up to Bypass report previously sent on: ___" box in the upper right corner of the form.

8. Location of Release: The actual physical location of the release: Such as a Street Address; closest cross streets; Manhole ID; Lift Station; Force Main, etc. **NOTE:** Please give the most accurate information in regards to manholes, lift stations and force mains that can be referenced back to documentation at your facility.

9. Latitude and Longitude: Latitude and Longitude shall be reported in decimal degrees (e.g. 77.029289) or degrees, minutes and seconds. The latitude and longitude fields on this report will **soon be required** by EPA; however, these fields can be left blank on the report if the sewer overflows are caused by an extreme wet weather event that inundates a large sewer basin and individual overflow locations (i.e. manholes) are difficult to quantify. At this time, the report will not be sent back if the boxes are blank; however, please attempt to fill in these two fields as accurately as possible.

10. Amount of Flow Released: The flow released should be the best professional judgment from the facility on the estimated number of gallons of sewer overflow for **each** Sewer Overflow Discharge.

11. WWTP Flow During Release: The flow of the treatment plant when the release was observed, often reported in a one hour time increment.

12. WWTP Peak Design Flow Rate: The peak WWTP design flow rate as identified in the respective NPDES permit and/or most recent IDEM OWQ Facilities Construction Permit/Design Summary (commonly listed as peak daily or peak hourly) that included a hydraulic capacity expansion**.**

13. Overflow Type: Check one and only one box that best applies to the type of incident. **NOTE:** Dry weather CSO is generally interpreted as where there has been less than 0.1 inch of precipitation within the proceeding 72 hours (three (3) days). Prohibited CSO discharges are defined as discharges from CSO outfalls identified in Attachment A of the NPDES permit as being "prohibited". A Combined Sewer Release may include a basement backup in a sewer basin designated as being comprised of combined storm and sanitary sewers.

14. Describe any damage to aquatic life or receiving stream: Describe the conditions of the receiving stream and any aquatic life impaired by the incident.

15. Reason for Bypass/Overflow: Check **all** the boxes that apply to the specific incident.

16. Systems Component(s): Check **all** the boxes of components that are/were involved in the incident.

17. Additional Description of the Bypass/Overflow Incident: Provide additional detailed information regarding why the incident occurred that does not fit in the check boxes and supplemental details about the discharge event.

18. Description of the Area Impacted: Check **all** boxes of area(s) that were/are directly impacted by the discharge. If the discharge reached the receiving waters identify those by name whenever possible.

19. Organizations Notified by Facility: Check **all** of the boxes that apply.

20. Actions Taken to Prevent, Minimize, or Mitigate Damage Including Clean-up and Treatment of Affected Area: Select **all** boxes that apply and then add additional description in box below.

21. Resolution: Actions Taken or Planned to Prevent Recurrence: Describe all actions taken and actions that will be taken to prevent the incident from reoccurring in the future.

22. Certification and Signature: Complete this box in its **entirety**. A qualified person that has properly gathered the information in the report is authorized to sign and submit. NOTE: In circumstances where the certified operator is unavailable, the person on call at the facility may sign and submit.

23. Second Page Instructions: Complete all parts of each table for additional discharge locations caused by the same event as on the first page. For any locations identified in the NPDES permit, include the Outfall number for that location from the permit.

Attachment MCJ-9

Exhibit 1.26

Wastewater Treatment Facility
Design Summary

I. GENERAL

1. Applicant: Town of Winfield
2. Facility Name: Winfield WWTP
3. Project Type: Expansion or modification of existing facility
4. Project Title: Winfield WWTP
5. Project Location: 7390 E. 112th Avenue
6. Construction Permit Number: 24891
7. Design Engineer: Jeremy C. Lin, P.E. BCEE
8. Engineering Company: Lintech Engineering, Inc.
9. NPDES Permit Number: IN0058343
   A. Effective date: 07/01/2021
   B. Expiration date: 06/30/2026
10. Project Scope
    A. Description of existing treatment facilities: The Town of Winfield currently operates a Class II, 0.8 MGD activated sludge treatment facility consisting of a mechanical fine screen, anaerobic tank to facilitate phosphorus removal (receives screened sewage and RAS), a dual-ring oxidation ditch, chemical phosphorus reduction, two (2) secondary clarifiers, ultraviolet disinfection facilities, and fine bubble diffused post-aeration. The plant has a 120° V-notch weir effluent flow meter. Sludge is transported to two (2) aerobic digesters then two (2) decanting tanks before dewatering by a belt filter press. The sludge is then disposed of by landfill via a licensed third-party contract hauler. The collection system is comprised of 100% separate sanitary sewers by design with no overflow or bypass points.
    B. Description of project needs: This project is Phase 2 of the expansion of the WWTP based on anticipated development in the area.
    C. Description of proposed facilities: The project will expand the capacity of the WWTP from 0.8 MGD to 1.6 MGD. This includes the addition of a second mechanical fine screen, a third ring on the existing oxidation ditch, two (2) new secondary clarifiers, plant blower replacement, and a new chemical phosphorus removal system.
    D. Is project part of an Agreed Order?: No
    E. How facility will maintain treatment during construction: The improvements will be phased during construction to not affect the treatment capability of the plant.
11. Source of Funding: Local Funds

II. DESIGN DATA

1. Design Average Flow (MGD): 1.6
   A. Domestic: 1.25
   B. Industrial/Commercial: 0.35
   C. Infiltration/Inflow: 0
2. Design Peak Hourly Flow (MGD): 4.40
3. Maximum Flow Capability (MGD): 4.40
4. Design Waste Strength
   A. CBOD: 204 mg/l
   B. TSS: 240 mg/l
   C. NH_3-N: 35 mg/l
   D. P: 6 mg/l
5. Design Population Equivalent (PE): 8,000 (based on 0.17 lb CBOD/PE)
6. NPDES Permit Limitation on Effluent Quality

*Based on PEL letter dated March 21, 2022

   1. $CBOD_5$: 10 mg/L summer and 25 mg/L winter (monthly average)
   2. TSS: 12 mg/L summer and 30 mg/L winter (monthly average)
   3. NH_3-N: 1.2 mg/L summer and 1.2 mg/L winter (monthly average)
   4. P: 1.0 mg/L (monthly average)
   5. pH: 6.0 s.u. (daily min) and 9.0 s.u. (daily max)
   6. DO: 6.0 mg/L summer and 5.0 mg/L winter (daily min)
   7. *E. coli*: 125 count/100 mL (monthly average), 235 count/100 mL (daily max)
7. Sampling Method (Grab or Automatic Sampler) and Location
   A. Influent: Automatic, Fine screen Building
   B. Effluent: Automatic, Effluent Channel
8. Receiving Stream
   A. Name: Unnamed tributary to Deer Creek
   B. Stream Uses: Full body contact recreational use and shall be capable of supporting a well-balanced warm water aquatic community
   C. 7-day, 1-in-10 year low flow: 0 CFS (0 MGD)

III. PLANT DETAILS

1. Laboratory type (e.g., on site, third-party testing): Third party testing
2. Plant site fence provided: Yes
3. Handrail/grating provided where necessary: Yes
4. Flood hazard elevation (ft) at 100-year flood: 696.5ft NAVD88
5. Provisions for mechanical/electrical component protection at 100-year flood: Not in a 100-year floodplain (Effective Zone X)

6. Type and rating (kW) of standby power equipment: Existing diesel generators, 275 kW and 105 kW
7. Provisions for removing heavy equipment: Hoist equipment
8. Septage/leachate receiving facilities: N/A

IV. TREATMENT UNITS

Influent Flow Meter (Existing)
1. Type and size (in): Parshall flume, 12-inch
2. Location description: In Fine Screen building
3. Indicating, recording and totalizing: Yes

Screening (Proposed and Existing)
1. Type of screening: Mechanical fine screen
2. Location description: Located in new headworks building
3. Bypass bar screen provision: Manual bypass bar screen
4. Number and rated capacity: One (1) existing screen @2.5 MGD capacity, one (1) proposed @ 2.5 MGD capacity
5. Clear opening sizes, bar or perforations: ¼-inch
6. Slope of unit: 35°
7. Method of unit cleaning: Self-cleaning; goes to washer/compactor
8. Method of screening disposal: Dumpster to landfill
9. Method of unit isolation: Individual channel with slide gate isolation

Anaerobic Component of Biological Nutrient Removal or Selector Tank (Existing)
1. Number and dimensions of anaerobic unit/zone: 1 tank, 26’ x 24’
2. Side water depth and freeboard of anaerobic unit/zone: 14.5’ SWD, 3’ freeboard
3. Hydraulic detention time: 2.0 hours
4. CBOD/TP Ratio: 25.5
5. Type and size (HP) of mixing equipment: Wall mixer, 1.5 HP
6. Method of unit isolation: Influent valve and bypass pipe
7. Method of flow split control: N/A, 1 tank

Oxidation Ditch (Proposed and Existing)
1. Number and dimensions of unit: 1 tank, Two (2) existing channels (inner channel 74’-4” x 18’, middle channel 112’-4” x 18’); One (1) new outer channel (151’ x 18’)
2. Side water depth and freeboard of unit: 14.5’ SWD, 3’ freeboard
3. Hydraulic detention time: 24 hours
4. Organic loading: 12.7 lb CBOD/1000 ft^3 @ 1.6 MGD
5. Design MLSS concentration: 3,000 mg/L
6. Design solids retention time: 18.4 days
7. Design F/M ratio: 0.088 lb CBOD/day/lb MLVSS

8. Aeration equipment
   A. Type and number: Disc aerators, four (4) existing; two (2) new
   B. Efficiency: 1.52 lb O_2/HP-hr
9. Oxygen requirement (lb O_2/day)
   A. CBOD removal: 2720 x 1.5 = 4080 lbs/day
   B. NH_3-N removal: 468 lbs/day
10. Oxygen provided (lb O_2/day): 7416
11. Flow velocity in ditch (ft/sec): 0.8
12. Number and capacity of return sludge pumps (gpm): Two (2), 575 gpm each (existing)
13. Method of return sludge rate control: VFD with flow control
14. Return sludge rate as % of design average flow: 100
15. Provisions for return rate metering
    A. Type and size: Magnetic flow meter, 8-inch
    B. Location: RAS pump station metering vault
16. Return sludge discharge location: Anaerobic tank
17. Method of unit isolation: Valves and bypass piping
18. Method of flow split control: N/A

Secondary Clarification (Existing and Proposed)

1. Type of clarifier: Circular; Center feed with peripheral effluent collection
2. Number and dimensions of unit: Two (2) existing, 40’ dia; Two (2) new, 40’ dia
3. Side water depth and freeboard of unit: 12’ SWD, 3’ freeboard
4. Surface overflow rate
   A. at design average flow: 318 gpd/ft^2
   B. at design peak hourly flow: 971 gpd/ft^2
5. Hydraulic detention time
   A. at design average flow: 6.8 hours
   B. at design peak hourly flow: 2.2 hours
6. Weir loading rate at design peak hourly flow: 10,041 gpd/lin·ft
7. Location of overflow weir: Peripheral
8. Method of scum collection: Scum blade and collector
9. Method of scum disposal: Drain to drain pump station
10. Type of sludge removal mechanism: Rotating suction sludge collector
11. Method of unit isolation: Weir gate
12. Method of flow split control: Weir gate

Chemical Phosphorus Removal (Proposed)

1. Chemical properties
   A. Chemical name: Alum
   B. Weight concentration in solution (%): 48.5
   C. Specific gravity: 1.33

2. Chemical storage container
   A. Type: Fiberglass reinforced plastic tank
   B. Volume (gal): 2,500
   C. Expected storage supply (days): 24
3. Secondary containment: N/A – double-wall tanks
4. Number and capacity of chemical feed pumps (gpm): Two (2), 45 gph
5. Design chemical feed rate:
6. Location(s) of chemical injection: Chemical feed manhole
7. Provisions for adequate mixing at injection point:
8. Chemical building
   A. Method of ventilation control: Fan and louver
   B. Method of temperature control: Heating and thermostat
   C. Safety shower/eyewash equipment: Yes

Ultraviolet Disinfection (Existing)

1. Open channel or closed-vessel: Open channel
2. Vertical, horizontal, or diagonal lamp orientation: Horizontal
3. Lamp type: Low pressure
4. Number of banks: Two (2)
5. Number of modules per bank: One (1)
6. Number of lamps per module: Twelve (12)
7. Dosage: 30,000 $\mu Ws/cm^2$ minimum
8. Transmittance: 65% minimum
9. Provisions for intensity monitoring: Yes, sensor
10. Type of level control provisions: Yes, automatic control system
11. Type of bypass provisions: Bypass piping
12. Type of safety equipment: Eye shield, gloves
13. Automatic or manual cleaning equipment: Automatic wipers

Diffused Air Post-Aeration (Existing)

1. Number and dimensions of unit: One (1) @ 12’ x 12’
2. Side water depth and freeboard of unit: 9.8’ SWD
3. Type and efficiency of diffusers: Fine bubble membrane diffusers
4. Dedicated or shared plant blowers: Dedicated
5. Type and rated capacity of blowers: Two (2) @ 47 CFM, each

Effluent Flow Meter (Existing)

1. Type and size: 120° V-notch weir
2. Location description: At end of effluent structure
3. Indicating, recording and totalizing: Yes

Sludge Thickening (Existing)

1. Type of sludge thickeners: Gravity
2. Number and dimensions of unit: Two (2) @ 24’ diameter x 7.5’ SWD
3. Volume of units: 25,380 gallons (total)
4. Type of chemicals added: None
5. Expected solids content of sludge: 2%

Aerobic Digester (Existing)

1. Number and dimensions of unit: (One) 1 @ 38.5’ diameter x 22.9’ SWD (199,437 gallons) and (one) 1 @ 47.5’ diameter x 22.7’ SWD (300,928 gallons)
2. Freeboard of unit: 3’
3. Volume: 500,000 gallons
4. Total design sludge loading: 1,768 lbs/day
5. Volatile solids percentage: 70%
6. Design solids retention time: 30 days
7. Type of diffusers: Coarse bubble diffusers
8. Dedicated or shared plant blowers: Dedicated
9. Type and rated capacity of blowers: Three (3) @ 1,000 CFM
10. Decanting method: Telescoping valve
11. Discharge location of supernatant: Drain pump station

Mechanical Dewatering (Existing)

1. Type of dewatering unit: Belt filter press
2. Number and dimensions of unit: One (1) @ one meter
3. Hydraulic capacity: 75 gpm
4. Solids capacity: 750 lbs/day
5. Type of chemicals added: Polymer
6. Expected solids content of dewatered sludge: 18%
7. Discharge location of drainage: Drain pump station

Final Sludge Disposal (Existing)

1. Ultimate disposal method of sludge: Landfill
2. Expected solids content of sludge (by the principal method of disposal): 18%
3. Location of disposal site: N/A
4. Ownership of the disposal site: Republic Waste
5. Availability of sludge transport equipment: On-call

Drain Pump Station (Existing)

1. Location description:
2. Type of pump: Submersible centrifugal
3. Number of pumps: Three (3)
4. Constant or variable speed: Constant
5. Design operating capacity and TDH: 820 gpm @ 38 ft TDH, each
6. Operating volume of the wet well: N/A
7. Detention time in the wet well: 7.5 min @ 0.40 MGD
8. Shutoff valve and check valve in the discharge line: Yes
9. Type of ventilation: Yes, tank open to atmosphere with grating on top
10. Type of standby power: Yes, existing plant generator
11. Type of alarm: Yes
12. Type of bypass or overflow provisions: None

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

Eric J. Holcomb
Governor

Brian C. Rockensuess
Commissioner

February 21, 2023

VIA ELECTRONIC MAIL

Mr. Gerald T. Stiener, Council President
Town of Winfield
10645 Randolph Street
Winfield, Indiana 46307

Dear Mr. Stiener:

Re: 327 IAC 3 Construction
Permit Application
Winfield WWTP
Permit Approval No. 24891
Winfield, Indiana
Lake County

The application, plans and specifications, and supporting documents for the above-referenced project have been reviewed and processed in accordance with rules adopted under 327 IAC 3. Enclosed is the Construction Permit (Approval No. 24891), which applies to the construction of the above-referenced proposed water pollution treatment/control facility improvements to be located at the site of the existing treatment facility at 7390 East 112th Avenue.

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

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

Plans and specifications were prepared by Lintech Engineering, Inc., and certified by Jeremy C. Lin, P.E., BCEE, and submitted for review on November 28, 2022, with additional information submitted on January 23, 2023.

Any questions concerning this permit may be addressed to Charity Dudley, P.E., of our staff, at 317/233-6683.

Sincerely,

Kevin D. Czerniakowski

Kevin D. Czerniakowski, P.E.
Section Chief
Facility Construction and
Engineering Support Section
Office of Water Quality

Project No. P-25666
Enclosures
cc: Lake County Health Department
Jeremy C. Lin, P.E., BCEE, Lintech Engineering

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

DECISION OF APPROVAL

The Town of Winfield, in accordance with the provisions of IC 13-15 and 327 IAC 3 is hereby issued a permit to construct the water pollution treatment/control facility improvements to be located at the site of the existing treatment facility at 7390 East 112th Avenue. The permittee is required to comply with requirements set forth in Parts I, II and III hereof. The permit is effective pursuant to IC 4-21.5-3-4(d). If a petition for review and a petition for stay of effectiveness are filed pursuant to IC 13-15-6, an Environmental Law Judge may be appointed for an adjudicatory hearing. The force and effect of any contested permit provision may be stayed at that time.

NOTICE OF EXPIRATION DATE

Authorization to initiate construction of this pollution treatment/control facility shall expire at midnight one year from the date of issuance of this permit. In order to receive authorization to initiate construction beyond this date, the permittee shall submit such information and forms as required by the Indiana Department of Environmental Management. It is requested that this information be submitted sixty (60) days prior to the expiration date to initiate construction. This permit shall be valid for a period of five (5) years from the date below for full construction completion.

Issued on February 21, 2023, for the Indiana Department of Environmental Management.

Kevin D. Czerniakowski

Kevin D. Czerniakowski, P.E.
Section Chief
Facility Construction and
Engineering Support Section
Office of Water Quality

WATER POLLUTION TREATMENT/CONTROL FACILITY DESCRIPTION

The Town of Winfield currently operates a Class II, 0.8 MGD activated sludge treatment facility consisting of a mechanical fine screen, anaerobic tank to facilitate phosphorus removal (receives screened sewage and RAS), a dual-ring oxidation ditch, chemical phosphorus reduction, two (2) secondary clarifiers, ultraviolet disinfection facilities, and fine bubble diffused post-aeration followed by a 120° V-notch weir effluent flow meter. Sludge is transported to two (2) aerobic digesters then two (2) decanting tanks before dewatering utilizing a belt filter press. The sludge is then disposed of by landfill via a licensed third-party contract hauler. The collection system is comprised of 100% separate sanitary sewers by design with no overflow or bypass points.

The previous Phase 1 of the expansion project increased the capacity of the plant from 0.4 MGD to 0.8 MGD in anticipation of future development in the area. This project is Phase 2 of the expansion and will expand the capacity of the WWTP from 0.8 MGD to 1.6 MGD. This includes the addition of a second mechanical fine screen, a third ring on the existing oxidation ditch, two (2) new secondary clarifiers, plant blower replacement, and a new chemical phosphorus removal system.

The improvements will be phased during construction to not affect the treatment capability of the plant.

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

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

PART I

SPECIFIC CONDITIONS AND LIMITATIONS TO THE CONSTRUCTION PERMIT

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

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

2. Any local permits required for this project, along with zoning or easement acquisition, shall be obtained before construction is initiated.

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

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

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

6. The sewage treatment plant must be capable of providing the same degree of treatment during construction as prior to of the existing facilities. If this is not feasible, the plans for reduced degree of treatment must be submitted to the Department of Environmental Management for consideration of approval.

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

PART II

GENERAL CONDITIONS

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

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

   b. Submit a detailed statement of such proposed changes;

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

   d. Obtain a revised construction permit from this agency.

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

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

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

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

PART III

NOTICE OF RIGHT TO ADMINISTRATIVE REVIEW

Anyone wishing to challenge this construction permit must do so by filing a Petition for Administrative Review with the Office of Environmental Adjudication (OEA), and serving a copy of the petition upon IDEM. The requirements for filing a Petition for Administrative Review are found in IC 4-21.5-3-7, IC 13-15-6-1 and 315 IAC 1-3-2. A summary of the requirements of these laws is provided below.

A Petition for Administrative Review must be filed with the Office of Environmental Adjudication (OEA) within fifteen (15) days of the issuance of this notice (eighteen (18) days if notice was received by U.S. Mail), and a copy must be served upon IDEM. Addresses are:

Director
Office of Environmental Adjudication
Indiana Government Center North
Room 103
100 North Senate Avenue
Indianapolis, Indiana 46204

Commissioner
Indiana Department of Environmental Management
Indiana Government Center North
Room 1301
100 North Senate Avenue
Indianapolis, Indiana 46204

The petition must contain the following information:

1. The name, address and telephone number of each petitioner.
2. A description of each petitioner's interest in the permit.
3. A statement of facts demonstrating that each petitioner is:
    a. a person to whom the order is directed;
    b. aggrieved or adversely affected by the permit; or
    c. entitled to administrative review under any law.
4. The reasons for the request for administrative review.
5. The particular legal issues proposed for review.
6. The alleged environmental concerns or technical deficiencies of the permit.
7. The permit terms and conditions that the petitioner believes would be appropriate and would comply with the law.
8. The identity of any persons represented by the petitioner.
9. The identity of the person against whom administrative review is sought.
10. A copy of the permit that is the basis of the petition.
11. A statement identifying petitioner's attorney or other representative, if any.

Failure to meet the requirements of the law with respect to a Petition for Administrative Review may result in a waiver of the Petitioner's right to seek administrative review of the permit. Examples are:

1. Failure to file a Petition by the applicable deadline;
2. Failure to serve a copy of the Petition upon IDEM when it is filed; or
3. Failure to include the information required by law.

If Petitioner seeks to have a permit stayed during the administrative review, he or she may need to file a Petition for a Stay of Effectiveness. The specific requirements for such a Petition can be found in 315 IAC 1-3-2 and 315 IAC 1-3-2.1.

Pursuant to IC 4-21.5-3-17, OEA will provide all parties with notice of any pre-hearing conferences, preliminary hearings, hearings, stays, or orders disposing of the review of this action. Those who are entitled to notice under IC 4-21.5-3-5(b) and would like to obtain notices of any pre-hearing conferences, preliminary hearings, hearings, stays, or orders disposing of the review of this action without intervening in the proceeding must submit a written request to OEA at the address above.

More information on the review process is available at the website for the Office of Environmental Adjudication at http://www.in.gov/oea.

TOWN OF WINFIELD, IN

WASTEWATER TREATMENT PLANT IMPROVEMENTS

ENGINEERING REPORT

AUGUST 2019

LINTECH ENGINEERING

720 Industrial Dr, Suite 104
Cary, IL 60013

TABLE OF CONTENTS

1. INTRODUCTION

The Town of Winfield operates a wastewater treatment plant (WWTP) to serve the entire area within the Town's corporate limits. The Town has experienced rapid growth in the last five years and the existing WWTP has reached 86 percent of its permitted capacity. The WWTP must be expanded and improved to provide additional capacity to serve planned and future development.

This engineering report will evaluate the existing WWTP, future capacity requirements, and provide a recommendation of modifications and improvements to the existing WWTP.

2. EXISTING CONDITIONS

The existing WWTP has a design average flow of 0.40 mgd and a design peak hourly flow of 1.44 mgd. The treatment processes include preliminary fine screening to remove coarse material, extended aeration activated sludge for BOD reduction and nitrification, secondary clarification, phosphorus removal by chemical precipitation, seasonal disinfection by chlorination/dechlorination, and post aeration before discharging the treated effluent to an unnamed creek tributary to Deer Creek. The sludge treatment and handling system consists of aerobic digestion of waste activated sludge, and cloth bag dewatering prior to hauling dewatered sludge to landfill. Exhibit A shows the existing WWTP layout.

A. EQ Basin and Pumping

Wastewater is pumped from three offsite lift stations into an influent box. Flow goes through a Rotomat microstrainer for screening removal and is discharged into a steel equalization basin. The concrete influent box and fine screen were constructed in 2007 and are in good condition.

The equalization basin is an underground steel tank which was constructed in 2003. The basin is divided into two sections, one that combines the screened influent wastewater and return activated sludge (RAS), and a small section for waste activated sludge (WAS). The basin shows signs of rusting and corrosion.

The combined influent and RAS are pumped by submersible pumps in the basin to two (2) aeration tanks. WAS is manually discharged to the small EQ section by opening a valve on the return sludge piping. A submersible pump transfers the WAS to an adjacent aerobic digester.

Two of the influent/RAS submersible pumps were installed in 2003 and relocated in a parallel arrangement. A third pump was added in 2007. The lifting system for pump maintenance shows signs of rust and corrosion. The WAS submersible pump is not equipped with a lifting system for pump removal out of the basin.

B. Aeration Tanks and Blowers

Aeration Tank No. 1 is an aboveground bolted steel tank equipped with fine bubble air diffusers, The tank was constructed in 2007 and appears to be in good condition. Aeration Tank No. 2 is similar to Tank No. 1 and was constructed in 2003. It also appears to be in good condition.

Air to Aeration Tank No. 1 is provided by two (2) 75 HP, VFD driven blowers housed in weatherproof enclosures outside adjacent to the tanks. Air for Aeration Tank No. 2 is supplied by blowers that are housed in a wooden shed.

C. Secondary Clarifiers

Mixed liquor from the aeration tanks flows to a splitter box for flow distribution to the secondary clarifiers for settling. The splitter box can split flow to one existing concrete clarifier and three future clarifiers.

The plant has three (3) secondary clarifiers, two small steel circular tanks and a larger concrete tank. The two small steel clarifiers were constructed in 2003 and the third was added in 2007. The plant currently only operates 50’ diameter larger clarifier while the other two are offline. The two steel clarifiers have been rehabbed but are not in service.

D. Treated Effluent & Phosphorus Removal

Secondary effluent receives season chlorination and dechlorination through a series of of chlorine contact tanks. Sodium hypochlorite and sodium bisulfite chemicals are added directly at the contact tanks through chemical drums and metering pumps that sit outside. There is no spill containment or weather protection for the chemical feed system.

Post aeration is added by fine bubble diffusers and a small 3 HP aeration blower at the effluent.

The plant has a phosphorus precipitation chemical feed system which sits adjacent to the aeration tanks. The system was installed in 2007 and includes a ferric chloride storage tank and metering pump that are housed in a fiberglass shed. The ferric chloride is added to the aeration tank influent and the phosphorus is precipitated out in the waste activated sludge.

E. Sludge Handling

Waste activated sludge is pumped from the EQ basin to an aboveground steel tank for aerobic digestion. The rectangular steel tank was constructed in 2003 and the digester is decanted manually.

Digested sludge from the aerobic digester is pumped to a sludge dewatering system located in a dewatering building which was constructed in 2014. The dewatering system is a geotextile bag system in which sludge is pumped to the bags which sit in two rolloff dumpsters. Liquid polymer is added to the process and the sludge sits in the bags while water is drained out. The remaining solids are then hauled off for disposal.

The sludge dewatering system is not very effective and requires a lot of operation time on top of costly supplies and disposal.

3. WASTEWATER FLOW SUMMARY

The following table summarizes the influent wastewater flows and strength for the last 12-month period from July 2018 to June 2019 taken from the plant's discharge monitoring reports (DMR).

TABLE 1. INFLUENT CHARACTERISTICS

Month-Year	Flow (mgd)	BOD5 (mg/L)	TSS (mg/L)	NH3-N (mg/L)	P (mg/L)
2018					
Jul	0.256	134.3	135.1	34.9	4.2
Aug	0.326	142.5	155.7	32.1	4.5
Sep	0.311	149.9	163.7	36.7	5.3
Oct	0.301	155.0	192.0	38.1	5.3
Nov	0.355	159.3	206.1	43.5	6.3
Dec	0.380	158.2	165.2	33.0	4.2
2019					
Jan	0.357	152.3	155.1	34.5	5.3
Feb	0.382	169.8	222.0	35.0	4.8
Mar	0.365	175.0	249.8	34.4	6.6
Apr	0.381	186.9	243.9	39.8	6.4
May	0.399	132.7	157.6	28.3	4.2
Jun	0.321	123.3	150.1	27.0	4.0
Average	**0.345**	**153.3**	**183.0**	**34.8**	**5.1**

The monthly average flow over the past 12 months ending in June 2019 was 0.345 mgd. The last 12 month average is used by the Indiana Department of Environmental Management (IDEM) to determine the existing and remaining capacity of the wastewater treatment plant. By this measure, the WWTP has reached approximately 86% of its permitted capacity of 0.40 mgd.

The average wastewater strength as measured by the WWTP had an average BOD5 of 153 mg/L and TSS of 183 mg/L.

Assuming a population equivalent (P.E.) of 6,000 including domestic wastewater from an estimated population of 5,849 and some commercial and industrial wastewater, the average daily flow of 0.345 mgd was approximately 60 gpd/P.E., on a hydraulic loading basis. The

average NH3-N was 35 mg/L and the average phosphorus was 5.1 mg/L in the raw wastewater.

The Winfield wastewater flow and characteristics represent a typical small town wastewater mainly from domestic sewage with small contribution from commercial/industrial uses.

4. NPDES PERMIT

The Town of Winfield was issued NPDES Permit No. IN0058343 on July 2016 with an expiration date of June 30, 2021. The WWTP is authorized to discharge the treated effluent to an unnamed tributary of Deer Creek with the following effluent limitations.

	BOD5 (mg/L)	TSS (mg/L)	NH3-N (mg/L)
Summer	10	12	4.3
Winter	25	30	5.3

The effluent must contain no more than 1.0 mg/L Total Phosphorus as P, and the total residual chlorine must be 0.02 mg/L or less on a monthly basis.

A copy of the NPDES Permit is attached as Exhibit B.

5. PLANT OPERATION AND PERFORMANCE

Utility Services is the WWTP's contracted operator, and is responsible for the operation of the plant in accordance with the permit requirements. The plant is well operated as witnessed during our field visit, especially since some of the treatment facilities and equipment are old and in need of replacement and/or repair. The plant also has good record keeping and conformance with the sampling protocol despite not having typical operational equipment such as automatic samplers and testing equipment.

A December 18, 2018 letter from IDEM identified plant deficiencies including:

1. Floating objects such as plastics found at the outfall during the time of inspection, due to the fine screening equipment being down for maintenance.
2. The temporary bypass bar rack as part of the screening structure was not included in the NPDES permit.
3. Extensive ferrous chloride stains on the ground from the chemical feed station.
4. Two of the five aeration blowers and screen equipment were offline for maintenance.
5. The influent equalization basins showed signs of severe rusting.
6. Four (4) E.coli samples exceed the effluent limitations.

The above plant deficiencies have since been corrected, other than the aging equalization basin.

The following table summarizes the effluent quality for the past 12-month period from July 2018 to June 2019, as taken from the DMRs.

TABLE 2. EFFLUENT CHARACTERISTICS

Month-Year	Flow (mgd)	BOD5 (mg/L)	TSS (mg/L)	NH3-N (mg/L)	P (mg/L)
2018					
Jul	0.256	1.7	4.1	0.1	0.6
Aug	0.326	1.5	2.8	0.1	0.4
Sep	0.311	2.1	4.6	0.1	0.6
Oct	0.301	2.2	3.2	0.3	1.0
Nov	0.355	3.5	6.8	0.1	0.8
Dec	0.380	3.1	5.1	0.5	0.8
2019					
Jan	0.357	3.7	4.9	0.6	0.6
Feb	0.382	2.0	5.9	0.3	0.2
Mar	0.365	3.0	5.8	0.2	0.3
Apr	0.381	3.8	4.0	1.0	0.4
May	0.399	1.9	2.4	3.1	0.3
Jun	0.321	4.8	7.3	0.2	1.0
Average	**0.345**	**2.8**	**4.7**	**0.5**	**0.6**

The plant effluent has been consistently meeting the NPDES permit requirements. The effluent BOD5 and TSS averaged 2.8 mg/L and 4.7 mg/L, respectively, well within the limits in the permit. The effluent nitrification requirements have also been consistently meeting the permit limits, except for one occurrence in May 2019 where the NH3-N concentration was 3.1 mg/L exceeding the limit of 1.3 mg/L. Similarly the phosphorus concentration averaged 0.6 mg/L, less than the 1.0 mg/L effluent limitation.

6. FUTURE WASTEWATER FLOW PROJECTIONS

The estimated population for the Town of Winfield as reported by the U.S. Census Bureau was 5,849 as of July 1, 2018. The estimated population for the five-year period from 2013-2017 according to the American Community Survey is summarized in the table below.

TABLE 3. POPULATION SUMMARY

Year	Population	% Population Increase	Total Housing Units	Occupants/Unit
2017	5,395	3.1	1,786	3.02
2016	5,233	3.5	1,728	3.03
2015	5,054	3.4	1,727	2.93
2014	4,888	4.3	1,676	2.92
2013	4,685	-	1,659	2.82

The above data indicated an average growth rate of 3.3% per year, with an average occupants per unit of 3.0. Using the estimated current population of 5,849 for 2018 along with an average population growth rate of 3.0%, the estimated population would be reach approximately 8,000 in year 2030. This would represent approximately 2,700 housing units based on 3.0 people/ unit.

The Town of Winfield's Sanitary Master Plan, dated January 26, 2016 uses a development model to identify the growth rate of the Town. The growth rate was determined based on planned development in the service area and the potential development under certain economic conditions. The Master Plan listed a total construction housing units of 1,397 in 2015, and the average yearly growth rate was estimated based on 80 new housing units per year in 2016. The plan indicated a 10% growth rate of new housing units to 120 per year in 2021.

The Master Plan also calculated the average daily flow rate per housing unit to be 177 gpd, based on the average daily flows to the WWTP and total number of housing units in 2015. The Plan projected the wastewater flow to the WWTP would be approximately 0.60 mgd in 2030. As previously mentioned, the average daily flow of 0.345 mgd over the last 12 months resulted in approximately 60 gpd/P.E., or 180 god per housing unit, which is similar to the number calculated in the Master Plan.

IDEM regulations establish the average flow rates for residential services in connection with sanitary sewer construction permits as follows:

- 200 gpd/unit for 1 bedroom apartments
- 300 god/unit for 2 bedroom apartments
- 310 gpd/unit for single family houses

The Master Plan projected the average flow to the WWTP to be 0.80 mgd in 2030 based on 310 gpd/unit as established by IDEM.

After evaluation of the available data and the before mentioned population and growth rate analysis, it is our recommendation that the WWTP be expanded to provide additional capacity for an average daily flow rate of 0.80 mgd for the next 10-year planning period. This would provide an additional wastewater capacity of 0.455 mgd for future development. Based on the IDEM 310 gpd/unit, this would equate to approximately 1,467 additional single family units. Based on the current flow basis, this would be approximately 2,500 additional single family units.

The following table summarizes the recommended design parameters for the Phase 1 WWTP Improvements.

TABLE 4. WWTP DESIGN PARAMETERS

Parameter	**Phase 1**	
Design Year	2030	
Population Equivalent (P.E.)		
Design Average Flow (DAF)	0.80	mgd
Design Maximum Flow (DMF)	1.60	mgd
BOD5 Loading		
Existing @ 153 mg/L x 8.34 x 0.345 mgd	440	lbs/day
Additional @ 200 mg/L x 8.34 x (0.80 - 0.345) mgd	760	lbs/day
Total	1,200	lbs/day
TSS Loading		
Existing @ 183 mg/L x 8.34 x 0.345 mgd	530	lbs/day
Additional @ 250 mg/L x 8.34 x (0.80 - 0.345) mgd	950	lbs/day
Total	1,480	lbs/day
NH3-N Loading		
Design @ 35 mg/L x 8.34 x 0.80 mgd	234	lbs/day
Phosphorus Loading		
Design @ 8 mg/L x 8.34 x 0.80 mgd	23	lbs/day

7. PROPOSED WWTP IMPROVEMENTS

After careful analysis of the existing processes, equipment and conditions, the following is our recommended improvements for a full-scale expansion of the WWTP. The proposed WWTP expansion would include the following treatment processes: fine screening, grit removal as needed in the future, biological phosphorus removal, extended aeration activated sludge for nitrification, secondary clarification, UV disinfection, and post aeration. The sludge process and handling include aerobic digestion of waste activated sludge, digested sludge thickening, and sludge dewatering and storage. The proposed treatment process schematic is shown on Exhibit C.

The major addition/improvement of the treatment plant includes the addition of an oxidation ditch tank which is a modified activated sludge process. The oxidation ditch would replace the existing conventional aeration tanks and blowers to provide nitrification of BOD5 and NH3-N to remove BOD and ammonia. An oxidation ditch is racetrack shaped tank equipped with mechanical aerators which provide aeration and mixing throughout the tank to remove biodegradable organics. Return activated sludge is pumped to the oxidation ditch to maintain biomass.

In combination with the oxidation ditch, an anaerobic tank can provide biological phosphorus removal through phosphorus uptake in the ditch resulting in removal in the waste activated sludge. This process can typically remove 80 to 90% of raw phosphorus in the influent wastewater, and the remainder of the phosphorus will be chemically precipitated similar to the current practice. The associated chemical costs for phosphorus removal will be reduced.

The advantages of oxidation ditch technology is the ease of operation, constant water level in tank, long hydraulic retention times that can minimize shock loadings, and energy efficient operations. Energy saving controls can also be added for efficient oxidation ditch operation in the form of variable frequency drive (VFD) motors coupled with dissolved oxygen control.

A major advantage to the system we are recommending is the ease of expansion in later phases by the addition of a third channel, which should help the Town provide wastewater capacity in the future with minimal disruption to the WWTP.

The proposed Phase 1 WWTP improvements would include the following major modifications and additions to the existing facility.

1. Abandon and remove the existing influent box.
2. Re-route the raw sewage force mains from the offsite lift stations to a new screen building.
3. relocate the existing fine screen equipment or replace if needed.
4. Abandon and remove the existing equalization basin along with the existing submersible influent pumps and associated equipment.
5. Construct a new screen/control building to house an influent Parshall flume, relocated or new fine screen, manual bypass channel and screen, and influent sampler. Space will be reserved for future grit removal equipment if needed in the future. The re-routed forcemains will discharge into an influent channel prior to metering through the flume.
6. The new screen/control building will have an electrical room to house the new motor control centers, power distribution equipment, and controls.
7. Construct a new oxidation ditch aeration tank with anaerobic zone. The oxidation ditch will have two (2) channels for the Phase 1 capacity. An additional third channel can be constructed in the future to provide the Phase 2 capacity. The conceptual oxidation ditch arrangements is shown in Exhibit D.

8. Construct a new 40’ diameter secondary clarifier, similar to the existing.
9. Construct a new pre-cast submersible RAS/WAS pumping station.
10. Construct a new UV disinfection system to replace the existing liquid chlorination/ dechlorination systems.
11. Convert the two existing aeration tanks into aerobic digesters for digestion of waste activated sludge.
12. Convert the two existing steel tank clarifiers into digested sludge thickening tanks.
13. Abandon and remove the existing aboveground steel aerobic digester tank.
14. Remove the existing geotextile sludge dewatering system.
15. Provide and install a new sludge feed pump, belt filter press, polymer feed system, and sludge conveyor for sludge dewatering in the existing dewatering building.
16. Construct a new pre-cast submersible drain pumping station for tank and process dewatering.
17. Expand the existing sludge storage bed for storage of dewatered sludge during winter months,
18. Remove and replace the existing ferric chloride chemical feed system with a new chemical feed system located in the dewatering building.

It is intended in the above proposed improvements to eliminate the equalization tank and intermediate re-pumping of the raw sewage influent. This will reduce operation and maintenance costs associated with the re-pumping of influent flow. The wastewater from the offsite lift stations would discharge directly into the screen inlet channel and flow through the plant treatment processes by gravity before discharge. In doing so, the pumping conditions of the off-site lift stations need to be reviewed to ensure the new pumping conditions are met, This may include modified or new pump impellers and/or changing of drive motors to increase the discharge head of the pumps. However, these changes may be minimal as the proposed fine screen building and structure will increase the total head condition by approximately 5 feet.

The proposed Phase 2 improvements to expand the WWTP too a total capacity of 1.60 mgd would include the following additions and modifications.

1. Replace the existing fine screen equipment with a larger unit.
2. Construct a third channel to the oxidation ditch tank.
3. Add two additional 40’ diameter secondary clarifiers.
4. Add additional UV banks.
5. Add an additional RAS pump.

Construction of the Phase 1 improvements will take into account the future Phase 2 expansion. For example, the fine screen/control building will have space incorporated for Phase 2 equipment, etc. The sludge dewatering system improvements in Phase 1 would be sized with enough capacity to handle the future Phase 2 expansion. The existing blowers and diffusers used for the converted aerobic digester may need replacement as the existing equipment wears and ages. The proposed WWTP improvements do not include laboratory/office improvements as those are proposed/planned in the existing ? building.

The layout of the proposed wastewater treatment plant improvements are shown on Exhibit E, and the basis of design is included as Exhibit F.

8. ESTIMATED PROJECT COST

The following table provides the estimated project cost for the Phase 1 WWTP Improvements.

TABLE 5. ESTIMATED PROJECT COST	
Item	**Estimated Cost**
Fine Screen/Control Building and Parshall Flume	$450,000
Demo/Abandon Existing Equalization Tank and Pumps	$28,000
Influent/Effluent Samplers	$30,000
2-Channel Oxidation Ditch with Anaerobic Zone	$1,775,000
Secondary Clarifier	$525,000
RAS/WAS Pumping Station	$125,000
Drain Pumping Station	$85,000
UV Disinfection Channel and Equipment	$265,000
Excavation, Grading and Restoration	$100,000
Electrical Controls & Switchgear	$375,000
Site Piping	$175,000
Belt Filter Press	$185,000
Sludge Feed Pump System	$50,000
Polymer Feed System	$35,000
Non-Potable Water Pumping System	$75,000
Sludge Conveyor	$20,000
Sludge Storage Pad	$50,000
Subtotal Construction Cost	$4,348,000
Design & Construction Engineering @ 13%	$565,000
Subtotal Engineering Cost	$565,000
10% Construction Contingency	$435,000
Total Project Cost	$5,348,000

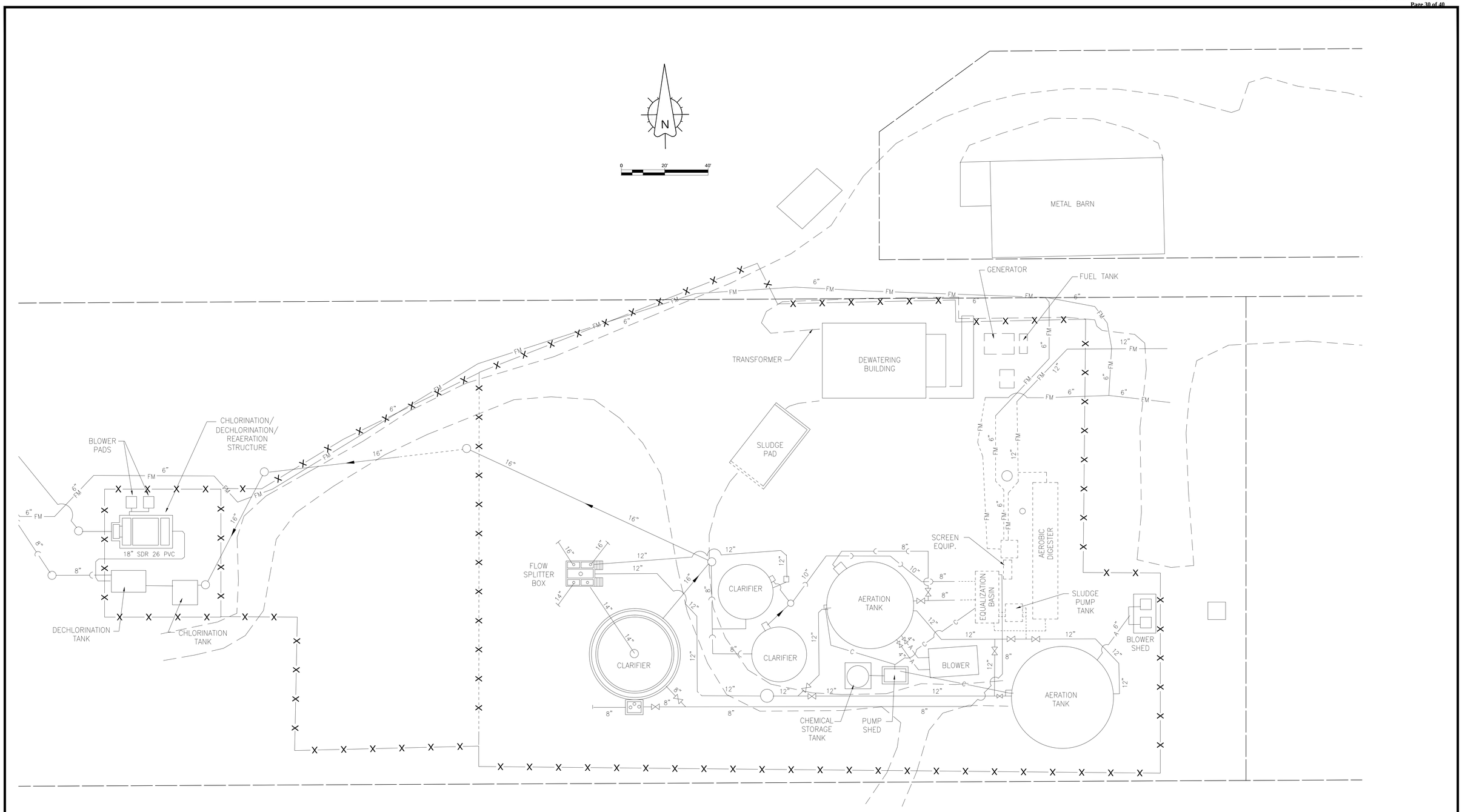
9. PROJECT SUMMARY AND SCHEDULE

In summary, the proposed WWTP improvements would provide the following:

1. Expand the WWTP to 0.8 mgd and provide an additional treatment capacity of 0.455 mgd that would serve approximately between 1,470 to 2,500 single family homes over the next 10 years.
2. Reduce the operation costs associated with the re-pumping of influent flows.
3. Reduce operating costs through VFDs and dissolved oxygen instrumentation.
4. Provide biological phosphorus removal which will reduce the chemical costs associated with chemical precipitation.
5. Provide a simple, modernized treatment system with ease of future expansion to 1.6 mgd.
6. Incorporate existing treatment units by converting their treatment functions.
7. Provide an overall simpler plant operation and overall maintenance.

The following is a conceptual project schedule along with project milestone dates:

1. Prepare and submit a NPDES permit modification for 0.8 mgd capacity (October 2019).
2. Prepare and complete the preliminary engineering design for plant expansion (January 2020).
3. Complete the final engineering design for plant expansion (March 2020).
4. Obtain an IDEM construction permit (April 2020).
5. Award construction contract (May 2020).
6. Complete construction and ready for operation (April 2021).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GENERATOR
FUEL TANK
TRANSFORMER
DEWATERING BUILDING
SLUDGE PAD
BLOWER PADS
CHLORINATION/ DECHLORINATION/ REAERATION STRUCTURE
18" SDR 26 PVC
DECHLORINATION TANK
CHLORINATION TANK
FLOW SPLITTER BOX
CLARIFIER
CLARIFIER
CLARIFIER
AERATION TANK
AERATION TANK
SCREEN EQUIP.
EQUALIZATION BASIN
AEROBIC DIGESTER
SLUDGE PUMP TANK
BLOWER
BLOWER SHED
CHEMICAL STORAGE TANK
PUMP SHED

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

TOWN OF WINFIELD

hereinafter referred to as "the permittee." The permittee owns and/or operates the **Town of Winfield Wastewater Treatment Plant**, a minor municipal wastewater treatment plant located at 7390 East 112th Street, Winfield, Indiana, Lake County. The permittee is hereby authorized to discharge from the outfalls identified in Part I of this permit to receiving waters consisting of an unnamed tributary to Deer Creek , located within the Lake Michigan drainage basin, in accordance with the effluent limitations, monitoring requirements, and other conditions set forth in the permit. This permit may be revoked for the nonpayment of applicable fees in accordance with IC 13-18-20.

Effective Date: July 1, 2016.

Expiration Date: June 30, 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 February 5, 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 II, 0.4 MGD activated sludge treatment facility consisting of a semi-cylindrical fine screen, an equalization influent basin, two (2) bio-reactor basins, three (3) secondary clarifiers, three (3) chlorine contact basins with fine bubble diffused post aeration, dechlorination, phosphorus removal, an effluent flow meter, and one (1) sludge holding tank.

The collection system is comprised of 100% separate sanitary sewers by design with no overflow or bypass points.

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 001, which is located at Latitude: 41° 24' 48" N, Longitude: 87° 15' 8" W. The discharge is subject to the following requirements:

TABLE 1

	Quantity or Loading			**Quality or Concentration**			**Monitoring Requirements**	
Parameter	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]	33	50	lbs/day	10[4]	15	mg/l	3 X Weekly	24-Hr. Composite
Winter [3]	83	134	lbs/day	25[4]	40	mg/l	3 X Weekly	24-Hr. Composite
TSS								
Summer [2]	40	60	lbs/day	12[4]	18	mg/l	3 X Weekly	24-Hr. Composite
Winter [3]	100	150	lbs/day	30[4]	45	mg/l	3 X Weekly	24-Hr. Composite
Phosphorus [5]	----	----	----	1.0	----	mg/l	3 X Weekly	24-Hr. Composite

TABLE 2

	Quality or Concentration				Monitoring Requirements	
Parameter	Daily Minimum	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
pH [6]	6.0	----	9.0	s.u.	5 X Weekly	Grab
Dissolved Oxygen [7]						
Summer [2]	6.0	----	----	mg/l	5 X Weekly	3 Grabs/24-Hrs.
Winter [3]	5.0	----	----	mg/l	5 X Weekly	3 Grabs/24-Hrs.
Total Residual Chlorine [8]						
Contact Tank [9]	0.5	----	Report	mg/l	5 X Weekly	Grab
E. coli [10]	----	125 [11]	235 [12]	cfu/100 ml	3 X Weekly	Grab

TABLE 3

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
Parameter	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
Ammonia-nitrogen								
Summer [2]	4.3	9.7	lbs/day	1.3	2.9	mg/l	3 X Weekly	24-Hr. Composite
Winter [3]	5.3	12.0	lbs/day	1.6	3.6	mg/l	3 X Weekly	24-Hr. Composite
Total Residual Chlorine								
Final[13]	0.07	0.13	lbs/day	0.02	0.04	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.

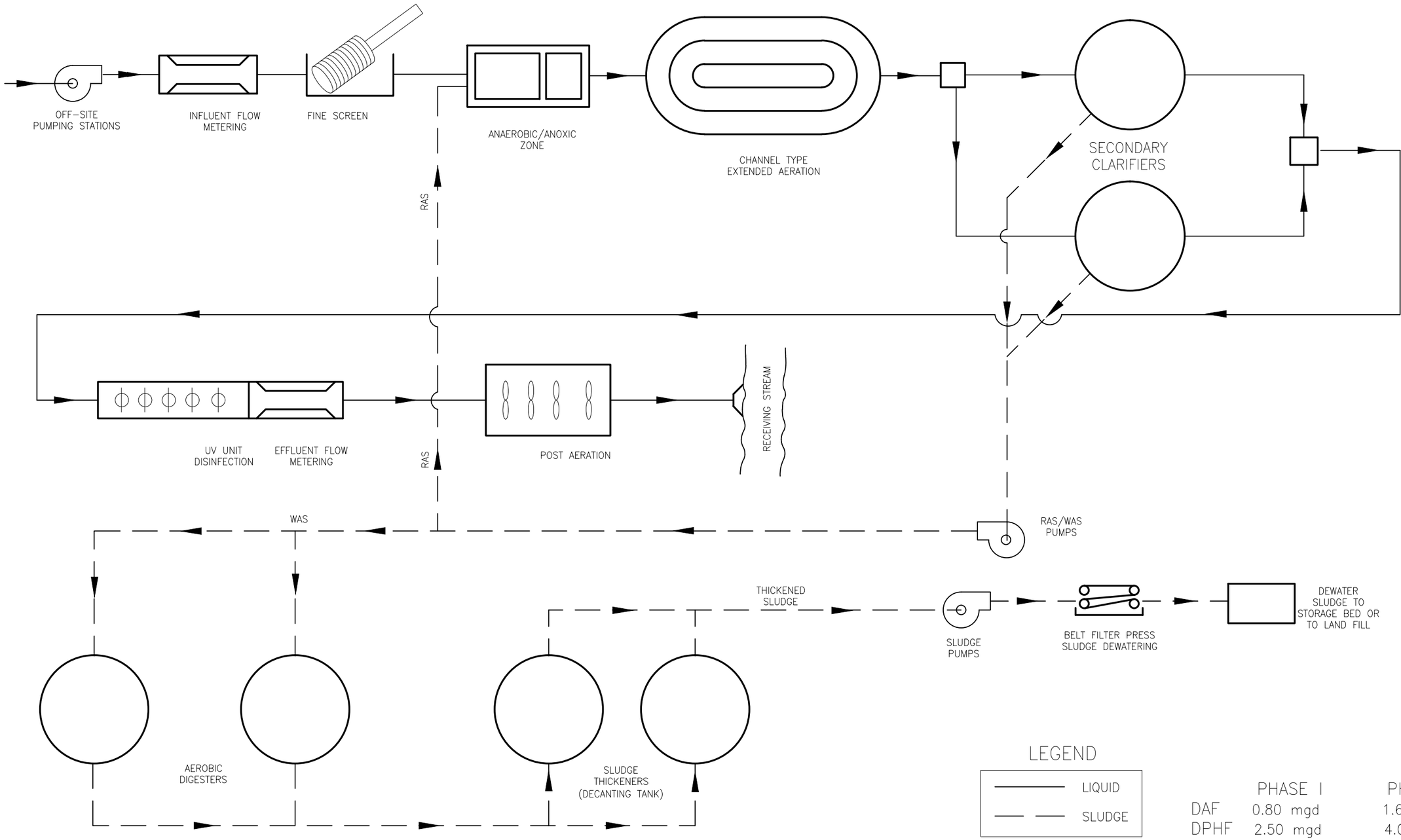
[2] Summer limitations apply from May 1 through November 30 of each year.

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

[4] The monthly average percent removal shall not be less than 85%. The percent removal shall be calculated from a comparison of raw influent to final effluent sampling results.

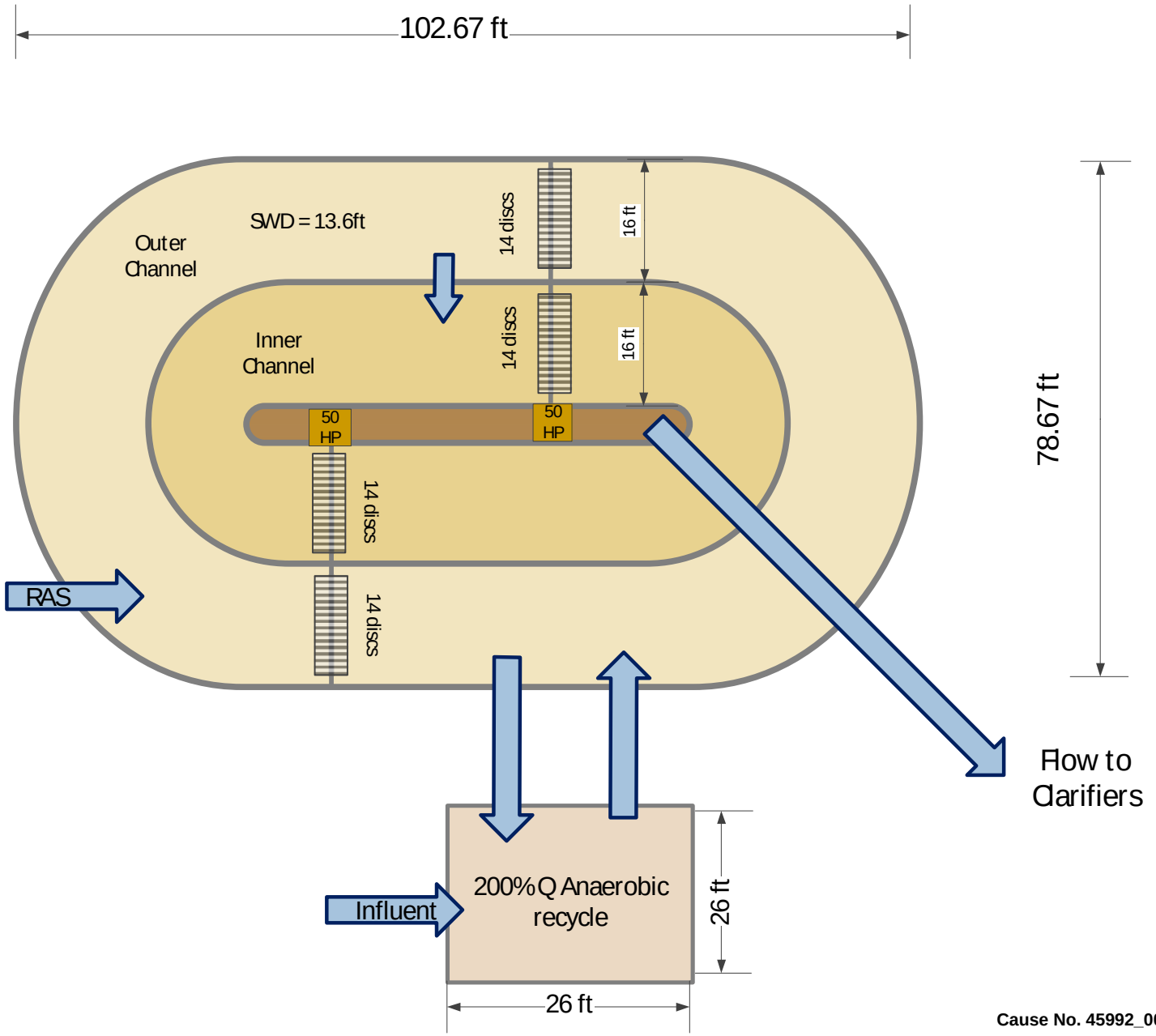
[5] In accordance with 327 IAC 5-10-2(b), the facility must produce an effluent containing no more than 1.0 mg/l total phosphorus (P) any month that the average phosphorus level in the raw sewage is greater than 5 mg/l. Otherwise, a degree of reduction, as prescribed below, must be achieved. Such reduction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

Phosphorus (P) Level in Raw Sewage (mg/l)	Required Removal (%)
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%


OFF–SITE PUMPING STATIONS
INFLUENT FLOW METERING
FINE SCREEN
ANAEROBIC/ANOXIC ZONE
CHANNEL TYPE EXTENDED AERATION
SECONDARY CLARIFIERS
RAS
UV UNIT DISINFECTION
EFFLUENT FLOW METERING
POST AERATION
RECEIVING STREAM
RAS
WAS
RAS/WAS PUMPS
THICKENED SLUDGE
SLUDGE PUMPS
BELT FILTER PRESS SLUDGE DEWATERING
DEWATER SLUDGE TO STORAGE BED OR TO LAND FILL
AEROBIC DIGESTERS
SLUDGE THICKENERS (DECANTING TANK)
LEGEND
LIQUID
SLUDGE
PHASE I
PHASE II
DAF 0.80 mgd 1.60 mgd
DPHF 2.50 mgd 4.0 mgd

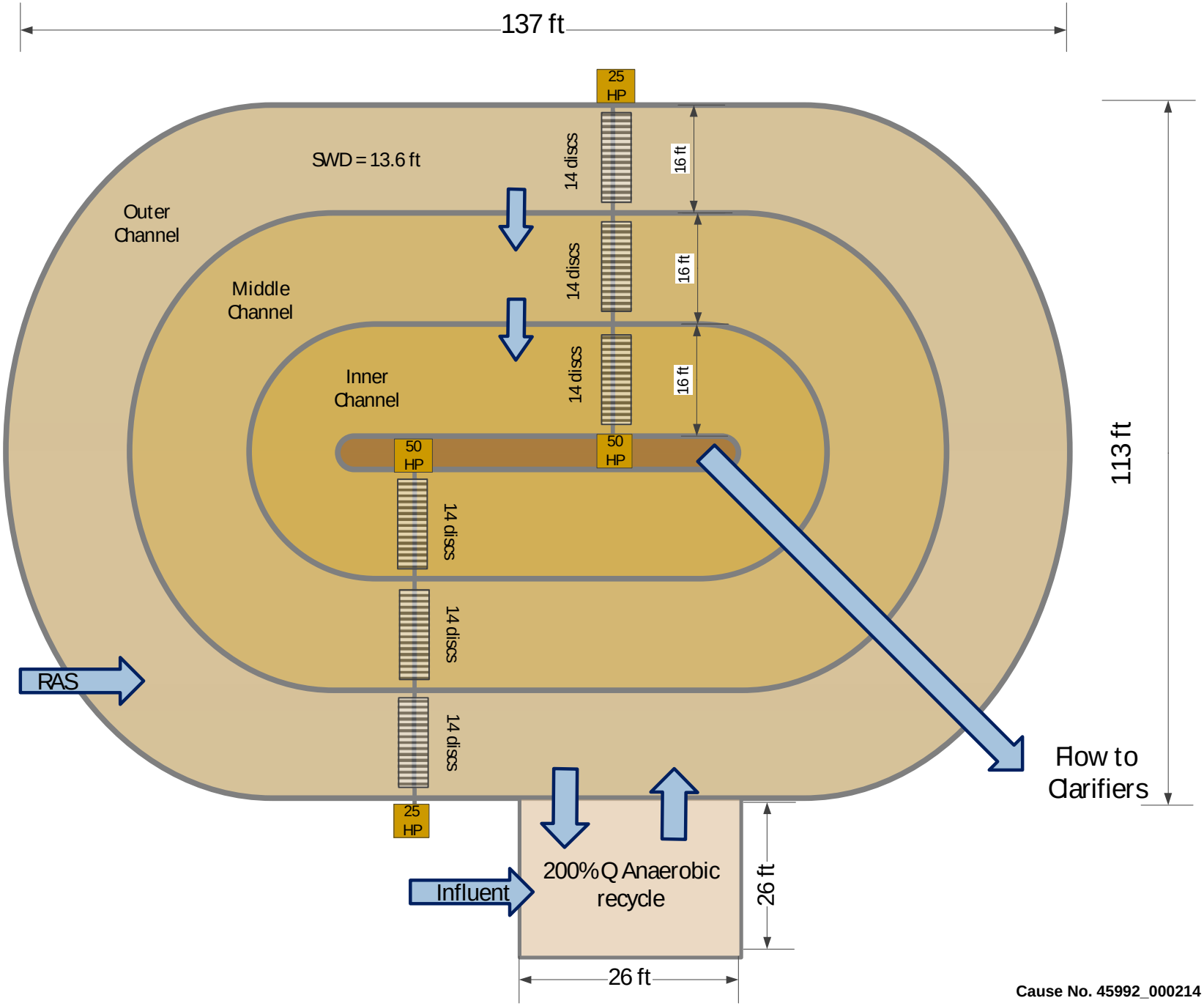
Orbal Diagram

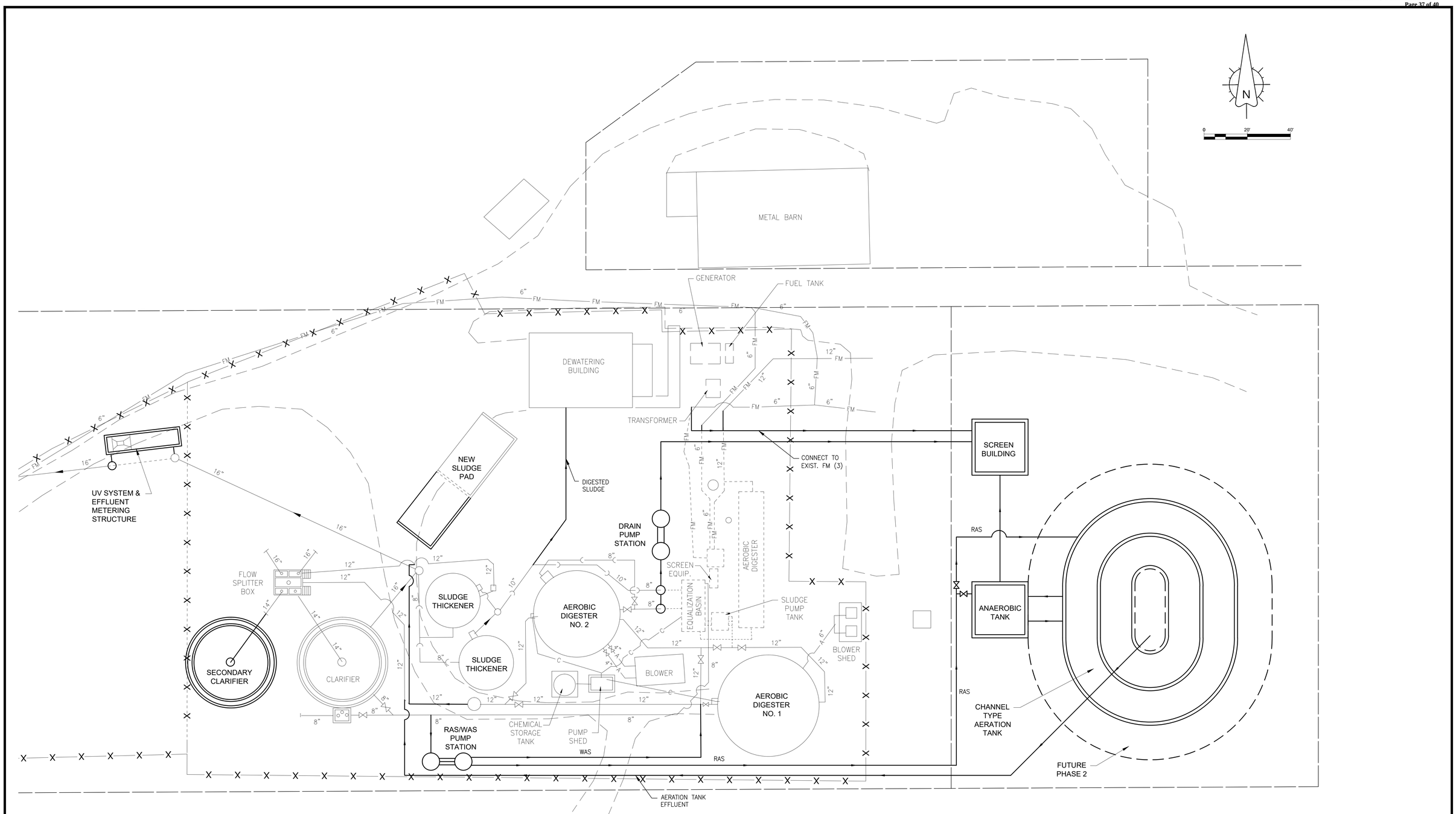
Phase I: 0.8 MGD



Orbal Diagram

Phase II: 1.6 MGD

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DEWATERING BUILDING
TRANSFORMER
CONNECT TO EXIST. FM (3)
SCREEN BUILDING
NEW SLUDGE PAD
DIGESTED SLUDGE
UV SYSTEM & EFFLUENT METERING STRUCTURE
DRAIN PUMP STATION
SCREEN EQUIP.
AEROBIC DIGESTER
EQUALIZATION BASIN
SLUDGE PUMP TANK
FLOW SPLITTER BOX
SLUDGE THICKENER
AEROBIC DIGESTER NO. 2
SECONDARY CLARIFIER
CLARIFIER
SLUDGE THICKENER
BLOWER
BLOWER SHED
AEROBIC DIGESTER NO. 1
RAS/WAS PUMP STATION
CHEMICAL STORAGE TANK
PUMP SHED
WAS
RAS
ANAEROBIC TANK
RAS
CHANNEL TYPE AERATION TANK
FUTURE PHASE 2
AERATION TANK EFFLUENT

EXHIBIT F
WWTP Basis of Design

GENERAL DATA	**PHASE 1**		**PHASE 2**	
Design Flow				
1. Design Population	8,000	P.E.	16,000	P.E.
2. Design Average Flow (DAF)	0.80	mgd	1.60	mgd
3. Design Maximum Flow (DMF)	2.44	mgd	4.40	mgd
Wastewater Characteristics				
4. BOD_5	1,200	lbs/day	2,400	lbs/day
5. TSS	1,480	lbs/day	2,960	lbs/day
6. NH_3-N @ Design peak conc. 35 mg/l	234	lbs/day	468	lbs/day
7. Total P @ 8 mg/L	23	lbs/day	46	lbs/day
EFFLUENT LIMITATIONS				
	Summer		Winter	
Parameter	Monthly Avg		Monthly Avg	
BOD_5, (mg/L)	10		25	
TSS, (mg/L)	12		30	
NH_3-N (mg/L)	4.3		5.3	
pH (unit)	6-9		6-9	
E.Coli	125 /100		125 /100	
Phosphorus (mg/L)	1.0		1.0	
MAJOR TREATMENT UNITS				
1. Screening				
Provide one unit with manual by-pass bar screen				
No. of units	1		1	
Hydraulic capacity, each	3.0	mgd	4.5	mgd
2. Biological P Removal				
Anaerobic Selector				
No. of tanks	1		1	
Length	22	ft	22	ft
Width	16	ft	16	ft
Depth	13.6	ft	13.6	ft
Volume	35,808	gal	35,808	gal
Detention time @ DAF	1.1	hr	0.5	hr
3. Aeration Tank (Oxidation Ditch)				
No. of channels	2		3	
Detention time	24	hr	24	hr
Volume	107,000	ft^3	214,000	ft^3
BOD_5 loading	1,200	lbs/day	2,400	lbs/day
BOD_5 loading rate	11.2	ft^3	11.2	ft^3
Aeration Requirements				
Peak BOD	240	mg/L	240	mg/L
NH_3-N	35	mg/L	35	mg/L
lb O2 per lb BOD_5	1.29		1.29	
lb O2 per lb NH_3-N	4.60		4.60	
AOR	110	lbs/day	110	lbs/day

EXHIBIT F
WWTP Basis of Design

GENERAL DATA	PHASE 1		PHASE 2	
4. Secondary Clarifiers				
No. of tanks	2		4	
Diameter	40	ft	40	ft
Side water depth	12	ft	12	ft
Total surface area	2,513	ft^2	5,027	ft^2
Surface settling rate (SSR)				
@ DAF	318	gpd/ft^2	318	gpd/ft^2
@ DMF	971	gpd/ft^2	875	gpd/ft^2
5. UV Disinfection System				
Design peak flow	2.44	mgd	4.40	mgd
Disinfection standard	400/100	mL	400/100	mL
UV dosage	40,000	$mwatt\text{-}s/cm^2$	40,000	$mwatt\text{-}s/cm^2$
UV Transmittance (UVT)	65%		65%	
No. of Channels	1		1	
No. of Banks in Series	3		6	
6. Post Aeration				
Use existing 3 HP rotary blower and diffusers for DO				
7. Sludge Production				
A. Waste Activated Sludge Production				
WAS @ 0.65 lbs/lb BOD applied	780	lbs/d	1,560	lbs/d
Volatile solids, @ 70% volatile	546	lbs/d	1,092	lbs/d
Volume @ 0.75% solids	12,470	gpd	24,940	gpd
B. Aerobic Digesters				
No. of existing tanks to be converted	2		2	
Tank No. 1 Volume	300,000	gal	300,000	gal
Tank No. 2 Volume	200,000	gal	200,000	gal
Total Volume	500,000	gal	500,000	gal
Volume provided (per P.E.)	8.36	ft^3/P.E.	4.18	ft^3/P.E.
Volatile Solids Loading	8.17	ppd/1000 ft3	16.34	ppd/1000 ft3
Expected Volatile Solids Reduction	50	%	50	%
Digested sludge	507	lbs/day	1,014	lbs/day
Digested sludge volume	8,106	gal/day	16,211	gal/day
Use existing blowers for aerobic digestion				
C. Gravity Sludge Thickening				
No. of tanks to be converted	2		2	
Diameter	21	ft	21	ft
Side water depth	8	ft	8	ft
Total surface area	715	ft^2	715	ft^2
Surface settling rate	11	gpd/ft^2	23	gpd/ft^2
Expected thickened solids	2.0	%	2.0	%
Thickened digested sludge volume	3,080	gal/day	6,160	gal/day

EXHIBIT F
WWTP Basis of Design

GENERAL DATA	PHASE 1		PHASE 2	
D. Sludge Dewatering				
Provide a belt filter press for sludge dewatering				
Design maximum sludge @ 0.16 lbs/day/P.E.	1,280	lbs/day	2,560	lbs/day
Volume @ 2% T.S.	7,674	gal/day	15,348	gal/day
No. of units	1		1	
Size	1	meter	1	meter
Average Capacity	750	lbs/hr/meter	750	lbs/hr/meter
Operating time(5-day week)	2.4	hrs	4.8	hrs
Dewatered sludge solids	18	%	18	%
Average sludge volume	45	ft3	90	ft3
Maximum sludge volume	114	ft3	228	ft3
E. Dewatered Sludge Storage				
No. of days of winter storage	150	days	150	days
Average sludge volume	6,773	ft3	13,545	ft3
Provide concrete sludge storage pad	1		2	
Length	85	ft	85	ft
Width	20	ft	20	ft
Height	4	ft	4	ft
Volume	6,800	ft^3	13,600	ft3
8. RAS/WAS Pump Station				
No. of pumps	2		3	
Capacity, each	560	gpm	560	gpm

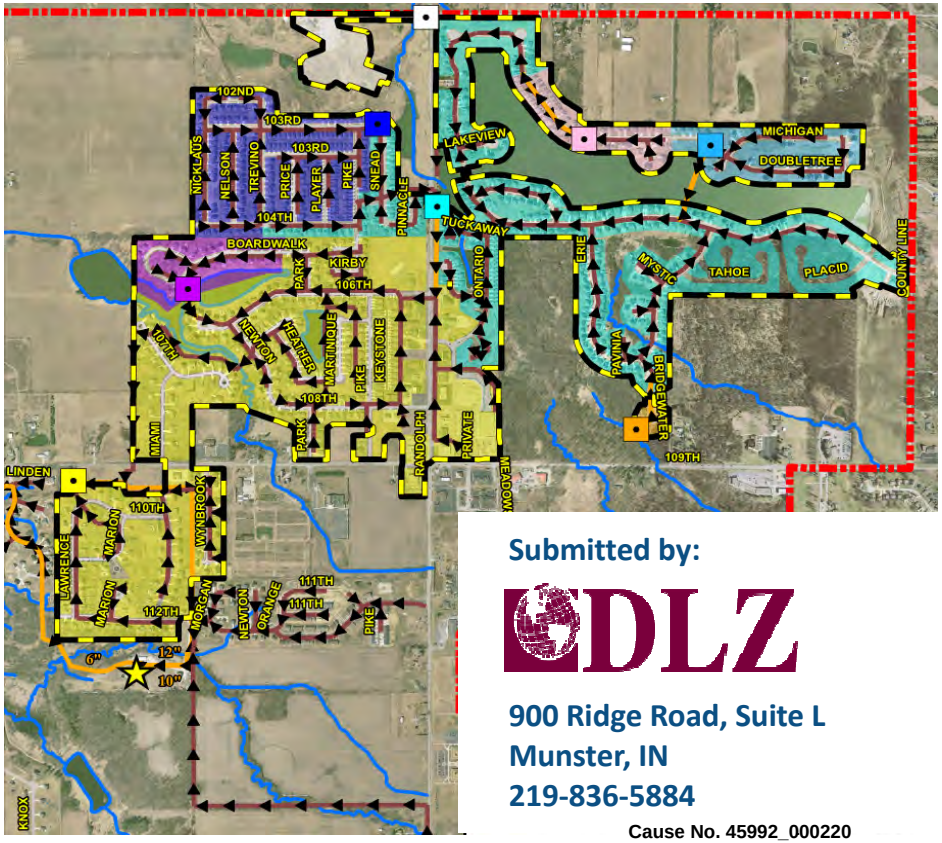
Attachment MCJ-10

Exhibit 1.27

Town of Winfield, Indiana

Sanitary Master Plan

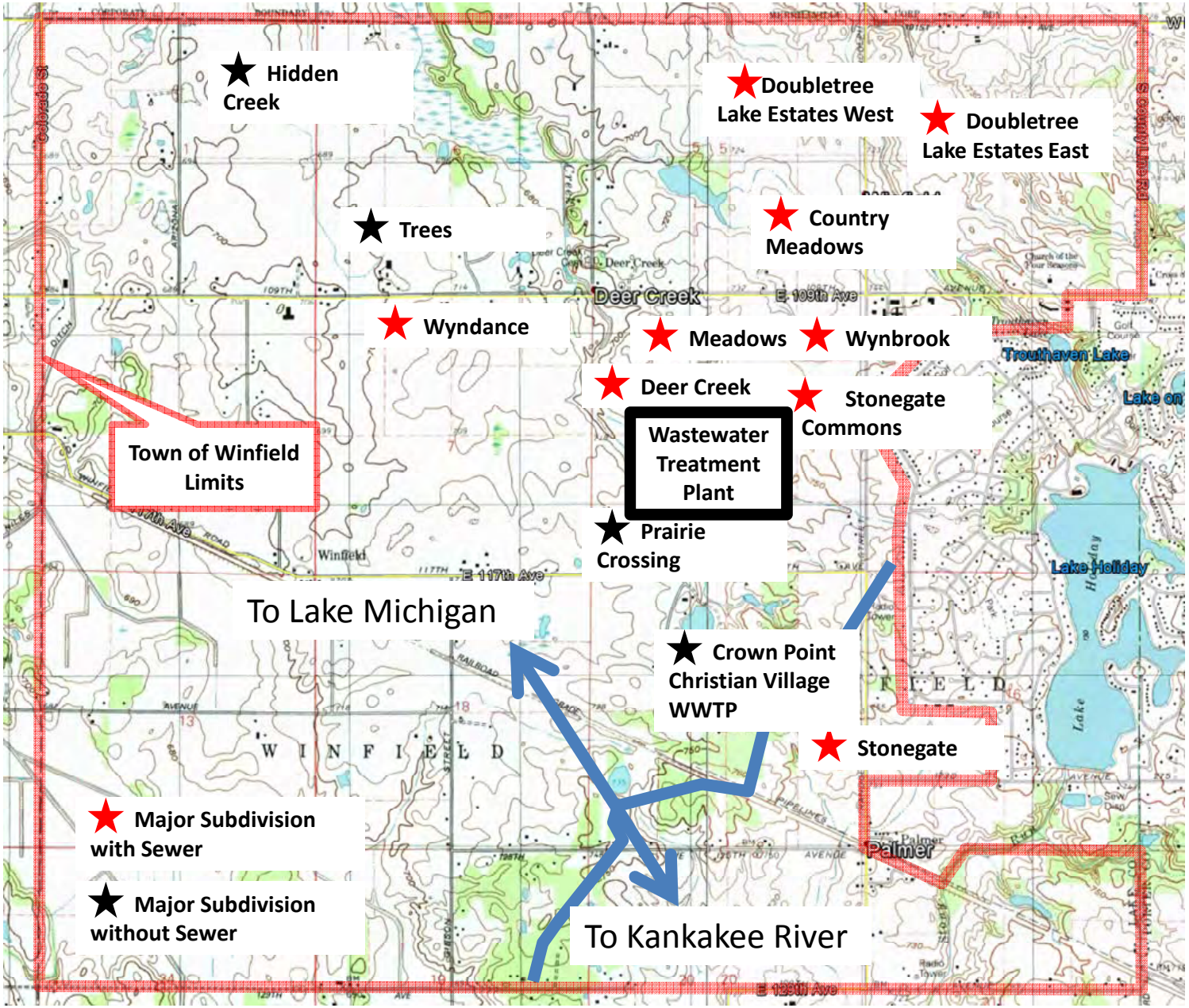
January 26, 2016



Submitted by:

DLZ

900 Ridge Road, Suite L
Munster, IN
219-836-5884


Hidden Creek
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Doubletree Lake Estates East
Trees
Country Meadows
Deer Creek
E 109th Ave
Wyndance
Meadows
Wynbrook
Deer Creek
Stonegate Commons
Wastewater Treatment Plant
Town of Winfield Limits
Prairie Crossing
Winfield
E 117th Ave
To Lake Michigan
Crown Point Christian Village WWTP
Stonegate
W I N F I E L D
F I E L D
Major Subdivision with Sewer
Major Subdivision without Sewer
To Kankakee River
Palmer
Lake Holiday
Trouthaven Lake

January 26, 2016

Town of Winfield
Sanitary Board
10645 Randolph Street
Winfield, Indiana 46307

RE: Town of Winfield, Indiana
Sanitary Master Plan

Dear Distinguished Board Members:

DLZ Indiana, LLC (DLZ) is pleased to present this Sanitary Master Plan (Plan) for the Town of Winfield. This Plan was developed at the direction of the Town Council and the Sanitary Sewer Board of the Town of Winfield and is intended to provide an overview of the wastewater collection and treatment system, its current capabilities, a plan to guide the Town in future growth decisions, and a capital improvements plan for identifying costs required to maintain and upgrade the Town's current wastewater infrastructure.

The Town of Winfield is located on the "Continental Divide" which separates the Lake Michigan watershed and the Kankakee River watershed. The wastewater treatment plant was also located on relatively high ground. Development throughout the Town began in several "seed" areas scattered throughout the Town. These characteristics resulted in a relatively large number of lift stations and subdivisions not served by sanitary sewer systems throughout the Town.

The Town of Winfield is relatively young, established in 1993. While many of the challenges facing the Town's wastewater infrastructure are not unique, Winfield is in a special position to plan for these challenges at an early stage. This Plan should be considered a "living" document that should be updated every few years as dictated by infrastructure and/or development changes.

DLZ appreciates the opportunity to provide this report and welcomes further discussion of the contents. Should you have any questions, please contact us at your earliest convenience at 574-236-4400 or 219-836-5884.

Respectfully submitted,

DLZ Indiana, LLC

Mark H. Nye, PE
Division Manager

Michael P. Duffy Jr., PE, PS
Project Manager

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SECTION 1 - PROJECT LOCATION

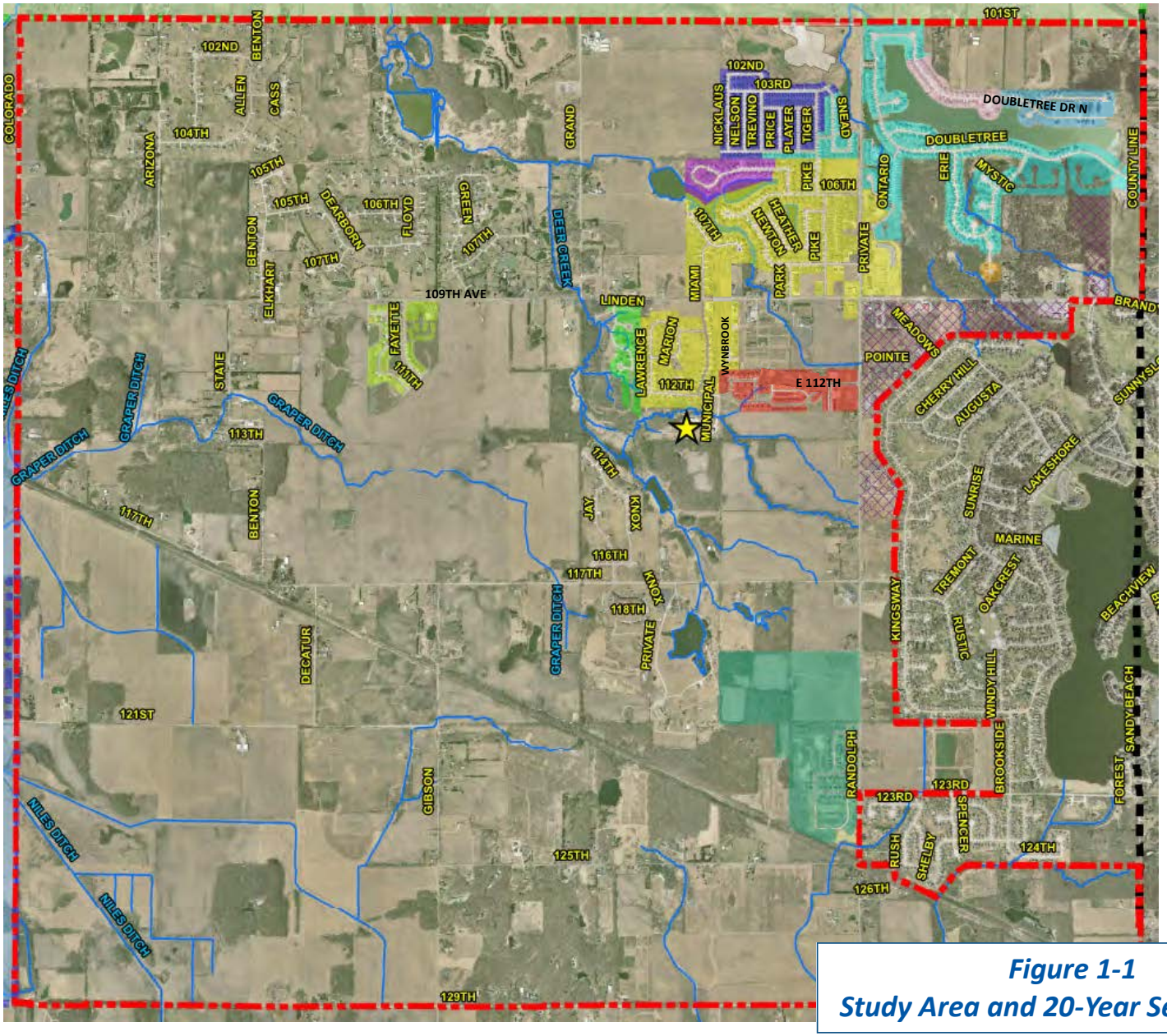


Figure 1-1
Study Area and 20-Year Service Area

SECTION 1 - PROJECT LOCATION

1.1 Study Area

The study area encompasses areas bounded by the current corporate limits of the Town of Winfield, Indiana. The area is shown in **Figure 1-1**. A discussion on the study area is found in Section 1.4 on this page.

1.2 20-Year Service Area

The 20-year service area is the same as the study area and encompasses the areas bounded by the current corporate limits of the Town of Winfield, Indiana. The area is shown in **Figure 1-1**.

1.3 Quadrangle Map, Section, Township, Range

The Town of Winfield and the study area is located in Winfield Township, Lake County, Indiana. It is located in Township 34 North, Ranges 7 and 8 West. The Town is located in Sections 1, 12, 13, and 24 in Range 8 West; and in Sections 4, 5, 6, 7, 8, 9, 16, 17, 18, 19, 20, and 21 in Range 7 West.

1.4 Project Area Description

The project area is the Town of Winfield corporate limits as shown by the thick dashed red line on **Figure 1-1**. The detailed focus of this study included the existing infrastructure and future infrastructure needs along the 109th Avenue, Randolph Street, 117th Avenue, and Grand Boulevard corridors. These corridors were defined during a public meeting with representatives from various Town Boards on April 2, 2015. It was also determined that areas in the southwest quadrant of the Town will generally remain rural in nature and that planning of wastewater infrastructure in that area is premature and shall be left for future updates to this plan, if required.

1.5 Statement of Ownership

The Town of Winfield owns the existing Wastewater Treatment Plant and the collection system including gravity sewers, lift stations, and force mains within the right-of-ways and easements dedicated to the Town. At present, the only systems not owned by the Town of Winfield are the Crown Point Christian Village wastewater treatment plant along with the associated collection system and the Picasso's Lift Station. The Picasso Lift Station's connection point to the Town's infrastructure and its intended service area is also unknown as it was put in place by a developer without the knowledge of the Town. This lift station was discovered during the preparation of this report. Recommendations for additional investigations into this lift station are discussed in later sections of this report.

Up until 2006, the Town of Winfield was served by a private sanitary sewer service administered by Utilities Inc.. In 2005 the Town purchased the treatment plant and associated infrastructure. The Town's view of ownership and maintenance of wastewater infrastructure in Doubletree East and Doubletree West have been inconsistent since 2005. Records obtained from IDEM show the majority of the IDEM permits issued for wastewater infrastructure indicate Doubletree Lake Estates as the owner, inspector, and maintenance provider. While the Town ultimately treats the effluent from these systems, it provided limited oversight, inspection, and maintenance of these systems throughout the years. Some of the wastewater infrastructure was also bonded while other infrastructure was not, depending upon the opinions of various Town personnel and legal staff at that time.

Only the wastewater treatment plant, Meadows Lift Station, Boardwalk Lift Station and the associated gravity sewer system to each were consistently maintained and operated by the Town. The position of the Town as of the writing of this report is that the Town owns and operates all of the wastewater infrastructure except for Crown Point Christian Village. At this time, Crown Point Christian Village is privately owned and operated system and is not connected to the Town's wastewater treatment plant. The Town's position on the Picasso's Lift Station has not been discussed as of the writing of this report; however it appears as if it is a private service with a force main that runs through Town right-of-way.

The Wyndance lift station was recently taken over by the Town. It is currently under a maintenance bond. During recent years, the developers of Stonegate and Stonegate Commons have also come forward and turned over their infrastructure to the Town. Wyndance, Stonegate Commons and Stonegate Lift Stations, required repairs and were completed prior to the Town's final acceptance of the infrastructure.

SECTION 2 - EXISTING INFRASTRUCTURE

SECTION 2 - EXISTING INFRASTRUCTURE

2.0 Overview

The existing wastewater collection system in the Town of Winfield is comprised of: approximately 92,000 lineal feet of gravity sanitary sewer ranging in size from 8-inches in diameter to 24-inches in diameter; 12 lift stations (including the Picasso Lift Station); and 23,000 lineal feet of 6-inch to 12-inch force main.

The existing wastewater treatment plant (WWTP) is located immediately south of the Meadows Subdivision and is currently rated at 0.4 million gallons per day (MGD) average day capacity and 1.44MGD peak capacity. In 2007, it underwent its fourth expansion, but it was the first expansion while under the ownership of the Town of Winfield. The previous expansions were apparently conducted while under ownership by Utilities, Inc.

The 12 lift stations include:

- ✓ Stonegate Lift Station
- ✓ Stonegate Commons Lift Station
- ✓ Doubletree East Phase 10 Lift Station (Bridgewater)
- ✓ Doubletree East Lift Station #1
- ✓ Doubletree East Phase 8 Lift Station (Pebbles)
- ✓ Doubletree West Lift Station #1
- ✓ Picasso Lift Station
- ✓ Randolph Street Lift Station
- ✓ Boardwalk Lift Station
- ✓ Meadows Lift Station
- ✓ Wyndance Lift Station
- ✓ Deer Creek Lift Station

Locations of these lift stations and a flow schematic are shown in **Figure 2-1**. The current situation for each lift station, gravity sewers, and wastewater treatment plant is provided in this section.

Several major subdivisions within the Town are on septic systems. These subdivisions include:

- ✓ Trees
- ✓ Hidden Creek
- ✓ Prairie Crossing

Trees and Hidden Creek were developed under the County's rules and requirements. There was a recommendation that Prairie Crossing connect to the Wastewater Treatment Plant during its development; however, this recommendation was not required by the Town. In general, there are no known complaints regarding the performance of the septic systems with the exception of several lots on the east side of the Prairie Crossing Subdivision. It is understood, but not verified, that alternative septic systems were installed at the problematic locations to rectify the issues.

2.1 Existing Pump Stations and Force Mains

Each of the pump stations were visited by DLZ and Utility Services, Inc. (Operator) representatives on April 16, 2015. A brief review of the components at each lift station and the apparent condition of each lift station was conducted. Some of the photographs are shown on the pages that follow.

Interviews with Operator personnel were conducted to identify maintenance concerns and maintenance history. In general, many of the lift stations appear to be operating adequately and no serious maintenance issues were identified by the Operator with the exception of the Boardwalk Lift Station and Wyndance Lift Station. A summary of the condition of and issues identified at each lift station is provided on the following pages. It should be noted that since the April 16, 2015 assessment of the Wyndance lift station the developer has remedied the deficiencies listed and turned the facility over to the Town.

Specific information provided for each lift station is based upon best available information collected during a review of the site, IDEM applications, old plans, as-builts, and other available records.

The hydraulic capacity of each lift station and respective force main was evaluated when data was available. A summary of available hydraulic capacity is provided on the following pages.

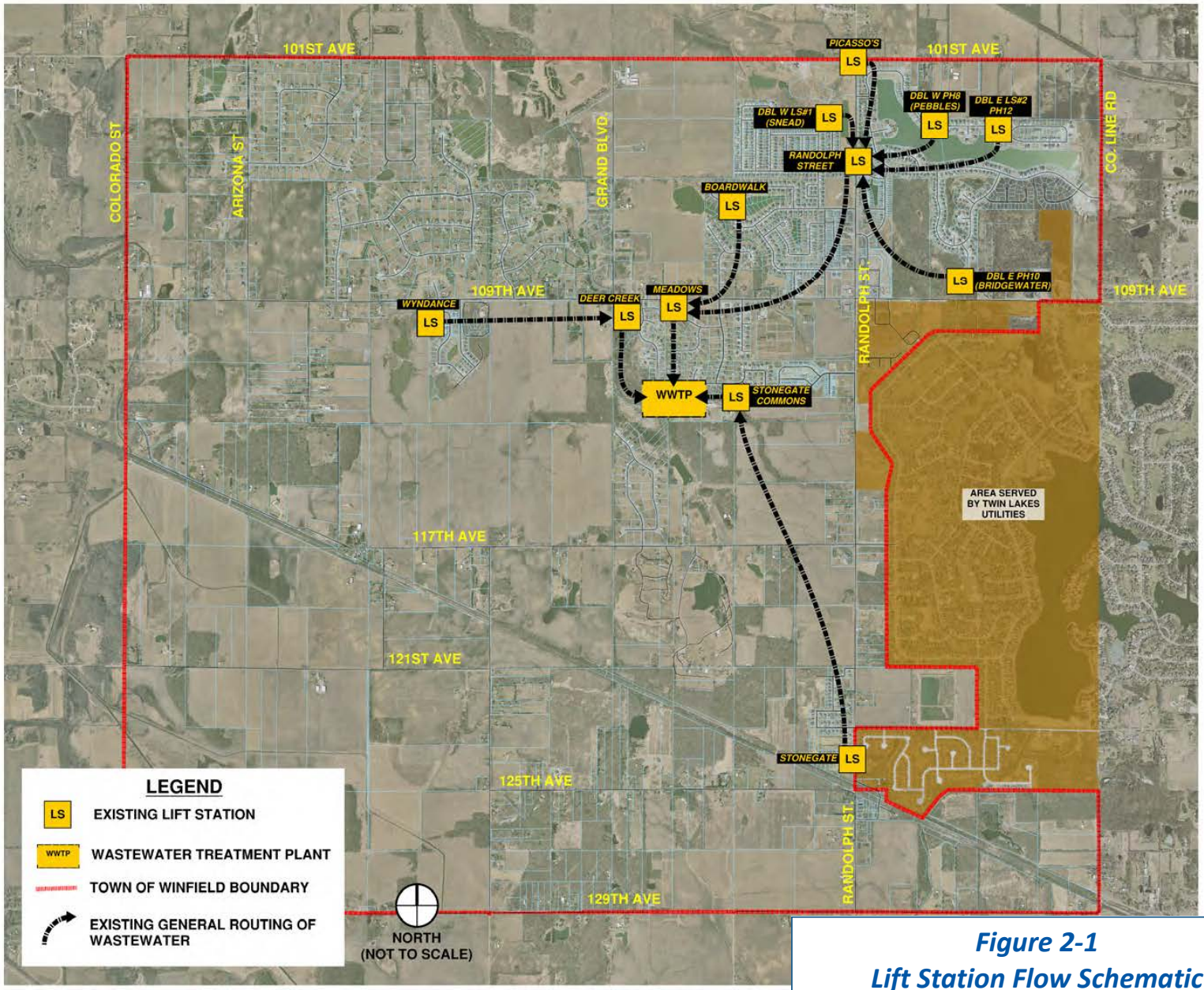


Figure 2-1
Lift Station Flow Schematic

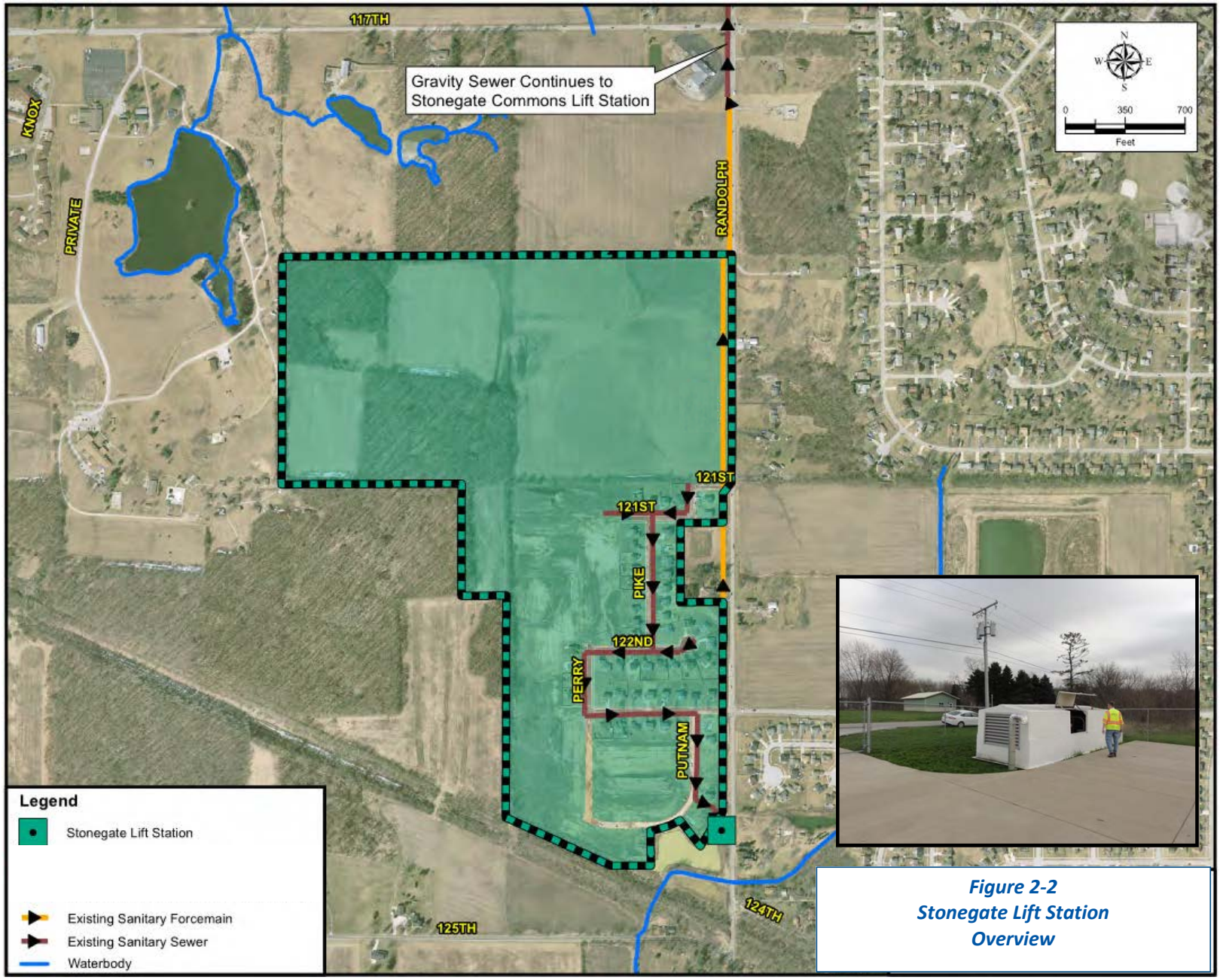


Figure 2-2
Stonegate Lift Station
Overview

2.1.1 Stonegate Lift Station

The Stonegate Lift Station is located on the west side of Randolph Street south of 123rd Avenue as shown in **Figure 2-2**. The pump station pumps northward along Randolph Street to a gravity sewer starting just south of 117th Avenue. For several years after the construction of the lift station, it was not maintained by the Town as the sanitary system had not yet been turned over to the Town. The developer provided minimal, if any, maintenance on the lift station. Several issues developed at the lift station and were reported to have been corrected prior to the Town's acceptance.

Pump Station Information
IDEM Permit #: 18292R Issued April 4, 2007
Style: Submersible; Duplex; Packaged
Brand: Precision Systems Twin Pack 7000 Partial Bury
Pumps: 30 hp; 580 gpm @ 89 ft TDH; Barnes 6XE30044HA
VFD: Danfoss VLT8000 Aqua
Force Main: 8-inch Diameter
Wet Well: Concrete; 8-foot Diameter
Site Power: 3 Phase; 60 Hz; 480 VAC
Emergency: ATS; 85kW Cummins Nat Gas Generator
Odor Control: Aerator
Communications: Strobe Light; Omnisite dialer
Controls: Siemens LC150; Transducer; Backup Floats
Bypass Pump Port: Yes
Site: Fenced; Concrete Driveway
Other: Heater; Sump Pump; Dehumidifier

Observations
Site: Positive Site Drainage
Security: Fence and Hatches Locked
Wet Well: Normal Rusting of Discharge Piping and Metal around Access
Enclosure: Rusting of Floor Beneath Controller; Minor Seepage Around Seam on Side of Generator

Operator Comments
There were no reported issues with this lift station at this time other than temporary plugging of the pumps due to the impeller wear plate.

Service Area and Potential for Expansion
The lift station presently serves currently developed portions of the Stonegate Subdivision. Stubs are constructed that will serve the future Stonegate North subdivision. The total estimated units for Stonegate and Stonegate North are 152 and 176 respectively for a total of 328 units.

Further discussion of expansion capabilities is provided in later sections of this report.

Rusting Due to Leaky Seam

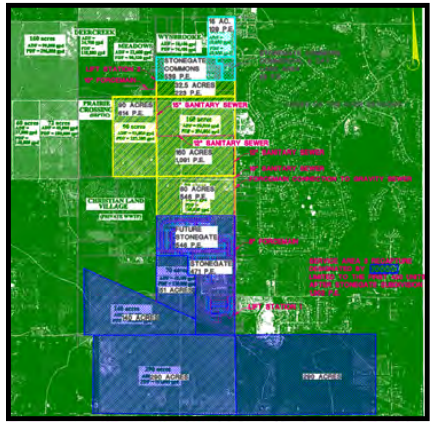


Figure 2-3
Stonegate and Stonegate Commons Recapture Areas

Discharge Piping

Wet Well—Pipe and Frame Rusting

Floor Rusting

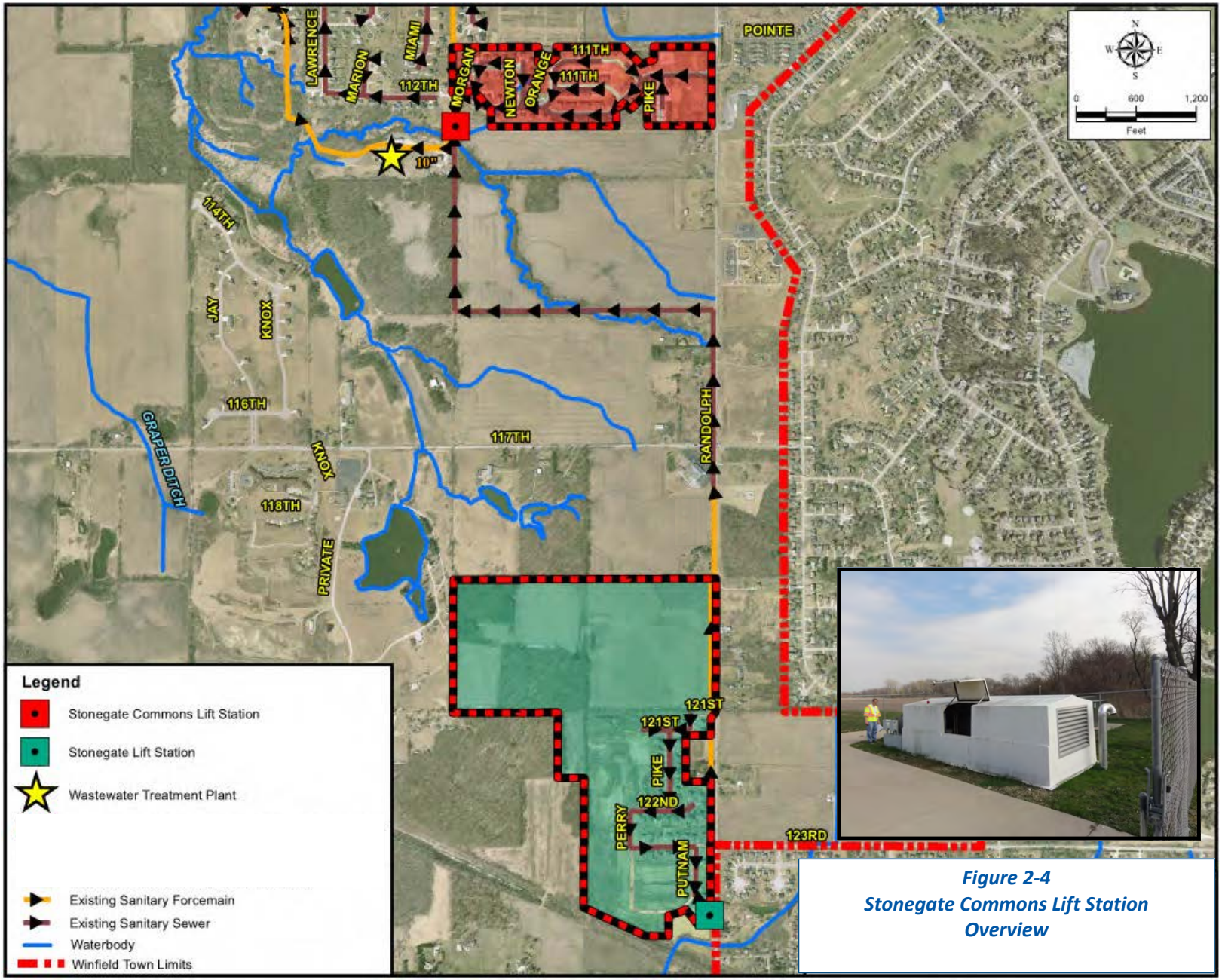


Figure 2-4
Stonegate Commons Lift Station Overview

2.1.2 Stonegate Commons Lift Station

The Stonegate Commons Lift Station is located at the southwest corner of the Stonegate Commons Subdivision adjacent to the Wastewater Treatment Plant as shown in **Figure 2-4**. The pump station pumps directly into the headworks at the Wastewater Treatment Plant. For several years after the construction of the lift station, it was not maintained by the Town as the sanitary system had not yet been turned over to the Town. The developer provided minimal, if any, maintenance on the lift station. Several issues developed at the lift station and were reported to have been corrected prior to the Town's acceptance.

Pump Station Information

IDEM Permit #: 18292R Issued April 4, 2007
Style: Submersible; Duplex; Packaged
Brand: Precision Systems Twin Pack 7000 Partial Bury
Pumps: 10 hp; 600 gpm @ 27 ft TDH; Barnes 6XE10046A
VFD: None
Force Main: 10-inch Diameter
Wet Well: Concrete; 8-foot Diameter
Site Power: 3 Phase; 60 Hz; 480 VAC
Emergency: ATS; 85kW Cummins Nat Gas Generator
Odor Control: Aerator
Communications: Strobe Light; Omnisite dialer
Controls: Siemens LC150; Transducer; Backup Floats
Bypass Pump Port: Yes
Site: Fenced; Concrete Driveway
Other: Heater; Sump Pump; Dehumidifier

Observations

Site: Minor Site Drainage Could Pond Against Housing
Security: Fence and Hatches Locked
Wet Well: Normal Rusting of Discharge Piping and Metal around Access
Enclosure: Rusting of Floor Beneath Controller; Minor Seepage Around Seam on Side of Generator Causing Rusting of the Floor

Operator Comments

There were no reported issues with this lift station at this time other than temporary plugging of the pumps due to the impeller wear plate. The operator did note that the pump run times were significantly different between the two pumps due to a sensor issue that prevented one of the pumps from running. This has been resolved.

Service Area and Potential for Expansion

This pump station currently services the Stonegate Commons and Stonegate Subdivision. A recapture agreement is in place that calls for the inclusion of 1,771 units (one unit is equivalent to a single family residential household at 310 gallons per day) which is a peak flow of 1,223 gpm. This recapture area encompasses the light blue, yellow, and dark blue areas shown in **Figure 2-3** (page 15). Further discussion of expansion capabilities is provided in later sections of this report.

Rusting in Access to Wet Well

Rusting Due to Leaky Seam

Station Piping and ATS

Controller

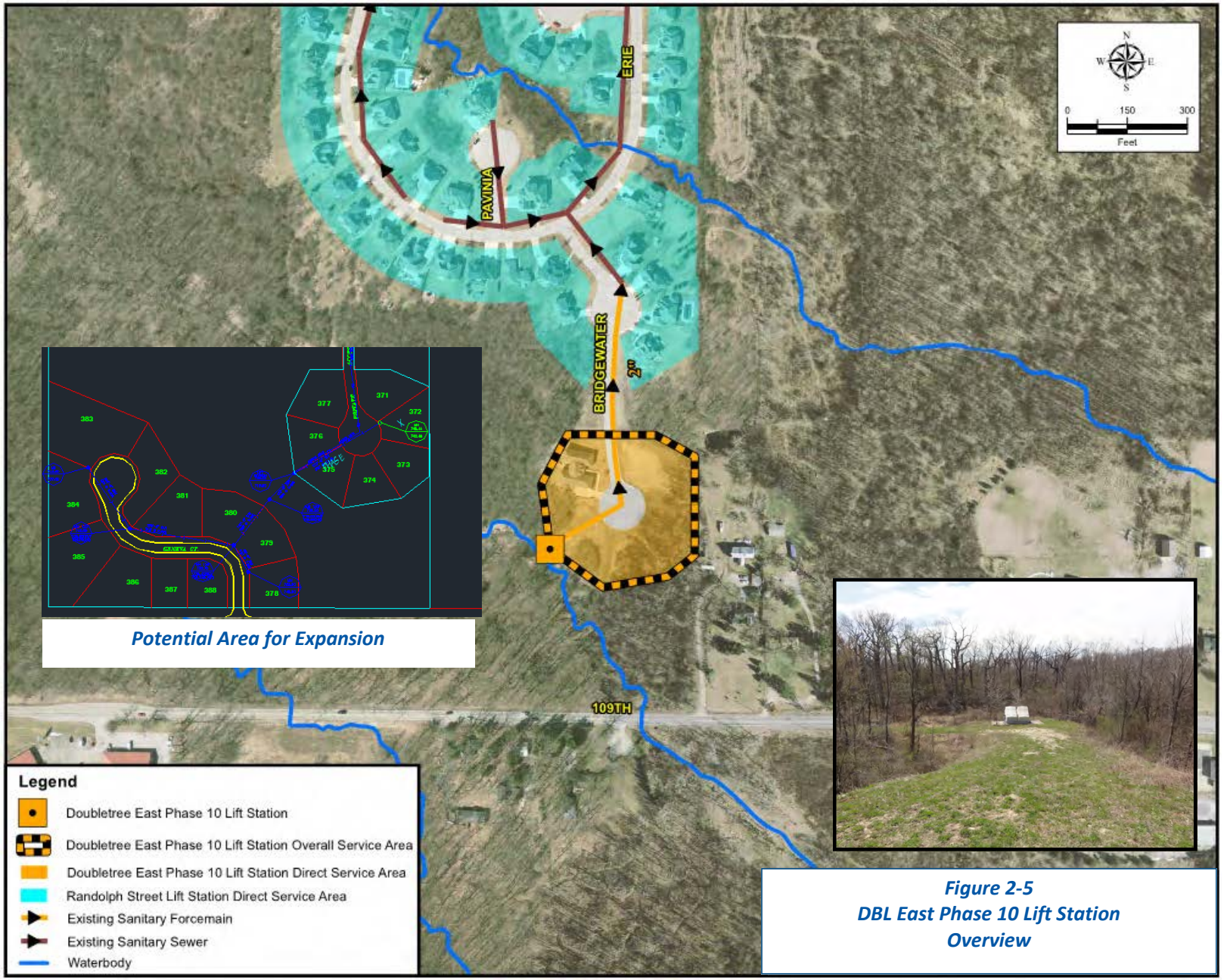


Figure 2-5
DBL East Phase 10 Lift Station Overview

2.1.3 DBL East Phase 10 Lift Station

The Doubletree East—Phase 10 Lift Station (a.k.a. Bridgewater) is located at the southern end of Bridgewater in the Doubletree Lake Estates East Subdivision. The pump station discharges to a 2-inch diameter plastic force main. The pump station was one of the first stations to follow the Town's lift station ordinance, although the Town's policy at the time did NOT include Town operation and maintenance of the lift station.

Pump Station Information

IDEM Permit #: 17986 Issued May 9, 2006
Style: Submersible; Duplex; Packaged
Brand: Precision Systems Twin Pack TUS
Pumps: 2 hp; 20 gpm @ 32 ft TDH (grinder-type pumps)
VFD: None
Force Main: 2-inch Diameter
Wet Well: Concrete; 5-foot Diameter
Site Power: Single Phase
Emergency: ATS; Natural Gas Generator
Odor Control: None
Communications: Strobe Light; Omnisite dialer
Controls: US Filter D152
Bypass Pump Port: No
Site: Sloped Earthen Access
Other: Heater

Observations

Site: Access Down Steep Earthen Drive
Security: No Fence; Hatch Access Locked
Wet Well: Good Condition
Enclosure: Piping is Heat Taped; Normal Rusting of the Surfaces

Operator Comments

There were no reported issues with this lift station at this time other than the electric heater not being operational. This has been resolved by the operator through use of a portable heater.

Service Area and Potential for Expansion

The pump station currently serves one house with the potential to handle 17 more houses on the extended Bridgewater cul-de-sac and a future phase that was once proposed on 109th Avenue (see small inset map entitled "Potential Area for Expansion" on **Figure 2-5**). Due to the small force main size, available power, and limited wet well diameter and surrounding terrain, use of this lift station for additional future development beyond the 18 lots is unlikely without significant infrastructure improvements to the force main, wet well, pumps, generator, and controls. Maximum theoretical flow capacity for this lift station without upgrades is calculated to be 23 units.

Pump Controller and Appurtenances

Pump Station and Appurtenances

Wet Well—Good Condition

Pump Station and Appurtenances

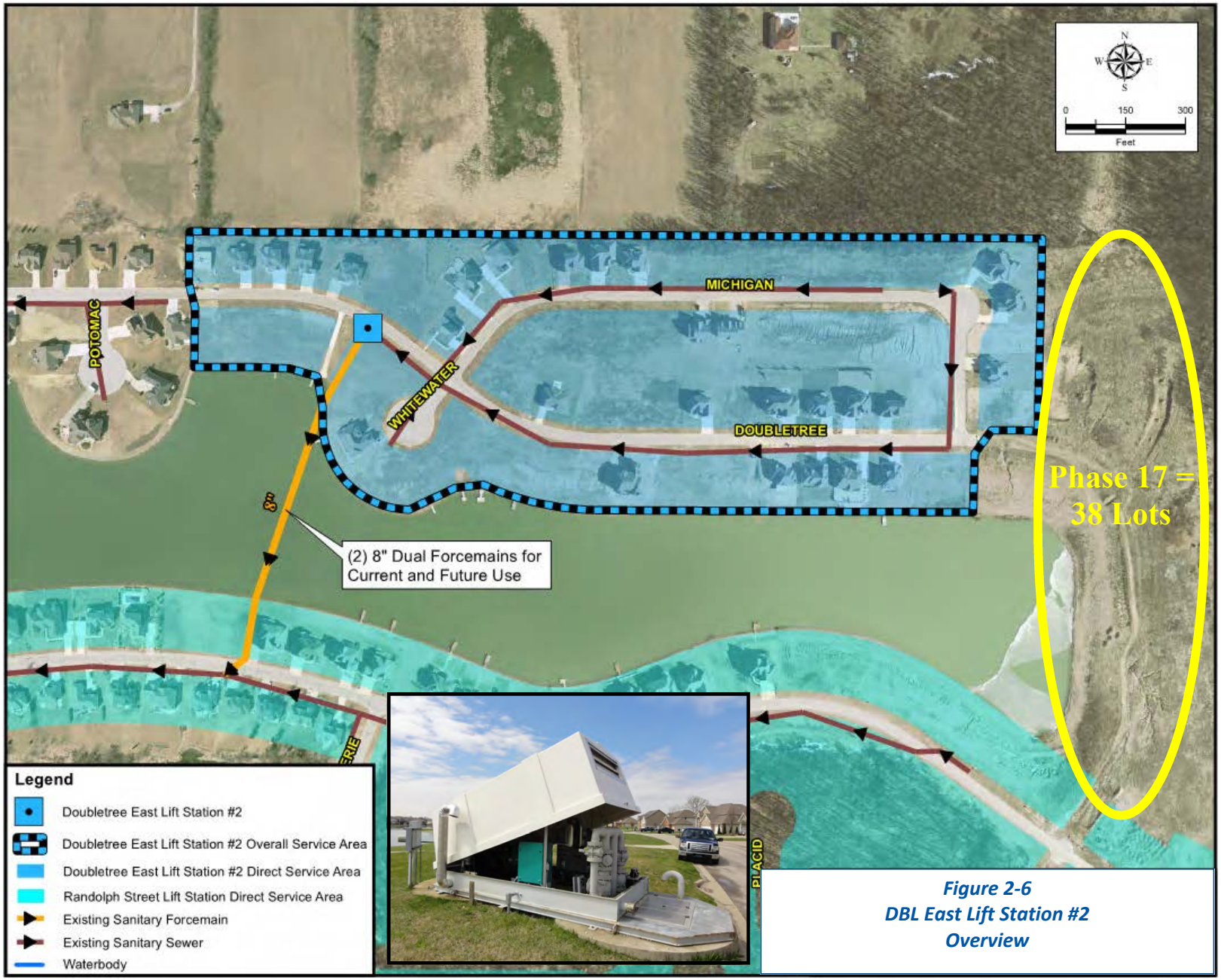


Figure 2-6
DBL East Lift Station #2
Overview

2.1.4 DBL East Lift Station #2

The Doubletree East Lift Station #2 (a.k.a. Boat Ramp or Phase 12 Lift Station) is located on Doubletree North Drive in Doubletree East. The pump station discharges to one of two 8-inch dual force mains that pass beneath the lake to a discharge location on Doubletree South Drive. This lift station was first permitted by IDEM in 1997 as Permit No. 10417. However, only the two dual force mains beneath the lake were apparently constructed. Historical aerial imagery suggests either the valve vault or wet well was constructed at that time as well. The lift station was permitted again in May 9, 2006 and revised again in an IDEM approval dated August 28, 2007 (IDEM #17987R). It appears the remaining portions of the lift station were constructed later that year during the period where Doubletree's association claimed all ownership and operation of the lift stations in Doubletree. While the term future use has been associated for the reason of dual force mains, the exact reasoning behind the dual force mains is not known. It is possible that since the force mains run beneath the lake, one is for backup in the event one fails.

Pump Station Information

IDEM Permit #: 17987R Issued August 28, 2007
Style: Submersible; Duplex; Packaged
Brand: Precision Systems Twin Pack 3000TUS
Pumps: 7.5 hp; 300 gpm @ 28 ft TDH; Barnes 4XSE7544A
VFD: None
Force Main: 8-inch Diameter
Wet Well: Concrete; 8-foot Diameter
Site Power: 3 Phase; 60 Hz; 480 VAC
Emergency: ATS; Cummins Natural Gas Generator
Odor Control: Aerator
Communications: Strobe Light; Omnisite dialer
Controls: US Filter LC150
Bypass Pump Port: Yes
Site: No Driveway; Adjacent to Roadway
Other: Heater

Observations

Site: Close to Roadway without Protection from Errant Vehicle
Security: No Fence; Hatch Access Locked
Wet Well: Good Condition; Normal Rusting of Metal Surfaces/Piping
Enclosure: Normal Rusting of the Surfaces

Operator Comments

There were no reported issues with this lift station at this time.

Service Area and Potential for Expansion

The service area shown for this lift station is shown in **Figure 2-6** and serves approximately 80 current platted lots in Doubletree East Phases 12, 14, and 13. Based upon the IDEM permit application, it should be serving Phase 17 as well (in **Figure 2-6**). However, an inspection of the as-built drawings for Doubletree East indicates that Phase 17 may not be able to drain to the lift station via gravity sewer. The following is a summary of pump station capacity:

Existing Pump Capacity: 300 gpm (370 Units)
Permitted Capacity: 117 lots (August 28, 2007 IDEM Permit 17987R)
Ultimate Force Main Capacity: 1,253 gpm (1,821 Units)

Control Panel

Generator

Discharge Piping

Wet Well

Dual Force Main Vault and Valves

Figure 2-7
DBL East Phase 8 "Pebbles" Lift Station Overview

2.1.5 DBL East Phase 8 Lift Station

The Doubletree East Phase 8 "Pebbles" Lift Station is located in the front yard of 8521 Doubletree Drive North. According to as-builts, the lift station discharges to the northwest. With the exception of the control cabinet, this lift station (and warning light) are buried beneath artificial landscape rocks. Other than some information provided on the Doubletree East as-built drawings, very little is known about this lift station except for what was observed during the site visit. It should be noted that IDEM's Virtual File Cabinet also yielded no information. The lift station was constructed prior to the Town's involvement in wastewater activities.

Pump Station Information
Style: Duplex; Packaged
Brand: Unknown
Pumps: 2.8 hp; Barnes 4SE2824L
VFD: None
Force Main: 4-inches Based Upon Valve Pit Observations and Record Drawings
Wet Well: Fiberglass; 3' Dia.
Site Power: Single Phase
Emergency: None
Odor Control: None
Communications: Strobe Light
Controls: Alpha General Series PP2000
Bypass Pump Port: Yes
Site: In Front Yard Beneath artificial landscape rocks
Other: Unknown

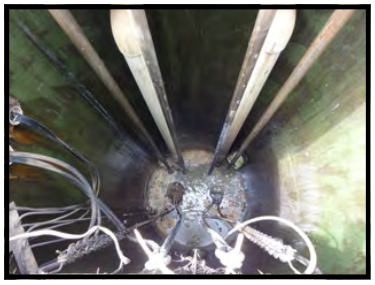
Observations
Site: Unknown if Within an Easement
Security: Unlocked
Wet Well: Good Condition
Enclosure: Beneath artificial landscape rocks which Obscure Warning Light. Based on visual detection being the only alarm system on this lift station the warning light needs to remain visible or a dialer installed as soon as possible.

Operator Comments
There were no reported issues with this lift station at this time other than it appears to cycle frequently and its warning light is obscured beneath the artificial landscape rocks.

Service Area and Potential for Expansion
The pump station apparently serves Doubletree East Phase 8 (approximately 37 lots). Due to the type of lift station and size, it is not likely able to handle additional areas.

Control Panel

Valve Vault



Wet Well

Meter and Disconnect

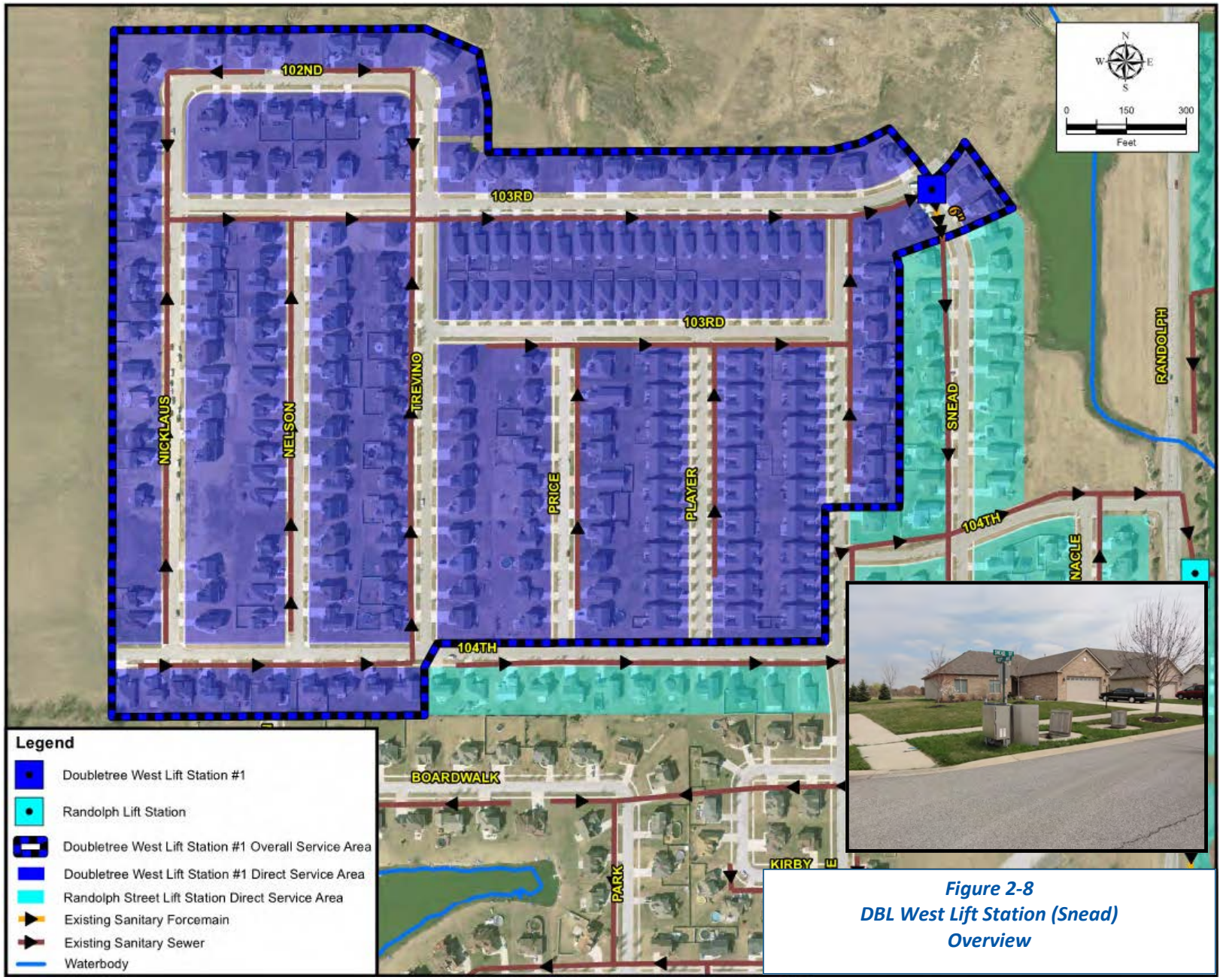


Figure 2-8
DBL West Lift Station (Snead)
Overview

2.1.6 DBL West Lift Station #1

The Doubletree West Lift Station #1 is located at the southeast corner of Snead and 103rd. The lift station serves Doubletree Lake Estates Phases 2 through 8. The construction of the lift station appears to have been an afterthought by the developer prior to the Town's involvement in wastewater activities. Original IDEM permit # 16132 (10/1/03) indicates the original design capacity was 275 gpm. The station reportedly had a history of pump clogging according to the developer's field representative. In 2010 the pump station apparently went through an upgrade to vortex style pumps sponsored by the Doubletree developer as the Town had not yet taken over responsibility for this lift station. This upgrade involved the apparent use of Danfoss VFDs to simulate 3 phase power required by the new pumps.

Pump Station Information
Style: Submersible; Duplex
Brand: Not Applicable
Pumps: 5 hp; 317 gpm @ 44 ft TDH; BJM Pump Model SV37; Vortex Type
VFD: None (although Danfoss VFDs provide 3 phase simulation for pumps).
Force Main: 6-inch Diameter
Wet Well: Concrete; 7-foot Diameter
Site Power: 1Phase; 60 Hz; 230 V
Emergency: Receptacle for Portable Generator Hookup
Odor Control: None
Communications: Omnisite dialer
Controls: US Filter #400129 FP4
Bypass Pump Port: No
Site: Immediately Adjacent to the Roadway
Other: Not Applicable

Observations
Site: Immediately Adjacent to Road; Safety Issue if Hit by Vehicle
Security: No Fence; Hatch Access Locked
Wet Well: Good Condition
Enclosure: None

Operator Comments
There are no current reported issues with the lift station other than the strobe warning light has been removed and electrical tape has been put in its place to cover the opening.

Service Area and Potential for Expansion
The pump station currently serves phases 2 through 8 of Doubletree Lake Estates West. These phases comprise approximately 267 Units. The current pumps can accommodate approximately 393 units. Therefore, this lift station may have additional capacity. Unfortunately, its close proximity to the street may be a discouragement to the use of this lift station as a regional lift station.

Portable Generator Receptacle

Valve Vault

Wet Well

VFDs Used for Phase Conversion

Control Panel

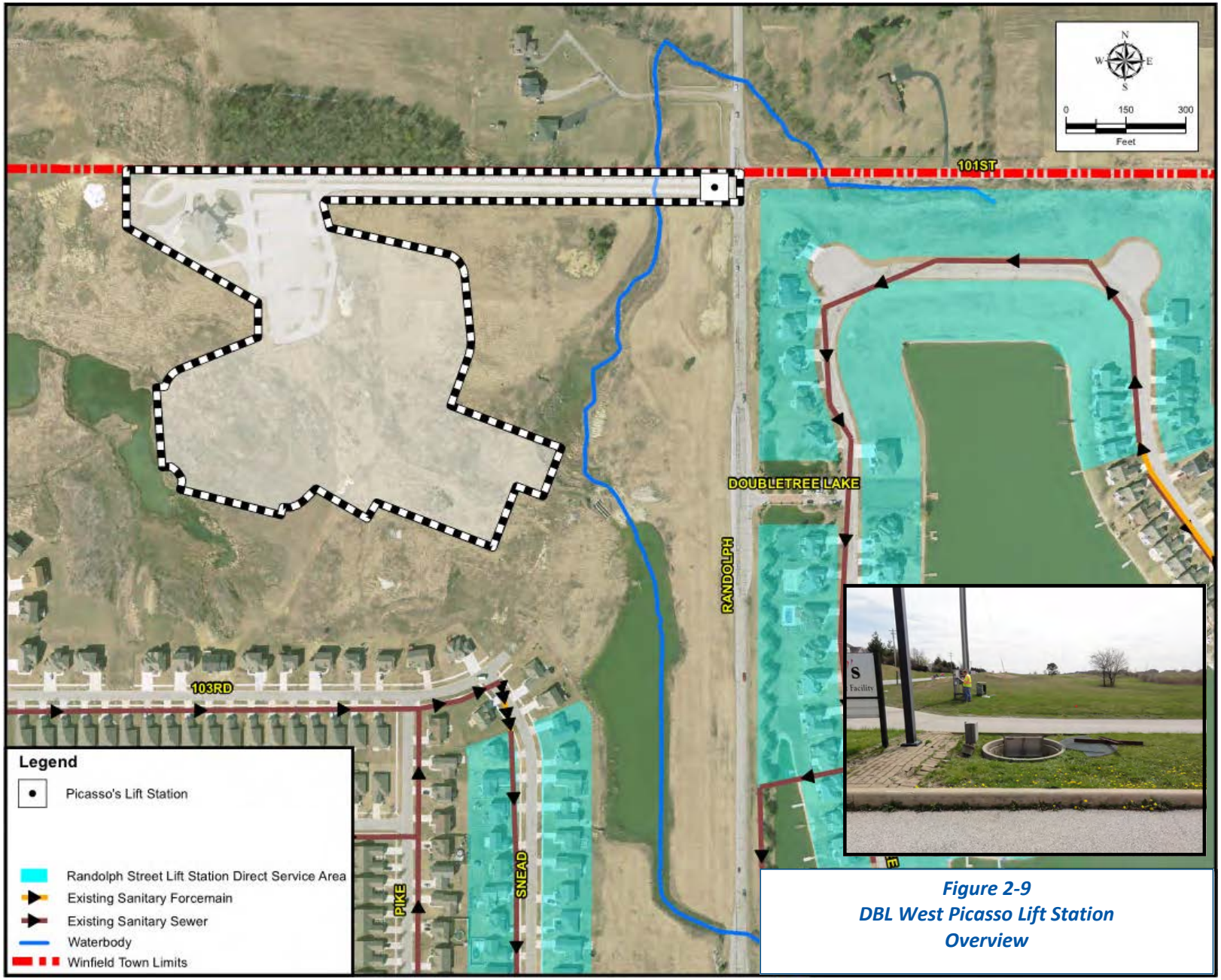


Figure 2-9
DBL West Picasso Lift Station
Overview

2.1.7 DBL West Picasso Lift Station

The Doubletree West —Picasso Lift Station is located at the entrance to the old Picasso's Restaurant. Little information is known about this lift station. Information in IDEM's virtual file cabinet was reviewed and no information could be located. This service area and connection point to the Town's infrastructure is further discussed in later sections of this report.

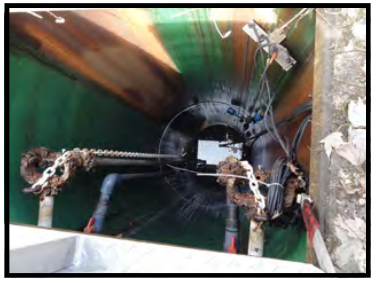
Pump Station Information (Info. From Submittal and Site Visit)
Style: Submersible; Duplex; Packaged
Brand: Unknown
Pumps: 2hp; Myers WGL 20-21
VFD: None
Force Main: 1 - 1/4" PVC (SCH 80)
Wet Well: Fiberglass; 4-foot Diameter
Site Power: 1 Phase; 230 VAC
Emergency: None
Odor Control: None
Communications: None
Controls: Alpha General Services PP2000
Bypass Pump Port: Unknown
Site: In the median of the access drive to the old Picasso's restaurant
Other: No valve vault located

Observations
Site: In the median of the access drive
Security: No Fence; No locks on hatches
Wet Well: Fair Condition
Enclosure: Not Applicable

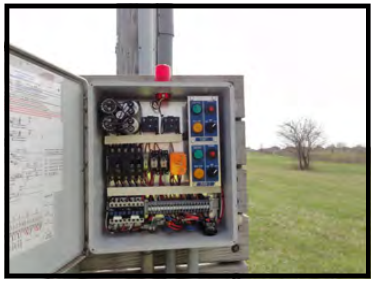
Operator Comments
This lift station's existence was recently identified in the Town. Its construction must have predated the Town's involvement in wastewater activities. Force main discharge location is unknown. It also is unknown whether the lift station is functional.

Service Area and Potential for Expansion
Due to the physical size and location of this lift station, it offers no possibility for expansion or reuse.

Wet Well



Wet Well



Control Panel

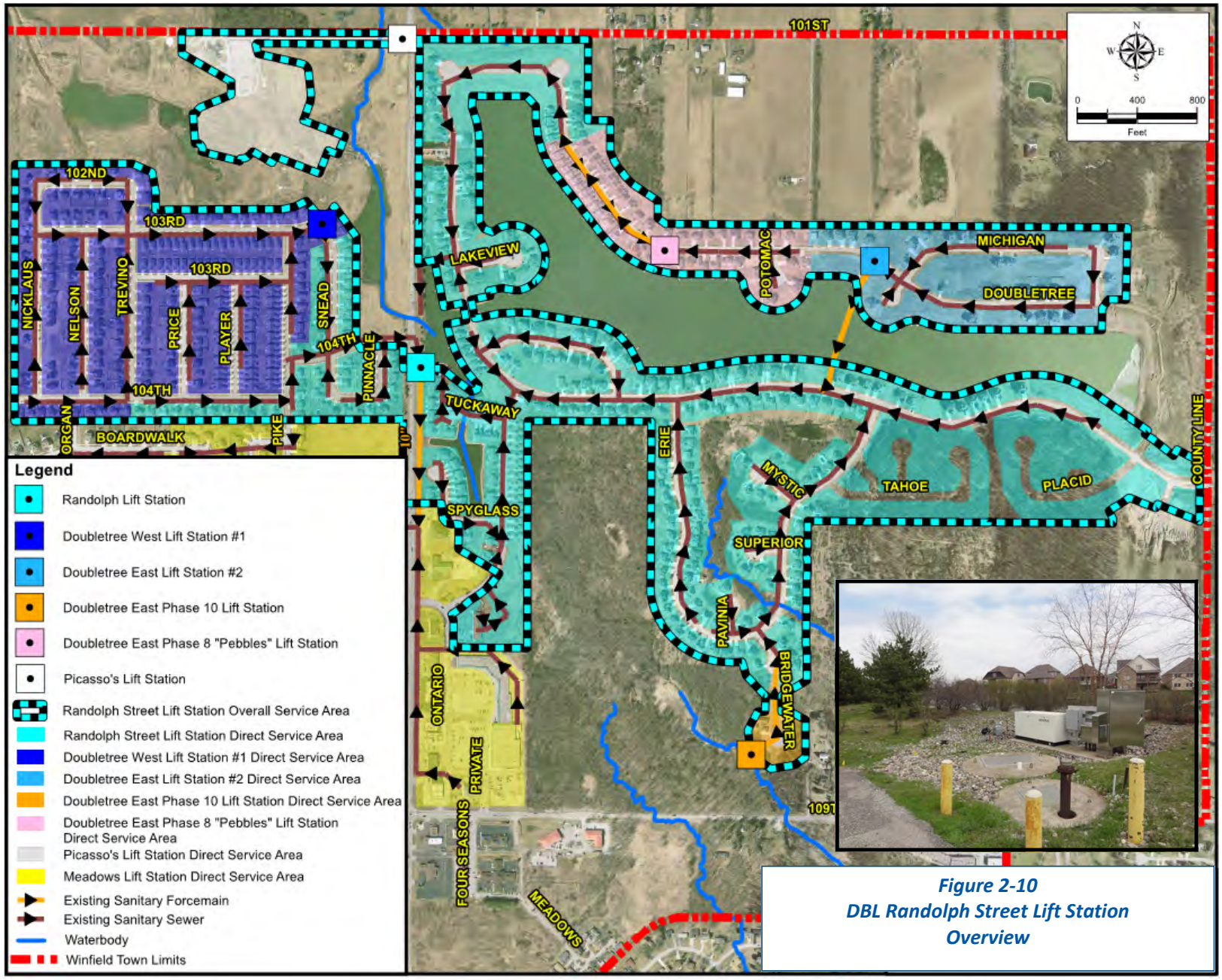


Figure 2-10
DBL Randolph Street Lift Station Overview

2.1.8 DBL Randolph Street Lift Station

The Randolph Street Lift Station (a.k.a. Lift Station #1) is located just south of the intersection of 104th Avenue and Randolph Street on the east side of Randolph Street. This lift station serves the entire Doubletree East and West Subdivisions. The lift station was originally permitted with IDEM in 1997 as IDEM #10417. The Town's historic policy was to not operate and maintain this lift station as it served only the developments of Doubletree East and West. Operation and maintenance of the lift station was by Doubletree Lake Estates as evidenced by their upgrade in 2009 (IDEM Permit #19554).

Pump Station Information (Info. From Submittal and Site Visit)
Style: Submersible; Duplex
Pumps: 950 gpm @ 40 ft TDH; Myers 6VC150M6-23
VFD: Altivar by Schneider Electric
Force Main: 10-inch Diameter
Wet Well: Concrete; 8-foot Diameter
Site Power: 3 Phase, 230 VAC
Emergency: ATS; Nat Gas Generator
Odor Control: None
Communications: Strobe Light; Omnisite dialer
Bypass Pump Port: Yes
Site: Access off Randolph; Sloped into Lift Station
Other: Flow Meter; Bypass Port

Observations
Site: Asphalt Drive, Adjacent to Randolph Street
Security: No Fence; Hatch Access Locked
Wet Well: Good Condition

Operator Comments
There were no reported issues with this lift station at this time.

Service Area and Potential for Expansion
The existing lift station has the theoretical capacity to handle just over 1,300 units. Approximately 864 units are platted. However, there is a limit to which the downstream receiving 15-inch sanitary sewer passing through Country Meadows Subdivision to the WWTP can handle. As of September 17, 2009, only 271 more units were allowed to tap on upstream of the lift station due to limiting downstream capacity of the 15-inch sanitary sewer. 90 new units were tapped into the system as of May 20, 2015, leaving just 181 available units before modifications to the downstream system are required.

Control Panel

Wet Well

Valve Vault

ATS and Generator

Meter Pit

Flow Meter Chart Recorder

Figure 2-11
Boardwalk Lift Station
Overview

2.1.9 Boardwalk Lift Station

The Boardwalk Lift Station is located to the south of Boardwalk Circle and discharges to a manhole to the south on 106th. The lift station serves approximately 40 residential houses and is in poor condition. This lift station has been the source of significant maintenance efforts by the Town's sewer operators. It appears that the lift station is a necessity since it needs to pass sewage beneath the overflow channel between the two lakes in the subdivision. For many years, this lift station and the Meadows Lift Station were the only lift stations where the Town's policy included operation and maintenance.

Valve Vault

Wet Well

Pump Station Information (Info. From Submittal and Site Visit)
Style: Submersible; Duplex Fiberglass Unit by Royce Equipment
Brand: Unknown
Pumps: Unknown
VFD: None
Force Main: 3-inch Diameter
Wet Well: Fiberglass; 5-foot Diameter
Site Power: 1 Phase; 60 Hz
Emergency: None
Odor Control: None
Communications: Strobe Light
Controls: Unknown
Bypass Pump Port: No
Site: Side / Rear yard

Control Panel

Observations
Site: Access difficult during snow or wet conditions
Security: No Fence; No locks; Open to animals or people
Wet Well: Poor

Operator Comments
Operation and maintenance of lift station is troublesome. Poor condition. Station needs to be replaced. Single phase power is not adequate to start the grinder pumps. No overflows have been recorded.

Service Area and Potential for Expansion
The pump station serves an isolated portion of the Country Meadows Subdivision and does not offer any benefit to surrounding areas due to the poor condition of the existing station.

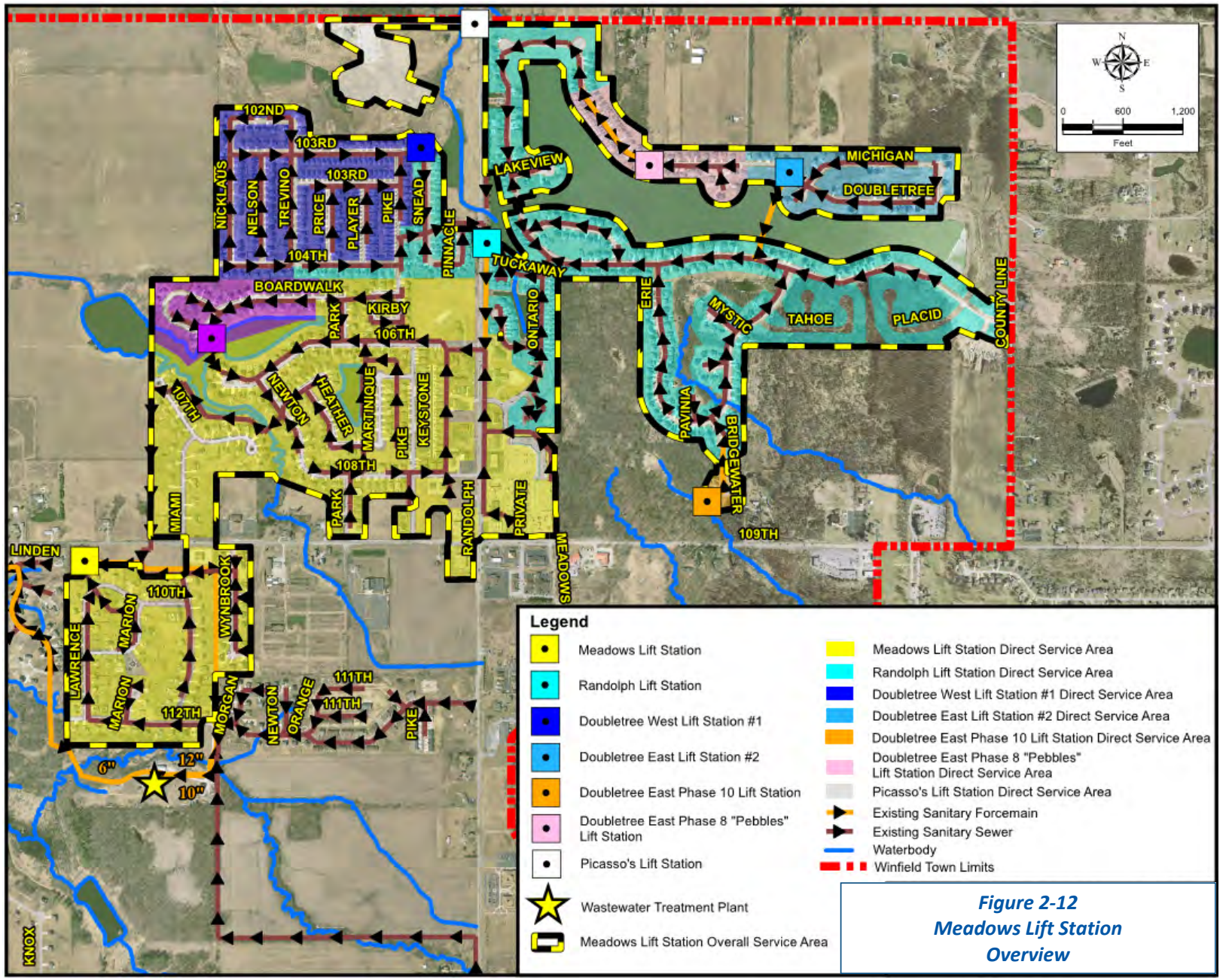


Figure 2-12
Meadows Lift Station Overview

2.1.10 Meadows Lift Station

The Meadows Lift Station is located on 109th Avenue at the northwest corner of the Meadows Subdivision. The lift station receives flow from all of the Meadows, Country Meadows, Wynbrook, Doubletree East and West Subdivisions and all commercial areas located on Randolph Street and 109th Avenue that the Town provides sanitary service. It is a relatively new station constructed in 2008 and discharges through a 12-inch force main directly to the Wastewater Treatment Plant.

Pump Station Information (Info. From Submittal and Site Visit)
Style: Submersible; Duplex; Packaged
Brand: Precision Systems Twin Pac Series 7000
Pumps: 75 hp; 1,800 gpm @ 95 ft TDH; Yoemans 9100-6173
VFD: Yes
Force Main: 12-inch Diameter
Wet Well: Concrete; 10-foot Diameter
Site Power: 3 Phase; 60 Hz; 460 VAC
Emergency: ATS; Cummins 125 kW Nat Gas Generator
Odor Control: Aeration
Communications: Strobe Light; Omnisite dialer
Controls: Siemens Duplex Controller
Bypass Pump Port: Yes
Site: Driveway Access
Other: Heater, Sump

Observations
Security: Fenced and Locked; Hatch Access Locked
Wet Well: Good Condition
Enclosure: Good Condition

Operator Comments
There were no reported issues with this lift station.

Service Area and Potential for Expansion
As described in future sections, this lift station is sized to handle anticipated flows from the 109th Avenue corridor and areas to the north of 109th Avenue. A recapture agreement is in place for this lift station; however it shows the entire Town as falling within the recapture agreement.

The Meadows Lift Station has the capacity to handle growth within the Town.

Access Hatch

Wet Well

Exterior Louvers

Discharge Piping and Valves

Generator

VFD and Omni-Site

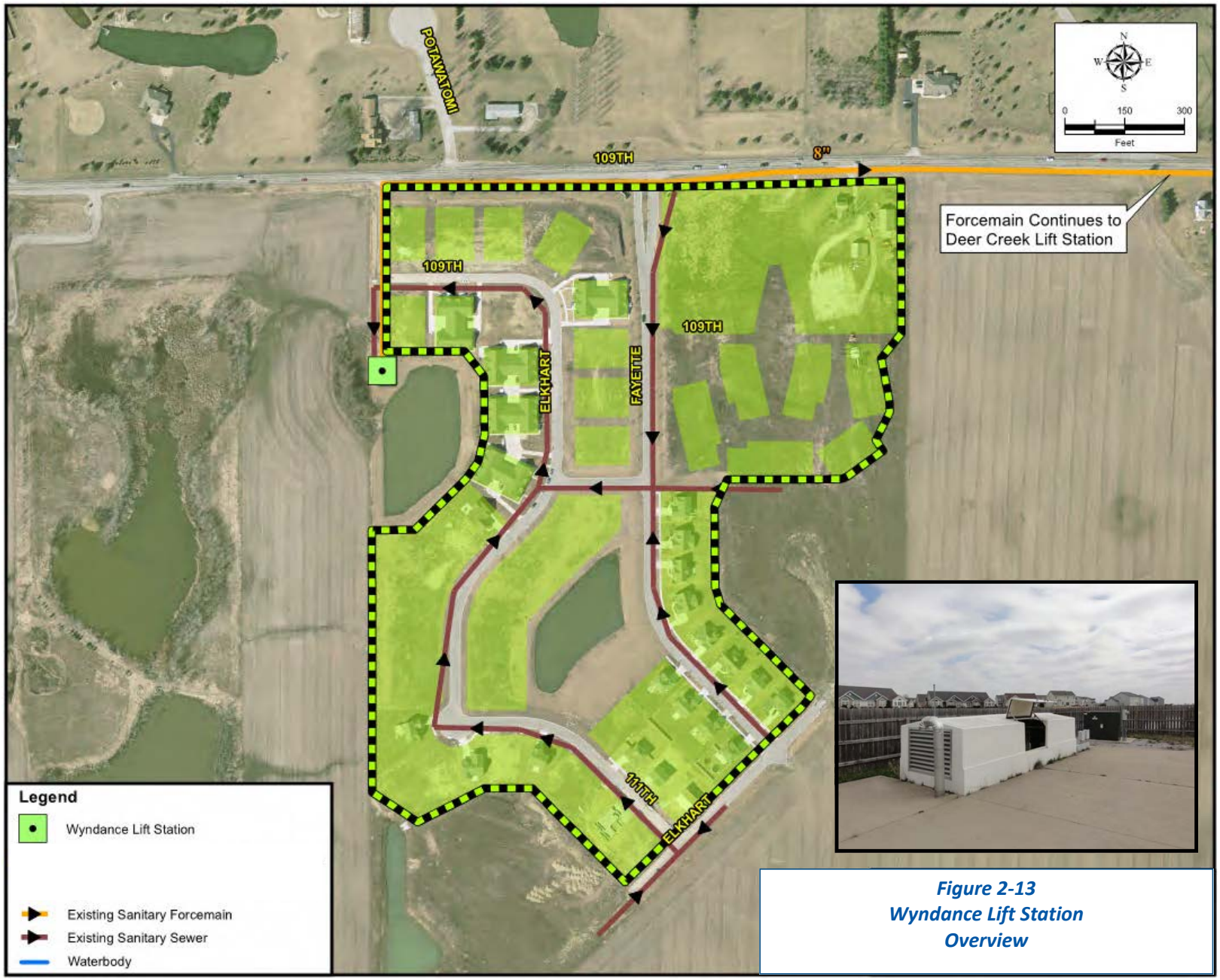


Figure 2-13
Wyndance Lift Station
Overview

2.1.11 Wyndance Lift Station

The Wyndance Subdivision Lift Station is located at the northwest corner of the Wyndance Subdivision. The lift station discharges into an 8-inch force main that runs along the south side of 109th Avenue where it discharges directly into the Deer Creek Lift Station. The lift station was permitted with IDEM on July 17, 2007 (Permit #18736). As part of the permitting requirements, upgrades to the Deer Creek Lift Station were also required and are discussed in later sections of this report. Since the initial site visit the deficiencies noted below have now been corrected. At present, it is understood that this lift station is now operated and maintained by the Town.

Pump Station Information (Info. From Submittal and Site Visit) (Access limited during inspection since Operator did not have all keys)
Style: Submersible; Duplex; Packaged
Brand: Precision Systems Twin Pack 7020N
Pumps: 323 gpm @ 40 ft TDH
VFD: None
Force Main: 8-inch Diameter
Wet Well: Concrete; 10-foot Diameter
Site Power: 3 Phase; 60 Hz
Emergency: ATS; Nat Gas Generator
Odor Control: Aerator
Communications: Strobe Light; Omnisite dialer
Controls: US Filter D152
Bypass Pump Port: Yes
Site: Concrete Drive; Fenced
Other: Heater; Dehumidifier

Observations
Site: Concrete
Security: Fenced, Locked
Wet Well: Severe Groundwater Leak at Interface of Concrete to Prefabricated Structure at SW Corner; Needs Correction ***(Corrected 9/2015)***
Piping: Severely Rusted ***(Corrected 9/2015)***
Enclosure: Interior Floor Severely Rusted; Appears as if the Station Flooded in the past
(Corrected 9/2015)
Other: Sump Pump May Not Be Working ***(Corrected 9/2015)***

Operator Comments
The operator concurred with the observations. They do not operate or maintain the lift station. The generator is not currently operational. ***(Corrected 9/2015)***

Service Area and Potential for Expansion
This pump station may provide a conduit for future growth on 109th near Arizona Street and immediately east of the Wyndance Subdivision.

Interior Floor Rust

Wet Well Access Area (Rusting)

Rusting at Entrance to Wet Well

Exterior View of Louver

Exterior Facing South

Valves

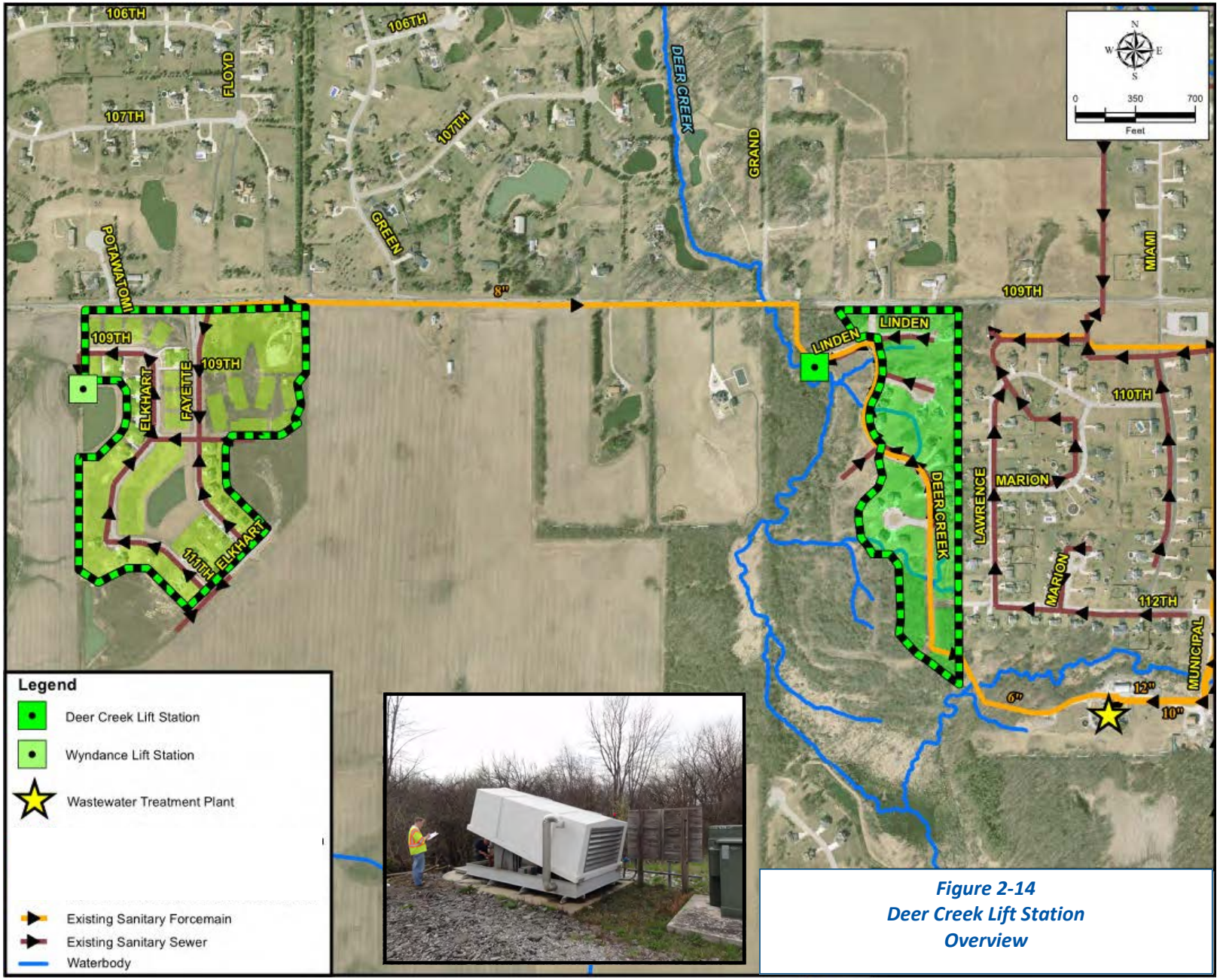


Figure 2-14
Deer Creek Lift Station
Overview

2.1.12 Deer Creek Lift Station

The Deer Creek Lift Station is located in the northwest corner of the Deer Creek Subdivision and discharges through a 6-inch force main that pumps through the subdivision to the wastewater treatment plant. This lift station was installed prior to the Town's acquisition of the wastewater treatment plant. The original IDEM permit # is 17250. The pumps were upgraded in 2008 to accommodate an increase in flow from the Wyndance subdivision (IDEM permit #18736). The Wyndance developer increased the capacity of the Deer Creek Lift Station from 200 gpm to 450 gpm. During the conversion, soft starts were installed. The lift station suffered severely from lack of maintenance since its initial construction until a couple years ago. In 2013, the pumps were reportedly downsized to the original size.

Pump Station Information (Info. From Submittal and Site Visit)

Style: Submersible; Duplex; Packaged
Brand: Precision Systems Twin Pack
Pumps: Unknown (possibly changed in 2013)
VFD: Unknown
Force Main: 6-inch Diameter
Wet Well: Concrete; 8-foot Diameter
Site Power: 3 Phase; 60 Hz; 460 V
Emergency: ATS; Natural Gas Generator
Odor Control: None
Communications: Strobe Light; Omnisite dialer
Controls: US Filter D152
Bypass Pump Port: Yes
Site: Gravel drive

Observations

Site: Poorly maintained gravel drive
Security: No Fence; Hatch Access Locked
Wet Well: Fair Condition
Enclosure: Enclosure is in poor condition. Struts to hold up fiberglass unit has failed and need repairs.
Pumps: Pumps are reported to be newer and may not be the same pumps that were updated with the Wyndance construction.
Piping: Piping and valves are rusting and should be painted.
Other: There is no bird screen and the entire assembly appears to be settling.

Operator Comments

The pump station is currently operating satisfactorily after a couple years of Town intervention into its maintenance.

Wet Well Piping

Inside the Fiberglass Unit

Generator

Evidence of Possible Settlement

Possible Bypass Location

Transformer, Meter, ATS, Breaker

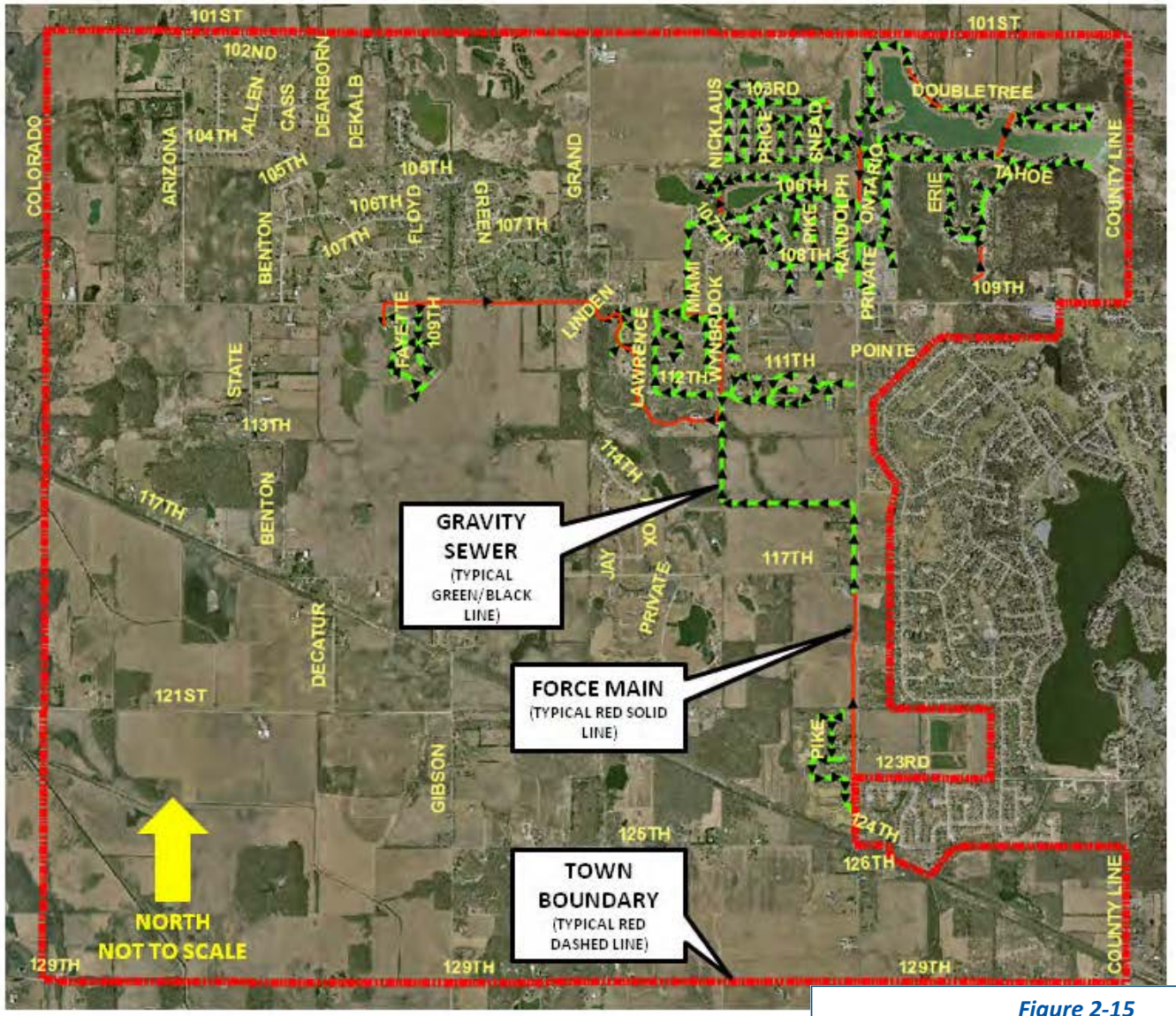


Figure 2-15
Overview of Gravity Sanitary Sewers

2.2 Gravity Sewers

2.2.1 Summary of Gravity Sewers

There are approximately 92,000 lineal feet of gravity sanitary sewer in the Town's collection system. The location of these sewers are summarized on the opposite page and a breakdown of sewer diameter and approximate length is provided in **Table 2-1** to the right. Many of these sewers are anticipated to be polyvinyl chloride (PVC) pipe. The age of the system ranges from recently constructed to approximately 20 years old. The preliminary sanitary sewer atlases are provided in Appendix A.

Table 2-1
Existing Sewer Diameters and Approximate Length

Existing Sanitary Sewer Diameter (Inches)	Approximate Footage (Feet)
6	350
8	68,200
10	10,250
12	4,450
15	8,850
24	30
	92,130

2.2.2 Identified Issues

The gravity sewer system in the Town of Winfield is relatively new and there are not many known issues at the time. Over the course of the past decade, several sources of inflow and infiltration were identified and corrected. As evidenced by "spikes" in flow at the wastewater treatment plant during rain events, the problem of inflow and infiltration still exists, and the magnitude and overall impact to the system is not fully understood. Detailed studies, beyond the scope of this master plan would be required to determine the magnitude and location of the inflow and infiltration sources. Identified issues with respect to the gravity sewer system are identified in the following subparagraphs.

Country Meadows Estates Interceptor

During the years 2007 through 2008, Doubletree Lake Estates expended significant efforts looking at the capacity of the downstream collection system from the Randolph Street pump station. As part of those efforts, it was identified that parts of the 15-inch gravity sewer receiving the discharge from the Randolph Street pump station were constructed close to flat slopes in the vicinity of the ponds in Country Meadows Estates (CME). See **Figure 2-16** to the right. This conclusion resulted in the Doubletree's interim upgrade of the Randolph Street lift station. On September 17, 2009, DLZ conducted its final review on the proposed plans for upgrades to the Randolph Street lift station as prepared by NIES Engineering. The interim upgrade was designed to allow for the building of 271 lots in Doubletree Lake Estates East and West.

Upon completion of these 271 lots, it was recognized that the Randolph Street lift station discharge would need to be routed around this section of 15-inch gravity sewer in Country Meadows Estates. The Town has kept a tally of the number of lots built since September 17, 2009 and at the time of the writing of this report, the total lots built upon are 90, leaving only 181 lots before upgrades to Randolph Street pump station are required.

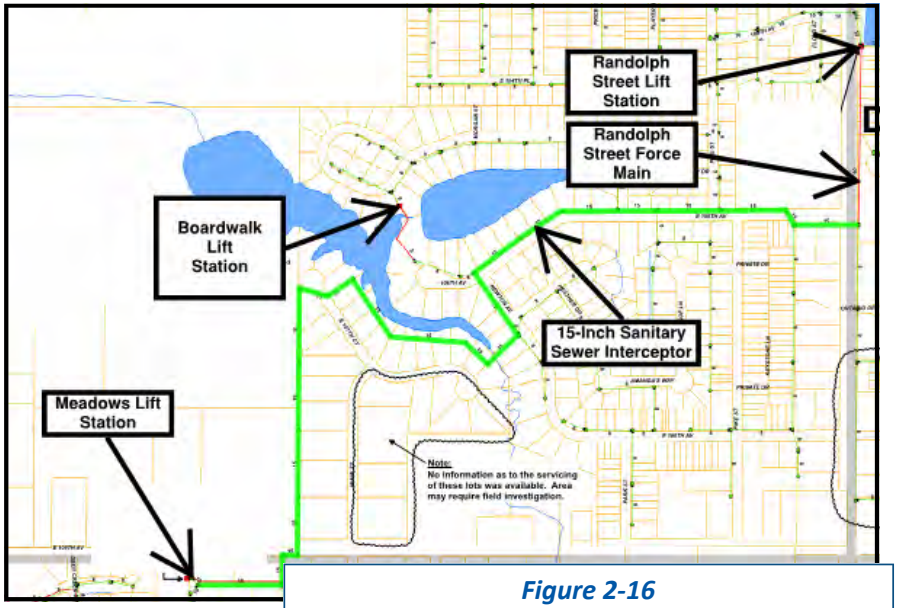


Figure 2-16
Location of 15-Inch CME Interceptor

Areas Where Further Detail is Required

During the development of the preliminary sanitary sewer atlases in 2012, there were three areas where additional detail was required with respect to the collection system location. Knowledge of the sewers in these areas will provide future benefit to the Town during planning efforts. These areas are summarized below and identified on the adjacent excerpts from the preliminary sanitary sewer atlas.

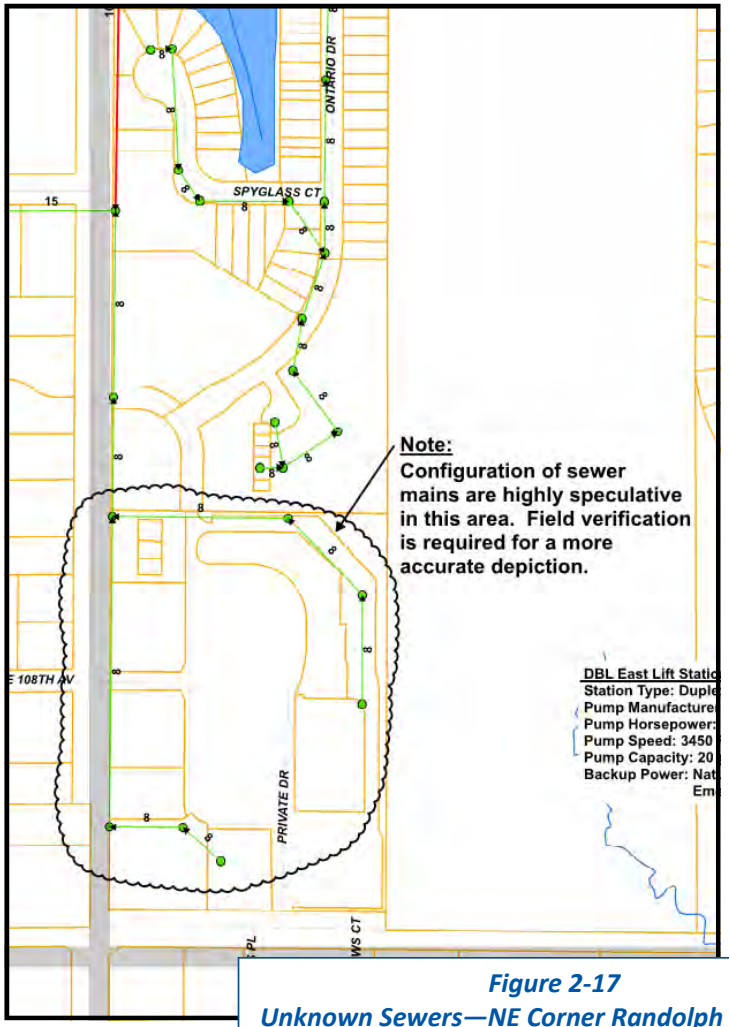


Figure 2-17
Unknown Sewers—NE Corner Randolph and 109th

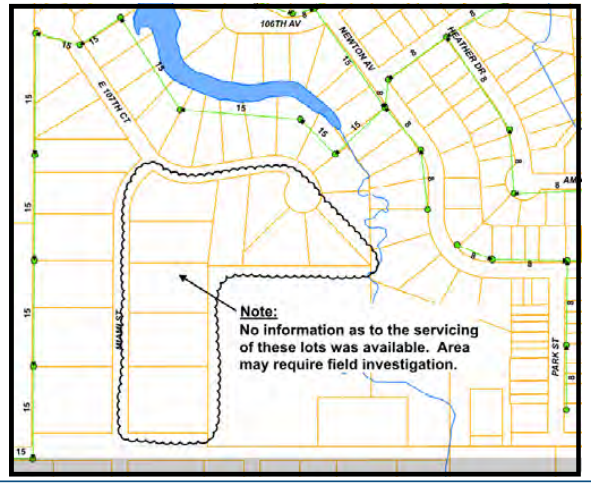


Figure 2-18
Unknown Sewers—CME East of Miami

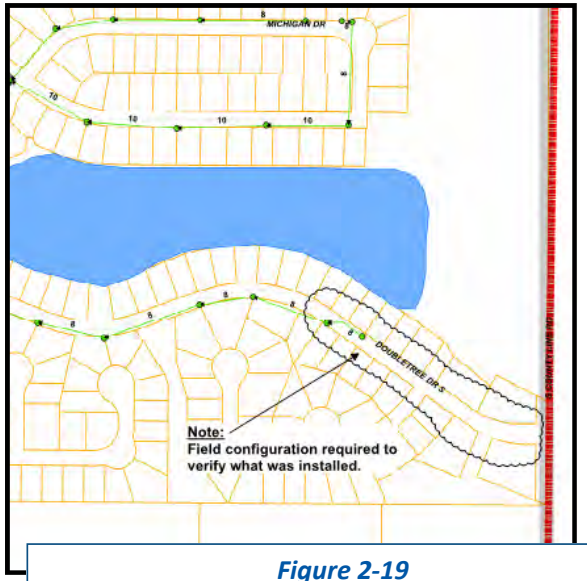
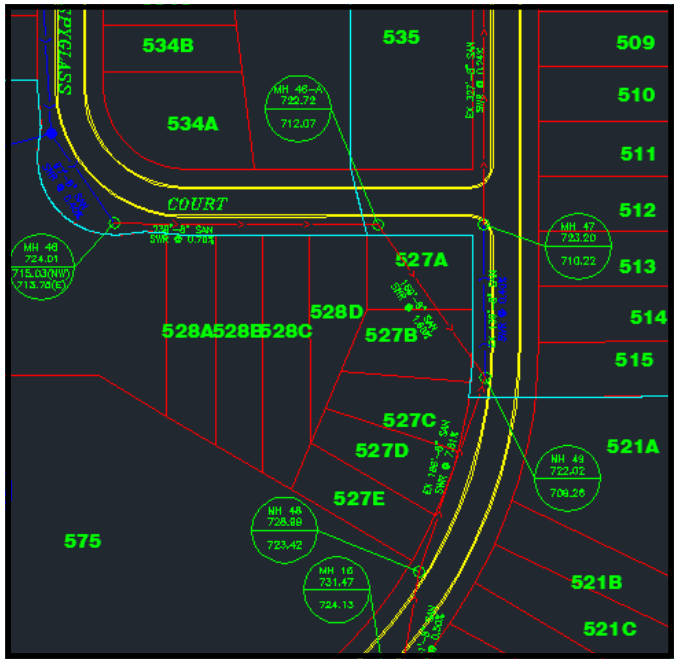


Figure 2-19
Unknown Sewers—DBL East Near Co. Line Rd.

Doubletree East Sewer Status

Based on a review of the Doubletree East Sanitary Sewer Record Drawing completed by Landmark Engineering in 2009 there is a sewer with a reversed slope in the area of Spyglass Ct. Additionally the record drawing indicates that the gravity sewer in this area crosses through lot 527A within the development. This area and associated gravity sewers should be further evaluated to develop an accurate assessment of the system.



Based on a review of the Doubletree East Sanitary Sewer Record Drawing completed by Landmark Engineering in 2009 there also is some question of the routing of the sanitary sewers at the east end of Doubletree Lake (Phase 17). The original design information indicated this area was to feed by gravity to the gravity sewers associated with Doubletree East Lift Station No. 2. Based on the information in the aforementioned Landmark drawing, this does not appear possible due to the proposed rim and invert elevations as related to the as-built elevations in the same drawing. Additionally, in the Landmark drawing there is reference to an additional proposed forcemain connecting to the gravity sewers on the south side of Doubletree Lake. DLZ staff performed a field investigation in the area the drawing shows the origination of the proposed forcemain. DLZ discovered a large +/- 10 foot diameter vault full of water. It is possible this vault is associated with a future lift station. Further review of this area should take place including discussions with the developer.

Figure 2-20
Unknown Sewers—DBL East Phase 17

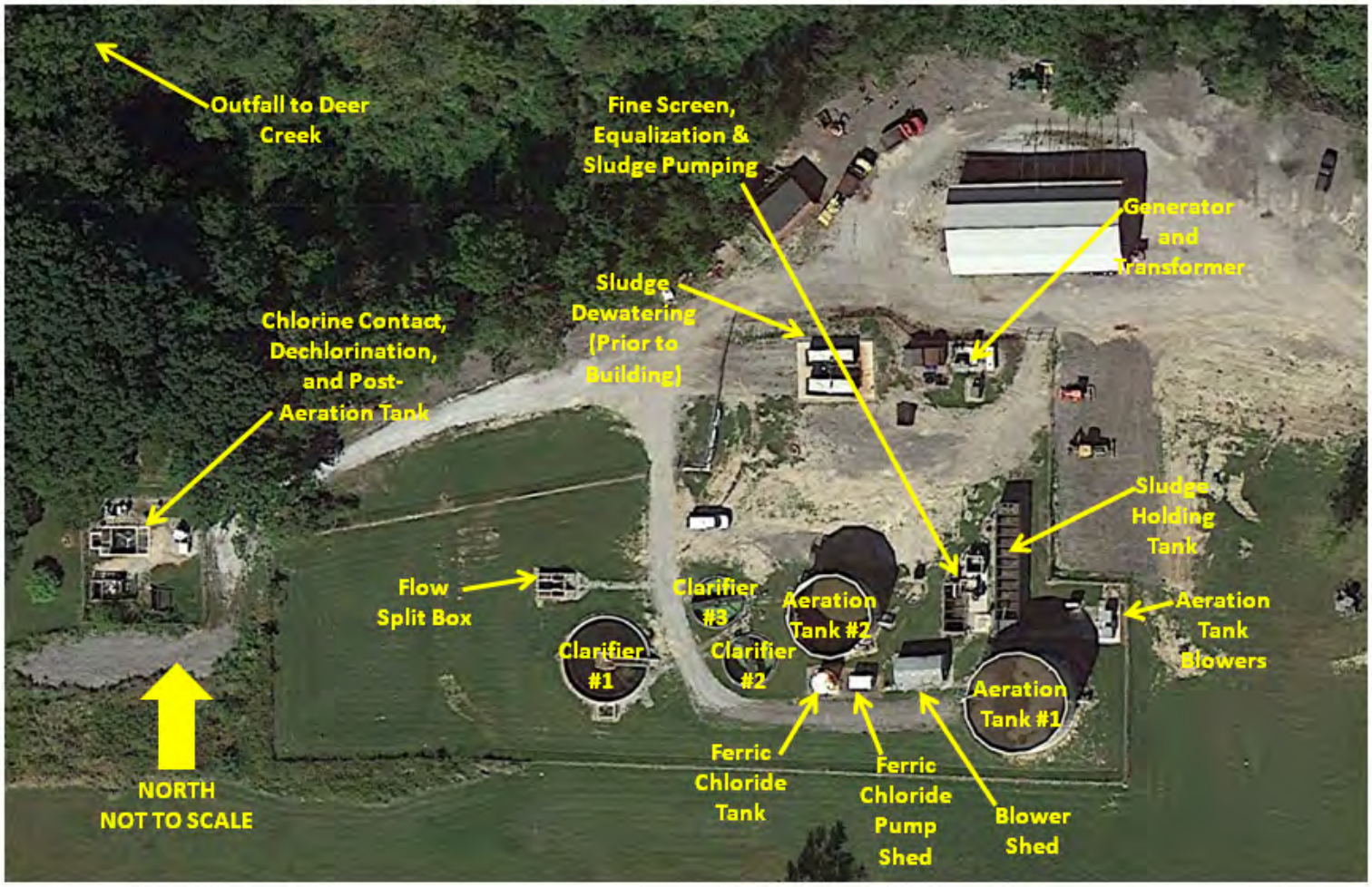


Figure 2-21
Overview of Wastewater Treatment Plant

2.3 Wastewater Treatment Plant

The existing wastewater treatment plant is rated at an average design flow of 0.40 MGD and a peak hour design flow of 1.44 MGD. Plant processes include activated sludge, extended aeration, aerobic digestion, nitrification, phosphorous removal, and post-aeration. Disinfection is accomplished seasonally with liquid chlorine. Sludge is thickened and disposed of in a landfill. The existing processes are described below:

2.3.1 Influent Box

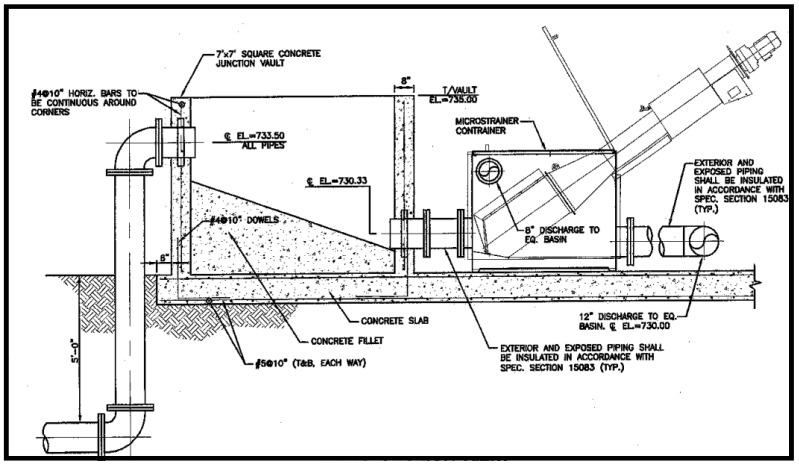
At the head of the plant, force mains from Deer Creek Lift Station, Meadows Lift Station, and Stonegate Commons Lift Station discharge into a 7-ft by 7-ft cast-in-place above grade concrete structure sloped to an outlet location that discharges into the micro-strainer fine screen. This concrete structure was installed as part of the Meadows Lift Station upgrade project in 2007. Two additional connection points exists on the box for two future force mains. The pipe connection on the west side of the tank is from the old Meadows Lift Station and is abandoned.

2.3.2 Fine Screen

The fine screen is intended to separate solids from the wastewater and discharge it into a container for disposal at the landfill. The screen was installed in 2007 as part of the Meadows Lift Station upgrade project. It is a ROTAMAT Micro Strainer Ro 9, manufactured by Huber Technology.

The screen is driven by a 1.5 hp motor and the screen container box is equipped with an emergency overflow connected directly to the equalization basin. The motor is powered by 3-phase/480 V. Water used by the screen is supplied via a 2-inch line and controlled by a solenoid valve. Required components are fitted with heat tape for freeze protection. The screen has a maximum capacity of 3 MGD. There are no reported issues with this piece of equipment at this time and the collection of screened material is manageable by the operator.

Fine Screen

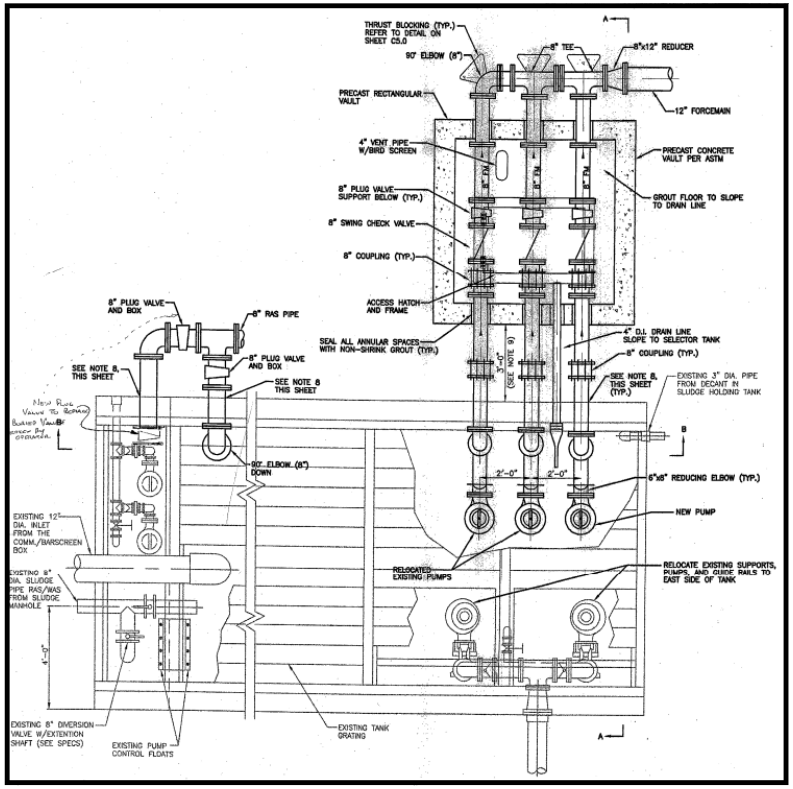


Excerpt from the Design Drawings for Influent Box and Fine Screen

Influent Box and Fine Screen

2.3.3 Equalization Basin and Sludge Pumping

Flow from the screen is discharged into the equalization basin. The basin was put into service in 2003 as part of the Phase III Expansion. The equalization basin consists of a buried metal tank open to the atmosphere. There is a divider separating the sludge well from the influent well. Three pumps, one of which was added during the Phase IV expansion, discharge sewage to Aeration Tank #1 for aerobic treatment. As shown in the excerpt from the 2007 design plans below, two of the existing pumps from the 2003 Phase III Expansion were relocated to the opposite side of the tank and an additional pump was added. These pumps are intended to alternate operation with a maximum of two pumps discharging to the tank at one time. A valve vault constructed in 2007 is shown at the top of the image below. Return activated sludge from the secondary clarifier is piped into the equalization tank for mixing with the influent wastewater. Waste activated sludge



Excerpt from Design Plans for Equalization Basin Modifications

Equalization Basin Showing Pump Rails and Discharge Piping

Discharge of Screen Effluent into the Equalization Basin

Northernmost Section of Tank where Sludge Pumping Occurs

is manually discharged to the small chamber on the north side of the tank by opening a valve on the return activated sludge line. This smaller tank is fitted with a pump that discharges the waste activated sludge into the aerobic digester. The pump does not have a lifting system to easily remove the pump. The operator has to enter the tank to disconnect the pump to unclog it or perform maintenance on the pump. The condition of the interior of the tank is in poor conditions showing signs of heavy corrosion. The tank is difficult to maintain and may have served its useful life.

2.3.4 Aeration Tank #1

The equalization basin pumps discharge through a 12-inch force main. Valves allow flow to be discharged to Aeration Tank #1 and/or Aeration Tank #2. Aeration Tank #1 is a bolted steel 300,000 gallon capacity tank equipped with an air header and piping with fine bubble air diffusers at the bottom of the tank. The tank is manufactured by All State Tanks and the diffusers are manufactured by ITT/Sanitaire. Air to the diffusers are provided by two 75 hp VFD driven rotary lobe blowers located to the northeast of Aeration Tank #1 housed in outdoor rated cabinets. Control of the blowers can be based on readings from the dissolved oxygen sensor. The above described equipment was installed in 2007 as part of the Phase IV Expansion. There are no reported issues with the tank, diffuser system, or blowers.

Aeration Tank #1

Aeration Tank #1 Blowers (2 Units to the Right) and Control Unit (Left)

Aeration Tank #2 Blower Shed and Control Panels

Aeration Tank #2

2.3.5 Aeration Tank #2

Aeration Tank #2 is also a bolted steel tank that was constructed in 2003 as part of the Phase III Expansion project. Aeration Tank #2 is a bolted steel 200,000 gallon capacity tank equipped with an air header and piping with fine bubble air diffusers at the bottom of the tank. Air is provided by blowers housed in a wooden shed adjacent to the tank. There are no reported issues with the tank, diffusers, or blowers for Aeration Tank #2.

2.3.6 Ferric Chloride Treatment System

During the permitting of the 2007 Phase IV Expansion project, IDEM required treatment for phosphorous. A ferric chloride phosphorous removal system was included by addendum into the plant expansion. Ferric chloride is housed in a 10-foot diameter cylindrical chemical storage tank to the south of Aeration Tank #2. A Jesco metering pump is housed in a white fiberglass shed adjacent to the tank. Operational concerns include the drain valve which is in a location where it is easily tripped on and could be broken which could cause a spill.

2.3.7 Clarifiers and Flow Split Structure

There are three clarifiers on the plant site. The two smaller clarifiers were constructed in 2003 as part of the Phase III Expansion project. The larger concrete clarifier was constructed during the 2007 Phase IV Expansion project. The two smaller clarifiers are of entirely metal construction. Flow from the aeration tanks is fed to a precast concrete flow split box with four chambers (see photograph) constructed during the 2007 Phase IV Expansion project. One of the chambers is designed to distribute flow through a slide gate to the new concrete clarifier. One of the other chambers is designed to distribute flow to the two steel clarifiers. Both slide gates were difficult to open, close and adjust last winter when the large

Metering Pump Building and Ferric Chloride Tank

Flow Split Structure

Clarifier #1

Clarifiers #2 and #3

clarifier was taken offline for repairs. Maintenance should be performed on both gates to bring them back to good working order. Another flow split box splits flow into the two steel clarifiers. The large clarifier is designed to handle 0.33 MGD and the two smaller clarifiers, are designed to handle 0.035 MGD each.

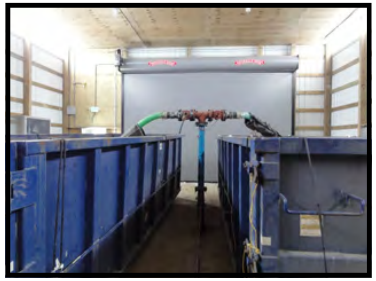
Recently, the bearings, bearing raceway, and the lower drive unit in the larger and newer clarifier failed causing a several month long outage of the clarifier. This issue has been resolved and the clarifier is back in operation.

The two smaller clarifiers have operational problems because of their shallow depth which hinders the settling of solids. Also, the second flow split structure is inefficient and the air lift return activated sludge pumps cause operational problems and require excessive maintenance.

Sludge Holding Tank (Black Tank in Front)

2.3.8 Aerobic Digestion

Waste activated sludge is pumped from the northern chamber of the equalization tank to the aerobic digester for further decompositIon of the organic waste. The aerobic digester was constructed in 2003 as part of the Phase III Expansion project and has a capacity of 51,200 gallons. The operators can decant clear water from the digester to help thicken the sludge and provide additional sludge storage. The 2007 Phase IV Expansion project included the aerobic digester from the Phase II project with a capacity of 24,200 gallons as part of the design. The Phase II tank has since been removed. The loss of the capacity of this tank has been offset by the sludge dewatering facility and building. With a dewatering facility that can operate year-round the additional sludge holding capacity is minimized.



Sludge Manifold into Dumpsters

Polymer Pump Unit

2.3.9 Sludge Dewatering

The operators manually turn on a sludge pump to waste sludge from the aerobic digester to the sludge dewatering system that was constructed in 2009. The dewatering system consists of a polymer pump unit which is used to promote sludge thickening. The operator manually controls valves on the sludge manifold and can control the flow of sludge into one of the dumpsters. The dumpsters are fitted with a geotextile bagging system that allows water to drain out, but keeps the sludge within the bag. The dumpsters, when full, are hauled to a landfill for disposal.

Until recently, the system was a seasonal system due to freezing issues. Then in 2014, a building was constructed over the dewatering system. However, the building was not heated and freezing occurred. Heat tape was installed to remedy this issue.

2.3.10 Chlorination, Dechlorination, and Post-Aeration

The final elements of treatment include seasonal chlorination with dechlorination (April thru October) and post-aeration. This is all accomplished at the far west end of the plant after flow passes through the clarifiers. Chlorination is accomplished through the addition of liquid chlorine to the flow stream ahead of a flow path which utilizes 3 tanks; one that was constructed in 1996 as part of the Phase I Expansion, one that was constructed 2003 as part of the Phase III Expansion, and a structure constructed during the 2007 Phase IV Expansion project to provide the required contact time. Solid dechlorination tablets were abandoned in favor of liquid form in recent years due to less than desirable results. Post-aeration is accomplished by 3 horsepower rotary lobe blowers and a fine bubble aeration system. No operational issues were reported at this time with the equipment or operation.

Part of the Chlorination, De-chlorination, and Post-Aeration Tank

Liquid Dechlorination Assembly

Liquid Chlorination Assembly

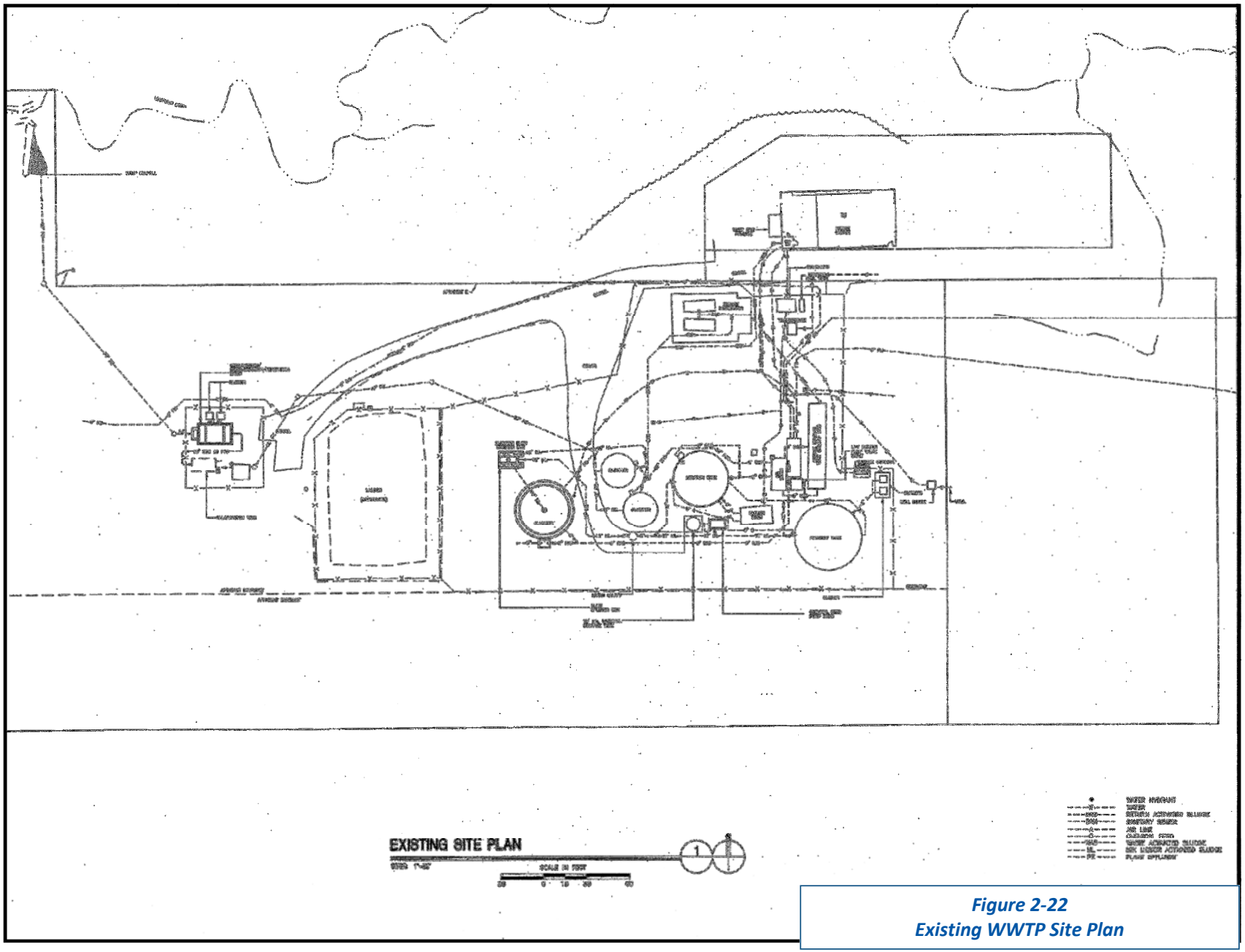


Figure 2-22
Existing WWTP Site Plan

SECTION 3 - COLLECTION SYSTEM MASTER PLAN—CONCEPT A1 & A2

SECTION 3 - COLLECTION SYSTEM MASTER PLAN—CONCEPT A1 and A2

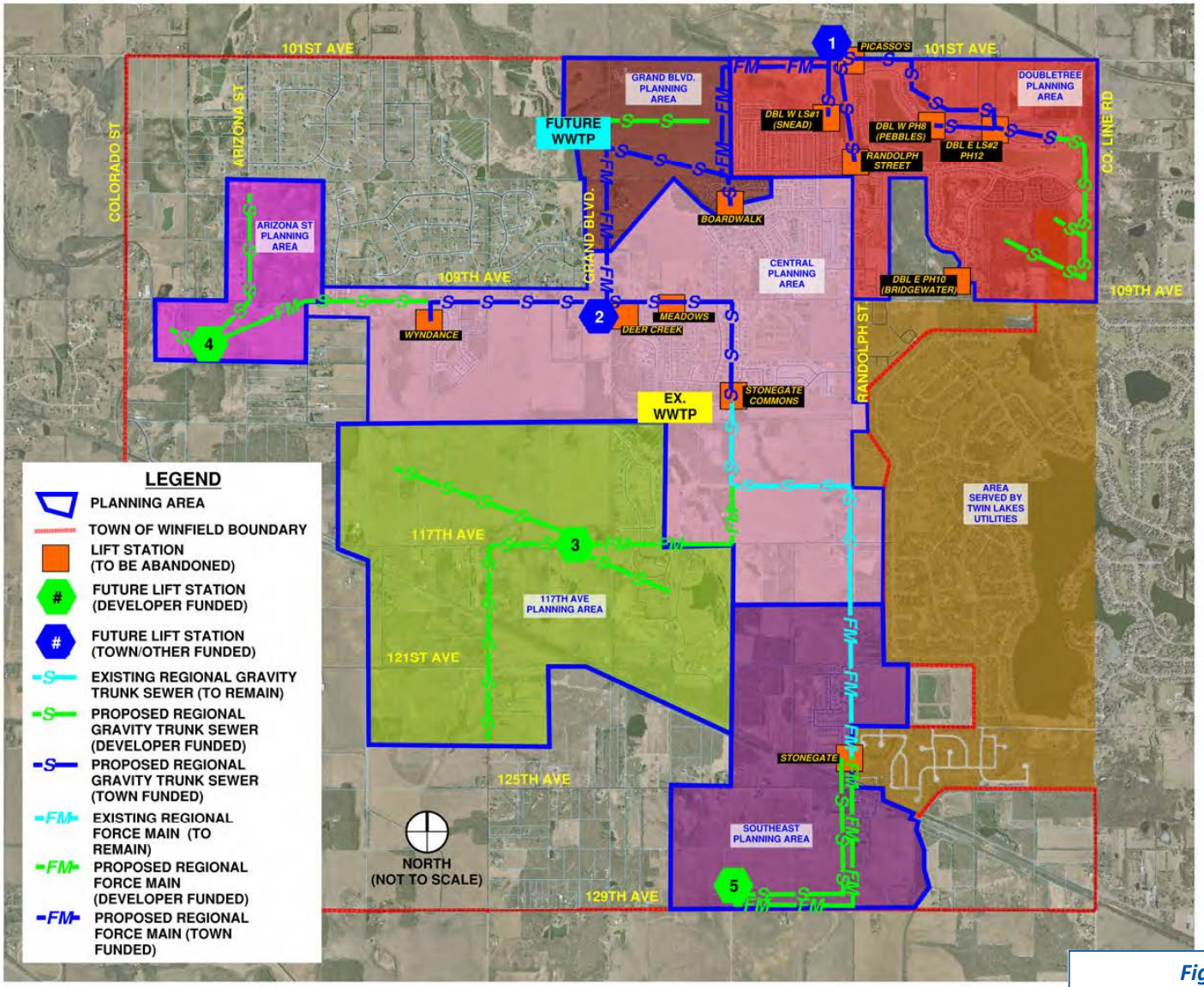


Figure 3-1
Concept A1

3.0 Overview Concept A1

The Collection System Concept A1 involves relocation of the wastewater treatment plant to an area adjacent to the west side of Grand Boulevard along the same branch of Deer Creek that the existing wastewater treatment plant is permitted to discharge. In addition to a major overhaul of the collection system, significant sewer line work is required to redirect all of the connections to the new location.

3.1 Doubletree Planning Area

There are currently six lift stations in the Doubletree developments including the Picasso lift station. There is a seventh lift station that is planned near County Line Road. The plan, schematically shown in **Figure 3-1**, considers the elimination of all seven lift stations and the construction of a single lift station near the intersection of Randolph Street and 101st Avenue. This lift station is denoted as the blue hexagon identifier with the numeral "1". The lift station should have a firm capacity of 800-900 gpm, an 8-inch diameter force main and a minimum of a 10-foot diameter wet well. This plan requires the following additional elements:

1. Redirection of existing sanitary sewer between DBL W Ph8 "Pebbles" lift station and DBL E LS#2 "Ph12".
2. Reconstruction of existing sanitary sewer east of DBL E LS#2 "Ph12".
3. Construction of a new sanitary sewer along the northern edge of Doubletree East and the acquisition of multiple easements along this corridor to 101st Avenue.
4. Construction of a new sanitary sewer along 101st Avenue to avoid construction through the dam located along the northernmost part of Doubletree Drive North.
5. Construction of a new gravity sewer from the existing Randolph Street lift station northward to the new lift station at 101st Avenue and Randolph Street.
6. Construction of a new gravity sewer from DBL W LS#1 "Snead" to the new lift station at 101st Avenue and Randolph Street.
7. Abandonment of the DBL E Ph10 "Bridgewater" lift station and replacement of the service to the one home on the system with an E-One or similar type grinder pump station to be maintained by the homeowner. This would also necessitate E-One or similar type grinder pump stations for the remaining future houses on the cul-de-sac.
8. Abandonment of the Picasso, DBL W Ph8, DBL E LS#2, Randolph Street, and DBL W LS#1 lift stations.
9. Construction of a new force main westward to Grand Boulevard to a gravity sewer which will start at the northwest corner of Country Meadows Estates.
10. Construction of a new gravity sanitary sewer westward across an undeveloped parcel to a new wastewater treatment plant.

This work will significantly disrupt Doubletree Drive North. The excavation will be deep and will likely require reconstruction of the roadway from back of curb to back of curb. Approximately 10-15 easements will be required in order to construct the sewer to 101st Avenue. Approximately 1,200 feet of 101st Avenue roadway will require reconstruction as a result of the excavation.

Developer funded gravity sewer would be required to serve the southeast portion of this planning area as identified by the green line with an "S" notation in **Figure 3-1**.

3.2 Grand Boulevard Planning Area

The Grand Boulevard Planning Area as shown in **Figure 3-1** serves an area roughly one-half square mile. It provides for the elimination of the Boardwalk Lift station by providing an outlet for the area tributary to the Boardwalk lift station at the northwest corner of Country Meadows Estates. Several large undeveloped parcels lie on the east side of Grand Boulevard in this area. These would be served by a developer installed gravity collection system that would convey sewage directly to the new wastewater treatment plant. The developer installed system is schematically shown as a green line with an "S" notation.

3.3 Central Planning Area

The Central Planning Area takes into account areas adjacent to 109th Avenue and Randolph Street. In summary, a regional lift station denoted as "2" inside a blue hexagon would be constructed near the intersection of Grand Boulevard and 109th Avenue as shown in **Figure 3-1**. This concept was of a regional lift station at this location was proposed to the Town in 2007 by DLZ, but was not embraced by the Town. This plan included the elimination of the Wyndance, Deer Creek, and

Meadows Lift Stations. The lift station should be designed to ultimately have a firm capacity of 1,600 gpm, an 12-inch diameter force main and an 12-foot diameter wet well at a minimum. Lower sized pumps and aeration may be required during the interim until the area fully develops.

Not only would this lift station serve the areas along 109th Avenue, it would also receive flows from the Randolph corridor south (Southeast Planning Area) and the 117th Avenue Planning Area. These areas are discussed in later paragraphs of this section.

3.4 Arizona Street Planning Area

The Arizona Street Planning Area is depicted in **Figure 3-2**. This area represents the western -most anticipated limits of development in the Town of Winfield that is to be connected into the Town's WWTP. A portion of this area was recently purchased by the Crown Point School System and was recently in planning as a significantly sized residential subdivision. This planning area is capable of supporting approximately 440 residential units at a rate of 2.3 units per acre. Due to the relief in this area, it is proposed that any development located within this planning area be contributory to a new lift station located at the southwest corner of the planning area. All areas within the planning area would convey wastewater by gravity sewer to this regional lift station via developer installed gravity sewers. The lift station should have a firm capacity of 350 gpm, an 8-inch diameter force main and an 8-foot diameter wet well at a minimum. The lift station would pump flow to a proposed gravity sewer on 109th Avenue that would begin somewhere in the vicinity of State Street. This gravity sewer would convey the wastewater to the proposed regional lift station "2" near the intersection of Grand Boulevard and 109th Avenue.

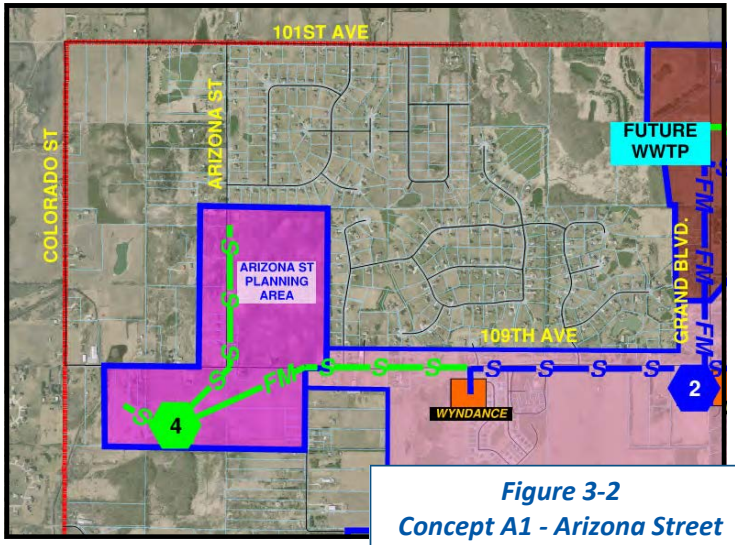


Figure 3-2
Concept A1 - Arizona Street Planning Area

3.5 117th Avenue Planning Area

The 117th Avenue Planning Area is shown in **Figure 3-3** and encompasses the Crown Point Christian Village (CCV). The CCV presently operates its own WWTP. This WWTP is in poor condition and CCV approached the Town about connection of their facilities into the Town's WWTP. As part of this master plan, the area surrounding CCV was reviewed and it was determined that a regional lift station would be required along 117th Avenue at a low point in the topography just west of CCV.

Proposed expansion plans and existing usage represents an equivalent of 100 units at CCV. The remaining planning area has a potential to contribute and additional 770 units. Prairie Crossing could tie onto this system at 46 units (although not graphically shown). The Prairie Crossing system would likely take the form of a low pressure system where each unit would have a grinder pump that pumped to a common header and force main. This system most easily adapts to retrofit applications where sewers are not currently present.

The area shown south of the abandoned railroad tracks is not intended to be developed out to the 2.3 units per acre as part of this master planning effort. However, it is intended to accommodate a future school and tie ins of existing residential units along the route of the gravity sewer that would be extended to the school.

The regional lift station should have an ultimate buildout firm capacity of 1,300 gpm, a 10-inch force main, and a 12-foot diameter wet well as a minimum. Routing of the force main is recommended to run eastward along 117th Avenue to a point located on the southern prolongation of the west line of Stonegate Commons; then run

northward within portions of the existing off-site Stonegate sewer to the WWTP. Running the force main northward along the west boundary and then east along the north boundary of Prairie Crossing should not be considered because access to the WWTP would require a long wetland crossing north of Prairie Crossing Subdivision. This would make the forcemain for this regional lift station difficult to access and maintain in the future.

3.6 Southeast Planning Area

The Southeast Planning Area encompasses the Stonegate Subdivision, future Stonegate North Subdivision and areas southward to 129th Avenue as shown in **Figure 3-3**. All the improvements in this planning area would be developer driven. As the area south of Stonegate develops, a regional lift station is required adjacent to 129th Avenue and one of the tributaries to Stony Run Creek. Gravity sanitary sewer would be extended to intercept all sewers tributary to the existing Stonegate Lift Station. The sanitary sewer would extend southward to the regional lift station. The regional lift station would pump northward and tie into the existing Stonegate force main. The regional lift station, denoted as a green hexagon and "5" , would need to be sized for an ultimate 1,000 gpm firm capacity, 8-inch diameter force main, and a minimum 10-foot diameter wet well. Lower sized pumps and aeration may be required during the interim until the area was fully developed. The existing size of the Stonegate lift station force main would require an analysis at the time of development to determine whether pumps could be provided for the flow and head conditions, or whether a parallel force main was required.

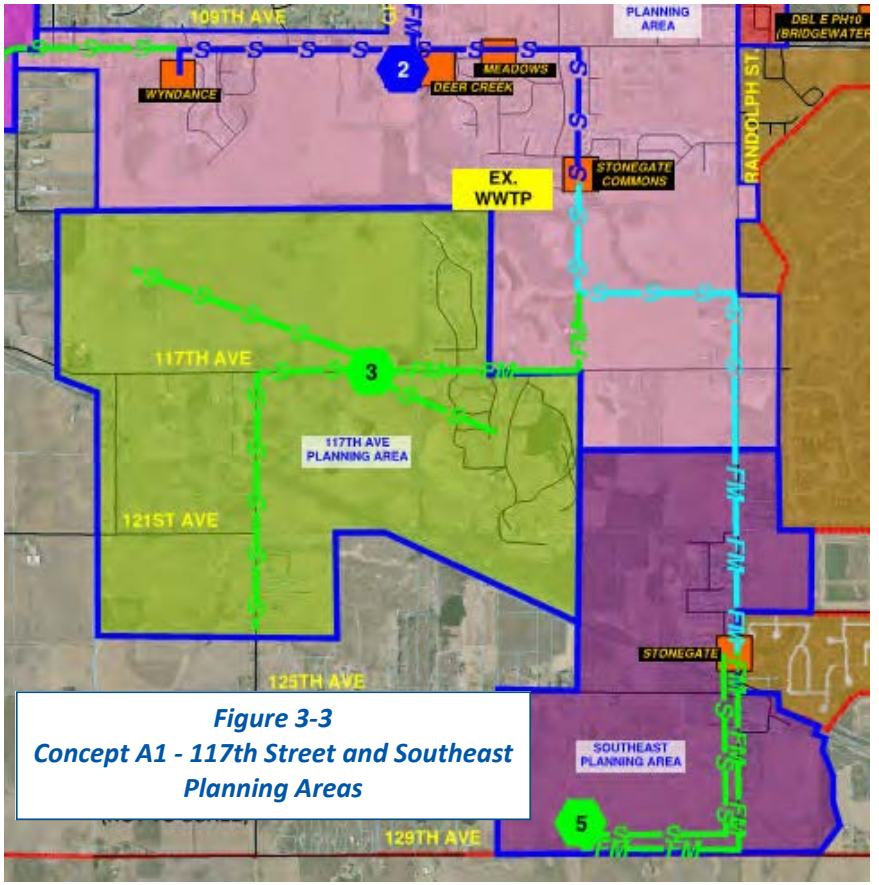


Figure 3-3
Concept A1 - 117th Street and Southeast Planning Areas

3.7 Concept A2

A slight modification to Concept A1 would be to place the new WWTP along Deer Creek near the intersection of 109th Avenue and Grand Boulevard as opposed to north on Grand Boulevard. Figure 3-1 would be modified to include a WWTP located near where regional lift station #2 is and a lift station near where the future WWTP is shown. Regional lift station #1 could pump directly to the WWTP, or it could be allowed to pass through any development in the Grand Boulevard Planning Area via gravity and be pumped by that regional lift station. Further analysis would be required to develop this option further.

3.8 Opinion of Probable Costs—Concept A1

Opinions of probable costs were developed for "Town/Other Funded" Improvements for Concept A1 and are provided in **Table 3-1**. These improvements include those shown with the blue line and "S" or "FM" notations on **Figure 3-1** through **Figure 3-3**. They also include lift stations denoted by the blue hexagons on **Figure 3-1** through **Figure 3-3**. The opinions of probable costs in Section 3 are prepared generally in accordance with a Class 4 Estimate, "Study or Feasibility" as defined in the Association for the Advancement of Cost Engineering (AACE). Costs are estimated using year 2016 dollars and do not include: land acquisition or easements; remediation of unusual soils; environmental remediation; utility relocations; or complex dewatering. Costs assume a 20-percent contingency, and 25-percent engineering, legal and administration factor.

3.9 Sequencing/Implementation—Concept A1/A2

Preliminary planning, land acquisition, design, permitting and construction of the wastewater treatment plant are the first element to be implemented as part of this concept. Permitting a new wastewater treatment plant will be a time consuming activity considering the Town already has a permitted facility located on the same creek.

Upon completion of the wastewater treatment plant, the Town could proceed from either the Doubletree basin or the Central basin or both. Removal of Stonegate Commons from the existing wastewater treatment plant would be preceded by construction of a gravity interceptor to the new Grand Boulevard/109th regional lift station and force main.

Table 3-1
Concept A1/A2—Town Funded

	DESCRIPTION	Amount
DOUBLETREE AND GRAND BOULEVARD PLANNING AREA		
	FUTURE LIFT STATION #1	$670,000
	ABANDON LIFT STATIONS	$70,000
	GRAVITY SEWER ALONG DOUBLE TREE DRIVE NORTH	$1,820,000
	GRAVITY SEWER BETWEEN DOUBLE TREE NORTH DRIVE AND 101ST AVENUE	$240,000
	GRAVITY SEWER ALONG 101ST AVENUE TO FUTURE LIFT STATION #1	$660,000
	GRAVITY SEWER FROM RANDOLPH PUMP STATION TO FUTURE LIFT STATION #1	$370,000
	GRAVITY SEWER FROM SNEAD LIFT STATION TO FUTURE LIFT STATION #1	$140,000
	FORCE MAIN FROM FUTURE LIFT STATION #1 TO THE SOUTHWEST CORNER OF DOUBLETREE WEST	$640,000
	GRAVITY SEWER FROM THE SOUTHWEST CORNER OF DOUBLETREE WEST TO THE NEW WWTP	$420,000
	CONVERT BRIDGEWATER SERVICE AREA TO GRINDER SYSTEM	$60,000
CENTRAL PLANNING AREA PROJECTS		
	FUTURE LIFT STATION #2	$1,100,000
	ABANDON LIFT STATIONS	$60,000
	GRAVITY SEWER ALONG 109TH AVENUE FROM WYNDANCE TO THE FUTURE LIFT STATION #2	$1,090,000
	GRAVITY SEWER ALONG 109TH AVENUE FROM THE NORTHEAST CORNER OF MEADOWS TO THE FUTURE LIFT STATION #2	$900,000
	GRAVITY SEWER BETWEEN THE STONEGATE COMMONS LIFT STATION AND FUTURE 109TH AVENUE GRAVITY SEWER	$320,000
	FORCE MAIN FROM THE FUTURE LIFT STATION #2 TO THE NEW WWTP	$620,000
GRAND TOTALS (WITHOUT WASTEWATER TREATMENT PLANT COMPONENT)		
		$9,180,000

SECTION 4 - COLLECTION SYSTEM MASTER PLAN—CONCEPT B

SECTION 4 - COLLECTION SYSTEM MASTER PLAN—CONCEPT B

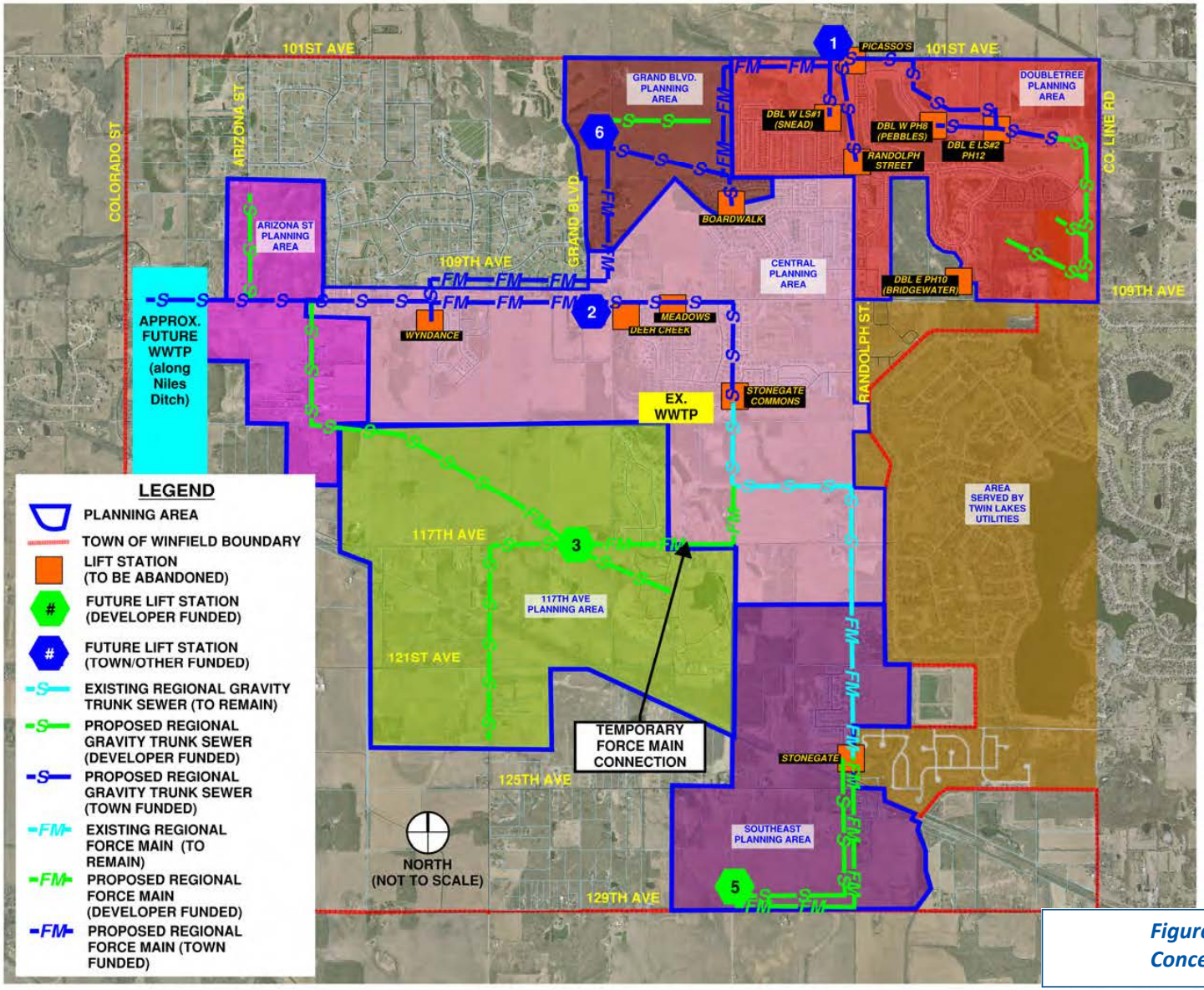


Figure 4-1
Concept B

4.0 Overview

Concept B is very similar to Concepts A1 and A2, except Concept B contemplates moving the WWTP to Niles Ditch on the west end of Town. This concept is shown in **Figure 4-1**. Niles Ditch runs northward along a significant portion of the west side of the Town. Placement of the WWTP could occur in a number of locations along this border. It is shown in concept closer to 109th Avenue in **Figure 4-1.**

Each of the planning areas are not described in this section. The reader should refer to Section 3 for information on each planning area. However, some minor differences between Concept A1/A2 and Concept B are noted below:

1. The Grand Boulevard/109th Avenue lift station (#2 in the blue hexagon) pumps westward to approximately State Street where it would discharge into a gravity sewer that would head westward to the new lift station at Niles Ditch.
2. The lift station on north Grand Boulevard (#6 in the blue hexagon) pumps southward to 109th, then westward to the same discharge sewer as lift station #2. This avoids pumping the Grand Boulevard twice and Doubletree Planning Areas three times.
3. Future lift station #3 pumps to the existing Stonegate offsite sewer until the new WWTP is up and running. Then, the force main is abandoned, and a short force main lifts the pump into the Graper Ditch valley where a new gravity sewer is run to the interceptor on 109th Avenue near State Street.

4.1 Opinion of Probable Costs—Concept B

Opinions of probable costs for Concept B are shown in **Table 4-1** for Town installed items. The costs were prepared in a similar fashion that costs were prepared for Concepts A1. Town installed items are shown in dark blue in **Figure 4-1**.

Table 4-1
Concept B—Town Funded

	DESCRIPTION	Amount
DOUBLETREE AND GRAND BOULEVARD PLANNING AREA		
	FUTURE LIFT STATION #1	$670,000
	ABANDON LIFT STATIONS	$70,000
	GRAVITY SEWER ALONG DOUBLE TREE DRIVE NORTH	$1,820,000
	GRAVITY SEWER BETWEEN DOUBLE TREE NORTH DRIVE AND 101ST AVENUE	$240,000
	GRAVITY SEWER ALONG 101ST AVENUE TO FUTURE LIFT STATION #1	$660,000
	GRAVITY SEWER FROM RANDOLPH PUMP STATION TO FUTURE LIFT STATION #1	$370,000
	GRAVITY SEWER FROM SNEAD LIFT STATION TO FUTURE LIFT STATION #1	$140,000
	FORCE MAIN FROM FUTURE LIFT STATION #1 TO THE SOUTHWEST CORNER OF DOUBLETREE WEST	$640,000
	GRAVITY SEWER FROM THE SOUTHWEST CORNER OF DOUBLETREE WEST TO FUTURE LIFT STATION #6	$420,000
	CONVERT BRIDGEWATER SERVICE AREA TO GRINDER SYSTEM	$60,000
	FUTURE LIFT STATION #6	$670,000
	FORCE MAIN FROM FUTURE LIFT STATION #6 TO THE FUTURE GRAVITY SEWER ON 109TH AVENUE NEAR WYNDANCE	$1,060,000
CENTRAL PLANNING AREA PROJECTS		
	FUTURE LIFT STATION #2	$1,100,000
	ABANDON LIFT STATIONS	$60,000
	GRAVITY SEWER ALONG 109TH AVENUE FROM WYNDANCE TO FUTURE WWTP	$1,990,000
	GRAVITY SEWER ALONG 109TH AVENUE FROM THE NORTHEAST CORNER OF MEADOWS TO FUTURE LIFT STATION #2	$900,000
	GRAVITY SEWER BETWEEN STONEGATE COMMONS LIFT STATION AND 109TH AVENUE	$320,000
	FORCE MAIN FROM FUTURE LIFT STATION #2 WESTWARD TO GRAVITY SEWER ON 109TH AVENUE NEAR WYNDANCE	$720,000
GRAND TOTALS (WITHOUT WASTEWATER TREATMENT PLANT COMPONENT)		
		$11,910,000

SECTION 5 - COLLECTION SYSTEM MASTER PLAN—CONCEPT C

SECTION 5 - COLLECTION SYSTEM MASTER PLAN—CONCEPT C

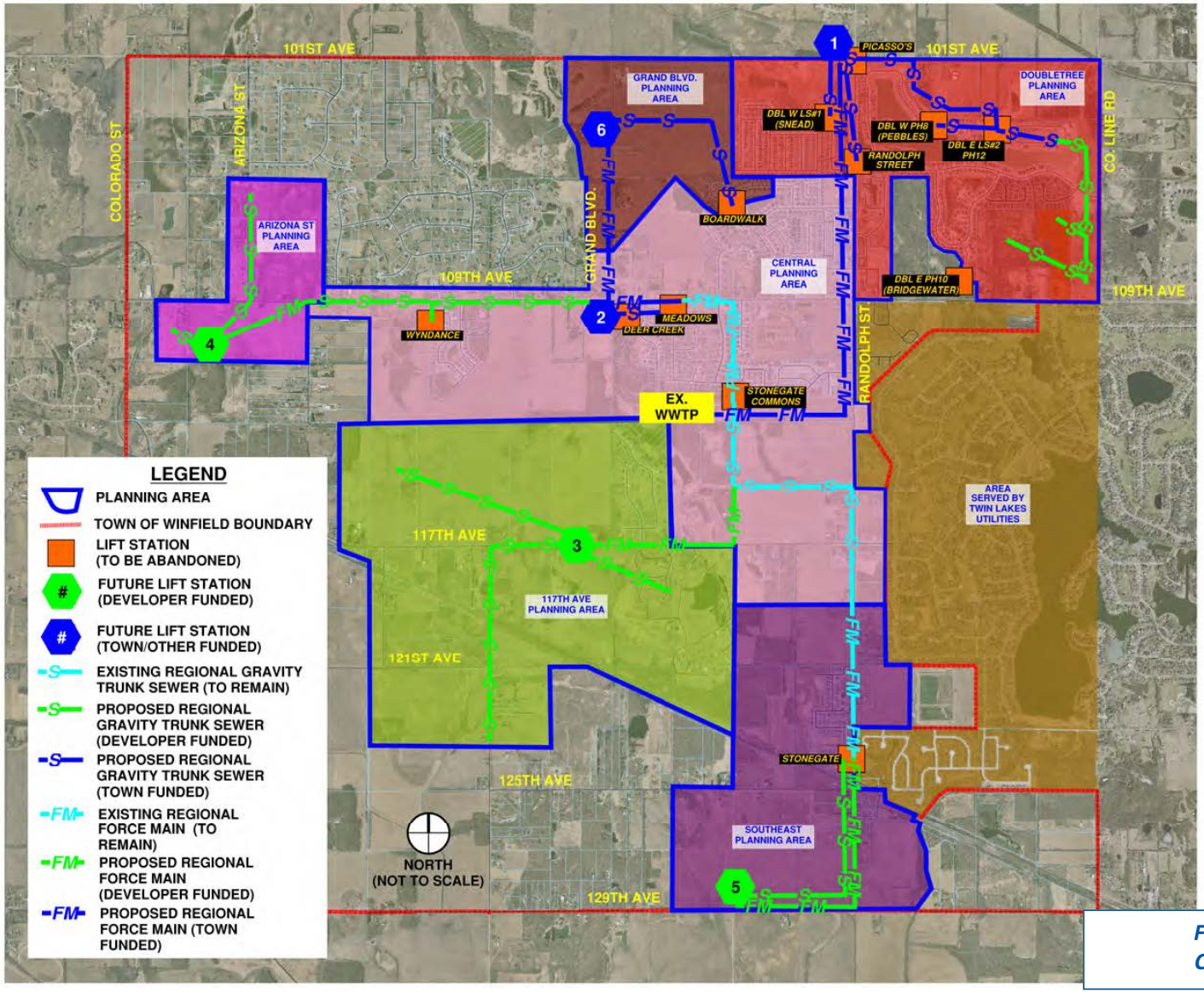


Figure 5-1
Concept C

5.0 Overview

Concept C is very similar to Concepts A1, A2, and B except Concept C contemplates leaving the WWTP at its current location. This concept is shown in **Figure 5-1**.

Each of the planning areas are not described in this section. The reader should refer to Section 3 for information on each planning area. However, some minor differences are noted between Concept A1/A2 and Concept C below:

1. The Grand Boulevard/109th Avenue lift station (#2 in the blue hexagon) pumps east to the existing Meadows Force Main to the existing WWTP.
2. The lift station on north Grand Boulevard (#6 in the blue hexagon) pumps southward to 109th into future lift station #2.
3. There is no gravity line between Lift Station #2 and the Stonegate Commons lift station.
4. Lift Station #1 pumps southward along Randolph Street, then west, directly to the existing WWTP.
5. Stonegate Commons Lift Station remains. All other lift stations are abandoned and consolidated.
6. The Wyndance Lift Station continues to pump to Lift Station #2 until such time that Lift Station #4 is put in by a developer. At that time a requirement of the developer should be to install a new gravity sewer trunk line to receive Lift Station #4 at approximately State Street. The new trunk line should then convery that flow to Lift Station #2 at a depth sufficient to gravity the Wyndance flows into the sewer, eliminating the need for Wyndance Lift Station.

5.1 Opinion of Probable Costs—Concept C

Opinions of probable costs for Concept C are shown in **Table 5-1** for Town installed items. The costs were prepared in a similar fashion that costs were prepared for Concepts A1, A2, and B. Town installed items are shown in dark blue in **Figure 5-1**.

Table 5-1
Concept C—Town Funded

	DESCRIPTION	Amount
DOUBLETREE AND GRAND BOULEVARD PLANNING AREA		
	FUTURE LIFT STATION #1	$670,000
	ABANDON LIFT STATIONS	$70,000
	GRAVITY SEWER ALONG DOUBLE TREE DRIVE NORTH	$1,820,000
	GRAVITY SEWER BETWEEN DOUBLE TREE NORTH DRIVE AND 101ST AVENUE	$240,000
	GRAVITY SEWER ALONG 101ST AVENUE SEWER TO FUTURE LIFT STATION #1	$660,000
	GRAVITY SEWER FROM RANDOLPH PUMP STATION TO FUTURE LIFT STATION #1	$370,000
	GRAVITY SEWER FROM SNEAD LIFT STATION TO FUTURE LIFT STATION #1	$140,000
	FORCE MAIN FROM FUTURE LIFT STATION #1 TO EXISTING WWTP	$1,290,000
	CONVERT BRIDGEWATER SERVICE AREA TO GRINDER SYSTEM	$60,000
	FUTURE LIFT STATION #6	$550,000
	FORCE MAIN FROM FUTURE LIFT STATION #6 TO FUTURE LIFT STATION #2	$540,000
CENTRAL PLANNING AREA PROJECTS		
	FUTURE LIFT STATION #2	$1,100,000
	ABANDON LIFT STATIONS	$40,000
	GRAVITY SEWER ALONG 109TH AVENUE FROM MEADOWS TO FUTURE LIFT STATION #2	$590,000
	FORCE MAIN FROM FUTURE LIFT STATION #2 TO THE EXISTING MEADOWS FORCE MAIN	$270,000
GRAND TOTALS (WITHOUT WASTEWATER TREATMENT PLANT COMPONENT)		
		$8,410,000

SECTION 6 - COLLECTION SYSTEM MASTER PLAN—CONCEPT D

SECTION 6 - COLLECTION SYSTEM MASTER PLAN—CONCEPT D

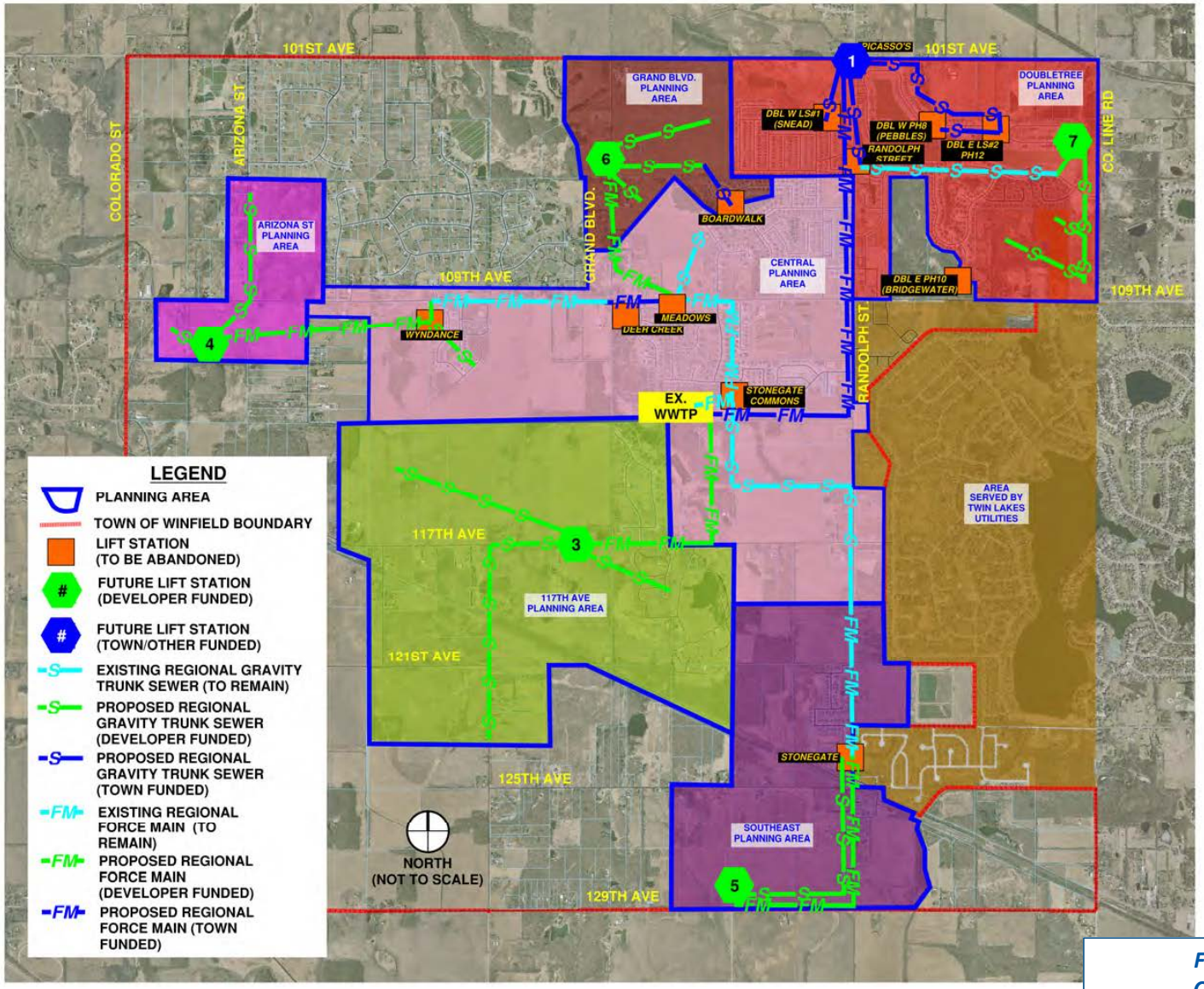


Figure 6-1
Concept D

6.0 Overview

The planning areas in Concept D do not vary significantly from the planning areas in the other concepts. This concept provides for the elimination of six lift stations and is shown in **Figure 6-1**. The six lift stations eliminated include: DBL West LS#1 (Snead); Randolph Street; DBL W Ph 8 (Pebbles); Picasso; DBL E LS#2 Ph 12; DBL E Ph10 (Bridgewater); and Deer Creek.

Each of the planning areas are not described in this section. The reader should refer to Section 3 for information on each planning area. Other elements to this plan include:

1. The developer installs Future Lift Station #7 to service the eastern portion of Doubletree East. This lift station discharges to the existing gravity sanitary sewer along the south side of the lake.
2. The Town eliminates the DBL E Ph10 (Bridgewater) lift station by converting the single home to a grinder system and providing for future homes to tie into the grinder system.
3. A new Town installed lift station is constructed near 101st Avenue and Randolph Street (Future Lift Station #1). This lift station pumps directly to the existing wastewater treatment plant along Randolph Street.
4. The Town abandons DBL W LS#1 (Snead) and the Randolph Street lift station and constructs two gravity sewers northward to the new Future Lift Station #1.
5. The Town installs a new gravity sewer along Double Tree Drive North and up to 101st Avenue to the new Future Lift Station #1 to eliminate the need for DBL W Ph8 (Pebbles) and DBL E LS#2 Ph 12.
6. The Town extend the Wyndance force main from the Deer Creek Lift Station to the Meadows lift station. The Deer Creek lift station will only service the Deer Creek subdivision.
7. The Town upgrades the existing wastewater treatment plant.

6.1 Opinion of Probable Costs—Concept D

Opinions of probable costs for Concept D are shown in **Table 6-1** for Town installed items. The costs were prepared in a similar fashion that costs were prepared for Concepts A1, A2, B, and C. Town installed items are shown in dark blue in **Figure 6-1**.

Table 6-1
Concept D—Town Funded

	DESCRIPTION	Amount
DOUBLETREE AND GRAND BOULEVARD PLANNING AREA		
	FUTURE LIFT STATION #1	$670,000
	ABANDON LIFT STATIONS	$70,000
	GRAVITY SEWER ALONG DOUBLE TREE DRIVE NORTH	$870,000
	GRAVITY SEWER BETWEEN DOUBLE TREE NORTH DRIVE AND 101ST AVENUE	$240,000
	GRAVITY SEWER ALONG 101ST AVENUE SEWER TO FUTURE LIFT STATION #1	$660,000
	GRAVITY SEWER FROM RANDOLPH PUMP STATION TO FUTURE LIFT STATION #1	$370,000
	GRAVITY SEWER FROM SNEAD LIFT STATION TO FUTURE LIFT STATION #1	$140,000
	FORCE MAIN FROM FUTURE LIFT STATION #1 TO EXISTING WWTP	$1,290,000
	CONVERT BRIDGEWATER SERVICE AREA TO GRINDER SYSTEM	$60,000
CENTRAL PLANNING AREA PROJECTS		
	EXTEND WYNDANCE FORCE MAIN TO MEADOWS LIFT STATION	$270,000
	ABANDON LIFT STATIONS	$10,000
GRAND TOTALS (WITHOUT WASTEWATER TREATMENT PLANT COMPONENT)		
		$4,650,000

SECTION 7 - COLLECTION SYSTEM MASTER PLAN—STATUS QUO

SECTION 7 - COLLECTION SYSTEM MASTER PLAN—STATUS QUO

7.0 Overview

The existing collection system is generally functional and provides for future hydraulic requirements with minimal Town installed improvements. The "status quo" alternative or concept was developed to provide a baseline for the minimum improvements required by the Town if the WWTP were not relocated and most of the existing lift stations remained in place. The following subsections identify improvements that are required for the existing collection system. Note that other improvements may be determined to be necessary after the Town conducts recommended investigative studies described in Section 8 of this report.

7.1 Boardwalk Lift Station Replacement

The Boardwalk Lift Station is difficult to operate and maintain. It is also dangerous and a hazard to the public. This lift station needs to be replaced or taken out of service as quickly as possible. One of the main issues is that it is supplied by single phase power that does not provide enough energy to grind the solids in the wastewater at all times. This item calls for the installation of a new lift station to replace the existing lift station. The new lift station would have the same capacity as the existing lift station as no additional growth is possible in the area. However, it is recommended to be fitted with electronics which simulate 3-phase power.

Other alternatives as described in Concepts A1, A2, B, C, and D were considered and are still viable should the Town elect to proceed in those directions. Relaying the sanitary sewers along Boardwalk and Boardwalk Circle were reviewed; however, it was determined that by doing so, the sanitary sewer would be shallower than Indiana Code allows for a portion of the system.

7.2 DBL West Lift Station #1 Control Panel Relocation

This lift station was installed prior to the Town taking over the wastewater treatment plant and the associated infrastructure. The original operator of the plant and the development's design engineer located this station within the Town's right-of-way. It also appears that this station was represented as a gravity manhole until late into the Town's review process. As the Town is aware, this station now has the control panel very near the road at the intersection of East 103rd Avenue and Snead Street. The proximity to the road makes the control panel vulnerable to damage due to a vehicle potentially leaving the roadway.

The recommendation for this lift station is to reroute the cabling and place the control panel in a safer area farther away from the road. The control panel could be fenced or landscaped in such a way to make it less visible and most importantly less vulnerable to damage by motor vehicles. As the wet well and valve vault are flush with the ground, no damage should occur by a vehicle leaving the roadway after the control panel is relocated. Additionally, due to the vaults being flush with the ground, the visual detraction of the area would be resolved for significantly less cost than relocating the entire station. Note that other alternatives such as abandonment of this lift station were reviewed in Concepts A, B, C, and D.

7.3 Wyndance Lift Station Force Main Extension

In 2011 and early 2012, DLZ, on behalf of the Town, designed and permitted the extension of the Wyndance force main directly to the Meadows lift station. This routing would bypass the Deer Creek Lift Station in its entirety. This project was never implemented by the Town. Some reasons to consider this course of action in the near future are noted below:

1. The Meadows Lift Station has available capacity to handle the existing flow currently being pumped along with Wyndance and future flows generated along the 109th Avenue corridor.
2. The Meadows Lift Station condition and equipment is superior to that of the Deer Creek Lift Station.
3. The Meadows Lift Station has had a better history in as far as maintenance and reliability.

4. The Deer Creek Lift Station force main and maximum pump size will limit the future growth in the Wyndance service area.
5. Within the past few years the pumps currently in the Deer Creek Lift Station were downsized from the pumps required and permitted to handle Deer Creek Lift Station absorbing the Wyndance subdivision build-out flows. This is in violation of the permit that was issued by IDEM at the time of Wyndance's construction.

Other alternatives discussed in previous sections involved abandonment of this lift station with the construction of a gravity sewer to a new regional lift station located near 109th Avenue and Grand Boulevard.

7.4 DBL East Phase 8 Lift Station (Pebbles) Upgrades

This lift station does not have any means of warning the operator if there is a failure. With this alternative, this lift station should be retrofitted with an appropriate means of notifying the operator in case of failures. Notification may consist of warning light and an automatic dialer. Another recommendation to this lift station includes providing a means to operate the lift station by a portable generator in the event of an outage.

7.5 DBL East Lift Station #2 Traffic Protection

This lift station is located close to the traveled road and should require additional traffic protection measures. Bollards or other measures should be investigated.

Table 7-1
Status Quo—Town Funded

	DESCRIPTION	Amount
STATUS QUO PROJECTS		
	BOARDWALK LIFT STATION REPLACEMENT	$150,000
	DBL WEST LIFT STATION #1 CONTROL PANEL RELOCATION	$25,000
	WYNDANCE LIFT STATION FORCE MAIN EXTENSION	$270,000
	DBL EAST PHASE 8 LIFT STATION (PEBBLES) UPGRADES	$30,000
	DBL EAST LIFT STATION #2 TRAFFIC PROTECTION	$5,000
	OTHER IMPROVEMENTS (TO BE DETERMINED AFTER INVESTIGATIVE PHASE DESCRIBED IN SECTION 8)	UNKNOWN
GRAND TOTALS (WITHOUT WASTEWATER TREATMENT PLANT COMPONENT)		
		$480,000

SECTION 8 - COLLECTION SYSTEM MASTER PLAN—INVESTIGATIVE

SECTION 8 - COLLECTION SYSTEM MASTER PLAN—INVESTIGATIVE

8.0 Investigative Projects Overview

Most of the sewer system in the Town of Winfield was not inspected during installation as the WWTP and systems were owned and operated by a private utility. Furthermore, sewers in the Doubletree Subdivisions were considered to be operated by the property owner association. This is reinforced by many of the permit approvals obtained from IDEM for the collection systems and pump stations. Not until recently has the Town taken the position that the Town is responsible for the maintenance and operation of all sanitary sewers systems that convey wastewater to the wastewater treatment plant.

There are some areas where investigative field services are required to further understand the sewer system and its limitations. The following investigative projects have been identified.

8.1 Televise & Survey the CME Interceptor Sewer

The CME Interceptor Sewer was identified in Section 2 as a key sewer that serves all of Doubletree Lake Estates Subdivision plus areas of the commercial corridor and the Country Meadows Subdivision. It is reported that this sewer is flat and even sloped backwards in some locations. To obtain a greater understanding of how this impacts the system, it is recommended to survey and video inspect the sewer. This information will be beneficial as areas upstream (e.g. County Line Road Planning Area) are developed.

8.2 Televise & Survey DBL East Sewers

There have been many reported issues with sewers in Doubletree Lake Estates East. Plan information is inconsistent and it appears as if field changes in several of the areas may have been made without correction to the plans. It is recommended video inspection and the as-built drawings be verified as part of this project.

8.3 Televise & Survey Sewers in the Wiseway Commercial Area

There appears to be no information regarding the sanitary sewer system in the commercial area northeast of the intersection of 109th Avenue and Randolph Street. It is recommended that field investigations occur in this area to identify the location and condition of these sewers. Field survey and video inspection is required for this project.

8.4 Investigate Location of Picasso LS Connection

While the Picasso Lift Station appears to be a single service and may not fall under the jurisdiction of the Town, its connection to the Town's infrastructure should be verified. Doing this task may be difficult. However, it is suspected it ties in somewhere in the northwest corner of Doubletree Lake Estates East. Testing the operation of the lift station and visual observations at manholes will help identify potential connections. At a minimum, should this lift station be inoperable, it should be locked out and tagged. Future owners should be notified that this station is not functional.

8.5 Preliminary Analysis of Pump Station Run Times for I/I

Although beyond the scope of this report, it is apparent that there are some inflow and infiltration (I&I) issues with the Town's collection system. Review of the monthly reports of operation (MROs) indicate spikes in flows to the WWTP during and after rain events. I&I is difficult and very expensive to track. However, some clues may be afforded by a review of the lift station pump run time data. This project provides for the initial review of pump run times at various lift stations (where available). The goal of the review would be to help isolate lift station sewer sheds where I&I may be present.

Table 8-1
Recommended Investigative Projects (Town Funded)

ITEM	DESCRIPTION	Amount
INVESTIGATIVE PROJECTS		
A1	Televise and Survey the CME Interceptor Sewer	$7,000
A2	Televise and Survey all sewers in Doubletree East	$13,000
A3	Televise and Survey all sewers in the Wiseway commercial area	$7,000
A4	Investigate Location of Picasso's Lift Station connection to the Town infrastructure	$5,000
A5	Preliminary Analysis of Pump Station Run Times with Respect to Identifying I&I Sources	$17,000
GRAND TOTAL		
		$49,000

SECTION 9 - WASTEWATER FLOWS AND PROJECTIONS

SECTION 9 - WASTEWATER FLOWS AND PROJECTIONS

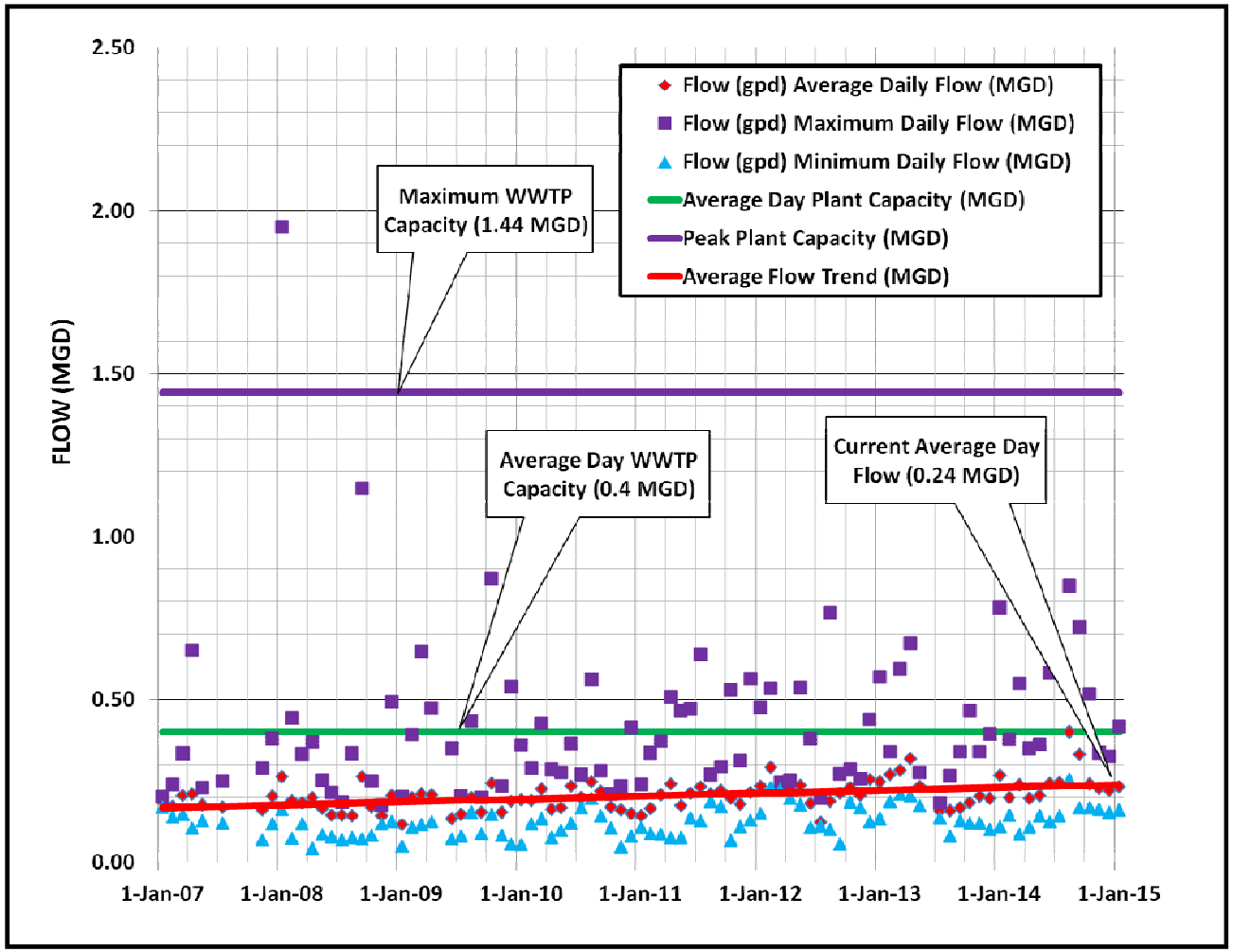


Figure 9-1
History of Flows at the WWTP (2007-2015)

9.0 Overview

A comprehensive review of the existing flows to the wastewater treatment plant, the number of existing homes and commercial properties tributary to the existing lift stations, and future growth potential was conducted to develop this section.

9.1 Existing Flows to the WWTP

Figure 9-1 provides a plot of the minimum flow, average flow, and peak flow values as reported in the monthly reports of operation (MROs) for the WWTP between the months of January 2007 and January 2015. The graph also indicates the maximum WWTP design capacity (1.44 MGD), the average day WWTP design capacity, and a trend line identifying the average day flow to the treatment plant based upon the 8 years of data. The average daily flow to the WWTP is estimated to be approximately 0.24 MGD (240,000 gpd) as of January 2015.

A detailed analysis was conducted utilizing a combination of aerial photography and building permit data from the Town to estimate the number of residential units and other units in the Town that currently generate wastewater flow. The following table summarizes the number of residential units constructed within the Town of Winfield. It also provides an estimate of the number of commercial facilities. Based upon this data and an average flow of 0.24 MGD, the average constructed residential unit contributes less than 177 gpd/unit of flow to the WWTP. This is significantly lower than the design standard of 310 gpd/unit.

Table 9-1
Number of Built Units

Subdivision	Constructed Units
Stonegate	65
Stonegate Commons	149
Wyndance	62
Deer Creek	18
Doubletree (East and West)	678
Country Meadows Estates	333
Meadows	74
Wynbrook	18
TOTAL	**1,397**

9.2 Estimated Wastewater Growth Rate

As noted in earlier sections, the average daily flow to the WWTP is 240,000 GPD. Its current capacity is 400,000 GPD average day with a peak hourly flow of 1,440,000 GPD. Based on the defined planning areas discussed earlier in this chapter, **Figure 9-2** was developed to identify the growth rate of the Town. The growth rate was determined based on meetings with Town officials familiar with land developers interested in the area and the potential for development under certain economic conditions. The rate of growth was estimated based on housing starts at 80 per year starting in the year 2016 and increase by 10-percent per year until 120 housing starts per year was reached which is estimated to be in 2021. Once housing starts reach 120 starts per year, the number of housing starts is estimated to remain at a constant 120 starts per year throughout the duration of the planning period.

The wastewater generation was estimated using two methods:

1. The Indiana Department of Environmental Management (IDEM) through 327 IAC 3-6-11 establishes average flow rates for residential service as follows:
   200 GPD/unit for 1 bedroom apartment
   300 GPD/unit for 2 bedroom apartment
   310 GPD/unit for single-family homes

   This method is very conservative. Using this method with the wastewater generation set at 310 GPD/unit for single-family homes is shown in the steeper red graph line of **Figure 9-2**.

2. The current average day flow/single-family homes, based on WWTP flow data, is calculated to be 177GPD/single –family home. This is shown in the green graph line of **Figure 9-2.**

Both graphs show a steep increase in 2017. This is from the connection of Christian Village to the WWTP system at a wastewater flow rate of 28,000 GPD. Upon complete buildout of the current identified planning areas shown in **Sections 3 through 6**, the average day WWTP flow could range up to 1,800,000 GPD.

Under the growth rate described above, the wastewater flows will be at the WWTP 0.4 MGD capacity somewhere between 2020 and 2022. Based on a one year design period and a one year construction schedule, the Utility will need to start the expansion process between late 2017 and 2020 depending on the growth rate and wastewater generation caused by that growth.

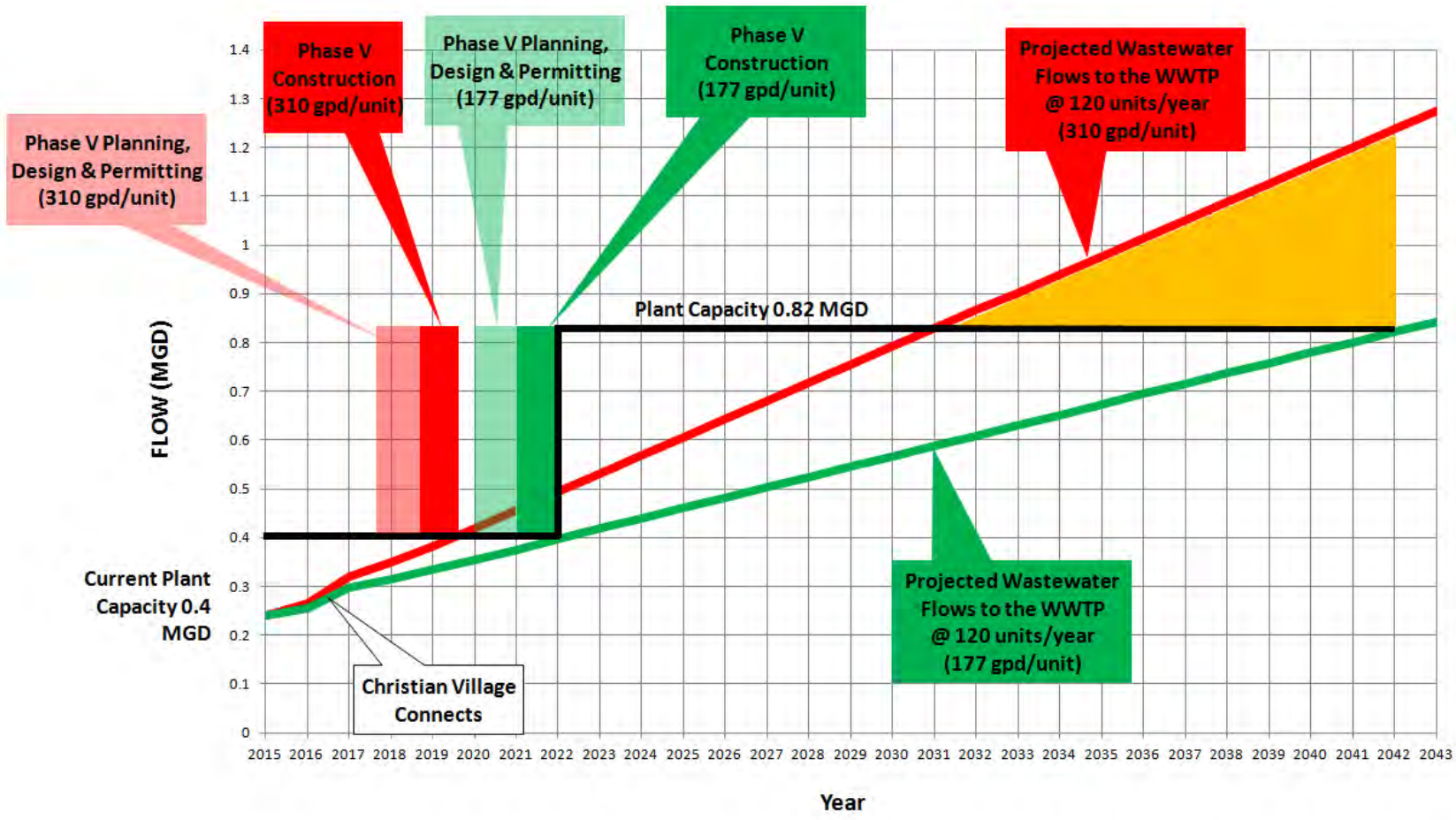


Figure 9-2
Wastewater Flow Projections and Estimated WWTP Expansions

SECTION 10 - WWTP MASTER PLAN CONCEPTS

SECTION 10 - WWTP MASTER PLAN CONCEPTS

10.0 Overview

As discussed in Section 9.2, the WWTP flows are expected to reach the WWTP's 0.4 MGD capacity somewhere between the year 2017 and 2020. This section presents a number of alternatives to expand the WWTP to meet the Town's growth demands.

10.1 Relocate WWTP

As an alternative to the expansion of the current wastewater treatment plant site (See proposed Phase 5 Expansion in Section 10.3), a function of this master plan is the review of concepts for a relocation of the wastewater treatment plant. These concepts are more specifically discussed in Sections 3, Concepts A1 and A2 along with Section 4, Concept B. Each of these concepts as presented would eliminate many of the lift stations currently serving the Town and propose to install sanitary sewer interceptors to new regional lift stations. These regional lift stations would be required in order to make the necessary gravity sewer interceptors installation viable due to the varying topography within the study area. The current wastewater treatment plant lies at the approximate elevation of 725 ft based on the Lake County GIS contour map. The elevations at the location of Concepts A1 and A2, which are both located along the Grand Boulevard corridor in the center / north center region of the Town, are approximately 700 ft. This would essentially lower the entry into the plant by approximately 25 feet. The location presented in Section 4 for Concept B is adjacent to Niles Ditch at the western extreme of the Town near 109th Avenue. Elevations in this area are lower; however, a review of the FEMA maps in the area indicate floodplain areas along the ditch, in some areas to a significant extent. Initial review indicates this elevation is approximately 675 feet. Any future treatment plant site considered would be required to be constructed at a higher elevation.

A review of the costs for the required infrastructure installation sponsored by the Town (not private development) is presented in the aforementioned sections. These costs represent the base infrastructure costs to re-route the existing flows to a new relocated treatment plant facility. The costs associated directly with the land acquisition, engineering, legal, and construction of a brand new modern treatment plant are presented in **Table 10-1**. An assumption in the numbers presented is that the new treatment plant would be constructed with an average day capacity of 0.82 MGD. This is the size of the proposed Phase V expansion of the existing plant presented in Section 10. The reasoning behind this assumption is that the Town is leading towards an expansion due to projected growth in the foreseeable future. Any relocation of a new plant should be sized based on the next growth milestone at a minimum. Should an expansion of the existing facilities (either in part or per the proposed Phase V option presented) take place prior to a treatment plant relocation, the projected size of the new wastewater treatment plant should be re-examined.

Aggregate costs for each of the wastewater treatment plant relocations and the required sewer infrastructure re-routing presented in the aforementioned sections are presented in **Table 10-1**.

Table 10-1— Aggregate Treatment Plant Relocation Costs

CONCEPT	RELOCATED PLANT COST	REGIONAL COLLECTION SYSTEM COSTS	TOTAL COST
A1 OR A2	$12,000,000	$9,180,000	$21,180,000
B	$12,000,000	$11,910,000	$23,910,000
NOTE: OPINIONS OF PROBABLE CONSTRUCTION COSTS ARE IN YEAR 2016 DOLLARS.			

BACK SIDE OF THE FIRST INSERT SHOWING THE VACTOR DUMP TRUCK CONTAINMENT AREA

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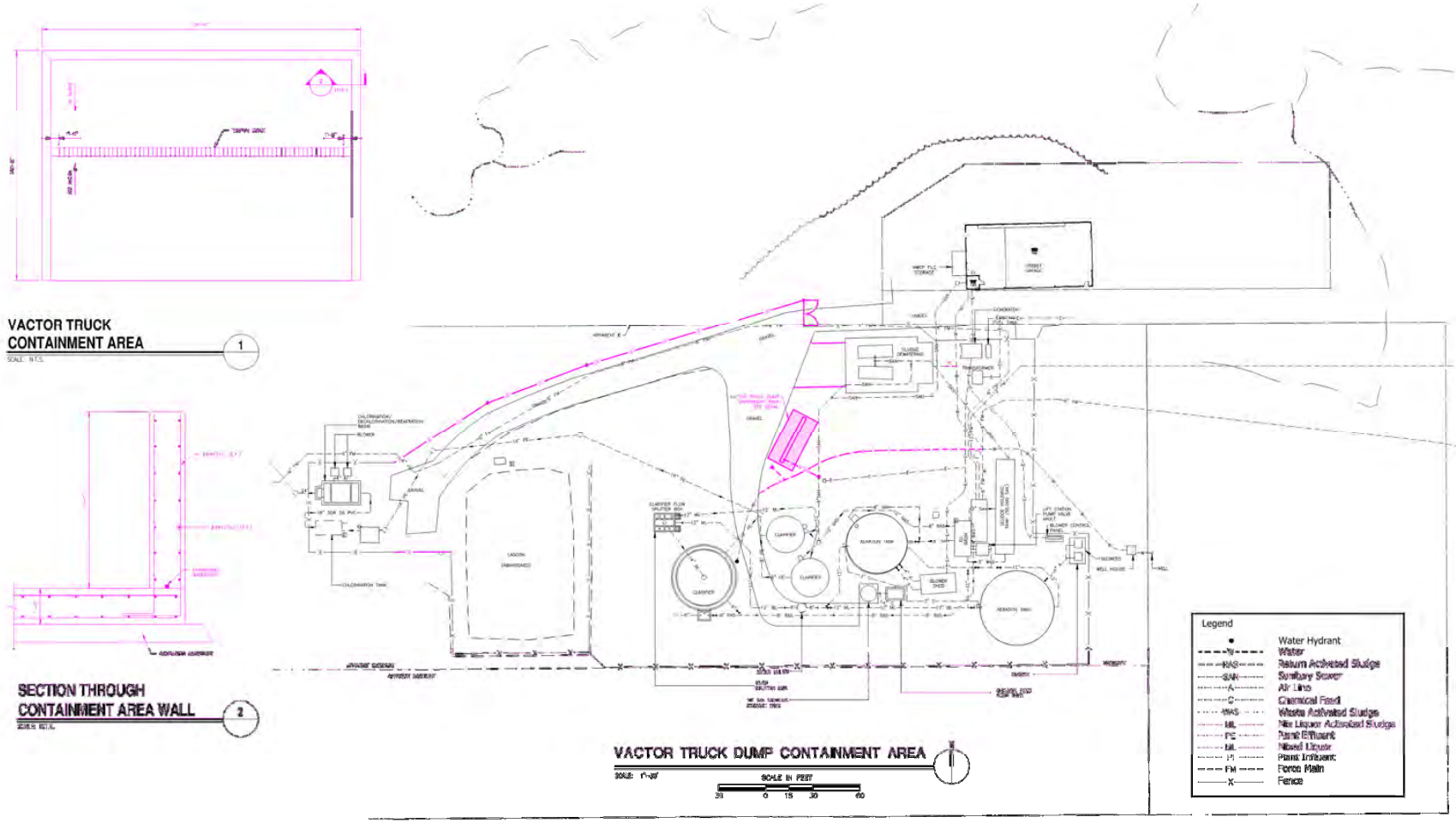

Figure 10-1
Vactor Truck Dump Containment Area

10.2 Advance Projects

The following items contained within 10.2.1 and 10.2.2 have been identified in discussions with Town staff and the treatment plant operator as items to consider independent of the more broad based plan of upgrading the current plant or relocating it. With the projected need for a relocated or expanded plant being several years away, the cost benefit (10.2.1 Vactor Truck Dump Containment Area) or need (10.2.2 Equalization Tank Replacement) to each project could be realized if the plant is relocated. These concepts are further discussed in the following sections. Additionally, if the plant is left in its current location and expanded at some future date, each of the proposed items have been master planned into the next expansion in regards to physical location or can be re-tasked in the case of 10.2.2 Equalization Tank Replacement.

10.2.1 Vactor Truck Dump Containment Area

Currently the Town contracts with companies to clean sewers, manholes and catch basins. Vactor trucks are used for this cleaning and have nowhere to dump the accumulated debris from its tank other than the landfill. Trips to the landfill cause long down times and additional operational cost for fuel.

The Utility has requested a dumping area for the vactor truck at the WWTP so that debris can accumulate to fill a dumpster or a truck. This would also allow debris to dewater and dry out to reduce weight and volume for disposal. With a local dumping station the Utility could see a savings from the cleaning companies resulting in less down time, transportation and tipping costs at the landfills.

The dump containment area that is proposed is shown on **Figure 10-1**. The dump containment area would be a reinforced concrete structure with knee walls on 3 sides and include a trench drain. The drain would connect to the plant drain in that area. Also, a non-freeze water hydrant would be located nearby to assist in cleaning the area. To accommodate the dump containment the fence and entrance gate will have to be moved as shown on **Figure 10-1**.

The dump containment could be included in the next WWTP expansion or constructed as a separate project as it will not affect the WWTP process and save the utility in the long run with landfill tipping costs and transportation cost.

The opinion of probable construction cost for the Vactor Truck Dump Containment Area is **$120,000** in Year 2016 Dollars. Costs include: mobilization/demobilization; construction engineering; materials testing; site clearing and erosion control; site restoration; earth moving; drain; concrete work; and professional design and construction services. Costs do not include unusual soils, environmental remediation, or dewatering.

10.2.2 Equalization Tank Replacement

The existing equalization tank (eq. tank) was installed during the 2003 Phase III Expansion and reconfigured during the 2007 Phase IV expansion project as discussed in Section 2.3.3. The steel tank is showing signs of corrosion and the activated waste sludge pump is difficult to maintain. Also, the tank may be undersized, as during wet weather high flows the water level in the tank exceeds normal heights and have caused water to back into the sludge dewatering facility. This backup could be caused by reduced capacity of the pumps that drain the equalization tank to the aeration tanks due to some plugging or maintenance issues. In the event that it is determined that a new tank is needed due to continued deterioration of the existing tank, it may be necessary to undertake this project in advance of a final decision on the existing plant's future.

To replace the tank it is recommended that a new cast in place reinforced concrete tank be constructed to the northwest of the existing tank as shown in **Figure 10-2**. If it was decided by the utility to relocate the WWTP to a new location as discussed in **Section 10.1** and the new equalization tank was required prior to the relocation, the tank could be constructed of steel if it was determined cost effective based on the timing of the WWTP relocation.

The equalization tank would include three chambers as follows:

Waste Activated Sludge (WAS) Chamber

As with the existing equalization tank, WAS will be wasted to the chamber through a valve on the return activated sludge line. The chamber will also act as a wet well for two WAS pumps to transfer the WAS to the aerobic digester. The WAS pumps will be mounted on rails to allow pump removal without entering the chamber unlike the existing tank.

Return Activated Sludge (RAS) Chamber

The RAS Chamber will have a valved connection with the Aeration Tank Lift Station Chamber and under the existing WWTP process will act the same as the existing equalization tank. Screened wastewater flow will enter the Aeration Tank Lift Station Chamber and will be mixed with RAS and pumped to the Aeration tank. During the next plant expansion the Aeration Tank Lift Station Chamber and RAS Chamber will be disconnected by closing the valve connection. This will be described in a later section.

Aeration Tank Lift Station Wet Well Chamber

As discussed above, the Aeration Tank Lift Station Chamber will transfer a mixture of RAS and screened flow from the chamber to the aeration tank. During the next plant expansion the Aeration Tank Lift Station Chamber and RAS Chamber will be disconnected by closing the valve connection. This will be described in a later section.

Each chamber will include a valve vault with pump isolation valves and check valves to prevent backflow. To accommodate the new equalization tank some site piping will need to be relocated. This includes the RAS line from the Clarifiers to the new equalization tank, the WAS line to the Aerobic Digester and the plant influent line to the aeration tank as shown in **Exhibit 10-2**.

As with the dump containment area, the equalization tank could be included in the next WWTP expansion or expedited and constructed as a separate project to prevent a tank failure due to corrosion. The tank layout and location will not affect and would be designed to accommodate a future expansion as discussed.

It is recommended that the Utility consider moving the three existing plant influent pumps as the one pump that when into service in 2007 is only 8 years old and the other two are 12 years old. The WAS pump should be replaced as it will not work in the new WAS Chamber because it lacks a proper lifting device

The opinion of probable construction cost for the new equalization basin is **$380,000** in Year 2016 Dollars. Costs include: mobilization/demobilization; construction engineering; materials testing; site clearing and erosion control; site restoration; excavation; concrete work; pumps and controls; piping; abandonment of the existing equalization basin; electrical work; and professional design and construction services. Costs do not include unusual soils, environmental remediation, or dewatering.

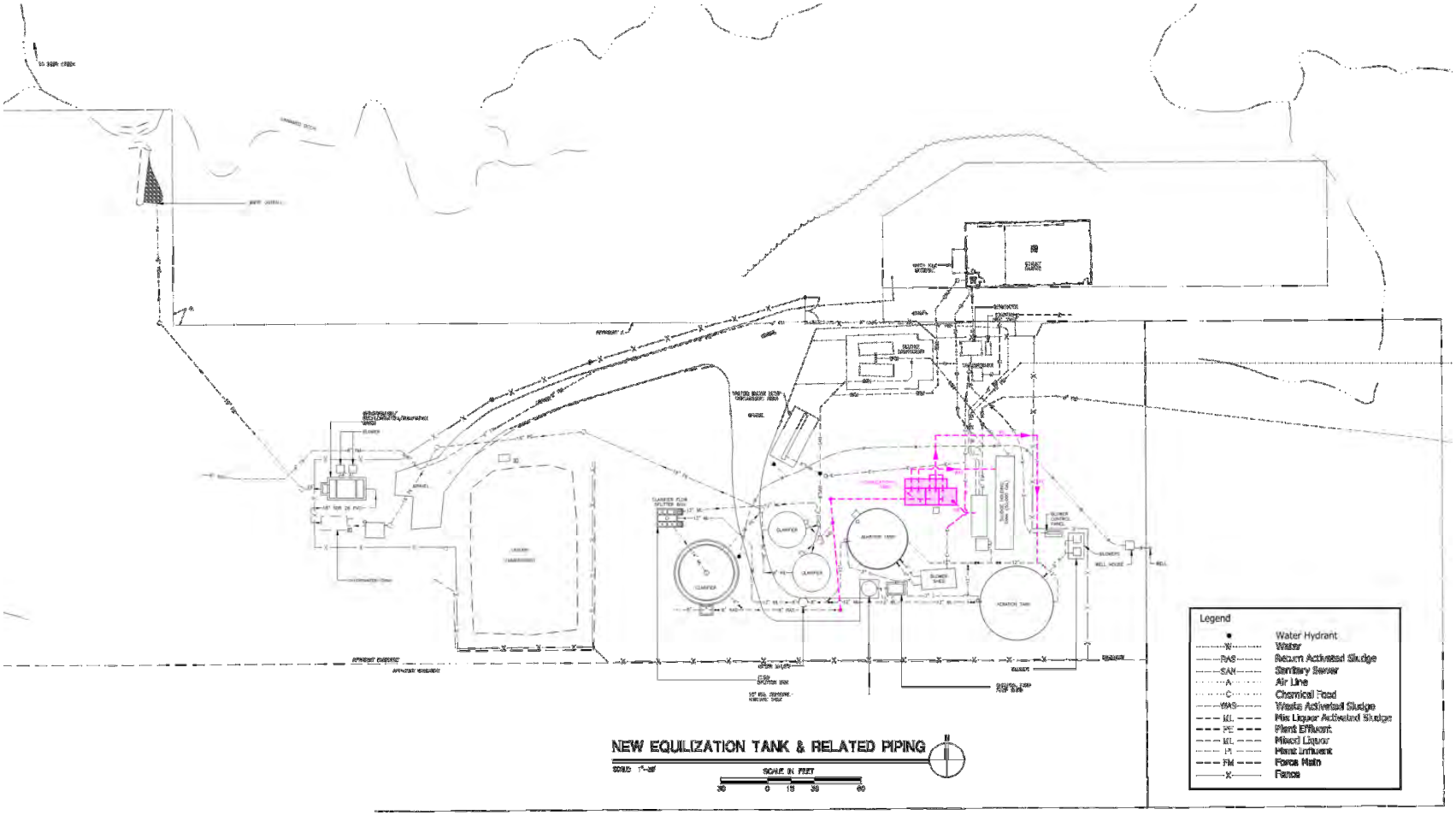

Figure 10-2
New Equalization Tank and Related Piping

BACK SIDE OF THE SECOND INSERT SHOWING THE EQUALIZATION TANK REPLACEMENT

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BACK SIDE OF THE THIRD INSERT SHOWING THE PHASE V PLANT EXPANSION

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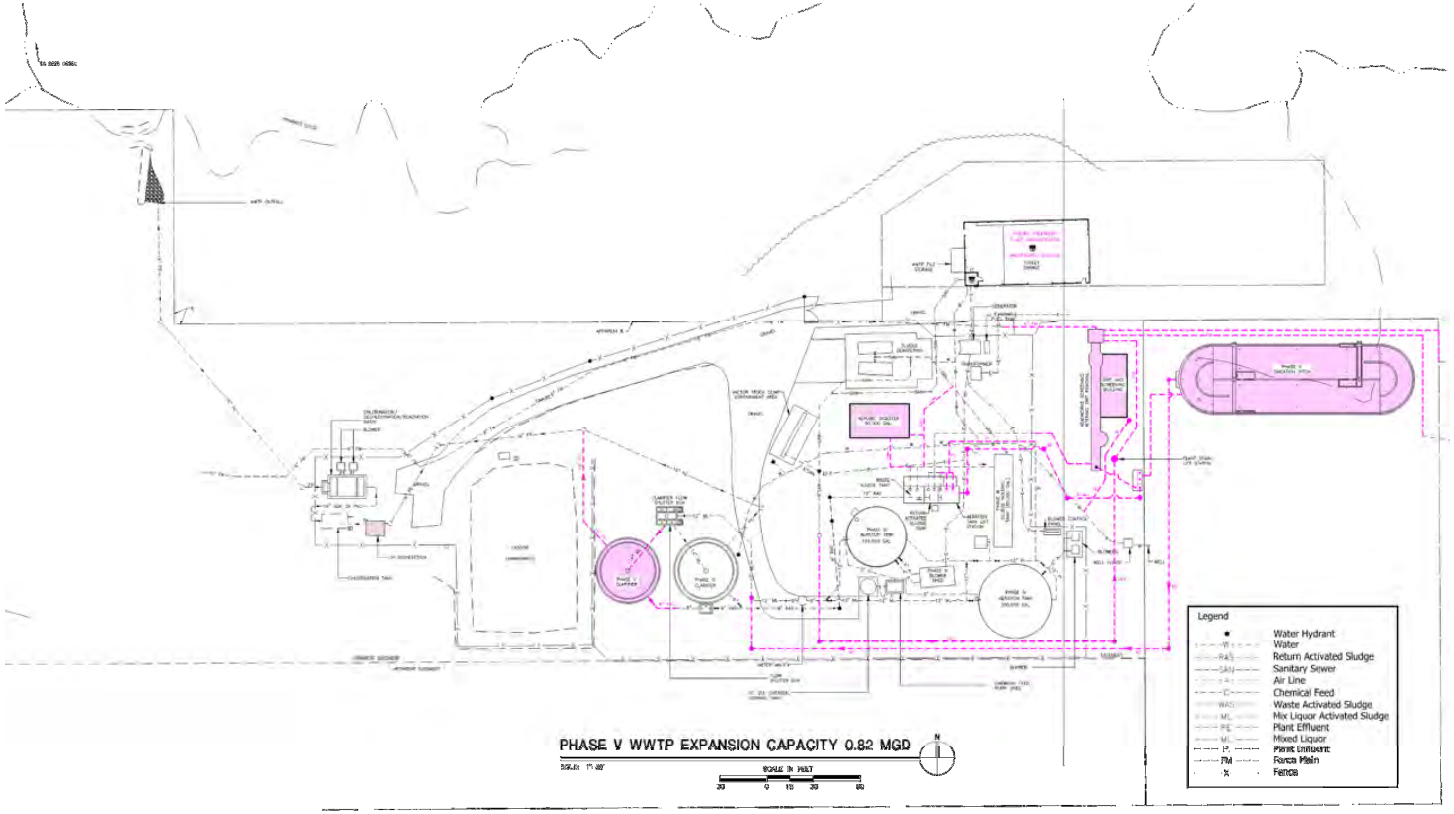

Figure 10-3
Phase V WWTP Expansion Schematic

10.3 Phase V WWTP Expansion

As discussed in Section 9.2, a plant expansion or plant relocation will be required to be operational, based on growth, in the next 4 to 7 years. It is recommended that the WWTP Phase V Expansion include a treatment capacity increase to 0.82 MGD average daily flow with a peak hourly flow of 2.5 MGD. This would allow the utility to avoid another plant expansion for 11 to 20 years depending on the growth of the Town and wastewater generation rate. This will also allow the Utility to plan for future expansions to lessen the costs of those expansions. Generally, utilities complete 20 year expansions to allow the pay off of 20 year bonds to avoid a second bond sale. Also, the equipment has a 20 year life and replacement can be incorporated into a 20 year bond sale.

To expand the WWTP to 0.82 MGD it is recommended that the following unit processes be expanded on the locations identified in **Figure 10-3** which shows the vactor dump containment area and new equalization tank already in place.

10.3.1 Headworks

The proposed Headworks include screening, influent flow meter, grit removal and an aeration tank flow split box. The headworks will be designed to eliminate the aeration tank lift station in future expansions and allow gravity flow through the WWTP to the outfall.

Collection Channel

The Deer Creek, Meadows, and Stonegate Commons Lift Stations forcemains will be redirected to pump into the headworks. The pump impellers of each pump may need to be adjusted to pump up to the final height of the headworks to allow gravity flow and should be checked during design.

Screening

For screening, it is recommended that the Utility consider relocating the existing screen to the new headworks. The screen has a capacity of 3 MGD with an operational life of 20 years and went into service in 2007. Depending on the timing of the expansion, the Utility could utilize a number of years with that unit. The screen and dumpster should be enclosed in a building to reduce odors and prevent freezing during the winter months.

Grit Removal

It is recommended that a circular vortex style system be used for the grit removal system. The grit pumps, concentrator and dumpster will be in the same room as the screenings dumpster to reduce odors and prevent freezing during the winter months.

Influent Flow Meter

The influent flow meter will be a parshall flume and installed in the headworks channel. The meter should be designed to allow expansion in the future.

Aeration Tank Flow Split Box

A flow split box will be constructed at the south end of the headworks channel. The flow split box will be similar to the secondary clarifier flow spilt box and proportionally split the flow between up to 4 aeration tanks. This expansion will require the flow spilt between the two aeration tanks.

10.3.2 Aeration Tanks

The WWTP expansion will require an additional aeration tank to meet the 0.82 MGD capacity. This can be accomplished by utilizing the two existing tanks and adding a new third tank as described below.

Existing Aeration Tanks

As discussed in Sections 2.3.4 and 2.3.5, the WWTP currently has two lined bolted steel tanks in use as aeration tanks to obtain the 0.4 MGD capacity. One tank was put on line in 2003 and the other in 2007. Both tanks should provide many years of service to the Utility. As shown in **Figure 10-3,** the two existing tanks will be fed from

the new equalization tank aeration tank lift station. Flow to the existing tanks will be feed to the equalization tank from the headwork flow spilt box by gravity. No additional work to the tanks should be required for the WWTP expansion.

Oxidation Ditch Style Aeration Tank

To expand the aeration process to 0.82 MGD an additional aeration tank will need to be constructed. It is recommended that a reinforced concrete tank be added to meet the aeration needs of the WWTP. The aeration process could be a similar to the existing two tanks with blowers and a grid of aeration diffuser along the bottom of the tank. Another option is an oxidation ditch. The oxidation ditch tank would be constructed of concrete 12 ft – 15ft deep with a partial center wall and a circular end at each end of the tank. The tank is referred to as a ditch because two variable speed driven rotors will be mounted at the water surface on opposite ends of the tank to provide aeration and mixing. Water is moved around the tank from one rotor to the other. An adjustable outlet weir will be provided to allow the operator to vary the level in the tank. A dissolved oxygen (DO) meter will be installed in the tank to monitor DO and vary the speed of the rotors to save energy cost.

An evaluation of the benefits between the conventional aeration tank and the oxidation ditch should be made during the preliminary design stage of the expansion design phase.

If it is determined that the Utility wants to move the WWTP to a new location at a later date (after the need for the expansion) the additional aeration tank could be constructed as a bolted steel like the other two at a possible savings over a concrete tank.

10.3.3 Phosphorous Chemical Feed

An additional chemical feed pump and chemical line will be added to the oxidation ditch for phosphorus removal. To prevent a spill at the chemical feed tank, containment under the existing tank drain valve or protection of the valve and drain line from breakage should be added.

10.3.4 Secondary Clarifier

As part of this expansion it is recommended that a new concrete clarifier be installed west of the existing larger clarifier of the same type and size. The new clarifier will be connected to the flow split box as shown in **Figure 10-3**. The two smaller steel clarifiers should be abandoned and removed. However, they still have some years of useful life left and could be put on standby status to be used only if one of the two larger clarifiers is down for maintenance. As discussed in Section 2.3.7 these clarifiers are inefficient and require high maintenance.

A final decision on the future of the smaller clarifiers with the expansion should be made with input from the Owner, Operator and Engineer.

10.3.5 Equalization Tank Reconfiguration

The equalization tank discussed in Section 10.2.2 will need to be reconfigured during this expansion. The valve between the Aeration Tank Lift Station Wet Well Chamber and the RAS chamber will be closed and RAS pumps will be added to the RAS chamber. A RAS line will be installed between the RAS pumps and the headworks flow split box to mix the RAS and influent flow prior to the aeration flow split. A line will also be installed between the Aeration Flow Split Box and the Aeration Tank Lift Station Wet Well Chamber to feed the existing aeration tanks.

10.3.6 Aerobic Digester

This expansion will require an additional 90,000 gallons of aerobic digester capacity. The location of the digester is proposed just south of the sludge drying facility as shown on **Figure 10-3**. The existing digester will remain in service and both digesters will be interconnected. A sludge pump will be required to transfer sludge to the sludge drying facility. The digester will require an air blower and air diffusers mounted on the floor of the digester.

10.3.7 Disinfection

The WWTP currently uses liquid chlorine for disinfection. If this process is to remain, an additional 26,100 gallons will be added to the chlorine contact tank to meet the 15 minute detention time at the peak hourly flow rate of 2.5 MGD. An additional chemical storage tank should also be considered.

As an alternative, Ultra Violet light (UV) disinfection could be added to replace the chlorination and de-chlorination system. The UV system would be mounted in the existing 2003 chlorine contact tank.

10.3.8 Administration Building

Currently, the WWTP only has a small records room attached to the highway garage. There is no heated maintenance, storage area or laboratory. If the street department moves to a different location, the current maintenance garage should be renovated to meet the needs of the WWTP. This renovation could only be accomplished if the street department is relocated.

Table 10-2—WWTP Expansion (Phase V) - Existing Site

ITEM	DESCRIPTION	Amount
1	MOBILIZATION/DEMOBILIZATION	$139,000
2	CONSTRUCTION ENGINEERING	$28,000
3	MATERIAL TESTING	$14,000
4	SITE CLEARING AND EROSION CONTROL	$56,000
5	SITE RESTORATION	$83,000
6	OXIDATION DITCH	$1,034,000
7	CLARIFIER	$519,000
8	AEROBIC DIGESTER	$409,000
9	HEAD WORKS	$481,000
10	UV DISINFECTION	$342,000
11	PLANT DRAIN	$77,000
12	SITE PIPING	$138,000
	SUBTOTAL	$3,320,000
	SUBTOTAL WITH 25% CONTINGENCY	$4,150,000
	PROFESSIONAL DESIGN & CONSTRUCTION SERVICES (20%)	$830,000
	SUBTOTAL	**$4,980,000**

Note: Costs are not inclusive of unusual soils, environmental remediation/mitigation, or dewatering. Costs are in Year 2016 Dollars.

10.4 Ultimate Wastewater Flow Scenario

As discussed in Section 9.2, a plant expansion or plant relocation will be required to be opperational, based on growth, in the next 4 to 7 years. Additional projections in regard to the overall study area have also been made. The projected treatment needs of the study area are projected to be an average daily flow of 1.8 MGD. If the treatment plant is relocated, it is recommended to master plan the layout in such a way to provide expansion opportunities to a level no less than the 1.8 MGD build out needed. Additionally, the receiving waterway should be able to be permitted to receive the effluent from a plant at a minimum of that size. The current wastewater treatment plant site is capable of supporting the 1.8 MGD. This build out of the existing site is presented in **Figure 10-4.** The current site is permitted by IDEM up to an ultimate plant size of 3.0 MGD.

Should the Town annex additional area or the uses differ substantially from what has been presented within this report, the ultimate wastewater treatment needs should be re-examined. Additional land area or permitting may be required.

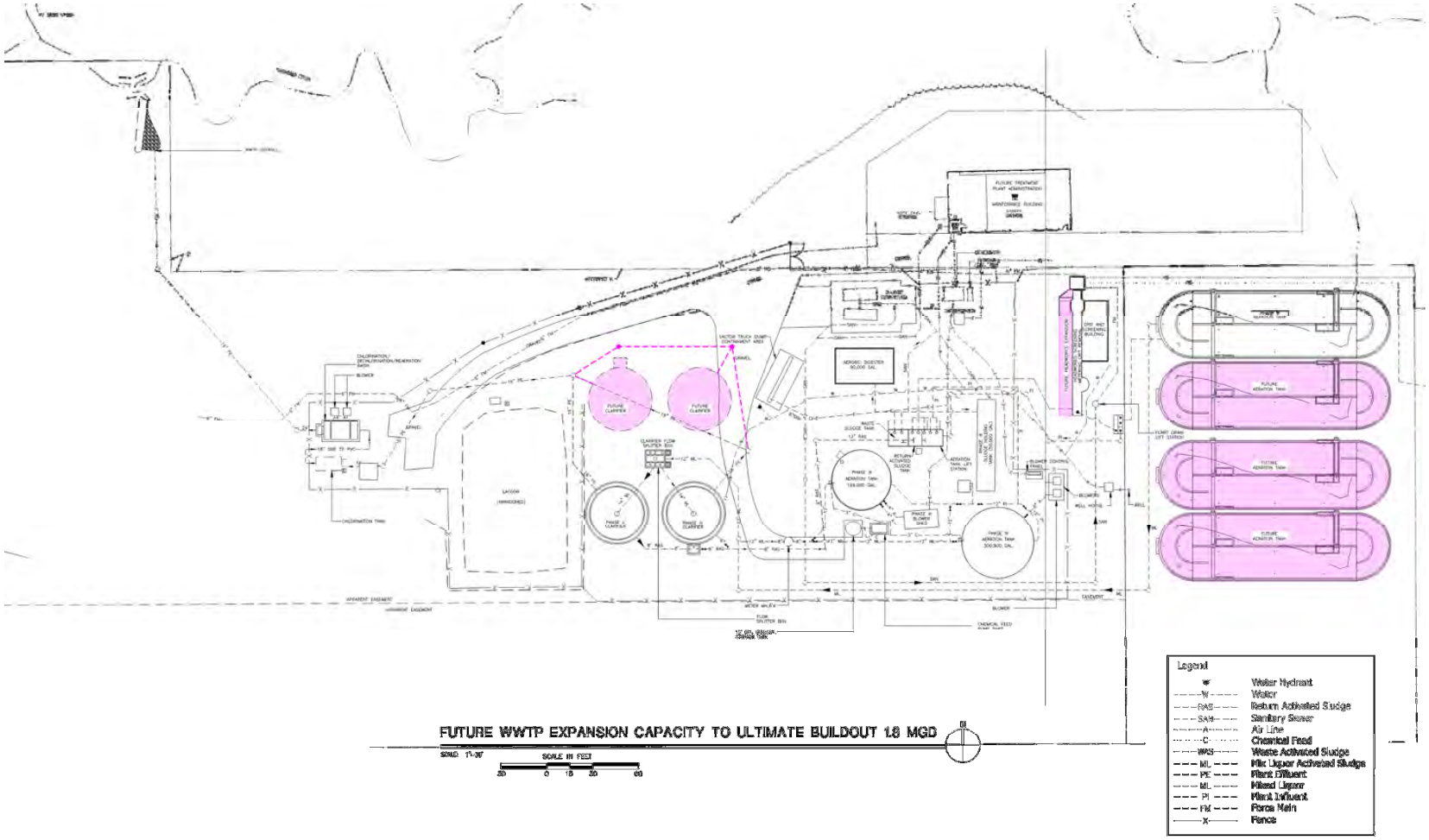

Figure 10-4
Utlimate WWTP Expansion Footprint (Existing Site)

BACK SIDE OF THE THIRD INSERT SHOWING THE ULTIMATE PLANT EXPANSION

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SECTION 11 - MAINTENANCE RECOMMENDATIONS

SECTION 11 - MAINTENANCE RECOMMENDATIONS

11.1 Overview

Maintenance of the collection system, lift stations, and wastewater treatment plant are integral components to protecting the Town's capital investments. This section discusses some recommended maintenance strategies. Tables are presented that identify common maintenance practices for certain lift station and wastewater treatment plant components. These tables are not meant to be all inclusive. The Operator and the Town should consult the operation and maintenance manuals for each component of the system. Practicing these maintenance strategies in the manuals will help ensure the life expectancy of the equipment and processes are met or exceeded.

11.2 Collection System

Over 92,000 feet of sanitary sewer exists in the Town of Winfield. Some communities video inspect and clean their sewers on an annual basis. Others place their sewer inspections on a 5-year cycle. It is recommended that the Town develop a program to video inspect and clean their sewers on a 5-year cycle since the system is not very old. Video inspection will provide a means to spot potential inflow and infiltration problems, while cleaning, will aid the video inspection process and help keep the sewers in optimal operating conditions. Typical video inspection and cleaning costs per lineal foot are estimated to be $10/foot. Annualized over a 5 year period, costs in Year 2016 dollars to clean one-fifth of the system is $184,000.00

11.3 Lift Stations

Maintenance of the lift stations is an important function of the Operator. Inspection of each lift station should occur on a weekly basis at a minimum. Some may require more frequent inspection. Many of the lift stations in the Town are packaged pump stations which house a number of ancillary components in addition to pumps that should be checked for operation on a weekly basis. **Table 11-1** provides a listing of common elements and common frequencies.

These items should be checked for proper operation on a regular basis. Valves should be exercised on a regular basis.

11.4 Wastewater Treatment Plant

Table 11-2 summarizes typical equipment and processes at the Winfield WWTP. Again, this table is not intended to be all inclusive. The operation and maintenance manuals for each piece of equipment should be consulted.

Table 11-1
Common Maintenance Items for Lift Stations

Item or Process	Operation & Maintenance Description	Frequency
Wet Well	Pump out and clean	1 or more times per year
Pumps	Pull and inspect for clogging	4 or more times per year
Check Valves	Check for proper working condition	2 or more times per year
Light and alarm system	Proper operation	Weekly
Meters	Proper operation	Weekly
Amp Readings	Identifies clogging or entry of water in the motor housing	Monthly
Electrical Motor Control Equip.	Check for poor connections, corrosion, and worn parts	Semi-annual
Emergency Generator	Manufacturer's recommendations; battery level; general condition	Manufacturer's recommendations
Sump Pumps	Check for proper operation	Weekly
Unit Heaters	Check for proper operation	Weekly
Dehumidifiers	Check for proper operation	Weekly
General condition	Seepage into packaged lift station	Weekly
Safety	Identification of hazards	Weekly
Other	Cleaning and Painting of all metal surfaces within the lift station	Several Years

Table 11-2
Summary of Common Maintenance Items for the WWTP

Item or Process	Operation & Maintenance Description	Daily	Weekly	Monthly	Yearly	Other	Source
Screen	Check screenings container and replace or empty as required	X					O&M Manual, Page 1-33
Screen	Flushing of the wash water valve		X				O&M Manual, Page 1-33
Screen	Hose down deposits on the screen basket		X				O&M Manual, Page 1-33
Screen	Hose down the unit with high pressure cleaning device			X			O&M Manual, Page 1-33
Screen	Check the condition of the brush			X			O&M Manual, Page 1-33
Screen	Remove material wrapped around the screw shaft at the discharge end			X			O&M Manual, Page 1-33
Screen	Gear motor lubricant replacement					2 yrs or 20,000 hrs	O&M Manual, Page 1-33
Screen	Frost protection system check					As needed	
Tank Aeration System	Moisture purging		X				O&M Manual, Page II-23
Tank Aeration System	Air bumping		X				O&M Manual, Page II-23
Tank Aeration System	Drain Tank, Remove Excess Solids, Clean Diffusers, Inspect Hardware				X		O&M Manual, Page II-24
Dissolved Oxygen Sensor	Clean					2-3 months	O&M Manual, Page 33
Dissolved Oxygen Sensor	Calibrate					6 months	O&M Manual, Page 33
Chemical Meter Pumps	Replace diaphragm and o-ring seals					Minimum one time per year	O&M Manual, Page SD6
Chemical Meter Pumps	Replace speed reducer oil					See O&M Manual	O&M Manual, Page SD6
Main Clarifier	Bottom Scraper Arms					Every 6 Months	O&M Manual, Ch 4, Page 1
Main Clarifier	Surface Skimmer		X				O&M Manual, Ch 4, Page 1
Main Clarifier	Worm Gear Section Main Drive		X				O&M Manual, Ch 4, Page 2

Table 11-2 (Continued)
Summary of Common Maintenance Items for the WWTP

Item or Process	Operation & Maintenance Description	Daily	Weekly	Monthly	Yearly	Other	Source
Main Clarifier	Final Turntable Section Main Drive		X				O&M Manual, Ch 4, Page 2
Main Clarifier	Weir and Scum Baffle				Minimum		O&M Manual, Vol 1, Page 3
Valves	Exercise		X				

11.5 Miscellaneous Items

The following items are recommended as a result of this master plan:

1. Locks with a common key should be placed on all lift station fencing, wet well hatches, valve pit hatches, and fiberglass enclosures. It is our understanding that most of the lift stations are set up in this manner; however, during site inspections it was noted that several do not. These include Picasso's Lift Station, DBL East Phase 8 (Pebbles), and Wyndance.
2. An expanded inventory beyond what is included in this report of the main components in each of the lift stations. This should include last rebuild and startup date.
3. Maintenance records of last wet well cleaning for each lift station.
4. Maintenance records of last pump inspection / cleaning for each lift station.

SECTION 12 - PUBLIC PARTICIPATION

SECTION 12 - PUBLIC PARTICIPATION

12.1 Overview

Two workshops were held with Town officials from the Sewer Board, Town Council, Town Stormwater Management Board, Town Plan Commission, Town BZA, and Township Trustee (sign in sheets are included as **Figures 12-1 and 12-2**). The purpose of the meetings was to provide an overview of the status of the master plan development and obtain input from members regarding future growth within the Town, current wastewater system needs, and future wastewater needs.

12.2 April 2, 2015 Workshop Summary

The following were areas of growth potential as discussed at the workshop:

1. 109th and 117th Avenue Corridors
2. 98 acres for future school off of Gibson just south of 121st
3. Crown Point Christian Village connection

All in attendance agreed that Arizona Street appears to be the western limits of the service area and that the areas along Colorado Street are unlikely to develop into areas requiring Town of Winfield sanitary service. Expansion of the Town limits cannot occur to the north, east or west due to the corporate limits of Merrillville, Porter County, and Crown Point, respectively. Expansion of the Town to the south is unlikely to occur within this generation.

The following issues were identified as problems or concerns within the collection system:

1. Access issues to the Deer Creek lift station
2. Randolph Lift Station and the CME Interceptor Sewer is a bottleneck
3. Snead lift station is located too close to the roadway
4. Boardwalk lift station is dangerous and not reliable
5. The WWTP at the Crown Point Christian Village is failing
6. Backwards sewer exists in DBL East
7. Bollards should be placed around the DBL East Phase 12 Lift Station

There are no known problems with septic systems with the exception of Prairie Crossing.

Issues identified at the wastewater treatment plant include:

1. The equalization basin at the WWTP is deteriorating
2. An additional clarifier at the WWTP would be desirable
3. Plan for a street department building

12.3 June 23, 2015 Workshop Summary

A second workshop was held on June 23, 2015 to present the draft report to the Town for discussion. Areas within the draft report were left incomplete until feedback from the Town was received by DLZ relating to the overall concepts presented. In addition to the meeting, review memorandum was delivered to DLZ by the Town Attorney regarding the draft report. The following summarizes the meeting and memorandum:

1. Additional detail to be provided by DLZ in regards to the abandonment of the current treatment plant and relocating it to lower ground
2. Review plant expansion timelines based on the calculated sewer flows based on plant usage as opposed to IDEM standard rates.
3. DLZ to review the removal of lift stations wherever feasible.
4. Review specifically what options are available to rectify the Boardwalk lift station issues.
5. Review the Deercreek, Wyndance and Meadows relationship and what can be done to minimize the lift stations in that quadrant of Town.
6. Look for an alternative in Doubletree East to the force mains from DBLE #2 currently pumping under the lake.
7. Service life of the wastewater treatment plant equipment.
8. Discussion of replacement equalization basin
9. Discussion of vactor truck dumping pad
10. Discussion of a backflow preventer for the sludge drying facility sewer line

Town of Winfield
Wastewater Collections and Treatment Master Plan
Workshop #1 - April 2, 2015
Sign-in Sheet

Name	Organization	Email Address	Phone Number
Rick Anderson	Town of Winfield	anderson@winfieldgov.com	219-662-7665
Nick Bellar	Town of Winfield	bellarn@winfieldgov.com	219-662-2665
Paulette Skinner	Winfield Trustee	rennik@sbcglobal.net	219-663-7027
David Anderson	Town of Winfield	andersond@winfield.com	219-613-7240
Tim Clayton	Town of Winfield	claymt@winfieldgov.com	219-7985340
Joe Gracsy	Town of Winfield	jpg7456@sbcglobal.net	219-898-5199
Anthony Clark	Winfield Sewer Board	AClark1@aol.com	219 689 8927
Don Sternberg	Twn Winfield	dcsamberg@yahoo	219-712-1657
Bruce Rivera	Town of Winfield	brivera@netscape.net	219-775-1040

Town of Winfield
Wastewater Collections and Treatment Master Plan
Workshop #2 – June 23, 2015
Sign-in Sheet

Name	Organization	Email Address	Phone Number
MARK WACNIK	SEWER BOARD	MARKWACNIK@SBCGLOBAL.NET	219-545-4323
Anthony Clark	Sewer Board	AClark1@aol.com	219 689 8927
Gerry Stiener	TOWN COUNCIL / Sewer Bd		
Rick Anderson	Town of Winfield	anderson@winfieldgov.com	219-662-7665
Don Sandberg	" "	dcsamberg@yahoo	219-712-1657
Dave Anderson	Town of Winfield	anderson@winfieldgov.com	219-662-7665
BILL BIZANES	PLAN COMMISION	MBizanes@aol.com	219 712 8349
Tim Clayton	Town of Winfield	claymt@winfieldgov.com	219 7985390
Jim Simmons	Town of Winfield	Simmonsj@winfieldgov.com	226-1661

Town of Winfield
Wastewater Collections and Treatment Master Plan
Workshop #1 - April 2, 2015
Sign-in Sheet

Name	Organization	Email Address	Phone Number
Jon Derwinski	Town of Winfield, P.C./B.Z.A.	JDERWINSKI@NISOURCE.com	219-810-2222
Gerry Stiener	TOWN COUNCIL	CALL NICK	CALL NICK
MARK WACNIK	SEWER BOARD	MARKWACNIK@SBCGLOBAL.NET	219-545-4323

Town of Winfield
Wastewater Collections and Treatment Master Plan
Workshop #2 – June 23, 2015
Sign-in Sheet

Name	Organization	Email Address	Phone Number
Joe Gracsy	Plan Commission	jpg7456@sbcglobal.net	219-898-5199
Paulette Skinner	Winfield Trustee	RENNIK@SBCGLOBAL.NET	219-663-7027
Nick Bellar	Town of Winfield	bellarn@winfieldgov.com	
DAVID AUSTGEN	Austgen Kiger Jasaitis	akpc@austgenlaw.com	(219)663-5500
REX SHERRARD		rsherrard@austgenlaw.com	

Figure 12-1
Sign In Sheet for April 2, 2015 Workshop

Figure 12-2
Sign In Sheet for June 23, 2015 Workshop

SECTION 13 - FUNDING

SECTION 13 - FUNDING

13.0 Overview

The Town may pursue a variety of grants, loans, or alternative construction contract methods to help fund improvements outlined in this report. Some of these opportunities may include:

1. Indiana Office of Energy Development Grants
2. Indiana's Wastewater State Revolving Fund Loan
3. Guaranteed Maximum Savings Contracts
4. U.S Department of Agriculture Rural Development Loan
5. Developer Participation

Each of these options will have specific requirements, funding matches, and other requirements which will require further investigation.

13.1 Indiana Office of Energy Development Grants

The Office of Energy Development (OED) is offering a total of $500,000 to help government-owned wastewater treatment plants (WTP) to reduce their energy demand and lower their energy costs. WTP grants provide funding of up to $100,000 per grantee for the installation of efficient equipment and processes, anaerobic digesters, or waste-heat recovery. There is no minimum grant request. Current applications are due October 23, 2015; however, there may be opportunities for future funding along these lines. More information regarding this program can be found at www.in.gov/oed.

13.2 Wastewater State Revolving Fund Loan

Indiana's Wastewater State Revolving Fund (WWSRF) Loan program provides low interest-rate financing to construct water quality protection projects. As loans are repaid, money is available to be used again for new financings, thus making the program a "revolving fund." Eligible projects include:

1. Treatment plant improvements and upgrades;
2. Sewer line extensions to existing unsewered properties;
3. Combined sewer overflow corrections; and
4. Infiltration/inflow projects

More information regarding this program can be found at www.in.gov/ifa/srf.

13.3 Guaranteed Maximum Savings Contracts

The guaranteed maximum savings contract provides a means by which a contractor (qualified provider) can be selected to provide construction related services to install wastewater projects that constitutes the installation of "conservation measures" as defined in I.C. 36-1-12.5-1 under a "guaranteed savings contract". The projects that apply involve projects that result in energy savings and operational savings. Many of the projects represented in this report may apply. These types of projects typically result in a guaranteed price to be provided by the selected contractor at the 60-percent design stage. The benefits of this type of contract are that the Owner obtains firm budget numbers during the process; savings during construction are passed directly on to the Owner; minimal if any change orders result; and the designer and Contractor work together during the design to provide value engineering and constructability reviews.

13.4 U.S. Department of Agriculture Rural Development Loan

This loan program provides funding for clean and reliable sewage disposal systems in eligible rural areas. Winfield is part of this rural area; however, more coordination is required to determine if it is eligible for this funding. More information can be found at www.rd.usda.gov/programs-services/water-waste-disposal-loan-grant-program.

13.5 Developer Participation

The opportunity for improvements may exist through developer participation. As areas are developed, developers typically fund utility extensions to parcels where utilities do not exist. Recapture agreements can occur which allows the developer to recapture portions of their initial capital outlay as customers are connected to the utility.

SECTION 14 - RECOMMENDED IMPLEMENTATION

SECTION 14 - RECOMMENDED IMPLEMENTATION

14.0 Overview

Based on a review of the Draft report by the Sanitary Sewer Board of the Town of Winfield in addition to the discussions at multiple workshops between DLZ and the the Board, the following implementation recommendations are presented below. These items are not recommended to run in series but instead concurrently. It would be recommended that a portion of the budget be allocated yearly to advance projects in all categories as funds and manpower resources allow. It should be noted that these projects may also be comprised of varying levels of public and private monetary participation. Additionally, the items presented below are anticipated to be dynamic and be implemented in varying order based on need.

14.1 Collection System - Investigative

The Town has several areas within the collection system where further research and evaluation is needed. This investigation was recommended in order to best plan for future capital improvement projects and maintenance projects.

1. Doubletree Planning Area - Doubletree East Sewer Investigation:
   Since the previous draft of this report there has been another instance of a sewer issue within Doubletree East. As previously discussed, much of this development was installed without Town oversight as it was considered private. Now that this system has been added to the Town inventory a complete as-built along with video investigation of this subdivision is recommended for a proper assessment of the needs of the system.

2. Central Planning Area -Televise and Survey the Country Meadows Interceptor:
   Based on continued interest in the development of the Town the need to determine the remaining capacity of this interceptor sewer will be required. Currently there is enough capacity to handle the projected buildout of the approved PUD for Doubletree East. Beyond that, per previous studies, limited additional service area expansion is possible without corrective measures being taken on this interceptor line or a potential reroute undertaken. This would affect any future development in the entire Doubletree Planning area.

14.2 Collection System - Capital Improvement

The Town has several areas within the collection system where capital improvement is needed for either maintenance issues or lift station inventory reduction efforts.

1. Doubletree Planning Area - Retirement of Bridgewater lift station:
   Currently the Bridgewater lift station is serving one home. The station appears to be sized to handle 17 more residences only 6 of which are platted. DLZ recommends that the current residence be disconnected from the lift station and a grinder type ejection system be used at the residence with all future residential connections handled in a similar manner. Bridgewater can then be salvaged for any usable components for possible re-purposing in a retrofit of the Boardwalk lift station. Boardwalk station is currently in need of repair / replacement so this could be a possible interim solution to address safety and performance issues.

2. Doubletree Planning Area - Telemetry System:
   Installation of a telemetry system for the Doubletree East Phase 8 (Pebbles) lift station.

3. Doubletree Planning Area - Doubletree West #1 lift station (Snead):
   Relocation of the control panel for the Doubletree West lift station #1 (Snead) to a position not adjacent to the road.

4. 117th Avenue Planning Area - Creation:
   Establishment of the 117th Avenue Planning area district lift station as presented in Section 6 Concept D. This will place a centralized lift station south of 117th Avenue and run a force main directly to the WWTP.

5. Doubletree Planning Area - Consolidation:
   The implementation of the plan for the abandonment of Picasso, Doubletree East Phase 8 (Pebbles), Doubletree lift station #2, Doubletree West lift station #1 (Snead) and Doubletree lift station #1 (Randolph) per Section 6 Concept D. This will place a new lift station near 101st Ave and Randolph Street and a new force main to the WWTP. Based on timing this may eliminate the desire to execute 14.2.3 above.

14.3 Collection System - Maintenance

1. Scheduled Cleaning / Inspection - General:
   Now that the Town has recently acquired a Vactor truck a cleaning and inspection program should be put in place. DLZ would recommend a cleaning of the wet wells of the lift stations on a yearly basis at a minimum. Additionally, DLZ recommends that the sewer manholes be cleaned and inspected on a bi-annual schedule at a minimum.

14.4 WWTP - Maintenance

1. WWTP—Flow Split Structure:
   Cleaning and Repair of the Flow Spilt Structure slide gates. DLZ understands that these gates are currently frozen in place. Proper repairs should be undertaken and the gates exercised on a monthly basis.

14.5 WWTP - Capital Improvement (non capacity related)

1. Heating system for the sludge drying building.
2. Electrical service points throughout the WWTP.
3. Extension of air line from the existing compressors to run the air lift pumps on the two small phase 3 clarifiers.
4. Construction of a new Equalization Basin per Section 10.2.2. This tank should be constructed of concrete based on the recommendation to leave the WWTP in its present geographical location. This new basin should be designed for the future expansion of the WWTP in terms of purpose, location and size.
5. With the recent acquisition of a Vactor truck construction of a Vactor truck dump containment area should be constructed to offset hauling costs of removed material. This area should be constructed per Section 10.2.1.

14.6 WWTP - Capital Improvement (capacity related)

1. The monitoring of the flows to the WWTP should be continued with attention given to the timeframes necessary for the design and construction of a WWTP Phase 5 upgrade. This expansion should be done as outlined in Section 10.3. However, this expansion may need to be adjusted based on the size of any new user added to the system outside of those considered and outlined in this report.

14.7 Projects Based on Future Opportunity

Within this Master Plan additional areas of the Town have capital improvement opportunities. These opportunities are related to the reduction and consolidation of the reliance on lift stations for the conveyance of flows to the WWTP. Along with this goal, additional emphasis is on the elimination / reduction of re-pumping waste water flows to the WWTP. This will result in an energy savings and improved overall reliance within the system. Future projects with these goals are presented below. It would be recommended to implement these concepts as outlined below when the opportunity arises. These opportunities may occur due to future development within the Town or as maintenance / replacement projects as each of these lift stations to be removed reach their service life.

1. Central Planning Area - Consolidation and Elimination:
   The elimination of Wyndance, Deer Creek and Meadows lift stations. This project would be accomplished by placing a new regional lift station along 109th Ave in the vicinity of Grand Boulevard. A new series of gravity lines would be installed to convey flow from Wyndance, Deer Creek and Meadows lift stations wet wells. This new lift station would extend and make use of the existing Meadows force main to the WWTP. This project would happen per Section 5 Concept C.

2. Grand Boulevard Planning Area - Boardwalk lift station:
   A new regional lift station is anticipated to be required to serve this planning area. When this station is added a new gravity service line from existing Boardwalk lift station can be added thereby eliminating the necessity for the Boardwalk lift station. This project would be implemented per Section 5 Concept C. It is understood that the Town's desire is to eliminate Boardwalk station, however, if this service area is not developed in the near future it would be recommended Boardwalk station be replaced in its current location.

3. Arizona Street Planning Area - Regional lift station:
   To serve the Arizona Street planning area it is anticipated that a new

SECTION 14 - RECOMMENDED IMPLEMENTATION

regional lift station will be required to serve this north western quadrant of Town. This new station will pump into the new gravity line extended from the former Wyndance lift station. Should this new replacement gravity line not yet be available the new Arizona Planning Area lift station will be able to tie into the Wyndance lift station within the allowable excess capacity available on an interim basis.

4. Southeast Planning Area—New Regional lift station:
At the time the Southeast quadrant of Town develops a new regional lift station will be required. This new lift station will generally be north of 129th Avenue near the intersection of 129th Avenue and Montgomery Street. A new gravity sewer from Stonegate Subdivision's lift station

14.8 Opinion of Cost Summary

The Opinion of Cost Summary tables for each of the items presented in Sections 14.1-14.7 are shown on the following tables. These costs are in 2016 dollars and are not inclusive of unusual soils, environmental remediation/mitigation, or dewatering.

Table 14-1
Collection System - Investigative (14.1.1 to 14.1.2)

ITEM	DESCRIPTION	Amount
14.1.1	DOUBLETREE EAST PLANNING AREA - TELEVISE AND SURVEY ALL SEWERS IN DOUBLETREE EAST	$13,000
14.1.2	CENTRAL PLANNING AREA - TELEVISE AND SURVEY THE CME INTERCEPTOR SEWER	$7,000

Table 14-2
Collection System - Capital Improvement (14.2.1 to 14.2.3)

ITEM	DESCRIPTION	Amount
14.2.1	DOUBLETREE PLANNING AREA - RETIREMENT OF BRIDGEWATER LIFT STATION	$60,000
14.2.2	DOUBLETREE PLANNING AREA - TELEMETRY SYSTEM DOUBLETREE EAST PHASE 8 LIFT STATION (PEBBLES)	$15,000
14.2.3	DOUBLETREE PLANNING AREA—DOUBLETREE WEST #1 LIFT STATION (SNEAD) CONTROL PANEL RELOCATION	$20,000

Table 14-3
Collection System - Capital Improvement (14.2.4)
117th Planning Area - Creation

DESCRIPTION	Amount
FUTURE LIFT STATION #3	$640,000
FORCE MAIN FROM LIFT STATION #3 TO WWTP	$510,000
TOTAL	
	$1,150,000

Table 14-4
Doubletree Planning Area - Consolidation (14.2.5)

DESCRIPTION	Amount
DOUBLETREE AND GRAND BOULEVARD PLANNING AREA	
FUTURE LIFT STATION #1	$670,000
ABANDON LIFT STATIONS	$70,000
GRAVITY SEWER ALONG DOUBLE TREE DRIVE NORTH	$870,000
GRAVITY SEWER BETWEEN DOUBLE TREE NORTH DRIVE AND 101ST AVENUE	$240,000
GRAVITY SEWER ALONG 101ST AVENUE SEWER TO FUTURE LIFT STATION #1	$660,000
GRAVITY SEWER FROM RANDOLPH PUMP STATION TO FUTURE LIFT STATION #1	$370,000
GRAVITY SEWER FROM SNEAD LIFT STATION TO FUTURE LIFT STATION #1	$140,000
FORCE MAIN FROM FUTURE LIFT STATION #1 TO EXISTING WWTP	$1,290,000
TOTAL	
	$4,310,000

SECTION 14 - RECOMMENDED IMPLEMENTATION

Table 14-5
Collection System - Maintenance (14.3.1)

ITEM	DESCRIPTION	Amount
14.3.1	SCHEDULED CLEANING / INSPECTION - GENERAL	$40,000

Table 14-6
WWTP - Maintenance (14.4.1)

ITEM	DESCRIPTION	Amount
14.4.1	WWTP—FLOW SPLIT STRUCTURE	$5,000

Table 14-7
WWTP - Capital Improvement non capacity related (14.5.1 to 14.5.5)

ITEM	DESCRIPTION	Amount
14.2.1	HEATING SYSTEM FOR THE SLUDGE DRYING BUILDING	$25,000
14.2.2	ELECTRICAL SERVICE POINTS THROUGHOUT THE WWTP	$5,000
14.2.3	EXTENSION OF AIR LINE TO AIR LIFTS IN PHASE III CLARIFIERS	$5,000
14.2.4	NEW EQUALIZATION BASIN	$380,000
14.2.5	VACTOR TRUCK DUMP CONTAINMENT AREA	$120,000

Table 14-8
WWTP - Capital Improvement capacity related (14.5.6)
Phase V Expansion

DESCRIPTION	Amount
MOBILIZATION/DEMOBILIZATION	$139,000
CONSTRUCTION ENGINEERING	$28,000
MATERIAL TESTING	$14,000
SITE CLEARING AND EROSION CONTROL	$56,000
SITE RESTORATION	$83,000
OXIDATION DITCH	$1,034,000
CLARIFIER	$519,000
AEROBIC DIGESTER	$409,000
HEAD WORKS	$481,000
UV DISINFECTION	$342,000
PLANT DRAIN	$77,000
SITE PIPING	$138,000
SUBTOTAL	$3,320,000
SUBTOTAL WITH 25% CONTINGENCY	$4,150,000
PROFESSIONAL DESIGN & CONSTRUCTION SERVICES (20%)	$830,000
TOTAL	
TOTAL	**$4,980,000**

SECTION 14 - RECOMMENDED IMPLEMENTATION

Table 14-9
Project Based on Future Opportunity (14.7.1)
Central Planning Area Consolidation

DESCRIPTION	Amount
FUTURE LIFT STATION #2	$1,100,000
ABANDON LIFT STATIONS	$40,000
GRAVITY SEWER ALONG 109TH AVENUE FROM MEADOWS TO FUTURE LIFT STATION #2	$590,000
FORCE MAIN FROM FUTURE LIFT STATION #2 TO THE EXISTING MEADOWS FORCE MAIN	$270,000
TOTAL	
	$2,000,000*

* Note: Wyndance lift station abandonment and gravity from Wyndance lift station to Future Lift Station #2 is assumed to be installed by a developer either in whole of in part when Arizona Street planning area is established. Estimated additional cost of $1,300,000 to those presented in Table 14-8.

Table 14-10
Project Based on Future Opportunity (14.7.2)
Grand Boulevard Planning Area

DESCRIPTION	Amount
FUTURE LIFT STATION #6	$550,000
ABANDON BOARDWALK LIFT STATION	$7,500
FORCE MAIN FROM LIFT STATION #6 TO LIFT STATION #2	$540,000
TOTAL	
	$1,097,500*

* Note: If Future Lift Station #2 is not currently installed when Future Lift Station #6 is added, an alternative route to existing Meadows lift station. This would equate to an additional cost to those presented in Table 14-9 of $172,000.

Table 14-11
Project Based on Future Opportunity (14.7.3)
Arizona Street Planning Area

DESCRIPTION	Amount
FUTURE LIFT STATION #4	$600,000
FORCE MAIN TO CENTRAL PLANNING AREA GRAVITY	$193,000
TOTAL	
	$793,000

* Note: If Wyndance lift station is not abandoned at this point and the Central Planning gravity sewer is not yet installed, Future Lift Station #4 can pump to Wyndance lift station at an addition cost of $320,000 than that presented in Table 14-10.

Table 14-12
Project Based on Future Opportunity (14.7.4)
Southeast Planning Area

DESCRIPTION	Amount
FUTURE LIFT STATION #5	$700,000
FORCE MAIN TO STONEGATE FORCEMAIN	393,900
GRAVITY FROM STONEGATE TO FUTURE LIFT STATION #5	$725,000
ABANDON STONEGATE LIFT STATION	$15,000
TOTAL	
	$2,487,000

APPENDIX A - PRELIMINARY SANITARY SEWER ATLASES

Town of Winfield
Sanitary Sewer Atlas

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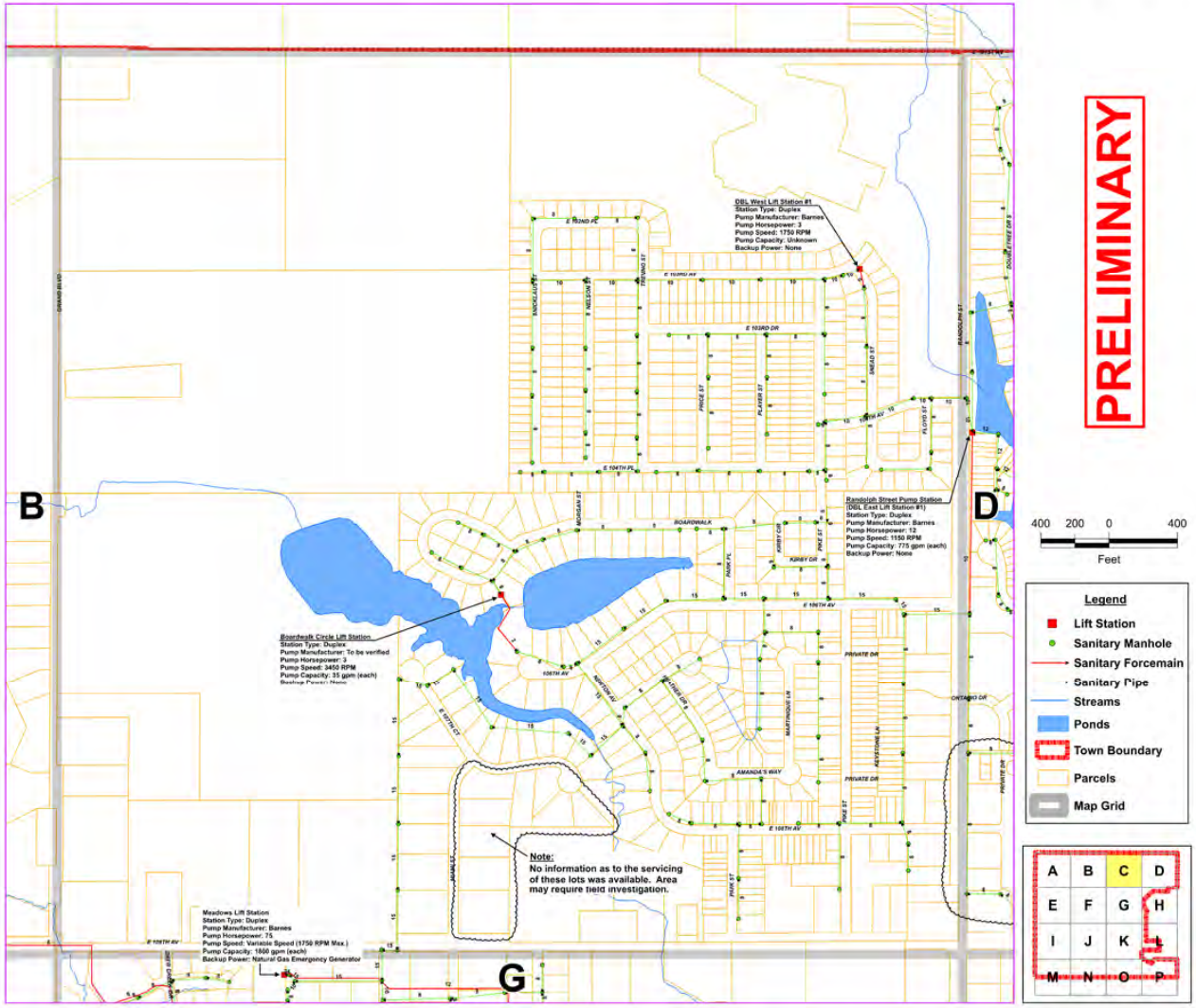

General Note:
The locations of all facilities were placed based on as-built drawings, design drawings, sketches, and other available information from numerous sources. In many cases, locations of facilities were "best fit" and may not accurately represent the actual location and/or configuration. Should exact configuration or location be required, it is recommended that field verification be conducted. Information pertaining to the lift stations should be field verified and updated as required as well. This document is intended to be a "living" document and should be updated as new development and facilities are constructed.

Town of Winfield
Sanitary Sewer Atlas

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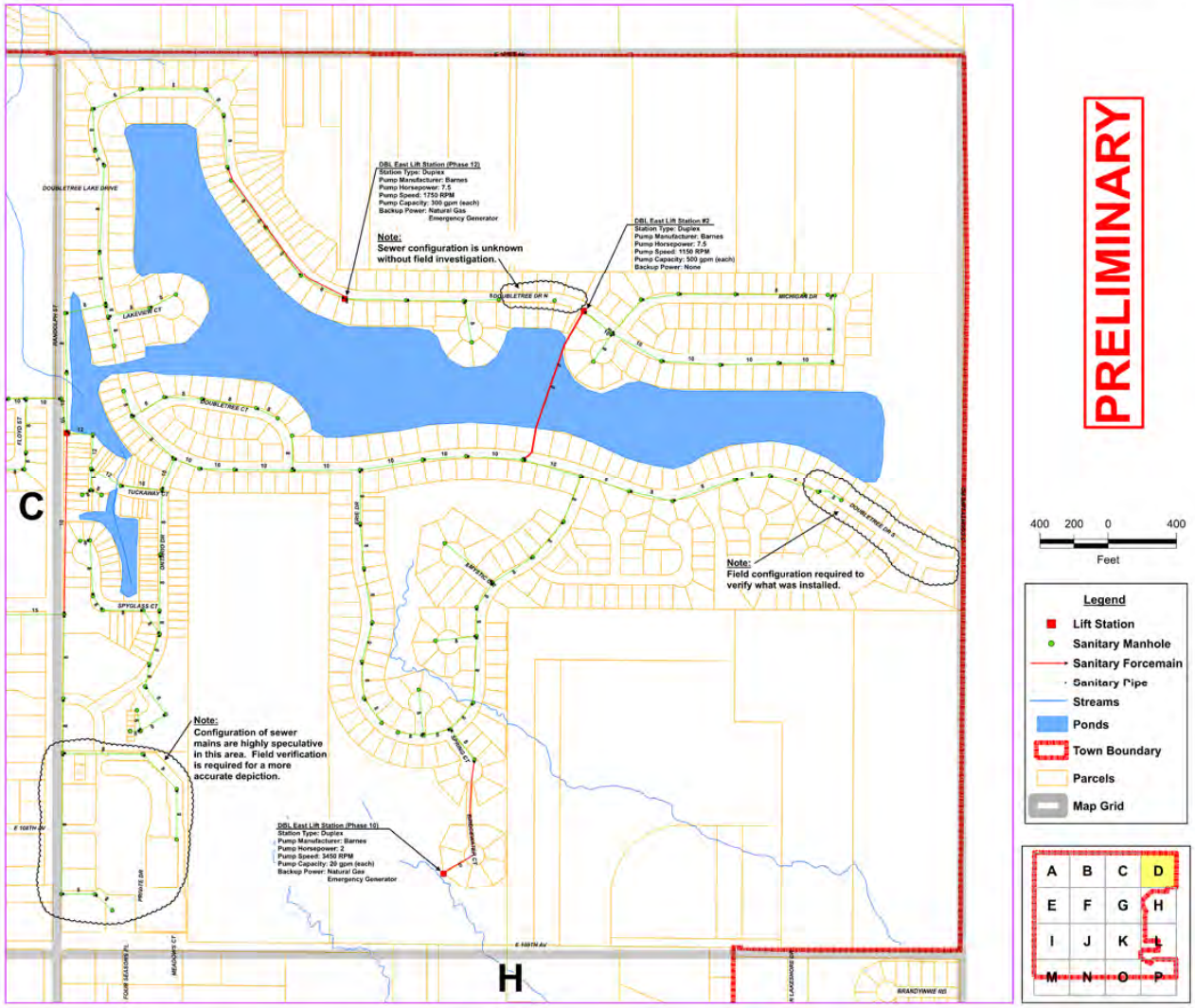


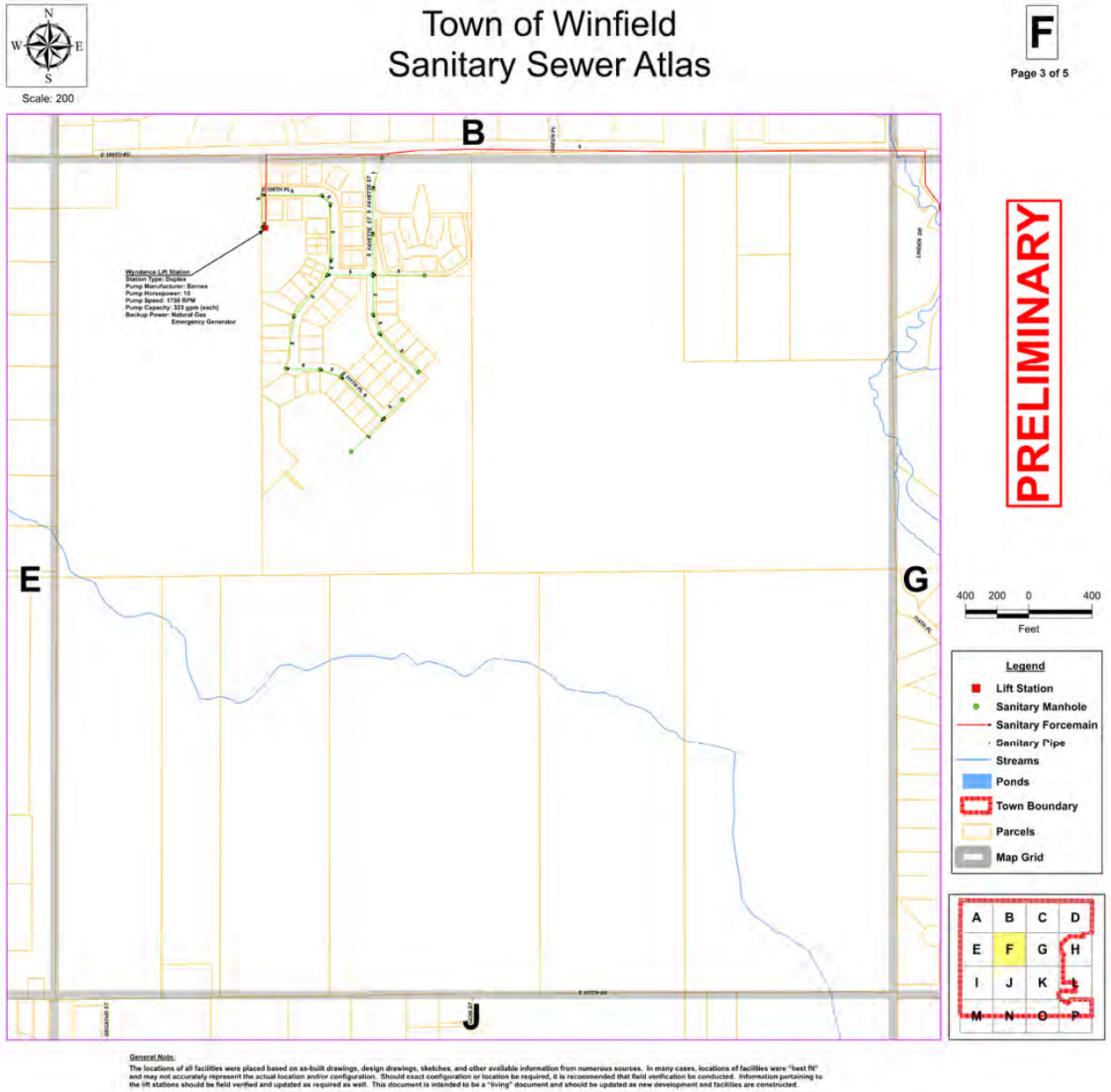
PRELIMINARY

400 200 0 400
Feet

Legend
- Lift Station
- Sanitary Manhole
- Sanitary Forcemain
- Sanitary Pipe
- Streams
- Ponds
- Town Boundary
- Parcels
- Map Grid

A	B	C	D
E	F	G	H
I	J	K	L
M	N	O	P

General Note:
The locations of all facilities were placed based on as-built drawings, design drawings, sketches, and other available information from numerous sources. In many cases, locations of facilities were "best fit" and may not accurately represent the actual location and/or configuration. Should exact configuration or location be required, it is recommended that field verification be conducted. Information pertaining to the lift stations should be field verified and updated as required as well. This document is intended to be a "living" document and should be updated as new development and facilities are constructed.


Town of Winfield
Sanitary Sewer Atlas
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F
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B
E
G
J
PRELIMINARY
Windance Lift Station
Station Type: Duplex
Pump Manufacturer: Barnes
Pump Horsepower: 10
Pump Speed: 1750 RPM
Pump Capacity: 323 gpm (each)
Backup Power: Natural Gas
Emergency Generator
400 200 0 400
Feet
Legend
Lift Station
Sanitary Manhole
Sanitary Forcemain
Sanitary Pipe
Streams
Ponds
Town Boundary
Parcels
Map Grid
A B C D
E F G H
I J K L
M N O P
General Note:
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Town of Winfield
Sanitary Sewer Atlas

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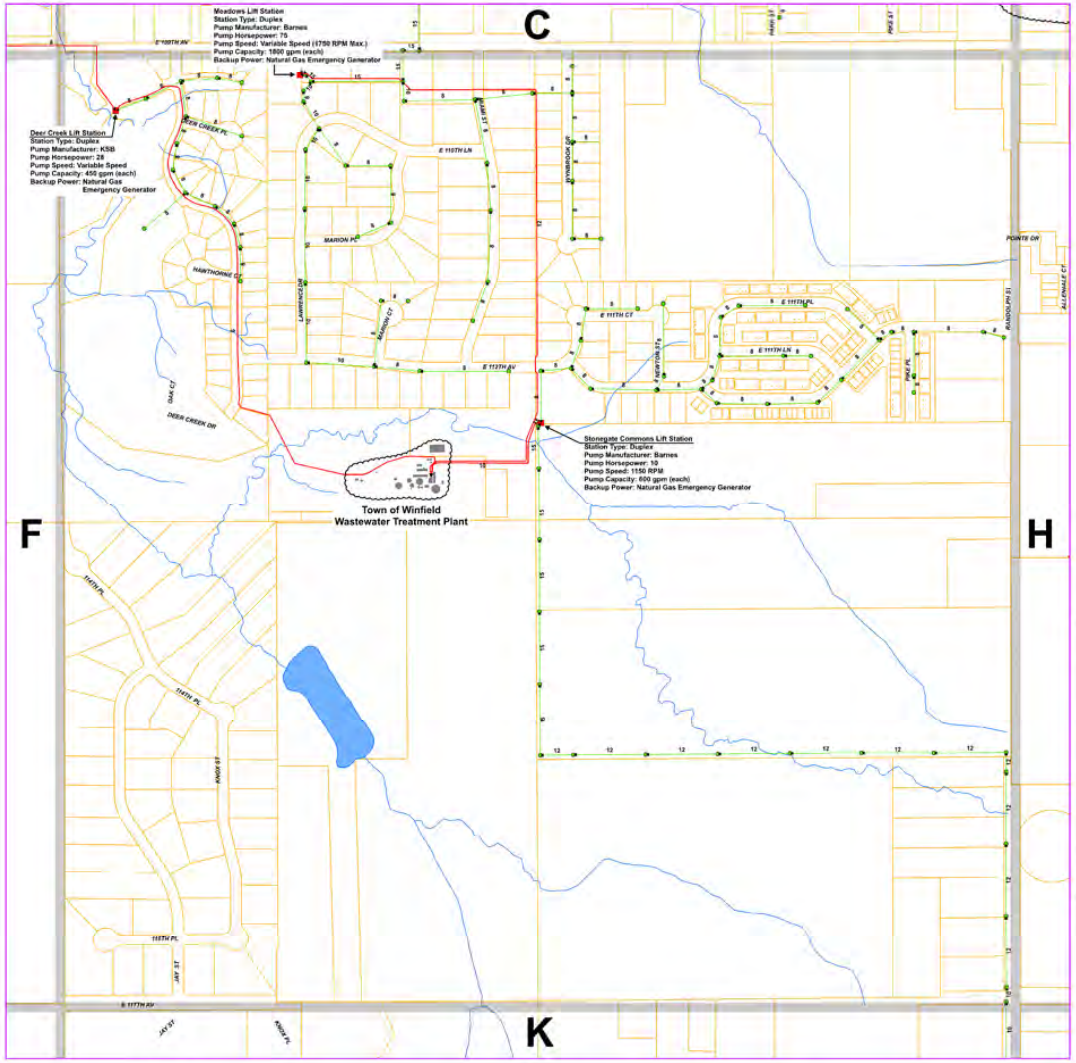

PRELIMINARY

400 200 0 400
Feet

Legend

- Lift Station
- Sanitary Manhole
- Sanitary Forcemain
- Sanitary Pipe
- Streams
- Ponds
- Town Boundary
- Parcels
- Map Grid

A	B	C	D
E	F	G	H
I	J	K	L
M	N	O	P

General Note:
The locations of all facilities were placed based on as-built drawings, design drawings, sketches, and other available information from numerous sources. In many cases, locations of facilities were "best fit" and may not accurately represent the actual location and/or configuration. Should exact configuration or location be required, it is recommended that field verification be conducted. Information pertaining to the lift stations should be field verified and updated as required as well. This document is intended to be a "living" document and should be updated as new development and facilities are constructed.

Town of Winfield
Sanitary Sewer Atlas

K

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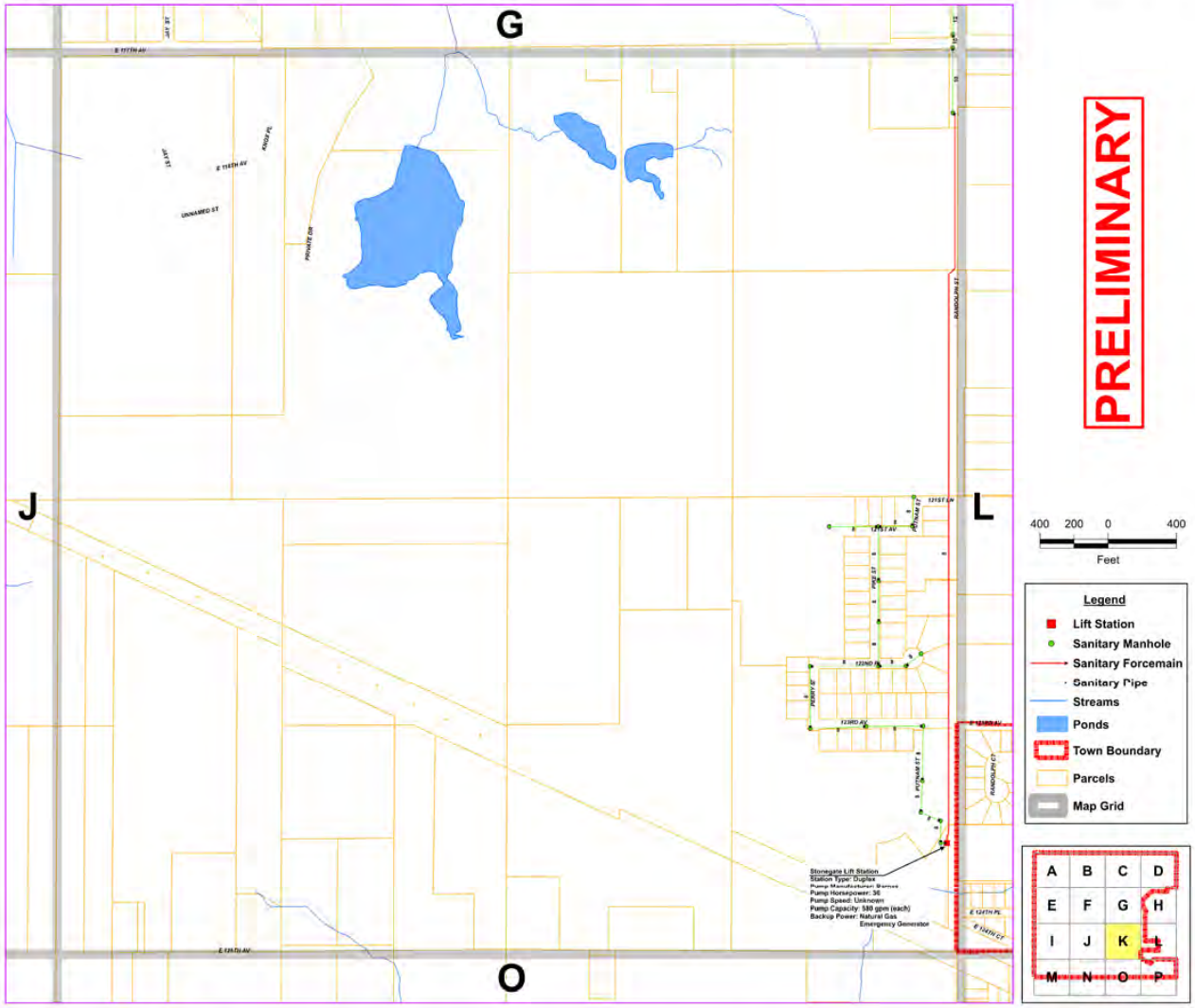
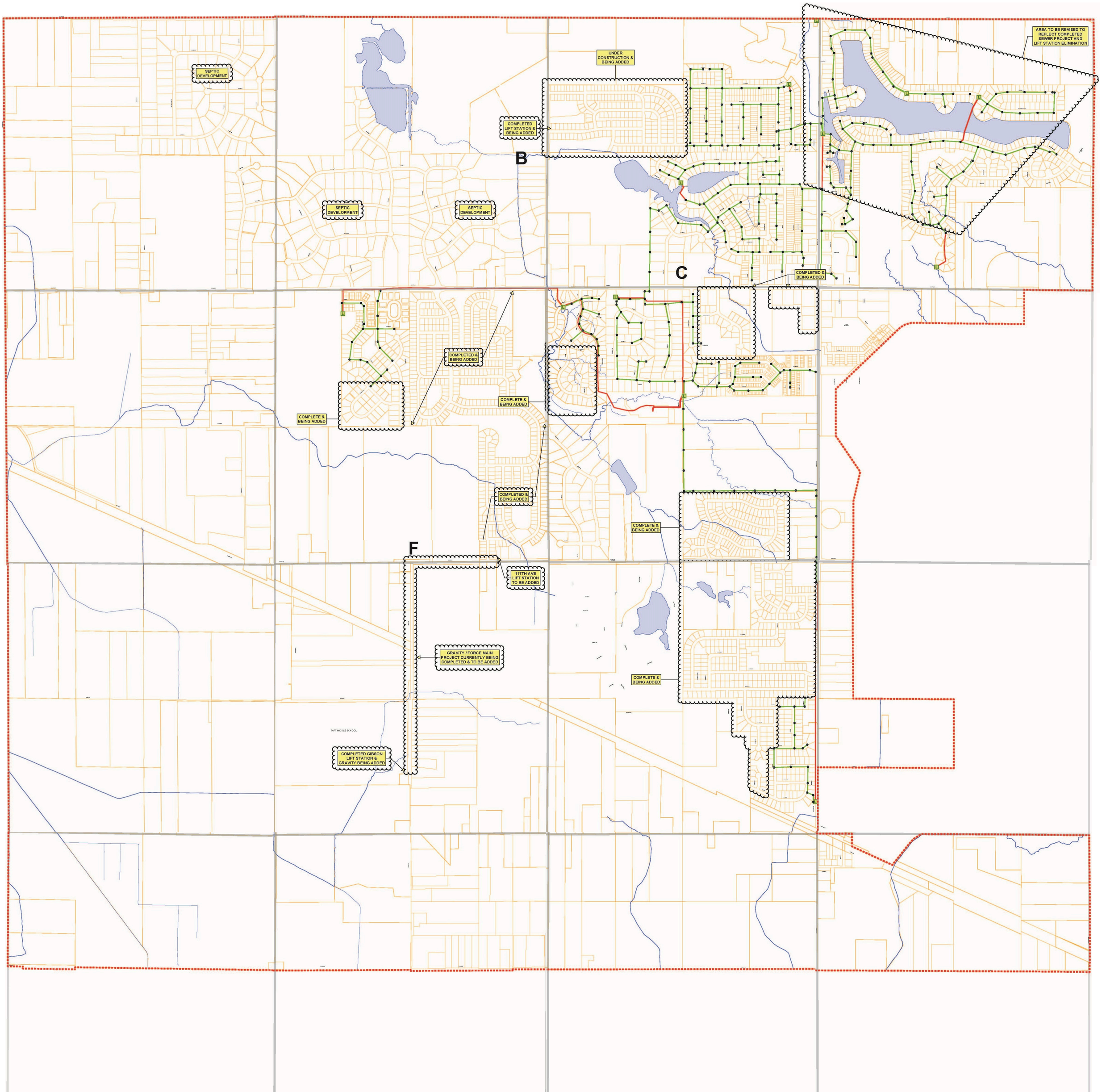


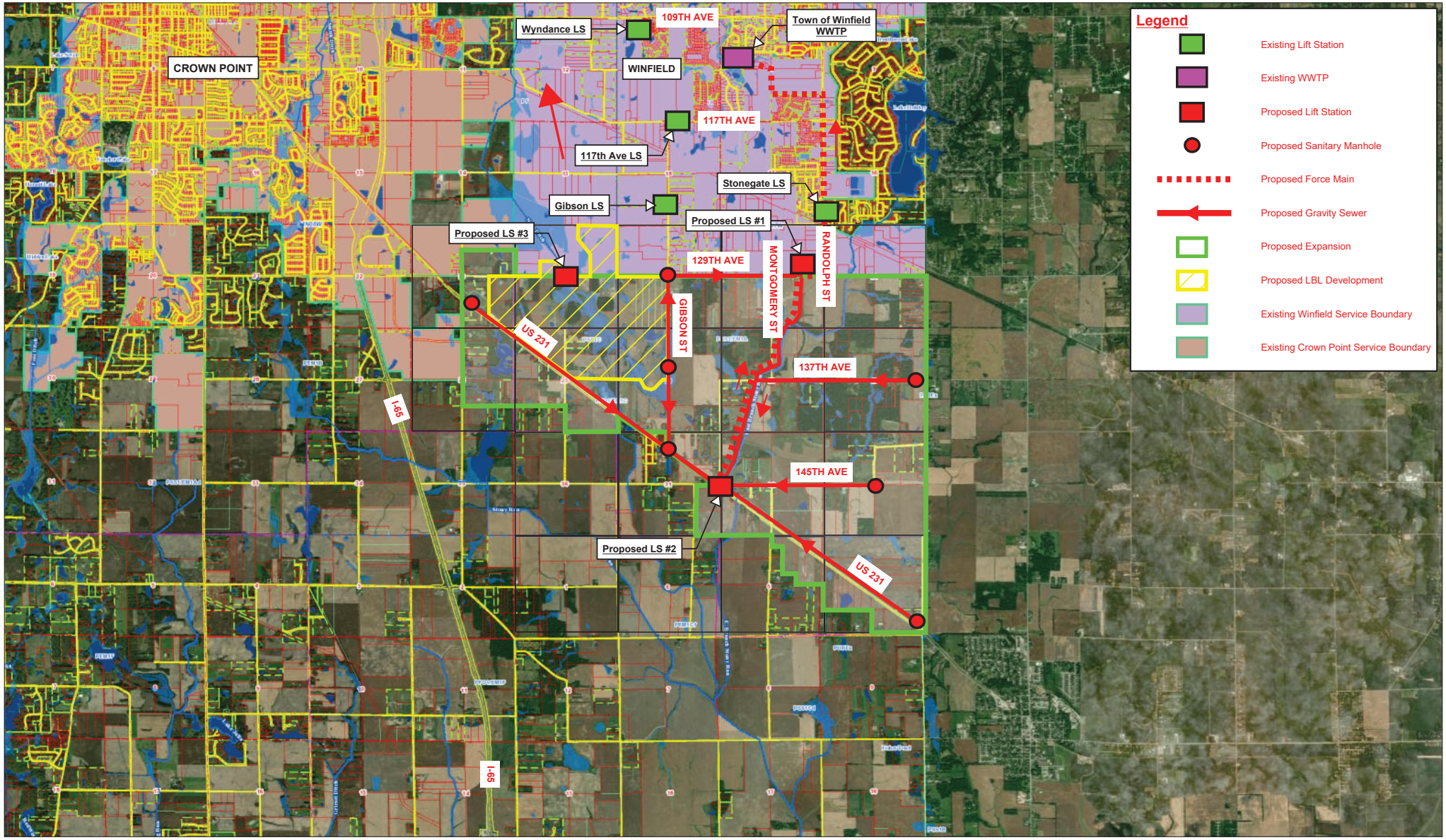
General Note:
The locations of all facilities were placed based on as-built drawings, design drawings, sketches, and other available information from numerous sources. In many cases, locations of facilities were "best fit" and may not accurately represent the actual location and/or configuration. Should exact configuration or location be required, it is recommended that field verification be conducted. Information pertaining to the lift stations should be field verified and updated as required as well. This document is intended to be a "living" document and should be updated as new development and facilities are constructed.

Attachment MCJ-11


SEPTIC DEVELOPMENT
SEPTIC DEVELOPMENT
SEPTIC DEVELOPMENT
UNDER CONSTRUCTION & BEING ADDED
COMPLETED LIFT STATION & BEING ADDED
B
AREA TO BE REVISED TO REFLECT COMPLETED SEWER PROJECT AND LIFT STATION ELIMINATION
C
COMPLETED & BEING ADDED
COMPLETED & BEING ADDED
COMPLETE & BEING ADDED
COMPLETE & BEING ADDED
COMPLETED & BEING ADDED
F
117TH AVE LIFT STATION TO BE ADDED
GRAVITY / FORCE MAIN PROJECT CURRENTLY BEING COMPLETED & TO BE ADDED
COMPLETE & BEING ADDED
COMPLETE & BEING ADDED
TAFT MIDDLE SCHOOL
COMPLETED GIBSON LIFT STATION & GRAVITY BEING ADDED
LEGEND
Winfield Town Boundary
Parcels 2025
Lift Station
Sanitary Manhole
Streams
Ponds
Sanitary Force Main
Sanitary Gravity
Winfield Section Grid

Attachment MCJ-12

Date: 04/17/2025



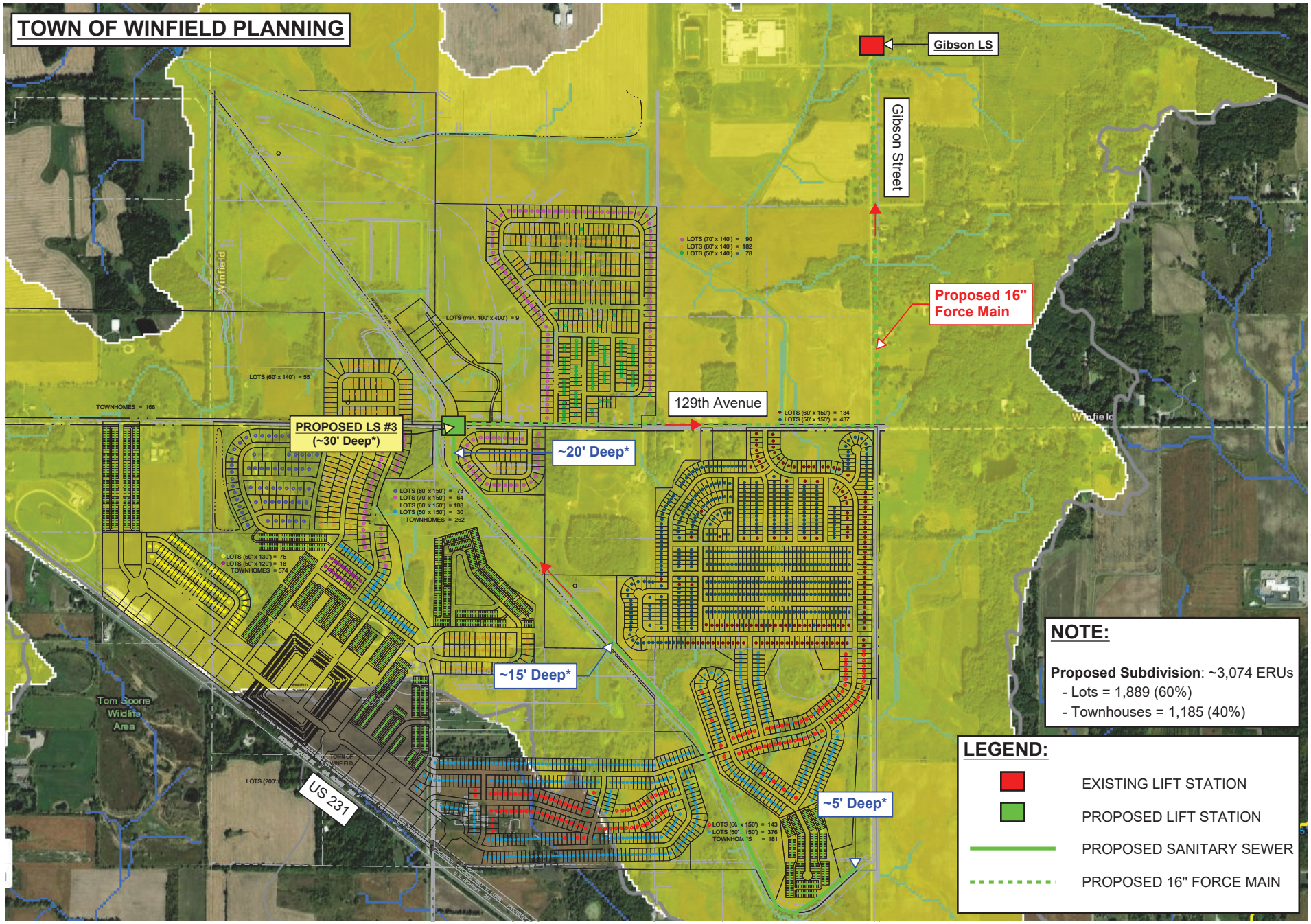
WINFIELD (LAKE COUNTY) ALIGNMENT MAP

Web Print: 12/04/2023

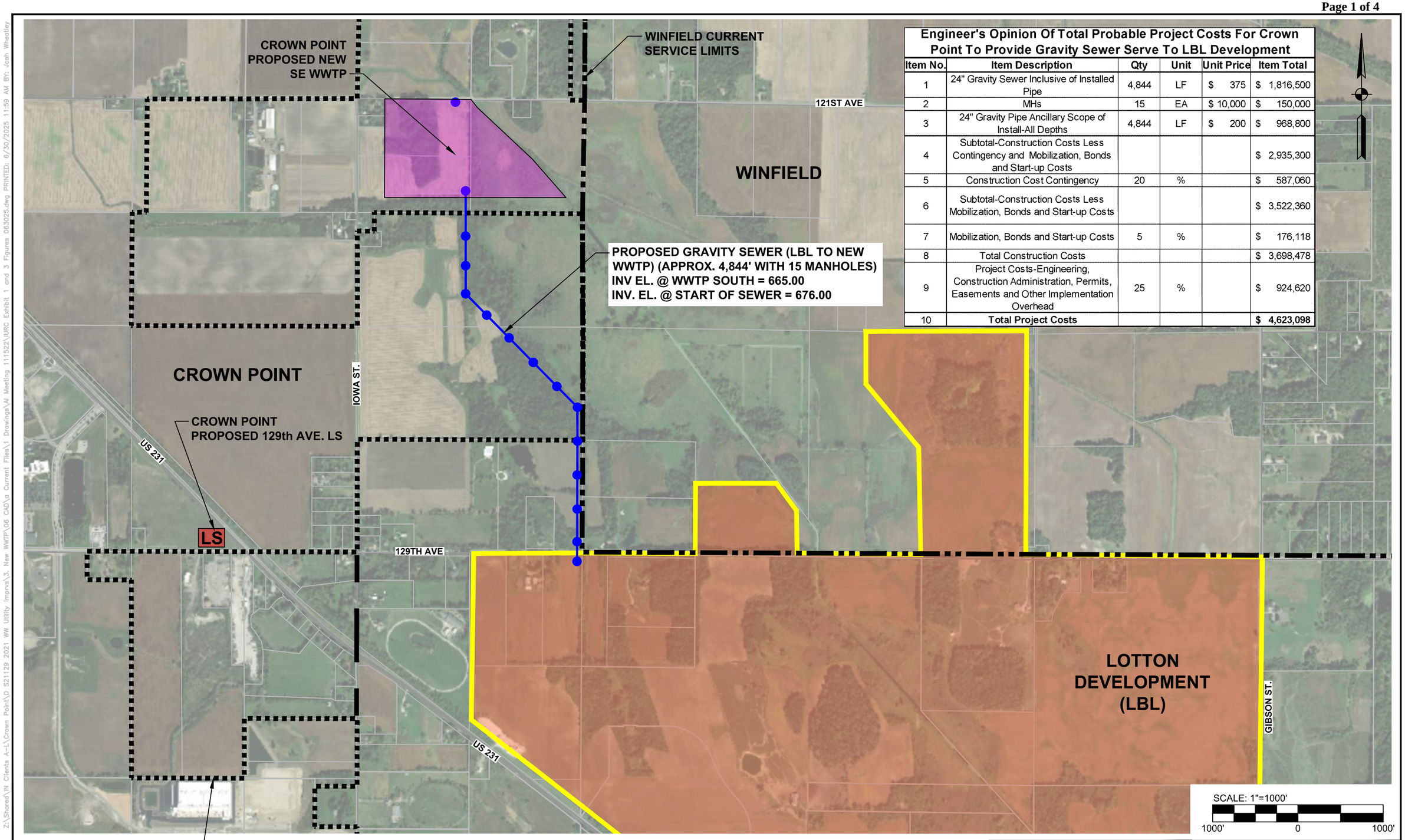
0 6,019 12,037 Feet

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

Attachment MCJ-13


TOWN OF WINFIELD PLANNING
Gibson LS
Gibson Street
Proposed 16" Force Main
129th Avenue
PROPOSED LS #3 (~30' Deep*)
~20' Deep*
~15' Deep*
~5' Deep*
US 231
Tom Sporre Wildlife Area
NOTE:
Proposed Subdivision: ~3,074 ERUs
- Lots = 1,889 (60%)
- Townhouses = 1,185 (40%)
LEGEND:
EXISTING LIFT STATION
PROPOSED LIFT STATION
PROPOSED SANITARY SEWER
PROPOSED 16" FORCE MAIN

Attachment MCJ-14



Engineer's Opinion Of Total Probable Project Costs For Crown Point To Provide Gravity Sewer Serve To LBL Development

Item No.	Item Description	Qty	Unit	Unit Price	Item Total
1	24" Gravity Sewer Inclusive of Installed Pipe	4,844	LF	$ 375	$ 1,816,500
2	MHs	15	EA	$ 10,000	$ 150,000
3	24" Gravity Pipe Ancillary Scope of Install-All Depths	4,844	LF	$ 200	$ 968,800
4	Subtotal-Construction Costs Less Contingency and Mobilization, Bonds and Start-up Costs				$ 2,935,300
5	Construction Cost Contingency	20	%		$ 587,060
6	Subtotal-Construction Costs Less Mobilization, Bonds and Start-up Costs				$ 3,522,360
7	Mobilization, Bonds and Start-up Costs	5	%		$ 176,118
8	Total Construction Costs				$ 3,698,478
9	Project Costs-Engineering, Construction Administration, Permits, Easements and Other Implementation Overhead	25	%		$ 924,620
10	**Total Project Costs**				**$ 4,623,098**

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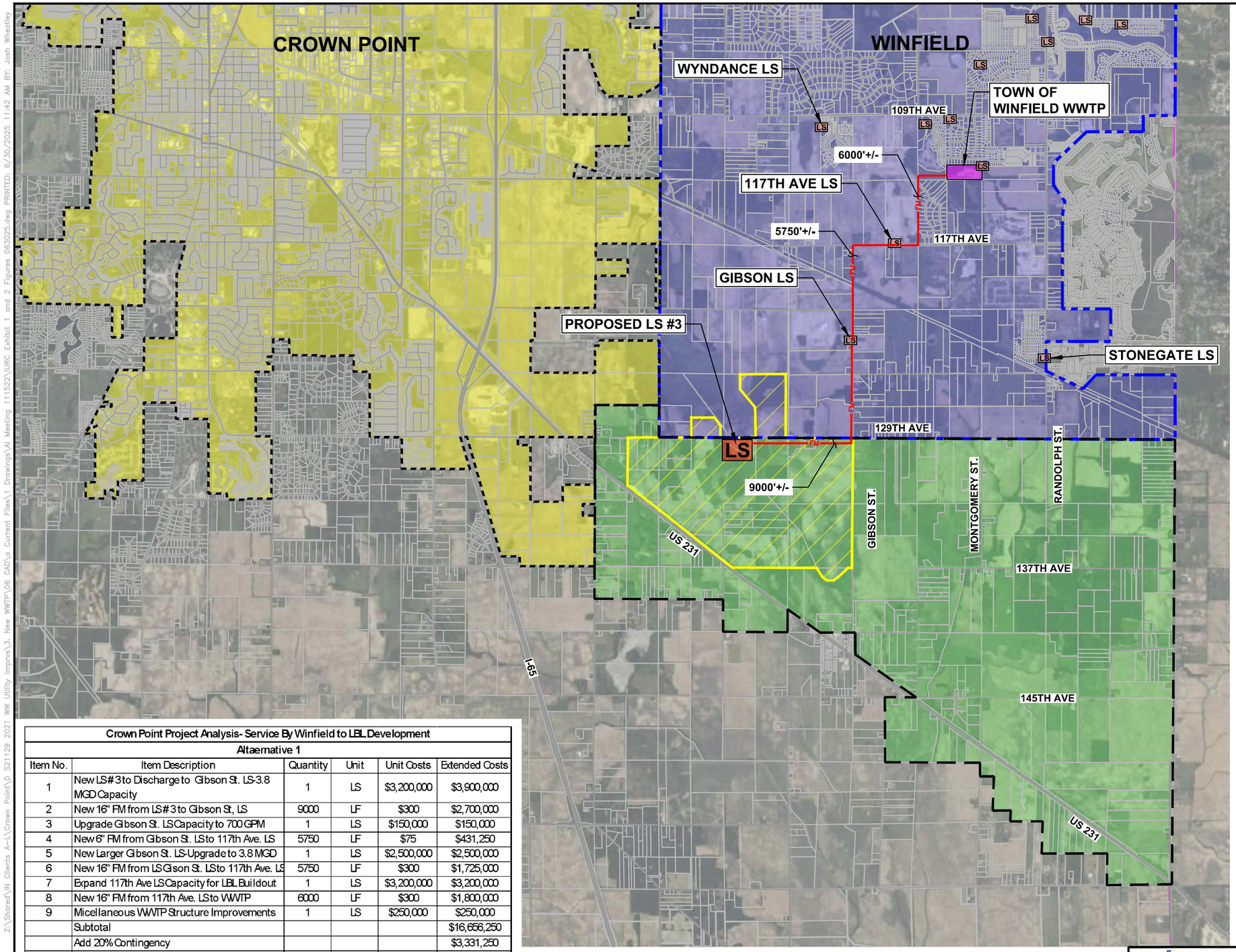
LAKE COUNTY, INDIANA

EXHIBIT 1 - FIGURE 1

REQUIRED IMPROVEMENTS FOR LBL TO CONVEY FULL BUILD-OUT FLOW TO THE SE WWTP

Z:\Shared\IN Clients A-L\Crown Point\D S21129 2021 WW Utility Improv\3. New WWTP\06 CAD\a Current Files\1 Drawings\All Meeting 111522\IURC Exhibit 1 and 3 Figures 063025.dwg PRINTED: 6/30/2025 11:59 AM BY: Josh Wheatley



Crown Point Project Analysis- Service By Winfield to LBL Development					
Altaernative 1					
Item No.	Item Description	Quantity	Unit	Unit Costs	Extended Costs
1	New LS# 3 to Discharge to Gibson St. LS-3.8 MGD Capacity	1	LS	$3,200,000	$3,900,000
2	New 16" FM from LS# 3 to Gibson St, LS	9000	LF	$300	$2,700,000
3	Upgrade Gibson St. LS Capacity to 700 GPM	1	LS	$150,000	$150,000
4	New 6" FM from Gibson St. LS to 117th Ave. LS	5750	LF	$75	$431,250
5	New Larger Gibson St. LS-Upgrade to 3.8 MGD	1	LS	$2,500,000	$2,500,000
6	New 16" FM from LS Gison St. LS to 117th Ave. LS	5750	LF	$300	$1,725,000
7	Expand 117th Ave LS Capacity for LBL Buildout	1	LS	$3,200,000	$3,200,000
8	New 16" FM from 117th Ave. LS to WWTP	6000	LF	$300	$1,800,000
9	Micellaneous WWTP Structure Improvements	1	LS	$250,000	$250,000
	Subtotal				$16,656,250
	Add 20% Contingency				$3,331,250
	Subtotal Coonstruction Costs				$19,987,500
	Add 25% Overhead Project Costs				$4,996,875
	Total Prolject Costs				**$24,984,375**

LEGEND

- LS — EXISTING WINFIELD LIFT STATION
- EXISTING WINFIELD WWTP
- LS — PROPOSED WINFIELD LIFT STATION
- FM — PROPOSED FORCE MAIN
- PROPOSED EXPANSION
- PROPOSED LBL DEVELOPMENT
- EXISTING WINFIELD SERVICE BOUNDARY
- EXISTING CROWN POINT SERVICE BOUNDARY

SCALE: 1"=4000'

4000' 0 4000'

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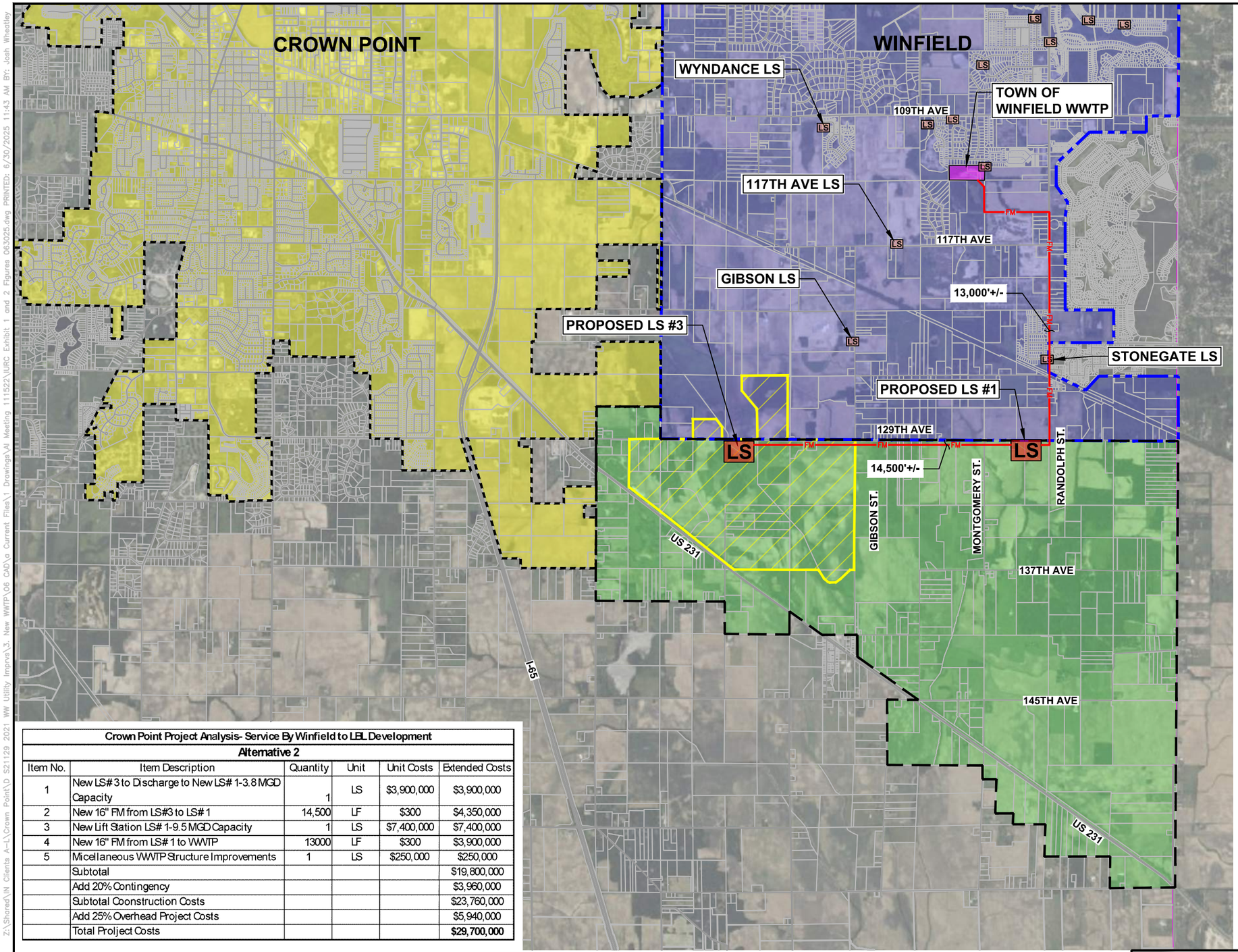
EXHIBIT 1 - FIGURE 2

WINFIELD ALTERNATIVE 1 CONVEYANCE SYSTEM IMPROVEMENT REQUIREMENTS

Z:\Shared\IN Clients A-L\Crown Point\D S21129 2021 WW Utility Impns\3. New WWTP\06 CAD\a Current Files\1 Drawings\All Meeting 111522\IURC Exhibit 1 and 2 Figures 063025.dwg PRINTED: 6/30/2025 11:42 AM BY: Josh Wheatley



Crown Point Project Analysis- Service By Winfield to LBL Development					
Alternative 2					
Item No.	Item Description	Quantity	Unit	Unit Costs	Extended Costs
1	New LS# 3 to Discharge to New LS# 1-3.8 MGD Capacity	1	LS	$3,900,000	$3,900,000
2	New 16" FM from LS#3 to LS# 1	14,500	LF	$300	$4,350,000
3	New Lift Station LS# 1-9.5 MGD Capacity	1	LS	$7,400,000	$7,400,000
4	New 16" FM from LS# 1 to WWTP	13000	LF	$300	$3,900,000
5	Micellaneous WWTP Structure Improvements	1	LS	$250,000	$250,000
	Subtotal				$19,800,000
	Add 20% Contingency				$3,960,000
	Subtotal Coonstruction Costs				$23,760,000
	Add 25% Overhead Project Costs				$5,940,000
	Total Prolject Costs				**$29,700,000**

LEGEND

- LS — EXISTING WINFIELD LIFT STATION
- EXISTING WINFIELD WWTP
- LS — PROPOSED WINFIELD LIFT STATION
- FM — PROPOSED FORCE MAIN
- PROPOSED EXPANSION
- PROPOSED LBL DEVELOPMENT
- EXISTING WINFIELD SERVICE BOUNDARY
- EXISTING CROWN POINT SERVICE BOUNDARY

SCALE: 1"=4000'

4000' 0 4000'

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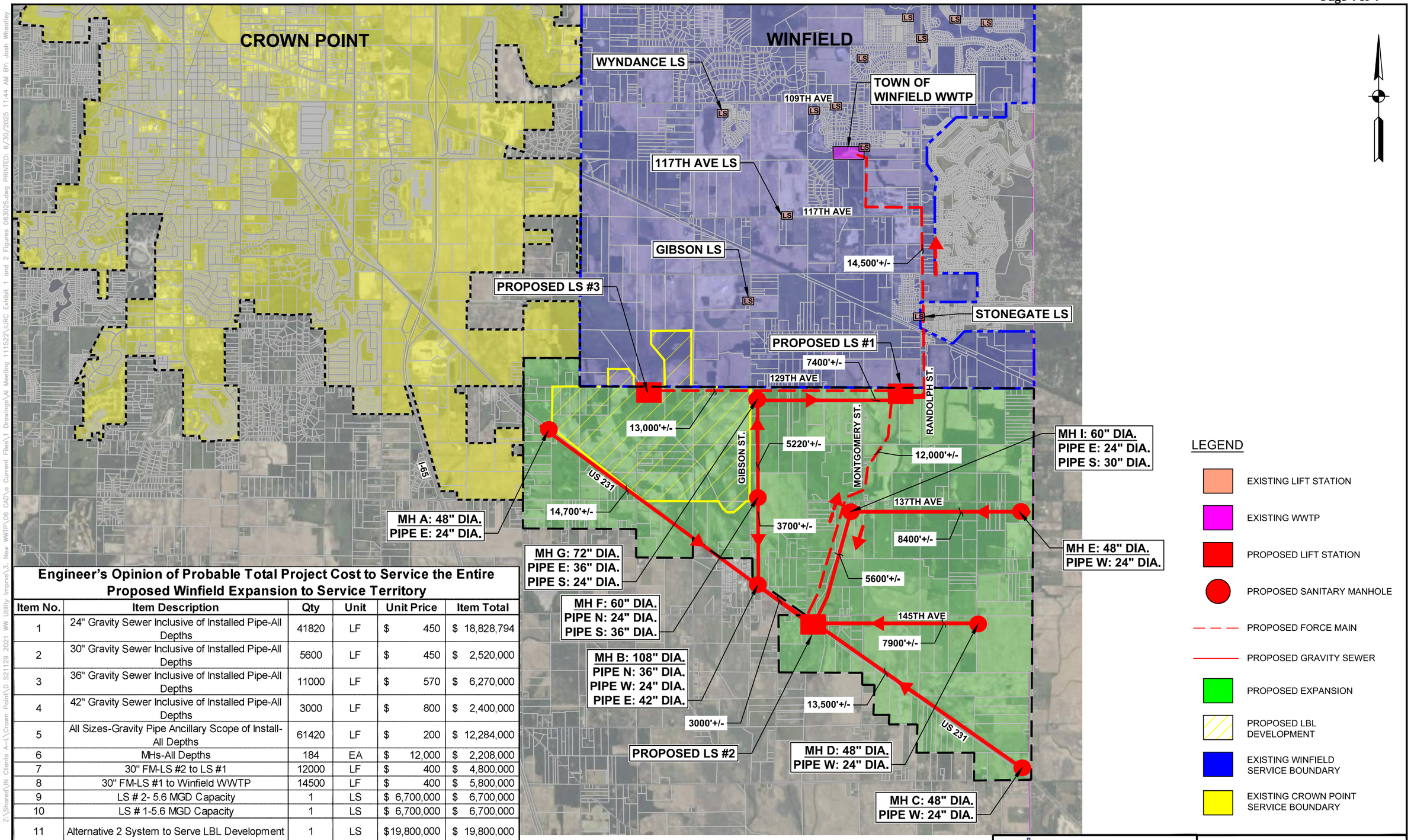
CITY OF CROWN POINT
LAKE COUNTY, INDIANA

EXHIBIT 1 - FIGURE 3

WINFIELD ALTERNATIVE 2 CONVEYANCE SYSTEM IMPROVEMENT REQUIREMENTS



Engineer's Opinion of Probable Total Project Cost to Service the Entire Proposed Winfield Expansion to Service Territory

Item No.	Item Description	Qty	Unit	Unit Price	Item Total
1	24" Gravity Sewer Inclusive of Installed Pipe-All Depths	41820	LF	$ 450	$ 18,828,794
2	30" Gravity Sewer Inclusive of Installed Pipe-All Depths	5600	LF	$ 450	$ 2,520,000
3	36" Gravity Sewer Inclusive of Installed Pipe-All Depths	11000	LF	$ 570	$ 6,270,000
4	42" Gravity Sewer Inclusive of Installed Pipe-All Depths	3000	LF	$ 800	$ 2,400,000
5	All Sizes-Gravity Pipe Ancillary Scope of Install-All Depths	61420	LF	$ 200	$ 12,284,000
6	MHs-All Depths	184	EA	$ 12,000	$ 2,208,000
7	30" FM-LS #2 to LS #1	12000	LF	$ 400	$ 4,800,000
8	30" FM-LS #1 to Winfield WWTP	14500	LF	$ 400	$ 5,800,000
9	LS # 2- 5.6 MGD Capacity	1	LS	$ 6,700,000	$ 6,700,000
10	LS # 1-5.6 MGD Capacity	1	LS	$ 6,700,000	$ 6,700,000
11	Alternative 2 System to Serve LBL Development	1	LS	$19,800,000	$ 19,800,000
12	Total Construction Costs (Incl. 5% start-up costs and 20% contingency)				$111,271,600
13	Total Project Costs (Incl. Project Costs @ 25%)				$139,089,500

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EXHIBIT 2 - FIGURE 1

WINFIELD'S PROPOSED IMPROVEMENTS TO FULLY SERVICE THE PROPOSED EXPANSION