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August 3, 2018
**INDIANA UTILITY
REGULATORY COMMISSION**

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

**PETITION OF THE CITY OF BOONVILLE,)
INDIANA, FOR APPROVAL TO ADJUST ITS RATES) CAUSE NO. 45069
AND CHARGES AND ISSUE BONDS)**

OUCG TESTIMONY

OF

JAMES T. PARKS – PUBLIC’S EXHIBIT NO. 3

ON BEHALF OF THE

INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR

AUGUST 3, 2018

Respectfully Submitted,

INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR



Daniel M. Le Vay, Atty. No. 22184-49
Deputy Consumer Counselor

CERTIFICATE OF SERVICE

This is to certify that a copy of the foregoing *Office of Utility Consumer Counselor Testimony of James T. Parks* has been served upon the following counsel of record in the captioned proceeding by electronic service on August 3, 2018.

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TESTIMONY OF OUCC WITNESS JAMES T. PARKS
CAUSE NO. 45069
CITY OF BOONVILLE

I. INTRODUCTION

1 **Q: Please state your name and business address.**

2 A: My name is James T. Parks, P.E., and my business address is 115 W. Washington
3 Street, Suite 1500 South, Indianapolis, IN 46204.

4 **Q: By whom are you employed and in what capacity?**

5 A: I am employed by the Office of Utility Consumer Counselor ("OUCC") as a Utility
6 Analyst II in the Water/Wastewater Division. My qualifications and experience are
7 described in Appendix A.

8 **Q: What is the purpose of your testimony?**

9 A: The City of Boonville (hereafter "Petitioner," "Utility" or "Boonville") has
10 requested authority to borrow \$6,910,000 million through a US Department of
11 Agriculture – Rural Development ("RD") loan to fund nine capital improvement
12 projects. I explain why the OUCC opposes capital debt funding for the tank
13 painting project, the two solar power projects, and the two water main extension
14 projects. I explain why the cost of the meter replacement program is overstated.
15 Petitioner has proposed a 204% increase to its periodic maintenance expense
16 compared to the revenue requirement established in the prior rate case.¹ I explain
17 why the OUCC believes Petitioner's periodic maintenance expense is already

¹ Cause No. 43477, Final Order, December 10, 2008 established the periodic maintenance expenses at \$75,700. In the present Cause, Petitioner has requested \$230,000 for periodic maintenance.

1 covered in part by the Veolia test year contract expense. I propose Petitioner be
2 permitted to recover a periodic maintenance expense for tank painting, inspection
3 and maintenance of \$118,000. I also support the need for restricted maintenance
4 accounts to ensure that Boonville will have adequate funds to perform periodic
5 maintenance on its water tanks.²

6 **Q: Please describe the review and analysis you conducted for your testimony.**

7 A: I reviewed Boonville's Petition and the testimonies of Clint W. Roos, P.E., Senior
8 Project Engineer, Midwestern Engineers, Inc. ("Midwestern"), Shawn R. Wright,
9 Project Manager III, Veolia Water America ("Veolia"), and John M. Seever, CPA,
10 Senior Partner, H.J. Umbaugh and Associates Certified Public Accountants, LLP
11 ("Umbaugh"), as well as Petitioner's recent annual reports filed with the Indiana
12 Utility Regulatory Commission ("Commission" or "TURC"). I also wrote
13 discovery requests and reviewed Petitioner's responses. On May 24, 2018, OUCC
14 Utility Analyst Carl Seals and I met with Mr. Wright, to tour Boonville's well field,
15 water treatment plant and water towers and discuss Petitioner's current operations
16 and capital improvement plans.

17 I reviewed the March 2018 *Preliminary Engineering Report* ("PER") for
18 *Water System Improvements* prepared by Midwestern.³ I reviewed the draft
19 December 2012 *Water Loss Assessment Report – Boonville Water Audit* prepared
20 by Wessler Engineering and M.E. Simpson Co., Inc. which was included as an

² Final Order, Cause No. 43477 at 11. "The Petitioner shall place all monies collected for its tank painting revenue requirement in a dedicated or restricted account, to be used only for tank maintenance and drawn on as needed for that purpose."

³ Petitioner's Exhibit No. 2

1 Attachment to the PER.⁴ I conducted and reviewed discovery seeking further
2 justification for Petitioner's periodic maintenance and capital improvements, and
3 reviewed prior Causes. Finally, I compiled and attached various documents, which
4 I refer to in my testimony. These attachments are listed in Appendix B.

II. BOONVILLE WATER SYSTEM CHARACTERISTICS

5 **Q: Please briefly describe the Boonville Water System.**

6 A: Petitioner provides water utility service to approximately 3,679 residential,
7 commercial, and industrial customers in a 46 square mile service area⁵ in and
8 around the City of Boonville, primarily in Boon Township⁶ in Warrick County,
9 Indiana and to one wholesale water customer, Indiana-American Water Company,
10 for its Yankeetown service area.⁷ Petitioner is also interconnected with the Towns
11 of Tennyson and Chandler. Petitioner previously supplied water to Tennyson and
12 purchased water from Chandler but today these interconnections are for emergency
13 use. Boonville's estimated connected population is 10,260 people.⁸

⁴ Per Shawn Wright, the Final *Water Loss Assessment Report* was the same as the draft report.

⁵ Direct Testimony of Clint W. Roos, P.E. page 5.

⁶ See Attachment JTP-1 for a map showing Warrick County Townships and principal cities and towns.

⁷ Yankeetown is an unincorporated community in Anderson Township, southeast of Boonville and east of Newburgh. Boonville began supplying 100,000 gallons per day (contract minimum) to the Yankeetown Water Authority under a 40 year Potable Water Purchase Contract dated April 27, 2011. The Yankeetown Water Authority was subsequently purchased by Indiana American Water Company in 2014. Yankeetown's original 2011 volumetric rate of \$2.41 per thousand gallons remains in effect.

⁸ See the Drinking Water System Details webpage maintained by the Indiana Department of Environmental Management's ("IDEM") Drinking Water Branch for Public Water System IN5287001.
https://myweb.in.gov/IDEM/DWW/JSP/WaterSystemDetail.jsp?tinwsys_is_number=408808&tinwsys_st_code=IN&wsnumber=IN5287001

1 **Q: Please describe Petitioner's water system facilities.**

2 A: Boonville draws groundwater from its five existing wells at its wellfield located 5.5
3 miles southeast of the City limits and pumps it through an 18-inch, 2.5 mile, ductile
4 iron, raw water transmission main to its 2010 water filtration plant ("WTP") located
5 2.5 miles south of the City. The WTP has a 2.88 MGD design capacity and is easily
6 expandable.⁹ Treatment consists of iron and manganese removal through aeration
7 and filtration on three pressure filters. In Petitioner's last rate case (Cause No.
8 43477), it had planned to construct a new 4.32 MGD treatment plant to replace its
9 existing 1976 WTP (upgraded in 1991 and 1995). But the Commission rejected
10 financing approval due to overdesign concerns.¹⁰ However, in the subsequent
11 subdocket (Cause No. 43477-S1), the Commission approved the funding to allow
12 Petitioner to construct the smaller 2.88 MGD WTP that exists today.

13 Petitioner has a 720,000 gallon finished water clearwell at the WTP and 1.5
14 MG storage in three elevated tanks, for 2.22 MG of total storage capacity.
15 Boonville's transmission and distribution system consists of 25,000 feet of 18-inch
16 transmission main and 415,000 feet (78.6 miles) of water mains with diameters
17 ranging from 2-inches to 10-inches.¹¹ (See Attachment JTP-2 for a map showing
18 the layout of Boonville's water transmission and distribution system.) Petitioner's
19 testimony states that the majority of mains are cast iron, with some asbestos cement

⁹ With the largest pump or pressure filter out of service, the WTP has an average design capacity of 2,000 gallons per minute ("GPM") or 2.88 MGD. In 2017, the WTP operated at 0.91 MGD or 32% of capacity.

¹⁰ Final Order, Cause No. 43477, pages 6 and 7.

¹¹ Petitioner's response to OUCC DR 2-3, referencing page W-9 in the 2017 Annual Report to the IURC.

1 pipe. Newer water mains are either PVC or ductile iron.¹² The *2018 Preliminary*
2 *Engineering Report* prepared by Midwestern Engineers includes a comprehensive
3 description of Boonville's water system.¹³

4 **Q: What are Boonville's demand characteristics?**

5 A: Petitioner's customer base grew 0.18% annually from 3,500 customers in 1989, but
6 Petitioner's growth has been flat in the last decade. Volumes of water sold have
7 also remained flat. Petitioner's average day demand appears to be around 1.2
8 million gallons per day. More detailed analysis of Boonville's demand
9 characteristics and demand projects are set forth in Appendix C.

III. PERIODIC MAINTENANCE EXPENSE

A. Periodic Maintenance Background

10 **Q: Is Petitioner seeking to recover its projected periodic maintenance expense?**

11 A: Yes. On pages 13 to 14 of its Exhibit 5, Petitioner makes "Adjustment 5 – Periodic
12 Maintenance" to adjust test year Operation and Maintenance ("O&M") expenses to
13 recover periodic maintenance expenses not incurred during the test year. Petitioner
14 proposes to recover \$230,000 in rates per year for periodic maintenance.

15 **Q: Is it reasonable for Petitioner to perform periodic maintenance?**

16 A: Yes. It is prudent for Petitioner to incur reasonable expenses to perform periodic
17 maintenance on its capital assets. Periodic maintenance allows Petitioner to operate
18 its facilities properly throughout their anticipated useful service lives. These costs

¹² See Direct Testimony of Clint W. Roos, P.E., page 8.

¹³ See Petitioner's Exhibit No. 2.

1 may involve hiring outside contractors to inspect and maintain major pieces of
2 equipment such as the groundwater wells and pumps, pressure filters, valves, high
3 service pumps, backwash pump, clearwell, elevated storage tanks, and booster
4 stations.

5 **Q: How did Petitioner determine the amount for annual periodic maintenance?**

6 A: Midwestern Engineers, in consultation with Boonville developed the periodic
7 maintenance expenses. Mr. Roos explained the process:

8 Midwestern was tasked with reviewing the periodic maintenance
9 expenses to determine if such amounts were an accurate reflection
10 of what Boonville either had experienced or would experience upon
11 completion of the Capital Improvements. I, along with other
12 members of Midwestern, Boonville, and Boonville's operator
13 (Shawn Wright) reviewed each of the individual expenses. In
14 reviewing these expenses, we looked at the costs Boonville had
15 incurred for these actual expense items to verify the amounts for
16 some of the maintenance items. Midwestern also relied on its recent
17 experience in working with clients that performed similar types of
18 periodic maintenance projects. I then used this information to
19 estimate the amount of maintenance expense that Boonville could
20 expect to incur on a prospective basis, prepared an exhibit that
21 summarized and detailed each item of periodic maintenance and the
22 estimated cost, and then discussed the exhibit with Boonville and
23 Mr. Wright. After these discussions and incorporating everyone's
24 comments, the periodic maintenance expenses were finalized and
25 then included on pages 13 to 14 of the Accounting Report.¹⁴

26 (emphasis added.)

27 **Q: To support the requested \$230,000 in annual periodic maintenance costs, did**
28 **Petitioner provide invoices of actual expenses incurred?**

29 A: No. Petitioner only had \$8,313 of test year expense that was designated as periodic
30 maintenance expense, and even that was actually a capital cost that did not involve

¹⁴ See Direct Testimony of Clint W. Roos, P.E., page 16.

1 the repair or maintenance of an existing asset.¹⁵ Rather, it was for the purchase and
2 installation of a new effluent flow meter for the water retention basin discharge.¹⁶
3 Petitioner did not claim any other test year periodic maintenance expense.
4 Petitioner did not provide any other support for periodic maintenance expense
5 based on actual expenditures or contracts for prospective periodic maintenance.

6 **Q: Does it appear Petitioner is maintaining its water facilities and equipment?**

7 A: Yes. On May 24, 2018, OUCC Analyst, Carl Seals, and I toured Boonville's water
8 system. I observed well maintained facilities at the wellfield, water treatment plant,
9 and elevated storage tanks. It appears that Boonville's contract operator, Veolia
10 Water America ("Veolia"), is properly maintaining the facilities.

11 **Q: How do you reconcile that the facilities appear to be well maintained yet**
12 **Petitioner shows zero periodic maintenance expense?**

13 A: Petitioner appears to be already paying for periodic maintenance expenses as a
14 contractual service through the repairs and replacement portion of its Veolia
15 contractual services contract. These charges totaled \$265,608 during the test year.¹⁷
16 Thus, we concluded Petitioner's actual test year expense for maintaining its assets
17 is already embedded in the \$265,608 charged by Veolia during the test year.¹⁸

¹⁵ Adjustment 5, page 14. See Petitioner's Exhibit No. 5, *Accounting Report on Proposed Rates and Charges*, March 26, 2018, prepared by H.J. Umbaugh & Associates.

¹⁶ Gripp, Inc. Invoice No. 33385, dated 12/30/2016 for \$8,313.14. See Petitioner's Exhibit No. 7, *Accounting Work Papers, Work Papers for Accounting Adjustment #5 – Periodic Maintenance*, pages 29 and 30. As explained in OUCC Witness Margaret A. Stull's Testimony, this new flow meter cost should be removed from periodic maintenance expense and properly capitalized instead.

¹⁷ See Petitioner's Exhibit No. 5, *Accounting Report on Proposed Rates and Charges*, Adjustment 6 – Contractual Services, page 15.

¹⁸ This seems to be consistent with Petitioner's practices as in the last rate case, Cause No. 43477, Petitioner likewise had booked no periodic maintenance expense as a separate category.

1 Providing a separate revenue requirement for periodic maintenance expense as
2 Petitioner has proposed would constitute authorizing recovery of the same expense
3 twice over. OUCC witness Margaret Stull addresses properly including periodic
4 maintenance expenses and Veolia's repairs and replacement charges in Petitioner's
5 revenue requirement without double counting the costs.

B. Periodic Maintenance Expense for Tank Painting

6 **Q: Has Petitioner performed tank painting as either a periodic maintenance**
7 **expense or as a repairs and replacement charge under Veolia's contract since**
8 **Boonville's last rate case?**

9 A: No. My investigation indicates Veolia has not painted any tank under its contract
10 with Boonville. Petitioner may never have painted any of its current tanks using
11 funds acquired through rates as a periodic maintenance expense.

12 **Q: Has Petitioner collected periodic maintenance funds in rates for tank**
13 **painting?**

14 A: Yes. Since 1989, Petitioner would have collected at total of nearly \$625,000 as a
15 periodic maintenance expense revenue requirement specifically for tank painting.
16 Petitioner received a \$12,858 annual allowance for tank painting in 1989 in Cause
17 No. 38821. In 2006 (Cause No. 42875) Petitioner was authorized a revenue
18 requirement of \$35,333 for tank painting. Petitioner's current rates, which were
19 established in 2009 in Cause No. 43477, include an annual revenue requirement of
20 \$30,000 for tank painting. The table below shows the amount of periodic tank
21 maintenance embedded in Petitioner's rates since 1989:

**Table 3 – Elevated Storage Tank Maintenance
Periodic Maintenance Expense**

Cause No.	Year	Tank Periodic Maintenance Allowance		
		Annual	Years	Total
38821	1989	\$12,858	17	\$218,586
42875	2006	\$35,333	3	\$105,999
43477	2009	\$30,000	10	\$300,000
Total Tank Painting Allowance (1989-2018)				\$624,585
45069	2019	\$118,000	Requested by Petitioner	

1 **Q: Have any of Boonville's three existing water tanks been repainted?**

2 A: Petitioner's newer North and West tanks have not yet been recoated. Petitioner's
3 Millis (South) tank was repainted for the first time in 2009.¹⁹ Due to lack of funds
4 to recoat the Millis tank, in Cause No. 43477, Boonville requested and received
5 authority to capitalize the \$387,000 painting cost. I summarize Petitioner's tanks,
6 recoatings, and inspections in Table 2.

**Table 2 – Boonville Elevated Storage Tanks (500,000 gallons capacity each)
Installation, Recoating, and Inspection Years**

Tank Name	Other Name	Year Built	Recoated as a Periodic Maint. Expense	Recoated as a Capital Project	Last Inspected
Millis	South	1966	Never	2009 ²⁰	2017
Folsomville	North	1998	Never	Never	No report
Breckenridge ²¹	West	2006	Never	Never	2017

¹⁹ The Millis (South) tank had not been painted since it was installed in 1966. The 43 year old coating failed requiring a complete sandblasting and recoating of both the interior and exterior.

²⁰ The 2018 *Preliminary Engineering Report* states tank painting was in 2008, but project invoices show painting was actually completed in 2009.

²¹ The 2018 *PER* indicates the tank was constructed in 2007. The tank nameplate is dated 2006.

1 Petitioner reports that the Folsomville (North) tank has been visually inspected;
2 however, an official inspection report has not been prepared.²²

3 **Q: Had these tank painting funds been accumulated and set aside for that**
4 **purpose, would those funds be sufficient to meet Petitioner's repainting needs?**

5 A: Yes. If Petitioner had accumulated its tank painting allowance, it would have had
6 nearly enough funds to paint the Millis (South) tank in 2009.²³ Similarly, it would
7 have had \$300,000 by the end of 2019 to fund the Folsomville (North) tank painting
8 it is now requesting in this Cause.²⁴

9 **Q: What funds does Petitioner currently have on hand for tank painting?**

10 A: Petitioner has no money on hand that has been earmarked for tank painting.
11 Petitioner again seeks to borrow money to pay its prospective tank painting
12 expenses because it lacks accumulated funds to paint any of its tanks as a periodic
13 maintenance expense.²⁵

14 **Q: Was Petitioner required to set up a restricted account for tank painting funds?**

15 A: Yes. Petitioner had neglected the Millis (South) tank's coating, causing the need
16 for a more expensive project on an expedited basis to completely sandblast and
17 recoat both the interior and exterior. To prevent a recurring problem of lack of

²² See Attachment JTP-3, Petitioner's response to OUCC DR 2-9.

²³ Accumulated funds (1989 to 2009) would have been \$354,585 calculated as 17 years at \$12,858 per year, 3 years at \$35,333 per year and one year at \$30,000. The 2009 Millis (South) tank painting cost \$387,000.

²⁴ Calculated as \$30,000 per year added to the tank painting restricted account from 2010 through 2019.

²⁵ Petitioner seeks to include \$491,370 for painting its Folsomville (North) tank under its proposed 39-year Rural Development loan. Total costs include \$375,000 contractor costs plus \$37,000 (10% contingency) plus an additional \$79,370 in non-construction costs. See Pet. Ex. 2, 2018 PER, page 39.

1 funds for future tank painting, Petitioner agreed to fund a restricted account for
2 painting its other two elevated tanks as follows:

3 (ii) Restricted or Dedicated Accounts for Annual Tank
4 Painting Amortization. For elevated water storage tanks
5 other than Petitioner's South Tower (the painting of which is
6 being financed in this Subdocket, to be funded through
7 future debt service payments), Petitioner agreed to
8 accumulate funds collected through rates for future tank
9 painting projects based on a 15-year amortization period.
10 Petitioner agreed to place all monies collected through rates
11 for future tank painting in a dedicated or restricted account,
12 to be used only as needed for future tank maintenance.²⁶

13 (emphasis added.)

14 **Q: Did Petitioner set up and fund the restricted tank painting fund?**

15 A: No.²⁷

16 **Q: How much is Petitioner currently seeking to recover in rates for periodic**
17 **maintenance expense for tank repainting?**

18 A: Boonville seeks \$118,000 annually to clean, inspect, and maintain its storage tanks
19 which is a 293% increase over the prior allowance granted.²⁸

20 **Q: Did you observe Petitioner's elevated storage tanks?**

21 A: Yes. I viewed all three elevated tanks and the clearwell and aerator / detention tank
22 at the water treatment plant. I also reviewed the 2017 inspection reports for the
23 Millis (South) and Breckenridge (West) towers. The Millis tank's exterior coating,
24 the clearwell, and the aerator/detention tank appear to be in excellent condition.
25 Petitioner's other two elevated tanks appear to be in good overall condition with

²⁶ Final Order, Cause No. 43477-S1, December 10, 2008 page 8.

²⁷ See Attachment JTP-4, Petitioner's response to OUCC DR 2-8.

²⁸ The four tanks (and annual periodic maintenance expense) include the steel aerator/detention tank (\$6,000) at the water treatment plant plus the three 500,000 gallon elevated water towers (\$33,333 each). Requested cleaning and inspection funding is \$8,000 annually. The 2008 rate case allowance was \$30,000 annually.

1 limited rust spots on the riser columns, support legs, and ancillary steel equipment
2 such as ladders and overflow pipes. The exterior tank shells do not show rust but
3 the Breckenridge tank has peeling paint on top, which should be removed followed
4 by topcoating. *See* Attachment JTP-5 for Folsomville (North) tank photos.

5 **Q: What do you recommend for tank painting expense and the overall periodic**
6 **maintenance expense?**

7 A: Because Petitioner has two tanks that will need to be painted in the next several
8 years, I accept Petitioner's \$118,000 tank painting expense as requested. Petitioner
9 needs to formulate a near term plan to paint its Breckenridge (West) and
10 Folsomville (North) tanks as it accumulates sufficient depreciation and periodic
11 maintenance expense funds. Petitioner also needs to space tank painting years to
12 avoid depleting the restricted account. I recommend the Commission approve the
13 \$118,000 expense in Petitioner's revenue requirement. All other periodic
14 maintenance expense adjustments to test year should be disallowed to avoid double
15 recovery. Petitioner's revenue requirement for annual periodic maintenance
16 expense should be set at \$118,000 instead of Petitioner's requested \$230,000.

17 **Q: Do you have another recommendation for periodic maintenance expense?**

18 A: Yes. Petitioner should comply with Cause No. 43477's Final Order to fund a
19 restricted tank painting account. I also recommend the Commission order
20 Petitioner to place \$118,000 annually into the restricted account for future tank
21 painting use. I also recommend the Commission prohibit Petitioner from
22 implementing its Phase II rate increase until after it certifies it has set up and begun
23 funding the restricted account. Petitioner should further be directed to report the
24 restricted account yearly balances in the Special Deposits section of its IURC

1 Annual report (page F-7).

2 **Q: Should Petitioner be permitted to use the funds if necessary to make debt**
3 **service payments?**

4 A: These restricted funds would be available to make debt service payments if
5 necessary. However, if Petitioner spends any of the restricted funds to make a debt
6 service payment, it should be required to notify the Commission and the OUCC
7 within five (5) business days and explain why such action was necessary.

8 **Q: Should Petitioner capitalize the Folsomville (North) painting cost?**

9 A: No. Petitioner should not finance tank painting that lasts only 15 to 25 years in its
10 proposed 39-year Rural Development loan. It should also not be allowed to
11 capitalize tank painting since it has been and will continue to receive funds through
12 rates specifically for tank painting.

13 **Q: Do you have any other recommendations with respect to tank maintenance?**

14 A: Yes. The American Water Works Association ("AWWA") has standards to
15 establish formal management and operations guidelines identifying appropriate
16 practices, procedures, and behaviors whose implementation promote effective and
17 efficient utility operations and contribute to protection of public health, public
18 safety, and the environment.²⁹ The AWWA created a Distribution Systems
19 Operation and Management Standard ("AWWA Standard G200") and developed
20 an Operational Guide to AWWA Standard G200. The AWWA Standard G200,
21 Section 4.3.1.3, provides for water storage inspection:

22 The utility shall have a written inspection program outlining
23 frequency, procedures and maintenance records. The inspection
24 program shall include such features as routine (daily/weekly);

²⁹ AWWA Standard G200, Distribution Systems Operation and Management, Effective Date: April 1, 2010, page vii.

1 periodic (monthly/quarterly); and comprehensive (3-5 years)
2 inspections.

3 Section 4.3.1.4 of AWWA Standard G200 provides for water storage maintenance:

4 The utility shall have a maintenance program that includes periodic
5 cleaning and refurbishing of facilities, as required. Cleaning of
6 covered storage shall be based [on] internal inspection conducted at
7 a minimum of every 5 years and for uncovered reservoirs, at least
8 annually. The utility shall perform a full internal and external
9 inspection according to AWWA Manual M42. The utility shall
10 conduct an external visual inspection of the storage facility at least
11 seasonally to assess and repair environmental damage and verify the
12 integrity of vents and screens. The inspection shall include an
13 assessment of the physical security of the facility. Maintenance
14 activity, such as coating or painting, shall be based on
15 ANSI/AWWA Standards D102 and D103.

16 **Q: Do you have a specific recommendation for Boonville regarding tank**
17 **inspection and maintenance?**

18 **A:** Yes. Boonville should establish and follow a written inspection and maintenance
19 plan for water storage facilities, consistent with AWWA Standard G200, Section
20 4.3.1.3, AWWA Manual M42 and ANSI/AWWA Standards D102 and D103. I
21 recommend Petitioner develop a tank maintenance program this year to include
22 regular tank cleanings, inspections and repainting. Petitioner's requested \$118,000
23 includes \$8,000 to fund tank cleaning and inspection. Petitioner should develop a
24 tank repainting schedule so Petitioner's water tanks' protective coatings do not
25 deteriorate endangering the underlying steel structures and shortening tanks lives.

IV. CAPITAL IMPROVEMENT PROJECTS

A. Capital Projects Overview

26 **Q: What capital improvement projects has Boonville set forth to justify its rate**
27 **increase and financing?**

28 **A:** Petitioner proposes to construct nine separate capital improvement projects

1 estimated at \$5,710,000 for total construction costs (including contingency) and
2 \$1,200,000 for non-construction costs to produce a Total Estimated Project
3 Funding cost of \$6,910,000. The proposed improvements showing construction
4 costs and contingencies by project are shown in Table 4 with information taken
5 from the list of capital improvements from Mr. Roos and Mr. Seever's testimony:

Table 4 - Proposed Construction and Non-Construction Costs

No.	Project Name	Constr. Cost	Assumed Contingency	Total Constr. Cost
1	Wellfield Improvements	\$250,000	\$25,000	\$275,000
2	North Water Storage Improvements	\$375,000	\$37,000	\$412,000
3	Water Distribution Improvements	\$239,400	\$33,600	\$273,000
4	Eby Road Booster Station Replacement	\$200,000	\$20,000	\$220,000
5	New Metering System	\$1,798,200	\$179,800	\$1,978,000
6	Wellfield Solar Field	\$294,200	\$29,800	\$324,000
7	Water Treatment Plant Solar Field	\$483,050	\$47,950	\$531,000
8	Water Distr. Improvements – SR 261	\$817,065	\$81,935	\$899,000
9	Water Distr. Improvements – SR 61	\$725,220	\$72,780	\$798,000
	Total Estimated Construction Costs	\$5,182,135	\$527,865	\$5,710,000
	Estimated Non-Construction Costs:			
	Engineering			\$465,000
	Inspection			\$235,000
	Environmental			\$20,000
	Land Acquisition			\$80,000
	Legal and Financial Services			\$369,700
	Miscellaneous			\$30,300
	Total Est. Non-Construction Costs			\$1,200,000
	Total Estimated Project Funding			\$6,910,000

1 Petitioner generally rounds a 10% contingency cost to produce total construction
2 costs to the nearest thousand dollars. However, the \$33,600 contingency shown for
3 Project No. 3 appears to be a math error.

4 **Q: Were you able to determine whether some of the proposed projects are**
5 **prudent and reasonable from Petitioner's Case-In-Chief?**

6 A: Yes. Witness Clint W. Roos, P.E. included the 2018 *PER* detailing Petitioner's
7 water system and proposed projects in Petitioner's Exhibit No. 2. I agree the
8 following projects are reasonable and prudent:

9 No. 1 Wellfield Improvements – Installation of a new 600 gpm well and discharge
10 piping to replace existing Well No. 7 which is experiencing sand intrusion.

11 No. 3 Water Distribution Improvements – Replace and relocate a deep water main
12 that is installed under a building and an alley with difficult accessibility.

13 No. 4 Eby Road Booster Station Replacement – Construct a new two pump booster
14 station to replace the existing booster station.

15 No. 5 New Metering System (with a cost reduction for new meters) – Installation of
16 an automatic read meter system.

17 **Q: Did you determine some projects were not reasonable or prudent?**

18 A: Yes. I do not agree that the following projects are reasonable and prudent:

19 No. 2 North Water Storage Improvements – Petitioner should fund tank painting
20 through its periodic maintenance expense by setting up and accumulating funds
21 in a restricted account for tank painting instead of financing painting costs
22 through the 39-year RD loan. *See* my previous testimony regarding the
23 periodic maintenance restricted account on pages 8 through 18. Tank coatings
24 typically last 15 to 25 years which is shorter than the 39-year term of the loan.

1 No. 6 Wellfield Solar Field; and

2 No. 7 Water Treatment Plant Solar Field – These projects do not appear to save
3 ratepayers money and are being financed through the 39-year RD loan even
4 though Petitioner reports the solar panels have only 20-year service lives.

5 No. 8 Water Distribution Improvements – SR 261; and

6 No. 9 Water Distribution Improvements – SR 61 – These are water main extension
7 projects outside of City limits and outside of Petitioner's water service area to
8 serve a proposed 550 home development.

9 **Q: How is Petitioner proposing to fund its capital improvements?**

10 A: Petitioner plans to borrow all \$6,910,000 from the US Department of Agriculture's
11 Rural Development ("RD") under a 39-year loan.

12 **Q: What is the status of Petitioner's RD loan?**

13 A: Petitioner has not submitted all required documents to Rural Development to secure
14 the loan and has not been approved. In response to discovery, Boonville stated it
15 submitted its *Preliminary Engineering Report* to the new Rural Development State
16 Engineer for preliminary review on June 5, 2018 while it is preparing the new
17 Environmental Document for the four added projects (two solar projects and two
18 main extensions along SR 261 and SR 61). My understanding is the submitted
19 report is the 2018 *PER*, which includes all nine projects. Boonville submitted its
20 initial *PER* for five projects on November 22, 2016. The Environmental Document
21 ("ED") was subsequently approved January 19, 2017. Rural Development sent out
22 initial comments/questions on the initial *PER* to Petitioner on February 15, 2017,
23 but Petitioner has not provided responses. See Attachment JTP-6 for Petitioner's
24 responses to OUCC discovery pertaining to the Rural Development Loan status.

B. New Metering System

1 **Q: Why do you propose a cost reduction for the new metering system?**

2 A: Petitioner proposes to replace all of its manual read water meters with automatic
3 read meters at a total project cost of \$2,359,051 including contingencies and non-
4 construction costs. Petitioner prices the new residential meters at \$400 each.
5 However, Petitioner indicates it has purchased approximately 200 of the automatic
6 read meters from Master Meter over the last four years with the latest invoiced price
7 of \$195 each. Petitioner stated it has not received discount pricing for buying in
8 bulk quantities. Petitioner should be able to achieve even lower prices by
9 purchasing in bulk. Therefore, for purposes of financing approval I assumed
10 Petitioner can purchase and install the 3,500 new residential meters for \$200 apiece
11 resulting in a \$700,000 construction cost reduction. Adding in a 10% contingency
12 and non-construction costs, I recommend the Commission authorize \$1,591,149 in
13 debt funding for the new metering system project.

14 **Q: Do you have any recommendations for Petitioner's conversion from manual**
15 **read meters to automatic read meters?**

16 A: Yes. Petitioner should publically bid the meter conversion project and make the
17 transition over a multi-year period to avoid having all meters of the same age. This
18 will smooth out the long term replacement of meters and avoid a cost spike in any
19 one year for new meters.

20 **Q: Do you have any other observations with respect to this meter replacement**
21 **program?**

22 A: Yes. Petitioner will replace all manual read meters with automatic read meters, but
23 Petitioner does not show any labor reductions due to the much shorter time needed

1 for reading new meters. (See Attachment JTP-7 for Petitioner's responses to OUCC
2 data requests pertaining to the new metering system.) Because contract operator
3 Veolia reads the meters pursuant to the contract, it is Veolia that receives the direct
4 benefit of this labor savings. As such, it is unclear how upgrading to more
5 expensive automatic read meters benefits the utility or its ratepayers.

C. Renewable Energy Improvements – Solar Power Projects

6 **Q: Is Petitioner proposing to construct new solar fields at the existing wellfield**
7 **and at the water treatment plant?**

8 A: Yes. In the Direct Testimony of Clint W. Roos, P.E. (Petitioner's Exhibit No. 1),
9 he stated the following regarding the construction of the solar field projects at the
10 utility's wellfield and water treatment plant:

11 Construction of the solar field would hopefully allow Boonville to
12 eventually reduce its monthly electric bill with Vectren, thus
13 creating operational savings for the utility. In addition, Boonville
14 strongly believes it is prudent to make this investment in clean,
15 renewable energy.

16 **Q: Did Petitioner provide a description of the solar field projects?**

17 A: Yes. In the Preliminary Engineering Report for Water System Improvements for
18 the City of Boonville ("PER") (Petitioner's Exhibit 2, page 36), a brief description
19 of the proposed projects are provided as follows:

20 6. **Wellfield Solar Field** – A new solar field will be constructed in
21 the existing wellfield between County Road 500 North and
22 Existing Well No. 7. The project will consist of a 179.5 kW
23 (DC)/133.2 kW (AC) solar system which is an investment in
24 renewable energy by the City in order to help reduce carbon
25 footprint.

26 7. **Water treatment Plant Solar Field** – A new solar field will be
27 constructed in the existing water treatment plant site on the south
28 side of New Hope Road. The project will consist of a 359.0 kW

1 (DC)/266.4 kW (AC) solar system which is an investment in
2 renewable energy by the City in order to help reduce carbon
3 footprint.

4 In response to OUCC Data Request 3-1, Petitioner indicated that the wellfield solar
5 project would consist of approximately 530 solar modules and that the estimated
6 system output would be approximately 260,000 kilowatt-hours (“kWh”) per year.
7 Petitioner also indicated that the solar field at the water treatment plant site would
8 consist of approximately 1,060 solar modules and that the estimated system output
9 would be approximately 520,000 kWh per year.

10 **Q: Has Petitioner determined whether it is cost effective to generate electric**
11 **power from the proposed solar field projects?**

12 A: In response to OUCC Data Request 3-1(b), Petitioner stated that a “payback
13 analysis has not been completed for the proposed systems.” However, in response
14 to OUCC Data Request 3-1(c), Petitioner provided the following information:

15 Based on the above annual energy productions, it is estimated that
16 the energy value per year would be approximately \$30,000 for the
17 wellfield and \$60,000 for the water treatment plant. The typical
18 useful life of a solar module is twenty (20) years.

19 Therefore, it appears that Petitioner estimates its annual energy value of the solar
20 projects to be \$90,000 for twenty (20) years.

21 **Q: Has Petitioner estimated the total cost to construct the solar field projects?**

22 A: Yes. On page 6 Petitioner’s Exhibit 5, Schedule of Estimated Project Costs and
23 Funding, Petitioner provides an estimated construction cost of \$294,200 for the
24 Wellfield Solar Field and \$483,050 for the Water Treatment Plant Solar Field.
25 These estimated costs do not include any contingency. If a 10% contingency is

1 included (as Petitioner indicates), then the construction costs would be \$323,620³⁰
2 (Wellfield) and \$531,355³¹ (Water Treatment Plant) or a total of \$854,975. These
3 estimated construction costs (including 10% contingency) are consistent with the
4 “Probable Construction Costs” indicated in Table 8 of the PER (page 34), where
5 Petitioner estimated the “probable construction costs” to be \$324,000 (Wellfield –
6 Alternative 6A) and \$531,000 (Water Treatment Plant – Alternative 6B), which
7 totals \$855,000.

8 **Q: Does Petitioner’s estimated construction cost for the solar field projects**
9 **include non-construction costs?**

10 A: No. On its Schedule of Estimated Project Costs and Funding, Petitioner estimated
11 a total of \$1,200,000 in non-construction costs for all nine projects. This represents
12 approximately 17% of the total estimated project costs of \$6,910,000. Therefore,
13 if you added an additional 17% for non-construction costs to the estimated
14 construction cost of \$855,000 for just the solar field projects, the resulting total
15 solar project costs would be approximately \$1,000,350 (17% times \$855,000 =
16 \$145,350. \$855,000 + \$145,350 = \$1,000,350)

17 **Q: Has Petitioner estimated the annual operation and maintenance (“O&M”)**
18 **cost for the solar projects?**

19 A: In Petitioner's PER (Petitioner's Exhibit 2, page 34), Table 8 provides the annual
20 O&M cost associated with the solar projects. Petitioner estimates a total annual
21 cost of \$55,000 for both solar field projects.

22 **Q: How has Petitioner proposed to fund the capital costs for the solar project?**

³⁰ \$294,200 * 1.10 = \$323,620

³¹ \$483,050 * 1.10 = \$531,355

1 A: Petitioner has proposed to obtain a 39-year loan from the United States Department
2 of Agriculture - Rural Development ("RD") to fund all of its capital projects,
3 including the solar field project.

4 **Q: If Petitioner were to debt fund just the solar field projects, what would be the**
5 **debt service on \$1,000,350?**

6 A: A 39-year loan at 3.125% interest would result in an annual debt service amount of
7 \$44,733.

8 **Q: Given the analysis you performed and discussed above, do you have any**
9 **concerns with Petitioner's proposed solar field project?**

10 A: Yes. However, before I discuss my concerns, I need to state that the OUC is not
11 opposed to utilities looking for cost-effective ways to reduce their electric power
12 costs and reducing their carbon footprint. The OUC supports projects that
13 provide tangible ratepayer benefits, especially when those projects lower the costs
14 of providing water utility service. My concern in this case is that it appears that the
15 costs associated with this project outweigh the benefits.

16 **Q: Please explain how the costs of this project outweigh the benefits.**

17 A: As mentioned above, Petitioner estimates that the solar field projects' "energy
18 value" per year would be approximately \$30,000 for the wellfield and \$60,000 for
19 the water treatment plant" or a total of \$90,000. Petitioner estimated the annual
20 maintenance cost to be \$55,000. The debt service to pay for all the cost associated
21 with constructing the solar field are estimated to be \$44,733. Therefore, the total
22 annual cost is approximately \$99,733 per year.

23 Given that the estimated benefits are only \$90,000 per year and the costs
24 are \$99,733 per year, it appears that ratepayers would be paying \$9,733 more for
25 electric power expense than if the projects were not pursued.

1 **Q: Are there other factors that may cause this analysis to actually understate the**
2 **net benefits of Petitioner's proposed solar projects?**

3 A: Yes. Petitioner has suggested that its proposed solar projects will last for 20 years.
4 Yet the debt service on Petitioner's proposed loan will last for 39 years. Thus,
5 Petitioner's ratepayers will continue to pay annual debt service (\$44,733) on
6 Petitioner's proposed solar projects for many years after the projects are out of
7 service. A better comparison would be to assume a loan equal to the anticipated
8 life of the project. If you hypothetically assumed a 25 year loan (5 years longer
9 than Petitioner indicates), the annual debt service on such a loan would be \$58,250.
10 And the annual cost of the solar projects would increase to \$108,250.

11 Additionally Petitioner's estimated revenues may be overstated. It appears
12 as though Petitioner used its average cost of electricity (approximately 11.5 cents
13 per kWh), instead of its marginal cost (approximately 6.879 cents per kWh). If
14 Petitioner's analysis is based on average cost, instead of marginal cost, it will have
15 overstated the estimated benefits of its proposed solar fields. Next, according to
16 Senate Bill 309, for solar projects installed after December 31, 2017, solar power
17 providers will only be able to take advantage of net metering until July 1, 2032.
18 Starting in July 2032, the value of Petitioner's proposed solar power may decline.

19 **Q: Do you have any other concerns?**

20 A: Yes. The construction of solar power production is currently eligible for a 30% tax
21 credit. But Petitioner is a municipality and cannot directly take advantage of solar
22 power tax credits. However, Petitioner could contract with a 3rd party. The 3rd
23 party would build the solar power field and own the solar power field. Because the
24 3rd party can take advantage of solar power credits, they can build the plant for less

1 than Petitioner could. Petitioner would sign a contract with the 3rd party to purchase
2 power at cost that is less than their current cost of power. This would credit
3 measureable cost savings for Petitioner and its ratepayers, and would not expose
4 Petitioner and its ratepayers to the capital costs its proposes to incur.

5 **Q: Do you have additional thoughts?**

6 A: Yes. Petitioner is proposing to include in rates the debt service associated with
7 constructing the proposed solar fields. However, Petitioner has not proposed to
8 include a corresponding reduction to electric power expense. The asserted purpose
9 of the project is to lower electric power expense. It makes no sense to charge
10 customers for the construction of the projects but not reflect any reduction to
11 electric power expense in those customers' rates. Moreover, Petitioner's proposal
12 to include the cost of these projects in rates was not backed up by any cost benefit
13 analysis. The OUCC performed its own cost benefit analysis and determined that
14 even if the benefit were reflected in rates, the benefit does not outweigh the cost.

D. Water Main Extensions to Serve the Greenlife Development Subdivision

15 **Q: Please describe Petitioner's propose water main extensions.**

16 A: Petitioner identified two separate water main extension projects -- the State Road
17 261 Water Main Extension ("SR 261") and the SR 61 Water Main Extension ("SR
18 61"). Both projects appear to be part of the same overall project to extend water
19 service to a new subdivision, which was labeled on site drawings as "Victory

1 National.” Petitioner’s preliminary planning indicates it will install nearly 33,000
2 lineal feet (6.2 miles) of 8-inch PVC water mains with fittings, valves, and hydrants.

3 **Q: Where are the proposed water main extensions located within Petitioner's**
4 **system?**

5 A: The extensions parallel State Roads 261 and 61 and extend approximately 2.7 miles
6 southwest of Boonville. The extensions are located entirely outside Boonville’s
7 city limits. *See* Attachment JTP-8 for a system map showing the main extension
8 projects and Boonville’s proposed service area expansion. According to the
9 contract between the City of Boonville and the Developer, these mains would serve
10 an estimated 550 new single family residential customers.³²

11 **Q: What is the cost of the SR 261 and SR 61 water main extension projects?**

12 A: The estimated total project cost for these water main extensions is
13 approximately \$2,113,918.³³

14 **Q: What is the Developer share of the main extensions’ \$2,113,918 total project**
15 **cost?**

16 A: It does not appear the Developer will bear any of the cost of constructing the main
17 extensions needed to serve the development. In accordance with the contract
18 between the Developer and Boonville, Boonville is responsible for all water main
19 extension costs to serve the development. Boonville’s contract with the Developer
20 requires the Developer to post either a performance bond or letter of credit

³² *Agreement to Construct Water and Sewer Infrastructure Improvements and Provide Water and Sewer Services* (“Agreement”) between the City of Boonville and Greenlife Development, LLC (“Developer” or “Greenlife”) a Florida limited liability company with its principal place of business in Jacksonville, FL, dated August 23, 2016. *See* Attachment JTP-9.

³³ *See* Petitioner’s Exhibit No. 2, page 42. The \$2.6 million is the OUCC’s estimate of the total project costs with construction, 10% contingency and the prorated share of non-construction costs.

1 (“Security”) for \$400,000 to secure construction of initial homes. This Security
2 with the City is periodically reduced as a tap credit of \$1,500 per sewer tap as new
3 homes connect to the sewer system.³⁴

4 **Q: What would be the added cost per lot if Petitioner’s \$2,113,918 water main**
5 **extension costs were recovered directly from the new customers?**

6 A: The cost would be \$3,843 per lot.³⁵

7 **Q: How much time is allowed for the developer to connect the 550 new customers**
8 **to Petitioner’s extended utilities?**

9 A: The developer may have as much as 18 years to connect the homes. The contract
10 is unclear about exactly how many homes are part of the Developer’s commitment.
11 According to the contract, the Developer anticipates purchasing 550 residential
12 sewer taps within eight years after Boonville completes the City work, but may
13 have as much as an additional ten year period (18 years total) to connect.³⁶

14 **Q: What is the current status of the SR 261 and SR 61 water main extensions?**

15 A: Construction has not started. Petitioner retained Midwestern Engineers who has
16 begun preliminary design of the new water main along Jenner Road and the Spine
17 Road. In response to discovery, Boonville submitted a set of preliminary drawings
18 for the water mains dated 2017 but noted that its “design plans are not final at this
19 point in time as the developer has been delayed with permit submittals for the
20 development itself.”

³⁴ For up to 266 sewer tap credits. *See* Section 2 – Consideration, Financing, and Security

³⁵ Calculated as \$2,006,000 divided by 550 homes equals \$3,647 per home.

³⁶ Defined as completely constructing the improvements necessary for the City to bring water and sewer utility service to the subdivision including all improvements located along the “Spine Road” within the subdivision. *See* Attachment JTP-8, Section 3, pages 2 – 3.

1 **Q: How is Petitioner financing the proposed main extensions?**

2 A: Petitioner proposes to finance the main extensions as part of the \$6,910,000 Rural
3 Development 39-year loan. I understand that Petitioner has not yet received a letter
4 of understanding obligating the loan from RD and is still in the approval process.

5 **Q: What is the debt service payment associated with such borrowing?**

6 A: According to OUCC witness Kaufman, the debt service revenue requirement for
7 the RD loan will be \$94,529 annually for principal and interest and for funding of
8 the debt service reserve account. These additional debt service payments are
9 associated exclusively with the proposed main extensions to the new customers.
10 Petitioner is also incurring unknown costs to extend sewer service to the proposed
11 subdivision. These sewer costs are a separate issue and are not part of this Cause.

12 **Q: Who benefits from the proposed water main extensions?**

13 A: Only the potential new users and land owners within the areas associated with the
14 proposed water main extensions. It appears Petitioner's current customers will
15 receive no direct benefit from the proposed main extensions to Victory National
16 and Petitioner's system may not begin receiving revenue from the development
17 customers until an undetermined time in the future.

18 **Q: How will this affect Petitioner's current customers?**

19 A: All current customers would have to pay the debt associated with this project, which
20 will be reflected in increased water rates.

1 **Q: Does Petitioner, as a municipal water utility, have any other methods for**
2 **financing these main extensions?**

3 A: Yes. The City of Boonville may be able to fund some or all of the water main
4 extension costs through other tax revenue sources including setting up a Tax
5 Increment Financing ("TIF") District.

6 **Q: What is your recommendation to the commission regarding the proposed rate**
7 **increase to fund debt service for the proposed inappropriate water main**
8 **extensions?**

9 A: I recommend the Commission disallow the proposed borrowing for the water main
10 extension. As is often the case with respect to main extensions by municipal water
11 utilities, the applicants for water service, which is either the Developer of the
12 property or the customers who will be served by the water main extension, should
13 be responsible for necessary main extension costs. In any case, Petitioner's existing
14 customers should not be required to pay higher rates so their utility may pay the
15 entire cost of extensions to a new development.

16 **Q: In conclusion, what recommendations do you make regarding the proposed**
17 **main extension?**

18 A: I recommend the Commission deny Petitioner's request for debt service and debt
19 service reserve associated with the proposed main extensions. I recommend the
20 Commission instruct Petitioner to follow the Indiana Administrative Code in the
21 future when extending water mains.

V. RECOMMENDATIONS

22 **Q: What are your recommendations?**

23 A: I recommend the following:

- 1 1) The Commission approve \$118,000 as the periodic maintenance expense
2 adjustment to recover amortized tank painting costs.
- 3 2) The Commission disallow all other periodic maintenance adjustments.
- 4 3) The Commission order Petitioner to establish and fund a restricted tank
5 painting account, as it did in its Final Order in Cause No. 43477.
- 6 4) The Commission order Petitioner to place annually into the restricted tank
7 painting account no less than \$118,000.
- 8 5) The Commission disallow the proposed debt funding of the Folsomville
9 (North) water storage tank repainting project.
- 10 6) The Commission prohibit Petitioner from implementing its Phase II rate
11 increase until after it has certified that it has established and begun funding the
12 restricted periodic maintenance account. Petitioner should further be ordered to
13 report the restricted account yearly balances in the Special Deposits section of its
14 IURC Annual report (page F-7).
- 15 7) The Commission authorize proposed debt funding for the new metering
16 system project in the amount of \$1,591,149.
- 17 8) The Commission disallow the proposed debt funding of the Wellfield and
18 Water Treatment Plant Solar Field projects.
- 19 9) The Commission disallow the proposed debt funding of the main extension
20 projects (State Road 261 Water Main Extension and the State Road 61 Water Main
21 Extension).

22 **Q: Does this conclude your testimony?**

23 A: Yes.

Appendix A

1 **Q: Please describe your educational background and experience.**

2 A: In 1980 I graduated from Purdue University, where I received a Bachelor of Science
3 degree in Civil Engineering, having specialized in Environmental Engineering. I
4 then worked with the Peace Corps for two years in Honduras as a municipal
5 engineer and as a Project Engineer on self-help rural water supply and sanitation
6 projects funded by the U.S. Agency for International Development (U.S. AID). In
7 1984 I earned a Master of Science degree in Civil Engineering and Environmental
8 Engineering from Purdue University. I have been a Registered Professional
9 Engineer in the State of Indiana since 1986. In 1984, I accepted an engineering
10 position with Purdue University, and was assigned to work as a process engineer
11 with the Indianapolis Department of Public Works ("DPW") at the City's Advanced
12 Wastewater Treatment Plants. I left Purdue and subsequently worked for
13 engineering consulting firms, first as a Project Engineer for Process Engineering
14 Group of Indianapolis and then as a Project Manager for the consulting firm HNTB
15 in Indianapolis. In 1999, I returned to DPW as a Project Engineer working on
16 planning projects, permitting, compliance monitoring, wastewater treatment plant
17 upgrades, and combined sewer overflow control projects.

18 **Q: What are the duties and responsibilities of your current position?**

19 A: My duties include evaluating the condition, operation, maintenance, expansion, and
20 replacement of water and wastewater facilities at utilities subject to Indiana Utility
21 Regulatory Commission ("Commission") jurisdiction.

22 **Q: Have you previously testified before the Commission?**

23 A: Yes.

Appendix B - List of Attachments

- Attachment JTP-1 Townships, Cities, and Towns in Warrick County, STATS Indiana
- Attachment JTP-2 Boonville Water System map, Midwestern Engineers, Inc. Response to DR 2-2
- Attachment JTP-3 Petitioner response to OUCC DR 2-9 regarding tank inspections
- Attachment JTP-4 Petitioner responses to OUCC DR 2-8 regarding the restricted account for tank painting
- Attachment JTP-5 Site Visit Photos of the Folsomville (North) Elevated Storage Tank
- Attachment JTP-6 Petitioner responses to OUCC DRs 3-5, 3-6, and 3-7 regarding the status of the US Dept. of Agriculture – Rural Development
- Attachment JTP-7 Petitioner's responses to OUCC data requests pertaining to the proposed metering system
- Attachment JTP-8 Boonville Water System map with capital projects, Midwestern Engineers, Inc. Response to DR 1-6
- Attachment JTP-9 Petitioner's Agreement with Greenlife Development for Victory National Subdivision and responses to OUCC data requests

Appendix C – Boonville's Demand Characteristics

1 **Q: What are Boonville's demand characteristics?**

2 A: Petitioner's customer base grew 0.18% annually (about 6 new customers per year)
3 from 3,500 customers in 1989. However, Petitioner's growth has been flat in the
4 last decade. Volumes of water sold have also remained flat. Petitioner reported its
5 average day demand at 1.3 million gallons per day ("MGD").³⁷ However,
6 according to data from its Annual Reports to the IURC, the ten year (2008 – 2017)
7 water production averaged 1.2 million gallons per day ("MGD") with average water
8 sold at 0.69 MGD. Reported 2016 and 2017 water pumped flows were even less at
9 below 1.0 MGD. *See* Table 1.

10 **Q: Has Boonville forecasted future water demand?**

11 A: Yes. For the planning year 2038, Midwestern Engineers estimated average daily
12 water pumped will increase to 1,566,000 gpd based on an assumed 20% growth.³⁸
13 This is 72% higher than Petitioner's reported 2017 water pumped flow and 30%
14 higher than the 10-year average water pumped flow.³⁹

³⁷ *See* Direct Testimony of Clint W. Roos, P.E., page 6. "Historically, Boonville's average day demand has been approximately 1,305,000 gallons per day ("GPD"), and its peaking factor has historically ranged from 1.2 - 1.3".

³⁸ *See* the 2018 *Preliminary Engineering Report* in Petitioner's Exhibit No. 2, page 22.

³⁹ Calculated as 2038 forecasted pumped flow of 1.566 MGD minus actual 2017 pumped flow of 0.91 MGD divided by the actual 2017 pumped flow. $(1.566-0.91)/0.91 = 72\%$ increase. Using the ten year (2008-2017) average pumped flow of 1.2 MGD the calculation would be $(1.2 \text{ MGD})/1.2 \text{ MGD} = 30.5\%$ increase

Table 1 – Customers, Water Pumped from Wells, and Water Sold, 2008 to 2017

Year	Customers		Water Pumped (MGD) ⁴⁰	Water Sold (MGD)	Water Sold per Customer (gpd) (excludes Yankeetown)	Non-Revenue Water	
	Residential	Total				MGD	%
2008	3,419	3,687	1.19	0.70	164	0.49	41%
2009	3,396	3,659	1.27	0.62	142	0.65	51%
2010	3,368	3,623	1.27	0.62	143	0.66	51%
2011	3,379	3,633	1.09	0.62	144	0.47	43%
2012	3,369	3,622	1.23	0.72	171	0.51	42%
2013	3,395	3,649	1.18	0.70	163	0.48	41%
2014	3,394	3,648	1.33	0.77	184	0.56	42%
2015	3,407	3,662	1.23	0.79	189	0.44	36%
2016	3,421	3,676	0.96	0.70	164	0.26	27%
2017	3,423	3,679	0.91	0.69	159	0.22	24%
Avg.	3,397	3,654	1.20	0.69	162	0.50	42%

1 **Q: Do you agree with Petitioner's increased flow demand?**

2 A: No. The forecasted flow is not supported by an engineering demand study and
3 appears to be overly optimistic. Boonville's actual ten year average for water
4 pumped is 1.2 MGD. Boonville's projected flow of 1.566 MGD implies
5 Boonville's customer base grows 61% in 20 years from the current 3,678 to 5,937
6 customers.⁴¹ This increase would add approximately 5,650 more people to
7 Boonville's current connected population of 10,260 people. This increase in

⁴⁰ MGD means million gallons per day. MG means million gallons. Gpd means gallons per day.

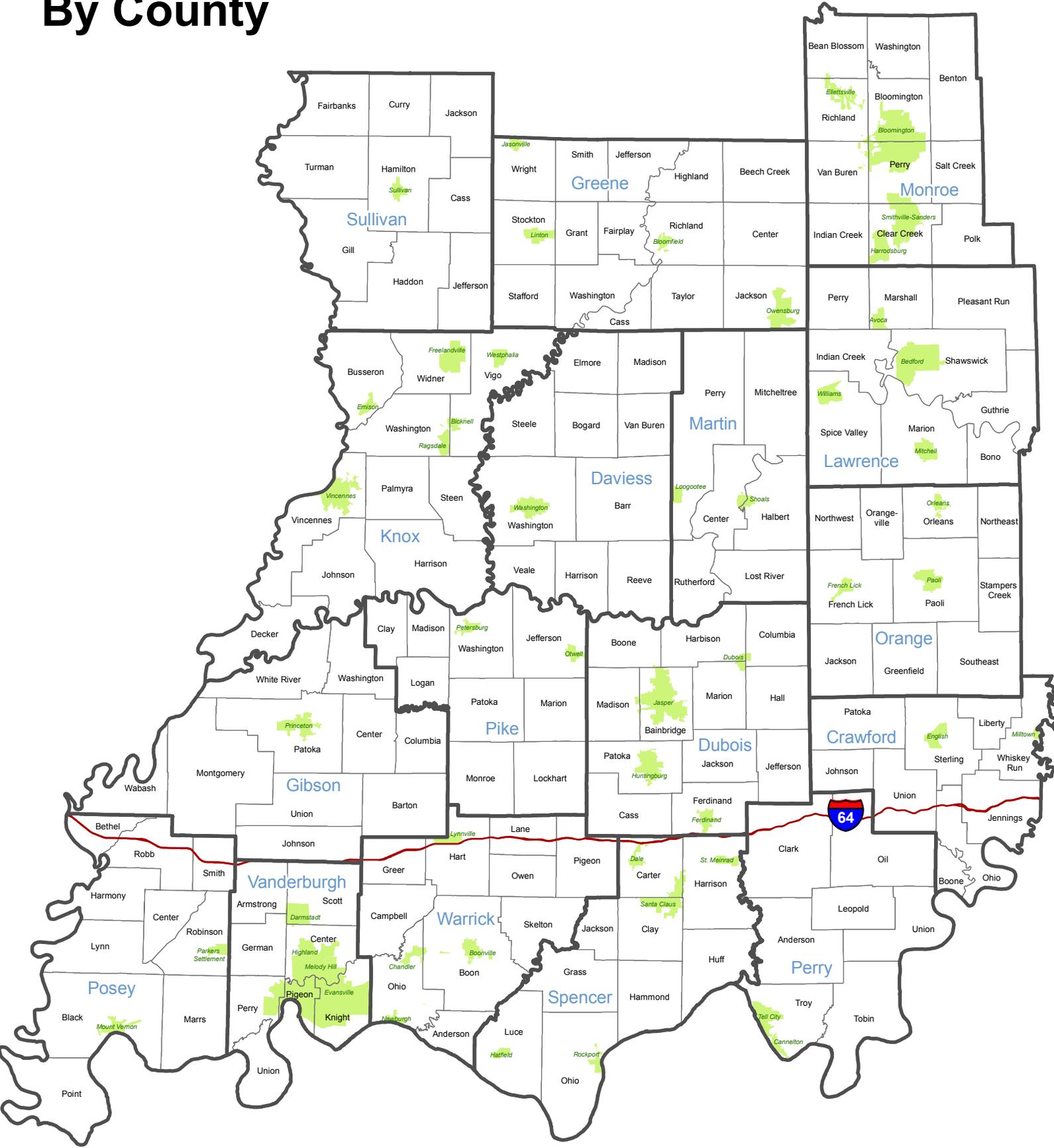
⁴¹ Excludes wholesale customer Yankeetown. Calculated as 1.566 MGD (future 2038 water pumped) – 1.2 MGD (ten year average pumped flow) divided by 162 gallons per day (ten year average customer demand) with non-revenue water unchanged at 0.5 MGD. (1.566 MGD – 1.2 MGD) times 1,000,000 divided by 162 gpd equals 2,259 new customers.

1 customers and connected population is unlikely. The 2024 projected customer base
2 would imply a connected population of over 21,000 people calculated at 2.5 people
3 per customer.

4 Petitioner's future 2038 water demand is aggressive when compared to the
5 actual flat demands over the past ten years and Indiana Business Research Center
6 ("IBRC") population forecasts. Extrapolating IBRC population estimates to 2038
7 to match the 20-year design period for Boonville, I calculate Warrick County's total
8 population will increase by 7,731 to 69,895.⁴² for all ten townships. Boonville is
9 located in Boon Township -- one of ten townships in Warrick County. Campbell
10 and Ohio Townships, which are adjacent to Interstate I-69, may also be expected to
11 share in any county-wide population growth. Chandler, and Newburgh will also
12 receive some of the Warrick County projected population growth. Boonville's
13 projected customer growth assumes 73% of projected population growth in Warrick
14 County will occur in Boonville's service area. Such an assumption is unsupported
15 and seems unlikely.

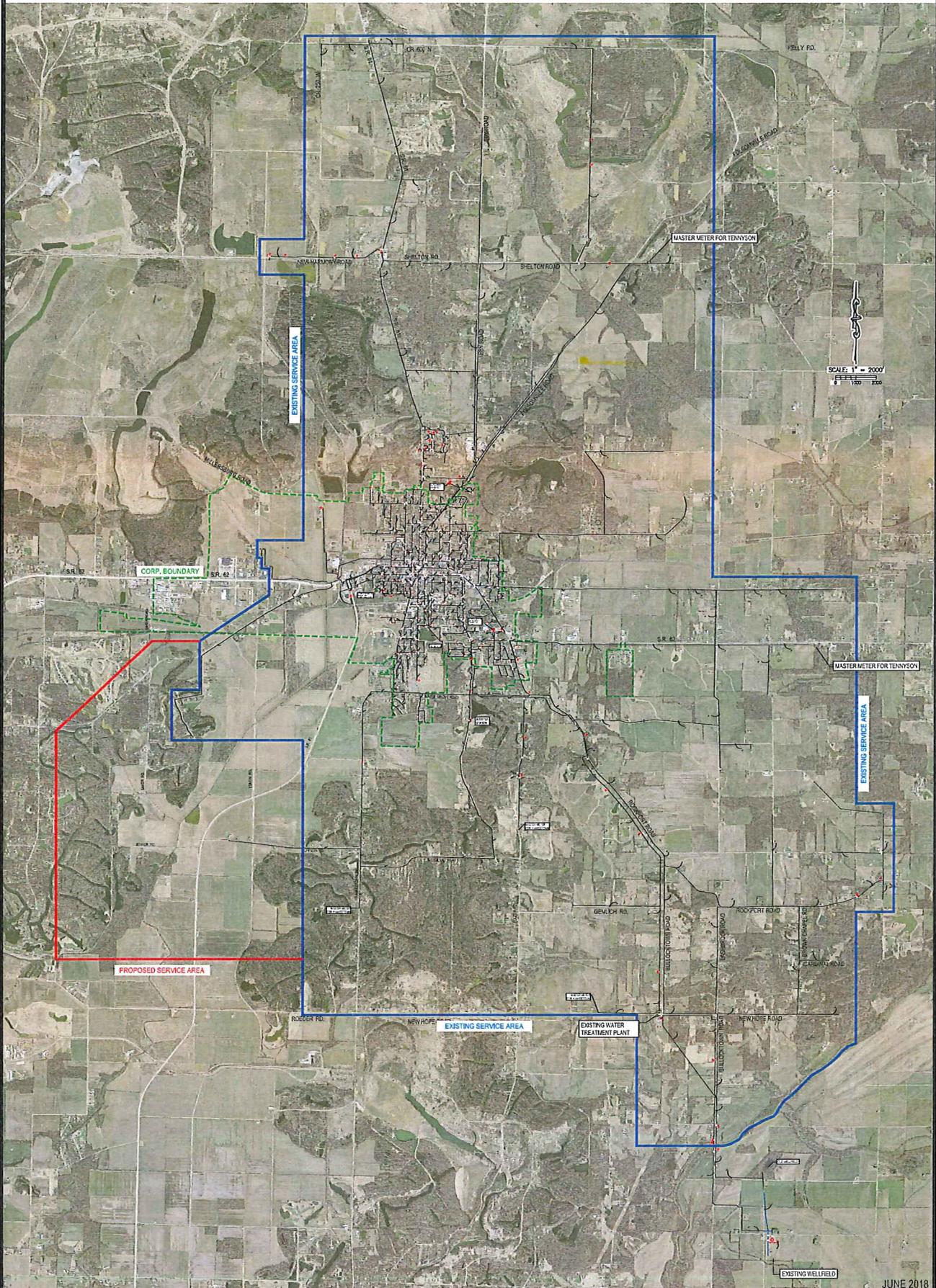
⁴² The IBRC projects Warrick County's population will grow to 70,261 people by 2040 from the 2017 estimate of 62,530 for 2017. This is a 12% increase.

Southwest Indiana Townships By County



Source: IBRC at Indiana University's Kelley School of Business, using data from the U.S. Census Bureau. May 2012

EXISTING WATER DISTRIBUTION SYSTEM
FOR THE
CITY OF BOONVILLE
WARRICK COUNTY, INDIANA



Midwestern Engineers, Inc.

812 West Broadway Street - P.O. Box 215 - Loogootee, IN 47553 - P: 812-215-2400
6809 Conquest Drive - Indianapolis, IN 46274 - P: 317-354-0252

JUNE 2018

Q-2-9: Please provide copies of the most recent tank inspection reports for each of Boonville's water storage tanks including:

- a. 500,000 gallon Millis (South) Welded Steel Elevated Water Tank
- b. 500,000 gallon Folsomville (North) Welded Steel Elevated Water Tank
- c. 500,000 gallon Breckenridge (West) Welded Steel Elevated Water Tank
- d. 720,000 gallon Prestressed Concrete Finished Water Clearwell at the Water Treatment Plant
- e. Welded Steel Detention Tank at the Water Treatment Plant.

Response: Subject to and without waiver of the foregoing General Objections, Boonville states that Exhibit 2-9a (Millis South) and Exhibit 2-9c (Breckenridge West) are attached. There has not been an official inspection report prepared for 2-9b (Folsomville North), 2-9d (Clearwell), and 2-9e (Detention Tank). However, the clearwell and aerator tank are inspected every time they are brought down for yearly maintenance. The North tank has been visually inspected; however, a report was not compiled.

Person(s) providing information: Shawn Wright

Testifying witness: Shawn Wright

Q-2-8: Regarding the Restricted Account for Tank Painting that was required under Cause No. 43477-S1, please provide the following:

- a. The date the restricted account was opened,
- b. The amount of funds added by year from account initiation through the present,
- c. The amount of funds disbursed, if any, by year since account initiation, and
- d. The total amount of funds currently held in the Tank Painting restricted account.
- e. If the restricted account was not established, please explain.

Response: Subject to and without waiver of the foregoing General Objections, Boonville states that upon investigation, it appears that this restricted account was never opened. Nancy Shull Brill, the former Boonville Clerk-Treasurer was responsible at the time for Utility accounting and was diagnosed with amyotrophic lateral sclerosis (known as "ALS" or Lou Gehrig's disease). Mrs. Shull Brill passed away from ALS in 2015. Boonville does not know why this account was never set up. At this time, Boonville lacks any funds to place in a Restricted Account for Tank Painting, but if the City is again directed to set up an account pursuant to the final order in this proceeding, it intends to do so in a timely manner.

Person(s) providing information: Tammy Boruff

Testifying witness: Shawn Wright

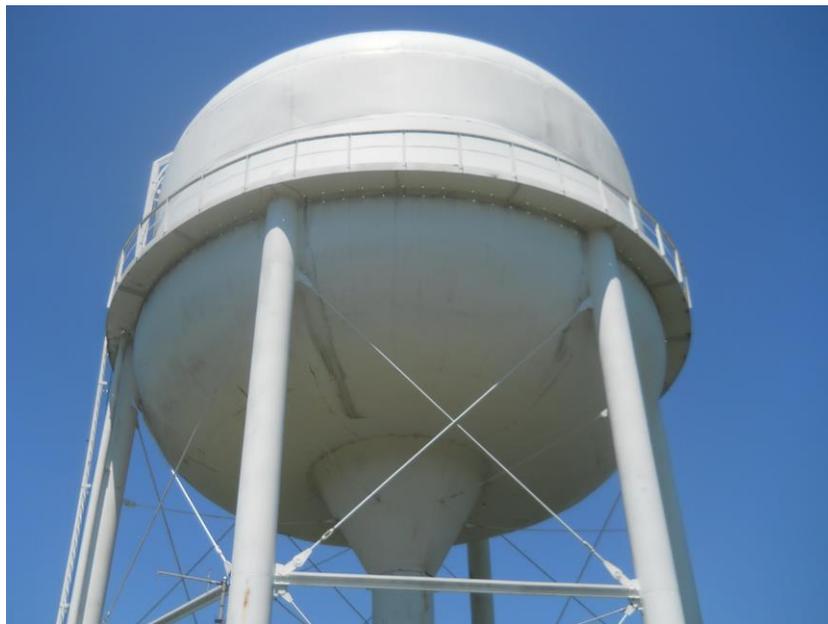


Figure 1 500,000 gallon Folsomville (North) Tank May 24, 2018



Figure 2 Close-up showing weld pattern and strip steel added during reassembly in 1998



Figure 3 Folsomville (North) Tank - Riser pipe and support legs



Figure 4 Close up view of tank coating.



Figure 5 500,000 gallon Folsomville (North) Tank May 24, 2018

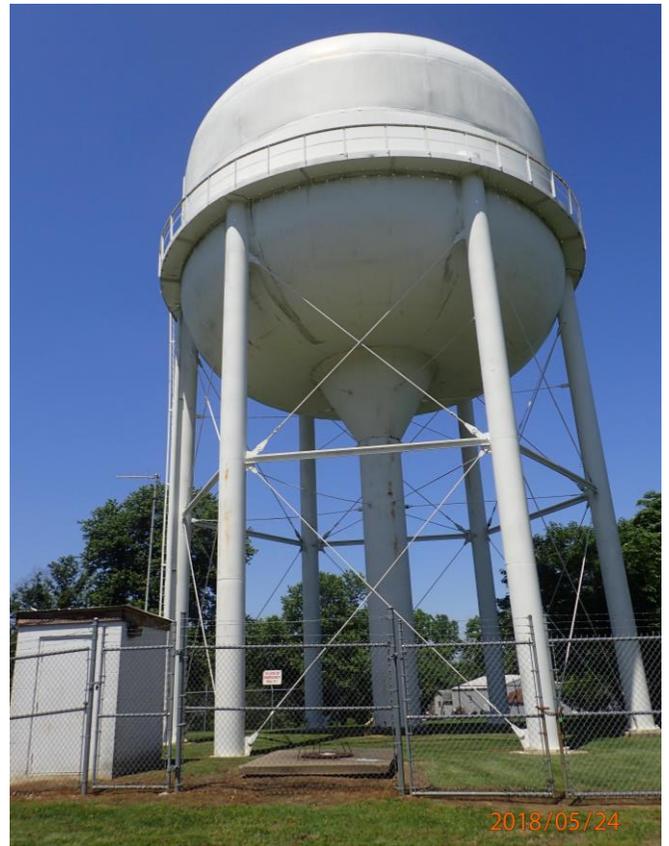


Figure 6 Folsomville (North) Tank showing the condition of the tank coating.



Figure 7 Folsomville (North) Tank.

Rural Development Loan and Grant

Q-3-5: Please provide the current status of the Rural Development Grant application.

Response: Subject to and without waiver of the foregoing General Objections, Boonville states that the City initially submitted the Preliminary Engineering Report (“PER”) to Rural Development on November 22, 2016. The environmental document (“ED”) was subsequently approved on January 19, 2017. Initial comments/questions on the PER were received from Rural Development on February 15, 2017. Since this time, Boonville has decided to add additional Improvements that are reflected in the current PER. The ED is currently being updated and the City is in the process of hiring an archaeological consultant to conduct an archaeological study for improvements in previously undisturbed areas so that the ED can be finalized. Due to staffing transitions at Rural Development (RD), the City requested RD to perform a preliminary review of the updated PER while the ED is being completed. The RD state engineer that performed the initial review of the PER is no longer with RD. The PER was submitted to the new RD state engineer for preliminary review on June 5, 2018.

Person(s) providing information: Clint Roos

Testifying witness: Clint Roos

Q-3-6: Please provide the current status of the Rural Development Loan application.

Response: Subject to and without waiver of the foregoing General Objections, please refer to the response for Q-3-5, the process for the loan application is the same as the grant application.

Person(s) providing information: Clint Roos

Testifying witness: Clint Roos

Q-3-7: Reference the Direct Testimony of Clint W. Roos regarding the proposed loan from the U.S. Department of Agriculture – Rural Development described on page 13.

- a. Please provides [sic] a copy of the initial comments / questions received from Rural Development on February 15, 2017.
- b. Please provides [sic] a copy of Boonville's responses to Rural Development's initial comments / questions.
- c. When will the Preliminary Engineering Report be resubmitted to Rural Development for review and approval?

Response: Subject to and without waiver of the foregoing General Objections, Boonville states as follows:

- a. Please refer to Attachment 3-7a for initial comments/questions.
- b. Official responses have not been submitted to Rural Development ("RD") due to updates described in the Response to Q-3-5. The new RD state engineer is currently performing a preliminary review of the Preliminary Engineering Report ("PER") to get up to speed on the project.
- c. Please see Response to Q-3-5.

Person(s) providing information: Clint Roos

Testifying witness: Clint Roos

Boonville PER Initial Comments/ Questions

II.C.1 What is the remaining useful life of the SLAs associated with the wells? Are these SLAs included in the Utility budget?

II.C.2 What is the remaining useful life of the SLAs associated with the water treatment system? Are these SLAs included in the Utility budget?

Aerator, pressure filters, pressure filter media, 5 service pumps etc.

II.C.3 Does the utility budget have adequate funds for the maintenance of the water storage tanks?

What is the remaining useful life of the coatings of the two remaining tanks? Is the maintenance of the tanks included in the SLA budget?

II.C.4 What is the remaining useful life of the SLAs associated with the remaining booster station? Are these SLAs included in the Utility budget?

II.E.2 80% of Operating Disbursements are listed as "Contractual Services-Management Fees" please provide more detail.

There does not appear to be a line item for equipment replacement (SLA) in the Annual Receipts and Disbursements for 2016. Please comment.

III.A *The total developed groundwater source capacity shall equal or exceed the design maximum day demand with the largest producing well out of service. This office agrees.*

III.C *For these reasons, this report assumes a 20% growth factor over the next 20 years, which is between the City of Boonville and Boon Township projected population increases. Therefore, the projected average daily demand in 2036 is 1,566,000 GPD (1,305,000 GPD x 20%) and the projected peak daily demand in 2036 is 1,879,000 GPD (1,566,000 GPD x 20%). 20% seems a bit aggressive but this office concurs for design estimates in the PER.*

IV.A *With Well No. 7 decommissioned and the one of the largest wells out of service, the capacity of the wellfield will be 1,400 GPM or 2,016,000 GPD over a full 24-hour day. This is less than the projected maximum day demand of 1,879,000 GPD. This statement is untrue, in fact $2.0 > 1.9$. Based on the fact that 2.0 is greater than 1.9, the statement in III.A, and the aggressive estimate in III.C it appears that the utility has adequate raw water supply without Well #7 and the largest remaining well out of service.*

IV.C *It is anticipated that a large portion of the City's remaining 27% water loss is likely in the meters. Customer meters are over 15 years old which is the typical life expectancy of meters. The meters are also manual read which is costly from a labor perspective and has an increased risk of manual errors. The water loss audit has recommended replacement of the existing metering system with a new AMR system. Not replacing the meters will result in continued "high" water loss, continued labor cost for manual reading, and the increased opportunity for manual errors. For these reasons, the "No Action" alternative is not considered a feasible option for the metering system.*

The above argument is inadequate and the decision to replace water meters should be reviewed through the standard LCCA procedure. This office recommends this analysis focus on capital, labor and maintenance costs in lieu of apparent water losses and meter accuracy. The supporting document for the current PER argument is the Water Loss Audit by Simpson and Wessler in Appendix C. The PER cites a 94% accuracy rate for the existing meters several times, this assumption is based on the following from page 16 of the audit:

Once the calculations for the weighted averages were made, the totals were averaged. The overall meter accuracy for this group of meters was about 94%. This was the only meter accuracy data supplied by the Utility for use in the audit. There are over 3,600 water customer accounts, so this sample represents slightly less than 1 % of the meter population. Two (2) of the meters tested had completely stopped functioning. Disregarding these from the sample, the meters performed at calculated accuracy levels of 100%.

Based upon the above statement 2 of the 36 meters tested were operating at 0%, thus the weighted average can be calculated as follows: $(34*100 + 2*0) / 3600 = 94.4\%$. The audit states that the weighted average of the **operating** meters was **100%**. The accepted range of accuracy for positive displacement meters is 95%-101.5%. Non-operating meters are readily apparent and easily replaced. Omitting the non-operating meters from the sample it would be safe to assume that the % accuracy is within the accepted range.

Inaccurate meters lead to "apparent water loss", apparent water loss is not real water loss as apparent water lost is actually consumed by the user and billed by the utility. Since billing rates are set according to total cost to produce and distribute the water consumed, apparent water loss is accounted for in the \$6.12 per 1000 gallon rate. See page 17 of Water Audit.

The cost to operate the water system was obtained from the State Board of Accounts audit issued April 2, 2012. This figure is intended to represent the total cost to operate the water system. The customer retail cost of \$6.12 per 1,000 gallons was applied here.

For the purposes of the Water Audit the author assumed a 94% meter accuracy and assigned the following costs to apparent water losses:

Costs to the Utility for water losses attributable to Apparent Losses are as follows:

- Assuming 94% overall meter accuracy, the loss unauthorized use is \$107,000 annually.*
- Assuming 100% overall meter accuracy, the apparent losses due to data errors and theft are costing the City \$19,637.*

While the above apparent costs must be considered when setting the user rate, there is no actual financial gain to the utility in eliminating them. Take the following example:

The average user uses 4,000 gallons per month.

The 94% accurate meter only registers 3760 gal/month for 4000 gal. of water used

The utility receives $3760 * \$6.12/1000 = \23.01 per average user

This \$23.01 per average user is the actual revenue received by the utility. By reviewing the audit and balance sheet it is apparent that the utility is receiving adequate revenue to operate as a result of the \$6.12/1000 gal. user rate. Let's assume that suddenly the meters magically read at 100% accuracy. Then instead of a meter reading of 3760 per 4000 gallons used, the meter would read 4000 per 4000 gal/ used and the users bill would be $4000 * \$6.12/1000 = \24.48 . The net result being that the user is now paying an additional \$1.47 per month for the same 4000 gal. he

has always used. The net result for the utility being an increase in revenue of approximately \$107,000. (See Water Audit page 19) There would be no change in operating costs nor in the amount of required water produced. The additional revenue would be all profit and would result in a user rate decrease after the next audit. There would be no cost savings to the user; the average user would once again be paying \$23.01 per month which is the actual revenue requirement for utility operation.

While the above example demonstrates that increased accuracy of water meters does not result in the recoup of any actual loss, it does demonstrate that the actual result is a rate increase upon the user.

The above example illustrates what will magically happen if meters were suddenly 100% accurate with no cost to the utility. The following shows the cost of the solution proposed in the PER. For this example currently:

The average user uses 4000gal. /month

The 94% accurate meter reads 3760 gal/month for 4000 gal used

The average user pays $3760 * \$6.12/1000\text{gal} = \23.01 for 4000 gal used

The utility receives \$23.01 per month / average user for production.

The \$23.01 per avg. user covers all production expenses including apparent water loss and real water loss. The PER shows that a \$ 3,876,000 project will require an additional \$14.18 of revenue per average user. According to the PER, \$ 1,978,000 of \$ 3,257,000 of the total project, 61%, will be spent on new meters. Applying 61% of the costs or \$8.65 per avg. user to the meters results in the following situation:

The average user uses 4000gal. /month

The 100% accurate meter reads 4000 gal/month for 4000 gal used

The average user pays $4000 * \$6.12/1000\text{gal} = \24.48 for 4000 gal used

$\$24.48 - \$23.01 = \$1.47$ additional charge for the same 4000 gal/ month

In addition the avg. user will have to pay \$8.65/month to finance the new meters

The avg. user now pays $\$23.01 + \$1.47 + \$8.65 = \33.13 for the same 4000 gal used.

The utility receives \$33.13 per month / average user for production costs of which \$23.01 covers the same production costs, \$8.65 pays for the new 100% accurate meters and \$1.47 is seen as additional (unneeded) revenue.

Another way to look at it is the average user rate has increased by \$10.12 or 44% so that the utility can see additional revenue of \$1.47/user, that's a **negative** return on investment of 688% under the proposed plan. The same \$1.47 per user revenue can be obtained at no cost by raising the current user rate of \$6.12 by 6.4% to \$6.51/1000 gal.

The current user rate of \$6.12 accounts for all water losses real and apparent. The above example shows the folly in expending capital to recover apparent water loss. Capital expenditures to recover real water losses is another matter. When real water losses are reduced revenues are unchanged. The average user will still use 4000 gallons per month and will still pay \$23.01 per month. However, when real water losses are reduced the total amount of water produced by the utility to provide the 4000/gal/avg user is reduced. This will result in a lower production cost per gallon sold and the utility will require less than \$23.01 per average user to operate. The PER should include the Engineers opinion of current real water loss in the system. According to the 2012 Water Audit "there is \$226,368.20 worth of Recoverable Loss due to leakage." The 2012 Water Audit also recommends several action items for real water loss:

- *Conduct a leak detection program*

- Start a routine meter testing program for the production meter and a periodic testing program for large meters
- Establish a residential meter replacement program and consider installation of a modern AMR system.
- Establish a prioritized water main replacement program for smaller diameter pipes
- Institute accounting procedures for water main and hydrant flushing
- Update and correct the current water loss worksheet
- Terminate meter flushing for water quality; consider installation of automatic flushing devices instead
- Conduct an annual water audit to monitor water loss as well as update and prioritize loss reduction efforts

The PER should comment on the implementation of the above items. A plan and proposed budget should be included with any recommendations.

Changes in meter accuracy will also result in apparent water losses. The current rate is based upon the accuracy of the meters at the time of the Audit when rates were set. If the average accuracy of the meter has changed, then the volume of apparent water loss has changed resulting in a change in revenue. There are two common solutions, an updated audit to reset the user rate or improved water meter maintenance. A water meter maintenance program will help insure consistent accuracy of the meters whatever percentage accuracy that is. The key being consistency not the actual accuracy percentage.

Now the above is not to imply that there is no engineering argument for automatic read meters or even meter replacement of any kind. If the PER can show that the costs of operating and maintaining the current meters is greater than the cost of purchasing, installing, operating and maintaining new meters through a life cycle cost analysis, then new meters may be warranted.

IV.B The PER does not establish a need for a new raw water well.

IV.C Cost estimates do not include soft costs and lack detailed costs for O&M. Please see RUS 1780-2 Detailed Outline 4.h for cost estimate requirements for each alternative:

Cost Estimates. Provide cost estimates for each alternative, including a breakdown of the following costs associated with the project: construction, nonconstruction, and annual O&M costs. A construction contingency should be included as a non-construction cost. Cost estimates should be included with the descriptions of each technically feasible alternative. O&M costs should include a rough breakdown by O&M category (see example below) and not just a value for each alternative. Information from other sources, such as the recipient's accountant or other known technical service providers, can be incorporated to assist in the development of this section. The cost derived will be used in the life cycle cost analysis described in Section 5 a.

IV.D Cost estimates do not include soft costs and lack detailed costs for O&M. Please see RUS 1780-2 Detailed Outline 4.h for cost estimate requirements for each alternative.

V. LCCA does not include soft costs, SLAs nor salvage value. O&M estimates lack detail. Please see RUS 1780-2 Detailed Outline 5.A.1-10 for LCCA requirements:

9. A table showing the capital cost, annual O&M cost, salvage value, present worth of each of these values, and the NPV should be developed for state or federal agency review. All factors (major and minor components), discount rates, and planning periods used should be shown within the table;

10. Short lived asset costs (See Appendix A for examples) should also be included in the life cycle cost analysis if determined appropriate by the consulting engineer or agency. Life cycles of short lived assets should be tailored to the facilities being constructed and be based on generally accepted design life. Different features in the system may have varied life cycles.

VI The proposed project should omit the Wellfield Improvements based on the information provided in this PER.

- VI. The proposed project should omit the New Metering System unless it is shown to be a viable alternative through life cycle cost analysis.
- VI Table 10 should show remaining useful life of all existing SLAs as well as useful life of proposed SLAs.
- VI.F The **proposed** Annual Operating Budget with improvements should be shown here Appendix B shows financial data for the existing utility. Please see 1780-2 Detailed Outline 6.F:

Annual Operating Budget. Provide itemized annual operating budget information. The owner has primary responsibility for the annual operating budget, however, there are other parties that may provide technical assistance. This information will be used to evaluate the financial capacity of the system. The engineer will incorporate information from the owner's accountant and other know technical service providers.

i) Income. Provide information about all sources of income for the system including a proposed rate schedule. Project income realistically for existing and proposed new users separately, based on existing user billings, water treatment contracts, and other sources of income. In the absence of historic data or other reliable information, for budget purposes, base water use on 100 gallons per capita per day. Water use per residential connection may then be calculated based on the most recent U.S. Census, American Community Survey, or other data for the state or county of the average household size. When large agricultural or commercial users are projected, the Report should identify those users and include facts to substantiate such projections and evaluate the impact of such users on the economic viability of the project.

ii) Annual O&M Costs. Provide an itemized list by expense category and project costs realistically. Provide projected costs for operating the system as improved. In the absence of other reliable database on actual costs of other existing facilities of similar size and complexity. Include facts in the Report to substantiate O&M cost estimates. Include personnel costs, administrative costs, water purchase or treatment costs, accounting and auditing fees, legal fees, interest, utilities, energy costs, insurance, annual repairs and maintenance, monitoring and testing, supplies, chemicals, residuals disposal, office supplies, printing, professional services, and miscellaneous as applicable. Any income from renewable energy generation which is sold back to the electric utility should also be included, if applicable. If applicable, note the operator grade needed.

iii) Debt Repayments. Describe existing and proposed financing with the estimated amount of annual debt repayments from all sources. All estimates of funding should be based on loans, not grants.

iv) Reserves. Describe the existing and proposed loan obligation reserve requirements for the following:

Debt Service Reserve – For specific debt service reserve requirements consult with individual funding sources. If General Obligation bonds are proposed to be used as loan security, this section may be omitted, but this should be clearly stated if it is the case.

Short-Lived Asset Reserve – A table of short lived assets should be included for the system (See Appendix A for examples). The table should include the asset, the expected year of replacement, and the anticipated cost of each. Prepare a recommended annual reserve deposit to fund replacement of short-lived assets, such as pumps, paint, and small equipment. Short-lived assets include those items not covered under O&M, however, this does not include facilities such as a water tank or treatment facility replacement that are usually funded with long-term capital financing.

RD Indiana prefers to see the proposed budget presented alongside the current budget for comparison.

In general it appears the utility has failed to set aside adequate funds for the replacement of its Short Lived Assets and other maintenance costs. Special attention should be given to both existing and proposed SLAs in the PER. The PER should aid the utility in both identifying and budgeting for these needs. It does not appear that the utility has a leak detection program nor an administrative plan for water loss monitoring. It does not appear that the Utility has a water meter maintenance and replacement plan.

New Network Metering System

Q-3-2: Reference the Direct Testimony of Clint W. Roos regarding the New Network Metering System described on pages 11 and 12. Please provide the following information:

- a. The manufacturer and meter model that will be purchased.
- b. The number of signal towers that are expected to receive the flow meter data. Please explain.
- c. All documentation supporting meter costs including cost quotes and actual invoices.

Response: Subject to and without waiver of the foregoing General Objections, Boonville states as follows:

- a. The exact manufacturer and meter model for the automated metering reading (AMR) system is not known at this time. When the project is designed and sent out to bid, specifications will be written for the project and approved equals will be considered.
- b. The exact number of signal towers is not known at this time. As funding becomes available for the project, design of the network will occur.
- c. The estimated costs are based on engineer's opinion in the Preliminary Engineering Report. No invoices have been received to date as the project has not been bid out. The City is awaiting funding for the project in order to move forward.

Person(s) providing information: Clint Roos

Testifying witness: Clint Roos

Q-3-3: Please state whether Boonville has begun replacing its manual meters with new technology and provide the proposed timeline for replacing Boonville's manual read meters with new meters.

Response: Subject to and without waiver of the foregoing General Objections, Boonville states that the City installed about two-hundred (200) of these meters to see how well they actually work compared to manual reading. Boonville has discovered that when manually read, the best an individual can do is about 125 meters/day, while 200 radio meter reads can be done in minutes.

Person(s) providing information: Shawn Wright

Testifying witness: Shawn Wright

Q-3-4: Will utility personnel or contractors replace the meters. [sic] Please explain.

Response: Subject to and without waiver of the foregoing General Objections, Boonville states that the project will be sent out for public bid once a funding source is obtained. The successful contractor on the project will perform the meter replacement work.

Person(s) providing information: Clint Roos

Testifying witness: Clint Roos

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

PETITION OF THE CITY OF BOONVILLE,)
INDIANA, FOR APPROVAL TO ADJUST ITS)
RATES AND CHARGES AND ISSUE BONDS) CAUSE NO. 45069

**CITY OF BOONVILLE, INDIANA'S RESPONSE TO
OUCG DATA REQUEST SET NO. 5 DATED JULY 6, 2018**

City of Boonville, Indiana ("Boonville"), by counsel, hereby provides its response to OUCG Data Request Set No. 5 as follows:

Q-5-1: Reference Petitioner's response to OUCG Data Request 3.3 asking whether Boonville has begun replacing its manual meters with new technology and to provide the proposed timeline for replacing Boonville's manual read meters with new meters to which Petitioner responded as follows:

Response: Subject to and without waiver of the foregoing General Objections, Boonville states that the City installed about two-hundred (200) of these meters to see how well they actually work compared to manual reading. Boonville has discovered that when manually read, the best an individual can do is about 125 meters/day, while 200 radio meter reads can be done in minutes. Emphasis added.

Please provide the following:

- a. The manufacturer and meter model of the 200 meters that were purchased.
- b. Whether the 200 meters were purchased at a discounted or bulk purchase price.
- c. Copies of actual invoices for the 200 meters and ancillary equipment that was also purchased for the automated reading of meter data.
- d. Date by which all 200 meters were installed and Petitioner's new meter evaluation period began.
- e. Copies of any evaluation report regarding Boonville's 200 new automated meters.
- f. Manufacturer names, model numbers, and budget prices for other meters evaluated by Petitioner. If no other meters were evaluated, please explain.
- g. Whether meter replacement will occur as a single year project or whether meter replacement will be rolled out over a multi-year period.
- h. Project timeline for replacing Boonville's manual read meters.

Response:

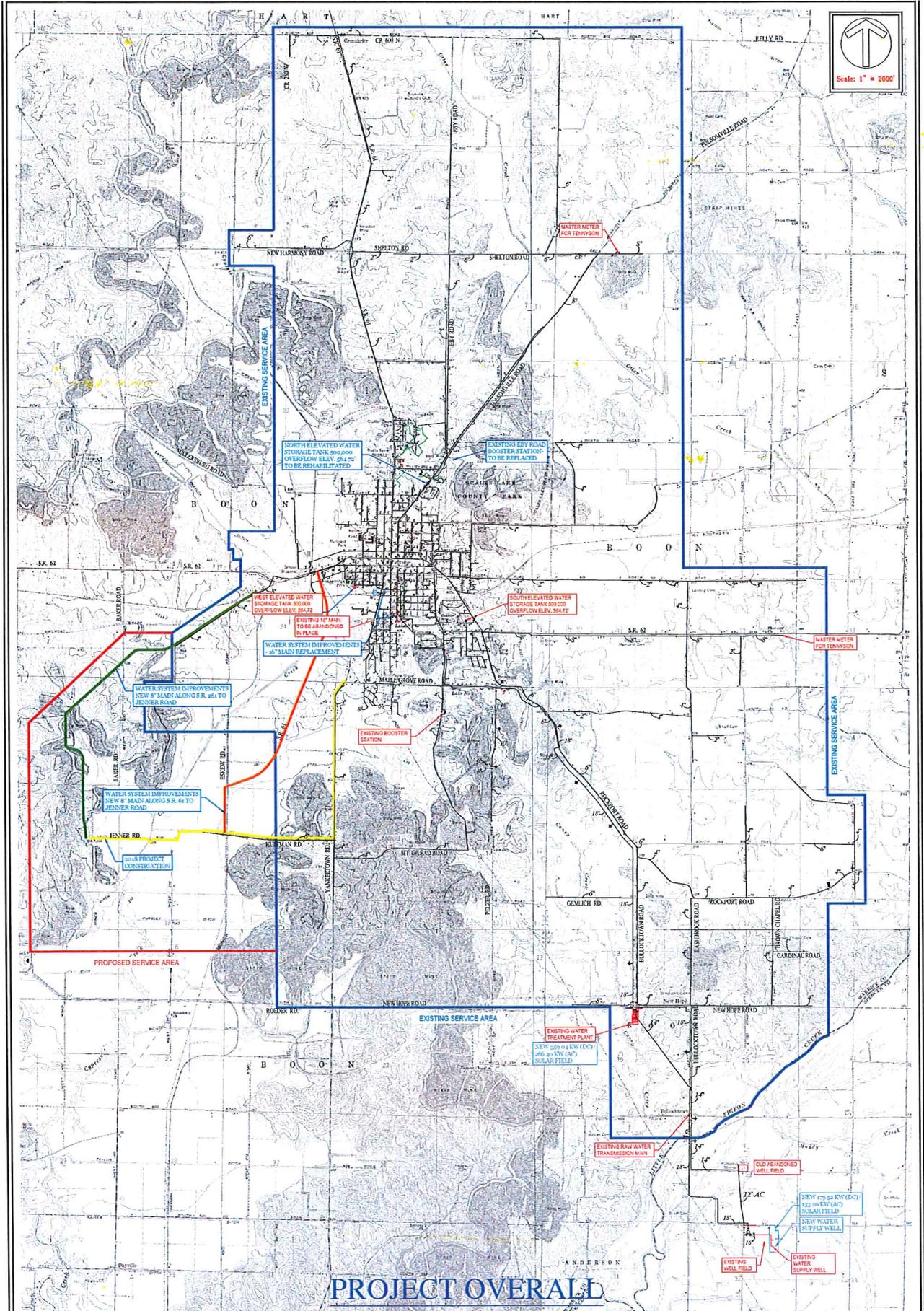
- a. Master Meter – 5/8” Positive Displacement.**
- b. No, new meters were purchased as existing meters in service failed.**
- c. As noted herein, the meters in question were not purchased in bulk, but were purchased over the course of a couple of years. Unfortunately, Boonville has not yet been able to find the applicable invoices. Boonville will continue to search its records for the invoices and provide them under separate cover once the invoices are located.**
- d. Approximately 4 years ago.**
- e. No report has been completed as evaluation is ongoing.**
- f. No others have been tested.**
- g. Single year project.**
- h. This project will begin upon approval of the proposed financing from the Commission and closing with the United States Department of Agriculture – Rural Development.**

Person(s) providing information: Shawn Wright

Testifying witness: Shawn Wright.

Q-5-2: Reference the AGREEMENT TO CONSTRUCT WATER AND SEWER INFRASTRUCTURE AND PROVIDE WATER AND SEWER SERVICES (“AGREEMENT”) between the City of Boonville and Greenlife Development, LLC, dated August 23, 2016. Please provide the following:

- a. Readable electronic copies of the figures in Exhibits “A” and “B” on pages 13 and 14. If Exhibits “A” and “B” are in color, please provide color copies.**
- b. Overall layout drawings for the water main extensions showing main diameters, materials, and lengths that are being designed, funded, and constructed by Petitioner to provide water service to the development.**
- c. Total costs being funded by Petitioner for the water “Improvements” referenced on page one of the AGREEMENT that include water main extensions along SR 261, SR 61, Jenner Road, and the “Spine Road” as depicted on Exhibit “B” (“City Work”).**
- d. Overall layout drawing for the sewer infrastructure improvements showing major components that are being designed, funded, and constructed by Petitioner to provide sewer service to the development.**
- e. Total costs for the sewer infrastructure improvements that are being funded by Petitioner.**



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PRELIMINARY ENGINEERING REPORT
WATER SYSTEM IMPROVEMENTS
 FOR THE
CITY OF BOONVILLE
 WARRICK COUNTY, INDIANA

C/E	D/C CHECK
03-22-2018	
DESIGN	PROJECT NUMBER
CWR	2014031-00
DRAWN	FILE NUMBER
KJC	

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 Midwestern Engineers, Inc
 802 West Broadway Street
 P.O. Box 298
 Logansport, Indiana 47553

OVERALL
1
 1 of 1

**AGREEMENT TO CONSTRUCT WATER AND SEWER
INFRASTRUCTURE IMPROVEMENTS AND PROVIDE WATER AND
SEWER SERVICES**

THIS AGREEMENT is made and entered into as of August 23, 2016 by and between the CITY OF BOONVILLE, INDIANA, whose mailing address is 135 South Second Street, Boonville, IN 47601 (the "City"), and GREENLIFE DEVELOPMENT, LLC, a Florida limited liability company with its principal place of business located at 815 S. Main Street, Jacksonville, Florida 32207 ("Owner").

WITNESSETH THAT

WHEREAS, the City has the power, under the laws of the State of Indiana, to contract for water and sewer utility construction within the City limits of the City of Boonville, and its annexed areas/ areas within four (4) miles of such City limits, including the planned Project site (as hereinafter described); and

WHEREAS, Owner is the authorized agent for the owner of record of certain real estate located in Warrick County, Indiana, which is described in the attached Exhibit "A" which is made a part hereof, (the "Real Estate"); and which Real Estate shall also be defined as including any real estate adjacent to the Real Estate which may be acquired by Owner, (provided that additional Real Estate acquired by Owner shall not result in any additional cost to City and which said additional cost, if any, shall be paid by Owner although additional Real Estate shall be allowed to be included by Owner as part of the Project); and

WHEREAS, Owner desires that the City provide water and sewer utility services to the Real Estate as part of Owner's planned development of the Real Estate consisting of 550 homes (the "Project") and the City agrees to construct and install such water and sewer utility systems to serve the Real Estate, as depicted on Exhibit "B" attached hereto and made a part hereof (the "Improvements"), and City acknowledges and agrees that it has current and will have sufficient future capacity to serve the Project, both in the City water and sewer plant; and

WHEREAS, said Improvements are to be constructed by the City, pursuant to the plans and specifications to be mutually approved by Owner and the City, as amended from time to time (the "Specifications"), which are attached hereto as Exhibit "C" and made a part hereof by this reference; upon completion, the Improvements shall be made a part of the City's public water and sewer utility system, with the City upon acceptance of the Improvements, agreeing to maintenance and upkeep of the same.

NOW, THEREFORE, in consideration of the clauses, promises, covenants, terms, conditions, and agreements hereinabove and otherwise herein contained, the parties hereto agree as follows:

1. **THE WORK.** The City will completely construct the Improvements necessary for the City to bring water and sewer utility services to the Project site, as indicated by the route depicted on Exhibit "B" hereto and pursuant to the Specifications prepared by the City and

MC
CRW

approved by Owner and consisting of all construction work for the Improvements located along the "Spine Road" as depicted on Exhibit "B" ("City Work"). The Owner will perform certain other work necessary to connect the Project to the City Work pursuant to the Specifications prepared by Owner's contractor and approved by the City, and such that the Improvements will be accepted by the City upon completion ("Owner Work").

2. CONSIDERATION, FINANCING, AND SECURITY. All costs in connection with the City Work shall be paid by the City and all costs of the Owner Work shall be paid by the Owner either directly or through its independent funding sources. Each party shall pay all of their own design and engineering fees associated with their portion of the planning, design, acquisition and construction of the Improvements, including any cost increases or overruns. The City warrants and represents to Owner: (a) sufficient funding has been approved by the City to fulfill the City's obligations hereunder and (b) the City has secured all necessary approvals or agreements necessary to provide water and sewer utility services to the Real Estate.

Owner has agreed to provide either a performance bond or letter of credit in the initial amount of Four Hundred Thousand Dollars (\$400,000.00) to secure the construction of 350 homes ("Security"). Such Security shall be reduced periodically and incrementally as follows:

a) To the extent Owner secures 3rd party funding for the City Work/Improvements paid directly to the City, one half of every dollar secured shall be applied to reduce the Security, and one half of every such dollar shall accrue in tap fee credits to Owner. One half of these tap credits will be available within thirty (30) days of the City securing the 3rd party funds. The other half will be available after such point that one hundred (100) paid taps have been purchased for the Project. The tap credits will be based on a cost of \$1,500.00 per sewer tap.

b) The Security shall be reduced at tap purchase increments of twenty five (25) such that for each twenty five (25) permanent sanitary sewer taps purchased for the Project, Owner shall be entitled to reduce the Security by \$1,500.00 per tap.

c) Additionally, after the City has received 266 paid taps, the City shall issue 100 tap fee credits to Owner. These credits will be immediately available to Owner.

The City agrees to provide notice to the Town of Chandler of the City's intention to provide the Improvements for the Project. The City shall, upon execution of this Agreement, provide Owner with a copy of said notice.

3. CAPACITY RESERVATION PERIOD. The parties agree that the Owner anticipates purchasing five hundred fifty (550) residential equivalent taps within eight (8) years from the completion of the City Work. Once three hundred fifty (350) residential equivalent tap purchases have been made for the Project, including credits for taps given by City to Owner for use in the Project which shall count toward this total, the capacity reservation period shall automatically extend for an additional period of five (5) years. The parties may extend the additional capacity reservation period beyond the additional five (5) years for good cause, which extension shall not be unreasonably withheld.

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4. TAP FEES; INFRASTRUCTURE ACCESS CHARGES; REIMBURSEMENT.

It is specifically agreed that the City, by permitting the Improvements and the flowage of sewage through its sewer system and expanding the sewer system to service the Real Estate, is furnishing sewer service to each and all of the owners of any land who may connect into the proposed Improvements, and the City is entitled to charge all of such persons a sewer connection capacity fee. It is further understood and agreed that Owner shall be entitled to charge and collect an infrastructure access charge, which shall include the then current standard tap-in or connection fee on each tap-in to said City sewer system, in accordance with City Ordinances now existing or as amended in the future (currently \$1,500.00), plus an additional infrastructure access charge, and/or other fees charged by Owner to lot purchasers (collectively, an "Infrastructure Access Charge"). The parties acknowledge and agree that the exact amount of such Infrastructure Access Charges shall be in Owner's sole discretion so as to allow Owner to provide competitive rates with regard to home building or construction of other improvements on each lot, *provided however*, that in no event shall the Infrastructure Access Charge paid to the City for each tap-in be less than the standard tap-in fee amount required by City Ordinances. The City's sewer connection capacity fee for each lot, as required by City Ordinance 54.26, shall at Owner's option either be paid: (a) to the City directly by Owner from a portion of the Infrastructure Access Charge, or (b) by a lot purchaser to the City upon such purchaser's purchase of a Project lot for construction of a home or other improvements.

5. NOTICE TO PROCEED; CONSTRUCTION SCHEDULE. Owner shall provide City with a copy of the preliminary plat for the initial lots not later than one hundred eighty (180) days from the time of execution of this Agreement. City shall review submitted plats and commence work on the City's portion of the Improvements within sixty (60) days of receipt. The parties agree to diligently prosecute and complete their respective obligations in accordance with the Project schedule mutually agreed upon in writing by Owner and the City. Owner and the City agree to cooperate in good faith to amend the Project schedule as necessary, from time to time, to accurately reflect the scope of the City Work. Both the City Work and the Owner Work shall fully comply with the Specifications.

6. MANNER OF CONSTRUCTION. The City Work shall be performed by City, subject to inspection and approval by the City with respect to the Specifications. Owner work shall be performed by Owner, subject to the inspection and approval by the City with respect to the Specifications. The parties agree that the Owner Work may be halted by City at any time the City reasonably adjudge that said Owner Work is not in conformity with the Specifications and the City may require that Owner take all steps necessary to correct such Owner Work in order to bring the same into conformity with the Specifications before allowing Owner to proceed further with the Owner Work.

7. CONNECTION OF IMPROVEMENTS. Owner shall have the right to attach and connect the Improvements, in whole or in part(s), into the City's water and sewer service systems upon the final satisfactory inspection of any such portion or section thereof by the City.

8. INSPECTION. Upon written notice from Owner that all or a portion of the Improvements (i.e. Owner Work) for a particular project segment are complete and ready for use, the City shall promptly complete any inspections of the same. The City shall notify Owner

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in writing as to the results of such inspection within ten (10) days of the City's inspection.

9. TITLE; RISK OF LOSS; WARRANTY; MAINTENANCE. Upon the completion and satisfactory inspection of each project segment, said Improvements, or portion thereof, shall become the sole property of the City. Owner then shall warranty all Owner Work included in said portion for one (1) year of acceptance by City and pay for all repairs during warranty period. Upon completion of the warranty period all title and risk of loss for the same shall pass to the City. All further costs and expenses for repair, maintenance, or upkeep of the Improvements, including City Work and Owner Work, shall be the responsibility of the City.

10. CORRECTION OF WORK. If Owner fails to correct defective Owner Work or persistently fails to carry out the Owner Work in accordance with this Agreement, City, by a written order, may order Owner to stop the Owner Work, or any portion thereof, until the cause for such order has been eliminated; Owner shall promptly correct any Owner Work rejected by City as defective or as failing to conform to this Agreement whether observed before or after substantial completion and whether or not fabricated, installed or completed, and shall correct any Owner Work found to be defective or nonconforming prior to the City's acceptance of the Improvements. The provisions of this section shall apply to Owner Work done by Owner's subcontractors as well as to Owner Work done by Owner or its direct employees.

11. DELAY OR DISRUPTION. If Owner or the City wishes to make a claim for an increase in the time to complete the Owner Work or City Work, respectively, due to a delay, disruption or any other time-based reason, it must be done in writing within five (5) business days after the occurrence of the event giving rise to the claim. Failure to do so shall be a waiver of the claim, unless otherwise mutually agreed by the parties. Each party agrees to grant the other party reasonable extensions of time when and if necessary, and the parties agree that neither will be entitled to damages or compensation from the other on account of delays or disruption in the Project or its Work.

The parties each reserve the right to pursue equitable remedies without posting a bond, including injunctive relief or specific performance, in the event a party unreasonably persists in delaying their work.

12. FORCE MAJEURE. Subject to the limitations set forth above, in the event either party is unable to perform any of its obligations under this Agreement due to natural disaster, acts of God or the public enemy, through no fault or act of the party claiming Force Majeure, the party whom has been so affected shall immediately give notice to the other and shall do everything possible to resume performance of this Agreement as soon as practicable. However, upon receipt of such notice from the party claiming Force Majeure, all obligations under this Agreement shall be immediately suspended for a period sufficient to allow said party to resume performance. If the period of nonperformance shall exceed thirty (30) days from the receipt of the notice of the Force Majeure event, the party not claiming Force Majeure, in addition to its other rights and remedies available as law or equity, may give written notice of termination of this Agreement, without recourse by the other party.

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13. **TERMINATION.** Other than as otherwise set forth herein, neither party shall terminate this agreement without the written consent of the other party. Both the City and Owner acknowledge that the commitment of monies and infrastructure pursuant to this Agreement, by both parties, requires complete performance of the respective parties, as outlined herein. Otherwise, unilateral termination would result in significant financial harm to the non-terminating party.

14. **AS-BUILT DRAWINGS.** Owner shall keep on file at the Project site and in first-class condition one complete updated and reproducible copy of this Agreement, the Specifications, and any other drawings for the Owner Work, as released for construction. Owner agrees that upon completion of the Improvements described herein, or any project segment thereof, it will file with the City a complete set of plans and specifications, certified by a licensed professional engineer, marked to show the Improvements "as built".

15. **EASEMENTS AND RIGHTS-OF-WAY.** The City shall acquire any and all easements and rights-of-way that are necessary for the construction of the Improvements and extension of water and sewer utility services to the Real Estate. Owner shall grant all non-exclusive easements and rights-of-way upon the Real Estate and the Project site that are required by individual parties to construct, install, or connect the Improvements.

16. **INDEMNIFICATION.** TO THE FULLEST EXTENT PERMITTED BY LAW, EACH PARTY SHALL DEFEND, INDEMNIFY AND HOLD HARMLESS THE OTHER PARTY, THEIR EMPLOYEES, AGENTS, OFFICERS, DIRECTORS, SHAREHOLDERS, AND REPRESENTATIVES, FROM ANY AND ALL CLAIMS, DEMANDS, DAMAGES, CAUSES OF ACTION, CONTROVERSIES, LIABILITIES, FINES, REGULATORY ACTIONS, SEIZURES, FORFEITURES, LOSSES, SUBROGATION CLAIMS BY THEIR RESPECTIVE INSURERS, COSTS AND EXPENSES (INCLUDING, BUT NOT LIMITED TO ATTORNEYS' FEES, EXPERT WITNESS FEES AND LITIGATION OR ARBITRATION EXPENSES), WHETHER BASED ON STATUTORY OR COMMON LAW, TORT (INCLUDING NEGLIGENCE) CONTRACT LAW, PRODUCT LIABILITY LAW, OR OTHERWISE, WHETHER FOR PERSONAL INJURY, DEATH, PROPERTY DAMAGE, OR OTHERWISE (COLLECTIVELY, "CLAIMS"), TO THE EXTENT ARISING FROM OR IN CONNECTION WITH:

- A. THE WORK PROVIDED BY EITHER PARTY PURSUANT TO THIS AGREEMENT, INCLUDING BUT NOT LIMITED TO CLAIMS RELATING TO THE FAILURE, COLLAPSE OR DESTRUCTION OF THE IMPROVEMENTS, IN WHOLE OR IN PART, OR ANY DEFECT, DAMAGE, OR DEFICIENCY THEREOF;
- B. ANY ACTS OR OMISSIONS OF EITHER PARTY AND/OR THEIR RESPECTIVE EMPLOYEES, SHAREHOLDERS, OFFICERS, AGENTS, REPRESENTATIVES, OR INDEPENDENT

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CONTRACTORS IN CONNECTION WITH THE DESIGN,
ENGINEERING, ASSEMBLY, INSPECTION, REPAIR,
MAINTENANCE, AND/OR INSTALLATION OF THEIR
RESPECTIVE WORK, THE IMPROVEMENTS, OR OTHERWISE;

- C. THE IMPROVEMENTS' USE BY OWNER'S OR THE CITY'S
EMPLOYEES, AGENTS, INDEPENDENT CONTRACTORS,
REPRESENTATIVES, PATRONS, CUSTOMERS, OR OTHER THIRD
PARTIES;
- D. EITHER PARTY'S BREACH OF THIS AGREEMENT AND/OR THE
ENFORCEMENT OF EITHER PARTY'S RIGHTS AND REMEDIES
UNDER THIS AGREEMENT;
- E. ANY ALLEGED INFRINGEMENT OR OTHER SIMILAR CLAIM
THAT THEIR RESPECTIVE WORK OR THE IMPROVEMENTS
VIOLATES ANY PATENT, COPYRIGHT, TRADEMARK RIGHTS OR
OTHER INTELLECTUAL PROPERTY RIGHT OF ANY THIRD
PARTY; AND
- F. EITHER PARTY'S, THEIR RESPECTIVE WORK'S, OR THE
IMPROVEMENTS' NON-COMPLIANCE WITH APPLICABLE LAWS.

THIS OBLIGATION TO INDEMNIFY, DEFEND, AND HOLD HARMLESS SHALL
SURVIVE TERMINATION OR EXPIRATION OF THIS AGREEMENT AND SHALL
APPLY WHETHER OR NOT IT IS ALLEGED THE OTHER PARTY IN ANY WAY
CONTRIBUTED TO THE CLAIMS OR IS LIABLE DUE TO A NON DELEGABLE
DUTY. NOTWITHSTANDING THE FOREGOING, NEITHER PARTY SHALL HAVE
ANY INDEMNITY OBLIGATION TO THE OTHER WITH RESPECT TO ANY CLAIMS
THAT RESULT SOLELY FROM THE NEGLIGENCE OF THE OTHER PARTY AND
THIS INDEMNITY DOES NOT PURPORT TO INDEMNIFY EITHER PARTY FOR ITS
OWN SOLE NEGLIGENCE TO THE EXTENT SUCH INDEMNIFICATION IS
CONTRARY TO LAW NOTWITHSTANDING THE FOREGOING, EACH PARTY, FOR
ITSELF AND ITS INSURERS, EXPRESSLY WAIVES ANY AND ALL LIMITATIONS
OR LIABILITY CAPS, IF ANY, ON EITHER PARTY'S CONTRIBUTION LIABILITY
THE OTHER AND ANY AND ALL STATUTORY OR COMMON LAW LIEN RIGHTS
OR CLAIMS AGAINST THE OTHER PARTY, ARISING FROM ANY APPLICABLE
WORKERS COMPENSATION OR DISABILITY ACTS, WHICH EITHER PARTY

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MIGHT OR COULD ASSERT AGAINST THE OTHER OR THEIR RESPECTIVE INSURERS IN THE EVENT OF THE PERSONAL INJURY OR DEATH OF EITHER PARTY'S EMPLOYEES, REPRESENTATIVES OR AGENTS. WITHOUT LIMITING THE FOREGOING, BOTH PARTIES, FOR THEMSELVES AND THEIR RESPECTIVE INSURERS, ALSO WAIVE ANY CLAIMS, LIENS OR OTHER RIGHTS THEY MAY HAVE AS A RESULT OF BEING SUBROGATED TO ANY RIGHTS OF THEIR EMPLOYEES, REPRESENTATIVES OR AGENTS.

17. PROTECTION OF PERSONS AND PROPERTY. Owner and the City shall each be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with their respective Work. Owner and the City shall each take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury or loss to: (1) all employees on their respective Work and other persons who may be affected thereby; (2) all their respective Work and all materials and equipment to be incorporated therein; and (3) other property at the Project site or adjacent thereto. Owner and the City shall give all notices and comply with all applicable laws, ordinances, rules, regulations and orders of any public authority bearing on the safety of persons and property and their protection from damage, injury or loss. Owner and the City shall promptly remedy all damage or loss to any property caused in whole or in part by Owner and the City, any subcontractor, any sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable.

18. INSURANCE. Owner agrees at all times to carry comprehensive general liability and property damage insurance with companies qualified to engage in the insurance business within the State of Indiana and otherwise satisfactory to the City ("A" rated or better) in connection with Owner's work on the Improvements. Such liability insurance shall have minimum limits of not less than Three Million Dollars (\$3,000,000.00) per occurrence and in the aggregate for bodily injury, death, property damage and personal injury. The premiums for such insurance shall be paid by Owner. Prior to Owner performing any of the Work hereunder, Owner shall furnish to the City a certificate from the insurance carrier, in a form acceptable to the City, that such insurance is in force and effect during the entire construction, installation, and completion of the Improvements and will not be cancelled without thirty (30) days written notice to the City. The certificate shall state that the City is listed as additional insured and that said insurance shall be primary as respects any insurance carried by the City.

19. NOTICES. Any and all notices concerning an actual or alleged breach, default or damages claim to be given under this Agreement shall be in writing, and shall be deemed to have been given and served when delivered in person, by Federal Express (or similar overnight carrier), via facsimile transmission, or by United States mail, postage pre-paid to the addressee at the following addresses:

TO OWNER: Attention: Nick Cassala
 GREENLIFE DEVELOPMENT, LLC
 815 S. Main Street
 Jacksonville, Florida 32207

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COPY TO: Attention: Maria L. Bulkley, Esq.
KAHN, DEES, DONOVAN & KAHN, LLP
P. O. Box 3646
Evansville, Indiana 47735-3646
Facsimile Number (812) 423-3841

TO CITY: Attention: Mark Phillips
CITY OF BOONVILLE
114 S. 3rd Street
Boonville, Indiana 47601

Any party may change its mailing address by serving written notice of such change and of such new address upon the other party.

20. DISPUTE RESOLUTION. Any party may apply to the Warrick County Circuit or Superior Courts for equitable relief including injunctive relief, specific performance, or other interim measures, provided the claim for relief otherwise meets the legal requirements necessary for being awarded such equitable relief. It shall not be necessary to post a bond before applying for equitable relief.

Otherwise, any and all other disputes, complaints, controversies, claims and grievances arising under, out of, in connection with, or in any manner related to this Agreement and pertaining only to Owner and the City shall be settled by binding arbitration in accordance with the Commercial Arbitration Rules of the American Arbitration Association. The obligation to arbitrate shall extend to any affiliate, subsidiary, officer, employee, shareholder, principal, agent, trustee in bankruptcy or guarantor of a party making or defending any claim hereunder. Any decision and award of the arbitrator shall be final, binding and conclusive upon all of the parties hereto and said decision and award may be entered as a final judgment in any court of competent jurisdiction. Notwithstanding said Rules, any arbitration hearing to take place hereunder shall be conducted in Evansville, Indiana, before one (1) arbitrator who shall be an attorney who has substantial experience in commercial law issues. This Agreement shall be construed and enforced in accordance with, and the rights of the parties shall be governed by, the laws of the State of Indiana (not including the choice of law rules thereof). However, no party shall institute an arbitration, or any other proceeding to resolve such disputes between the parties before that party has sought to resolve disputes through direct negotiation with the other party/parties. If disputes are not resolved within three (3) weeks after a demand for direct negotiation, the parties shall attempt to resolve disputes through mediation conducted in Evansville, Indiana. If the parties do not agree on a mediator within ten (10) days, either party may request the American Arbitration Association to appoint a mediator who shall be an attorney who has substantial experience in commercial law issues. If the mediator is unable to facilitate a settlement of disputes within forty-five (45) days, the mediator shall issue a written statement to the parties to that effect and the aggrieved party may then seek relief through arbitration as provided above. The fees and expenses of the mediator shall be split and paid equally by each of the parties. In the event of any arbitration between any of the parties hereto involving this Agreement or the respective rights of any of the parties hereunder, the party who does not prevail

in such arbitration shall pay all the prevailing party's reasonable attorneys' and experts' fees, costs and expenses incurred by the prevailing party in resolving said matter. As used herein the term 'prevailing party' shall include, but not be limited to, a party who obtains legal counsel or brings an action against the other by reason of the other's breach or default and obtains substantially the relief sought whether by compromise, settlement, or judgment. The parties hereby consent to a single, consolidated arbitration proceeding of multiple claims, or claims involving two (2) or more parties. Any party may apply to any court of competent jurisdiction for injunctive relief or other interim measures as provided for elsewhere in this Agreement, in aid of the arbitration proceedings, or to enforce the arbitration award, but not otherwise. Any such application to a court shall not be deemed incompatible or a waiver of this provision. The arbitrator shall be required to make written findings of fact and conclusions of law to support its award. Except as may be required by law, neither a party nor an arbitrator(s) may disclose the existence, content, or results of any arbitration hereunder without the prior written consent of all parties. Notwithstanding anything to the contrary in said Arbitration Rules, the arbitrator shall not be authorized or empowered to award consequential, incidental, treble or punitive damages, and the parties expressly waive any claim to such damages. By execution of this Agreement, the parties consent to the jurisdiction of the American Arbitration Association and waive any objection which either party may have to any proceeding so commenced based upon improper venue or forum non conveniens.

21. ASSIGNABILITY. This Agreement, and the rights or obligations hereunder may be assigned by Owner to any subsidiary, affiliate, or related party, including the owner of the Real Estate, without the prior written consent of the City. Additionally, Owner may assign its rights and obligations under this Agreement to an unrelated third party upon the City's written consent, which shall not be unreasonably withheld. All Owner Work to be performed by Owner in respect to this agreement and all City Work to be provided by the City in respect to this Agreement shall be provided in a manner consistent with the degree of care and skill usually exercised by providers in projects of similar scope and in accordance with standards of care and skill expected of professionals experienced in the construction and administration of work similar to the construction of the Improvements.

22. INTERPRETATION. This Agreement shall inure to the benefit of, and shall be binding upon, the respective legal representatives, successors, and assigns of each of the parties. In the event that any of the provisions of this Agreement shall be held by a court or other tribunal of competent jurisdiction to be unenforceable, such provision shall be enforced to the fullest extent permissible and the remaining portion of this Agreement shall remain in full force and effect. This Agreement represents a compromise between the parties and is a product of arms-length negotiations. These parties have read this Agreement completely and have had the opportunity to seek the advice and assistance of competent legal counsel. In the event that ambiguity exists or is deemed to exist in any provisions of this Agreement, said ambiguity is not to be construed by reference to any doctrine calling for such ambiguity to be construed against the drafter of this Agreement. No statement, action, or omission of either of the parties hereto shall be considered to be a waiver of any right, including, but not by way of limitation, any failure of either party to insist upon the strict performance of any agreement, term or condition hereof, or to exercise any right or remedy consequent upon a breach thereof, during the continuation of any such breach shall constitute a waiver of any such breach or any such

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agreement, term or condition. No remedy or election hereunder shall be deemed exclusive, but shall, whenever possible, be cumulative with all other remedies at law or in equity. This Agreement may be executed simultaneously in several counterparts, and may be transmitted by facsimile or electronic mail, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Facsimile and electronic signatures shall have the same force and effect as original signatures. All headings set forth herein are included for the convenience of reference only and shall not affect the interpretation hereof, nor shall any weight or value be given to the relative position of any part or provision hereof in relation to any other provision in determining such construction. The recitals set forth in the above preamble are incorporated herein by this reference and made a part of this Agreement. As used in this Agreement, the plural shall be substituted for the singular, and the singular for the plural, where appropriate; and words and pronouns of any gender shall include any other gender. Except as stated herein otherwise, this instrument is the final agreement, contains the entire, complete and exclusive agreement between the parties concerning this subject, and supersedes all prior oral or written understandings, agreements or contracts, formal or informal, between the parties. THIS PROVISION, AND EACH AND EVERY OTHER PROVISION OF THIS AGREEMENT MAY NOT UNDER ANY CIRCUMSTANCES BE MODIFIED, CHANGED, AMENDED OR PROVISIONS HEREUNDER WAIVED VERBALLY, BUT MAY ONLY BE MODIFIED, CHANGED, AMENDED OR WAIVED BY AN AGREEMENT IN WRITING EXECUTED BY ALL PARTIES HERETO.

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IN WITNESS WHEREOF, the parties have affixed their hands hereto as of the date and year first written above.

CITY OF BOONVILLE, INDIANA

"City"

By: Charles R. Wyatt
Printed Name: Charles R. Wyatt
Title: Mayor

ATTEST:
By: Tammy Oberuff
Printed Name: Tammy Oberuff
Title: Clerk-Treasurer

GREENLIFE DEVELOPMENT, LLC

"Owner"

By: Nicholas Cassak
Printed Name: Nicholas Cassak
Title: President & General Manager

STATE OF INDIANA)
) SS:
COUNTY OF _____)

Before me, a Notary Public in and for said County and State, this 24 day of August, 2016, personally appeared Charles R Wyatt, _____ the Mayor of the City of Boonville, Indiana, a municipal corporation of the State of Indiana, and acknowledged the execution of this instrument for and on behalf of said City.

WITNESS, my hand and Notarial Seal on the date above stated.



Sara L Hurt
Notary Public
Sara L Hurt
(Printed Signature)

My County of Residence is Warrick County, Indiana, and
My Commission Expires: April 10, 2024

STATE OF INDIANA)
) SS:
COUNTY OF _____)

Before me, a Notary Public, in and for said County and State, this 24 day of August, 2016, personally appeared Nicholas Cassala, President of Greenlife Development, LLC, who acknowledged the execution of this instrument of behalf of said entity.

WITNESS, my hand and Notarial Seal on the date above stated.



Sara L Hurt
Notary Public
Sara L Hurt
(Printed Signature)

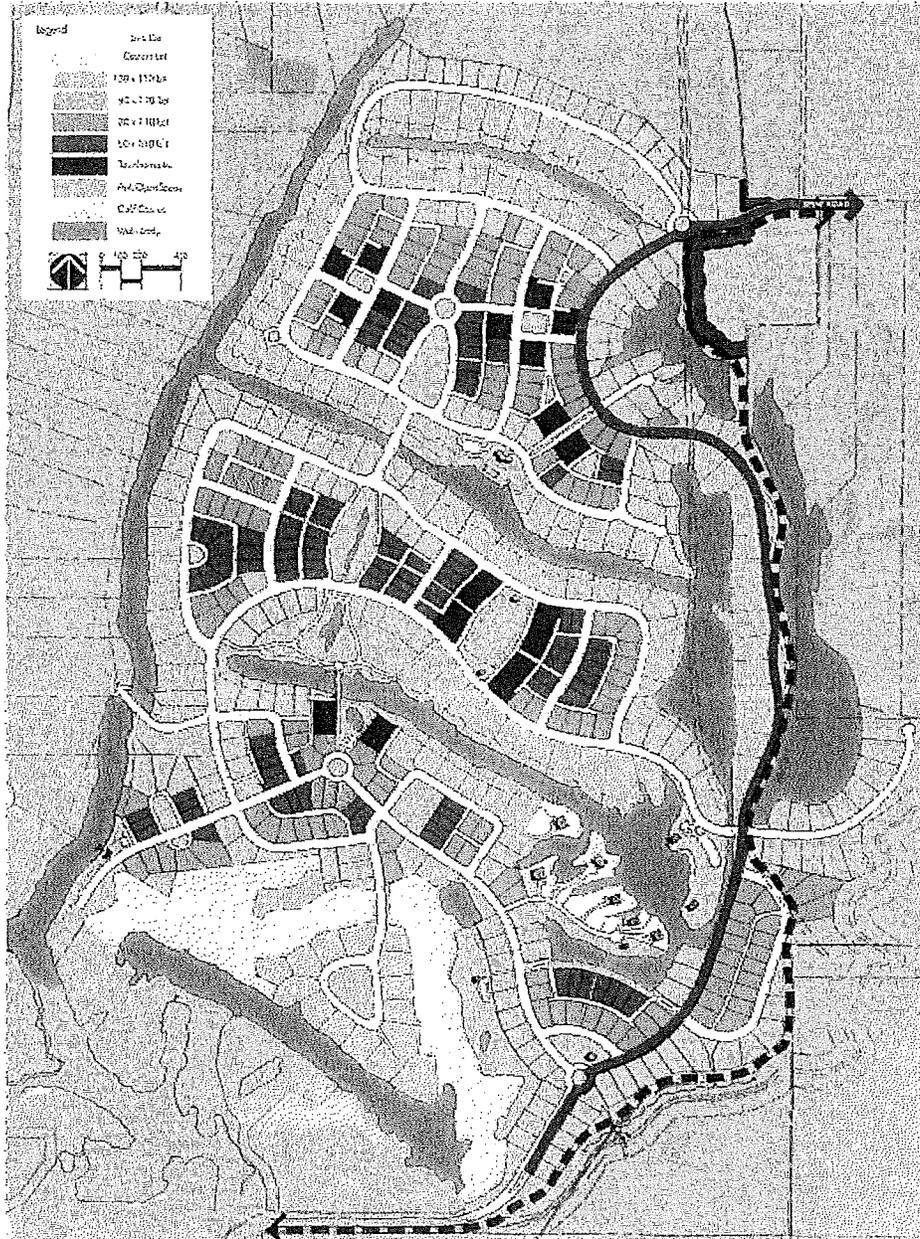
My County of Residence is Warrick County, Indiana, and
My Commission Expires: April 10, 2024

EXHIBIT "A"
TO AGREEMENT TO CONSTRUCT WATER AND SEWER
INFRASTRUCTURE IMPROVEMENTS AND PROVIDE WATER AND
SEWER SERVICES



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EXHIBIT "B"
TO AGREEMENT TO CONSTRUCT WATER AND SEWER
INFRASTRUCTURE IMPROVEMENTS AND PROVIDE WATER AND
SEWER SERVICES



Victoria National

Revised Lot Plan
Apr. 4, 2015

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EXHIBIT "C"
TO AGREEMENT TO CONSTRUCT WATER AND SEWER
INFRASTRUCTURE
IMPROVEMENTS AND PROVIDE WATER AND SEWER SERVICES

Water

- (1) The City will extend water service for approximately 550 homes to the corner of Jenner and the new "Spine Road" to be constructed as part of the Project.
- (2) The City will extend the water main along the proposed trunk line along "Spine Road" to just south of the most southern roundabout in the Project site, consisting of approximately 5,000 feet.

Sewer

- (1) The City will extend the sewer trunk line (Force Main) along and through the proposed trunk line route, which is located along and to "Spine Road", south of the most southern roundabout in the Project site, consisting of approximately 5,000 feet.
- (2) If necessary to provide adequate flow, the City will install a new Wastewater Lift Station in a mutually agreeable Project site location. It is understood that the Parties will coordinate the construction of Wastewater Lift Station to ensure the facility is properly screened from view which may include an enclosed structure approved by Owner.

Specifications

All work shall be in accordance with the guidelines set forth within 327 IAC Public Water Supply and Waste Water Facility construction. Generally accepted design and engineering principals shall be followed as well, including but not limited to, the Ten States Standards. All work shall be preceded by all required local, state, and federal permits to be obtained by either the Owner/or the City with respect to each party's responsibility of the work.

All plans, design calculations, specifications and easements for facilities to be taken over by the City and designed by others shall be submitted to the City for their approval.

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Response:

- a. Master Meter -- 5/8" Positive Displacement.**
- b. No, new meters were purchased as existing meters in service failed.**
- c. As noted herein, the meters in question were not purchased in bulk, but were purchased over the course of a couple of years. Unfortunately, Boonville has not yet been able to find the applicable invoices. Boonville will continue to search its records for the invoices and provide them under separate cover once the invoices are located.**
- d. Approximately 4 years ago.**
- e. No report has been completed as evaluation is ongoing.**
- f. No others have been tested.**
- g. Single year project.**
- h. This project will begin upon approval of the proposed financing from the Commission and closing with the United States Department of Agriculture -- Rural Development.**

Person(s) providing information: Shawn Wright

Testifying witness: Shawn Wright.

Q-5-2: Reference the AGREEMENT TO CONSTRUCT WATER AND SEWER INFRASTRUCTURE AND PROVIDE WATER AND SEWER SERVICES ("AGREEMENT") between the City of Boonville and Greenlife Development, LLC, dated August 23, 2016. Please provide the following:

- a. Readable electronic copies of the figures in Exhibits "A" and "B" on pages 13 and 14. If Exhibits "A" and "B" are in color, please provide color copies.**
- b. Overall layout drawings for the water main extensions showing main diameters, materials, and lengths that are being designed, funded, and constructed by Petitioner to provide water service to the development.**
- c. Total costs being funded by Petitioner for the water "Improvements" referenced on page one of the AGREEMENT that include water main extensions along SR 261, SR 61, Jenner Road, and the "Spine Road" as depicted on Exhibit "B" ("City Work").**
- d. Overall layout drawing for the sewer infrastructure improvements showing major components that are being designed, funded, and constructed by Petitioner to provide sewer service to the development.**
- e. Total costs for the sewer infrastructure improvements that are being funded by Petitioner.**

- f. Total amount paid to date by Greenlife Development, LLC to the City of Boonville for water main extensions. Please also explain how the payment amounts were calculated.
- g. Total amount paid to date by Greenlife Development, LLC to the City of Boonville for sewer infrastructure improvements. Please also explain how the payment amounts were calculated.
- h. Current status of Petitioner's design of the water main extension projects.
- i. Current status of Petitioner's construction of the water main extension projects including the project schedule, date that construction began, costs incurred to date, and total projected costs.
- j. Description of who will pay for the service line materials and installation.
- k. Petitioner's Notice to the Town of Chandler of Boonville's intention to provide sewer service to the 550 home development by Greenlife Development, LLC.

Response:

- a. **Color copies of Exhibits "A" and "B" are attached as Exhibit 5-2(a).**
- b. **Design plans are not final at this point in time as the developer has been delayed with permit submittals for the development itself. In recent conversations with the developer they are nearing completion of all necessary permits and would like to have a meeting with the City in the near future to finalize plans for both the initial phases of the water and sewer extensions. Please refer to Exhibit 5-2(b) for the preliminary layout of the initial phase of water main along Jenner Road to serve the development.**
- c. **As indicated above in Response 5-2(b), design of the initial phase along Jenner Road is not yet complete due to delays in the developer's schedule. Total estimated costs for the SR 261 and SR 61 water main extensions are included in the Preliminary Engineering Report as Table 9, Item VIII and IX. Similarly to Jenner Road, "Spine Road" design is not yet complete due to the aforementioned permit delays in the developer's schedule. Design is ongoing for Jenner Road and "Spine Road".**
- d. **As indicated above in Response 5-2(b), design of the sewer infrastructure is also not complete due to delays in the developer's schedule; however, design is ongoing**
- e. **Design of sewer infrastructure is ongoing and not available at this time**
- f. **To date, no payments have been received from Greenlife.**
- g. **To date, no payments have been received from Greenlife.**

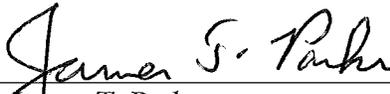
- h. Please refer to above noted responses. Design for Jenner Road and “Spine Road” is ongoing but has been delayed due to the developer. The developer is nearing approval of necessary permits and the City will be meeting with the Developer soon to finalize design for Jenner Road and “Spine Road”.**
- i. Design is ongoing and construction has not yet begun due to the delays from the developer. Total projected costs for the SR 261 and SR 61 extensions are included in the PER. The developer is in the process of updating its schedule and when water and sewer mains will need to be in place in order to serve the development.**
- j. Property owners are responsible for installing service lines from the water meter to the residence. The City will be responsible for all materials and installation up to and including the water meter.**
- k. Sewer service notification was provided at the same time as the water service notification.**

Person(s) providing information: Charles R. Wyatt

Testifying witness: Shawn Wright and Clint Roos

AFFIRMATION

I affirm the representations I made in the foregoing testimony are true to the best of my knowledge, information, and belief.



By: James T. Parks
Cause No. 45069
Indiana Office of
Utility Consumer Counselor
8/3/2018

Date: