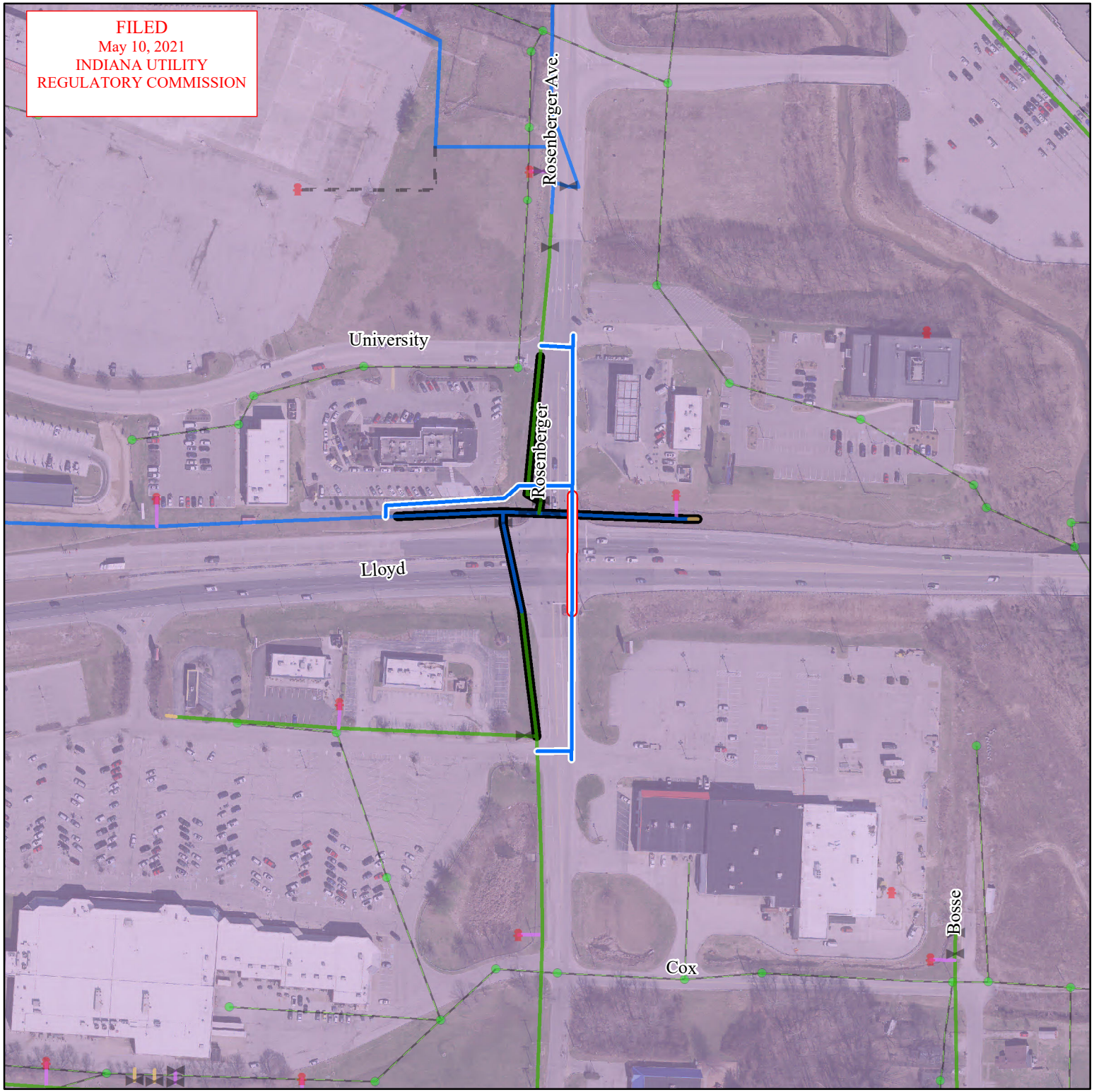

Figure 1
R2 Lloyd Expressway
INDOT Roadwork - Rosenberger Avenue Intersection
Water Main Replacement

Legend

Proposed Project

- Trenchless Installation
- Main to be Abandoned
- Proposed Main

Water Infrastructure

- Hydrants

Valves

- System Isolation
- System Separation

Mains

- Private
- <6"
- 6"
- 8"
- 10"
- 12"
- 16"
- 20"
- 24"
- 30"
- 36"
- 48"

Pressure Zones

- Central
- Lincoln
- Killian
- Northern

Sanitary Infrastructure

- Manholes
- Sewer

N

Print Date: January 2021

0 200 400 Feet

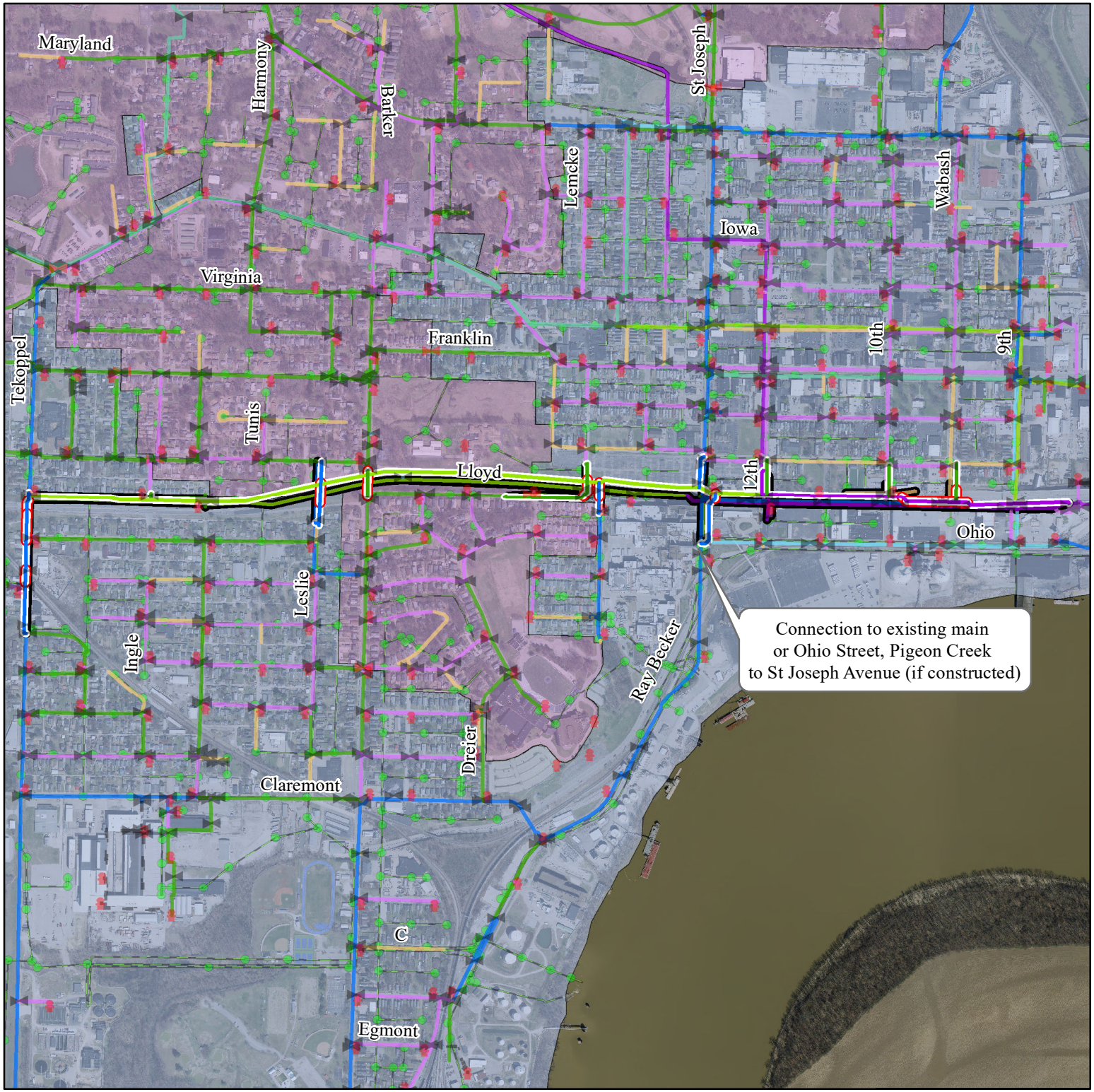

Figure 1
R2 Lloyd Expressway INDOT Roadwork - Tekoppel to Wabash Water Main Replacement

Legend

Proposed Project

- Trenchless Installation
- Main to be Abandoned
- Proposed Main

Water Infrastructure

- Hydrants

Valves

- System Isolation
- System Separation

Mains

- Private
- <6"
- 6"
- 8"
- 10"
- 12"
- 16"
- 20"
- 24"
- 30"
- 36"
- 48"

Pressure Zones

- Central
- Lincoln
- Killian
- Northern

Sanitary Infrastructure

- Manholes
- Sewer

N

Print Date: January 2021

0 1,000 2,000 Feet

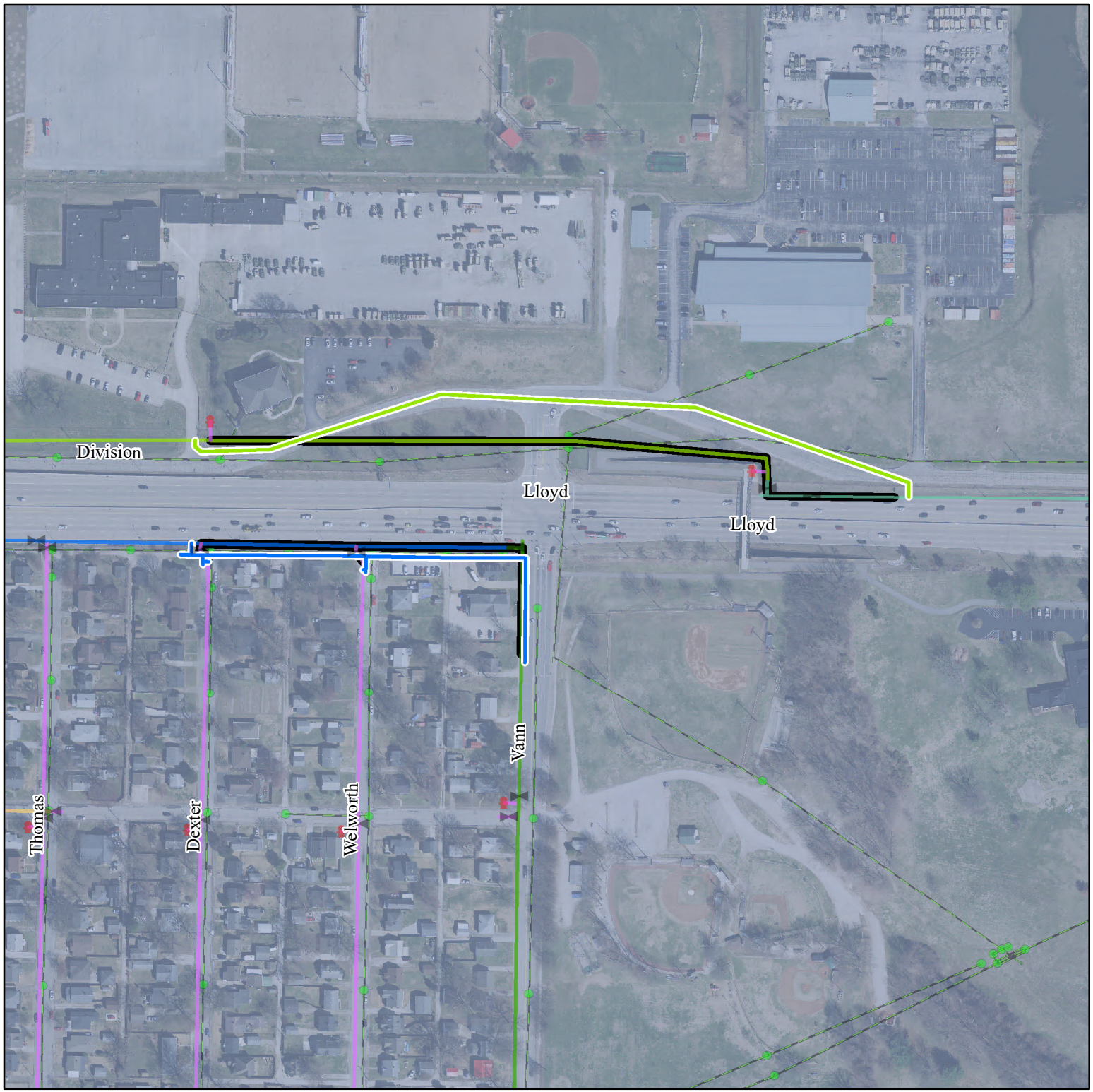

Figure 1
R2 Lloyd Expressway INDOT Roadwork - Vann Avenue Intersection Water Main Replacement

Legend

Proposed Project

- Trenchless Installation
- Main to be Abandoned
- Proposed Main

Water Infrastructure

- Hydrants

Valves

- System Isolation
- System Separation

Mains

- Private
- <6"
- 6"
- 8"
- 10"
- 12"
- 16"
- 20"
- 24"
- 30"
- 36"
- 48"

Pressure Zones

- Central
- Lincoln
- Killian
- Northern

Sanitary Infrastructure

- Manholes
- Sewer

N

Print Date: January 2021

0 250 500 Feet

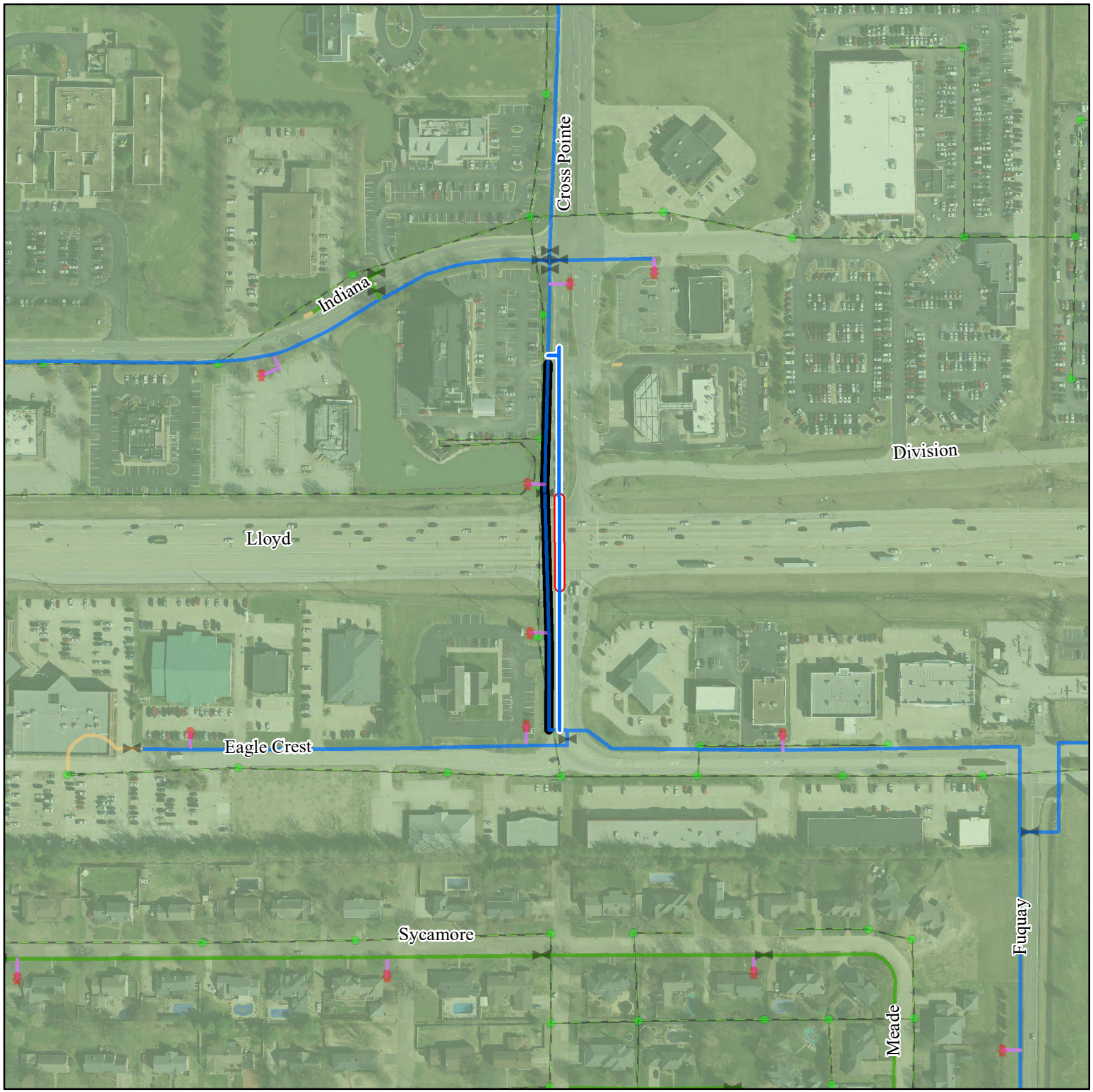

Figure 1
R2 Loyd Expressway
INDOT Roadwork - Cross Pointe Boulevard Intersection
Water Main Replacement

Legend

Proposed Project

- Trenchless Installation
- Main to be Abandoned
- Proposed Main

Water Infrastructure

- Hydrants

Valves

- System Isolation
- System Separation

Mains

- Private
- <6"
- 6"
- 8"
- 10"
- 12"
- 16"
- 20"
- 24"
- 30"
- 36"
- 48"

Pressure Zones

- Central
- Lincoln
- Killian
- Northern

Sanitary Infrastructure

- Manholes
- Sewer

N

Print Date: January 2021

0 250 500 Feet

2. Hydraulic Modeling

The available fire flow within the project limits and surrounding areas were evaluated using the WaterGEMS distribution system model under maximum day demands of 26.7 million gallons per day (MGD) based upon 2019 data. One (1) alternative was evaluated for replacement. Alternative 1 includes replacement with all 12-inch diameter water main at the intersection of Rosenberger Avenue and Lloyd Expressway. It includes replacement with 24-inch diameter and 20-inch diameter water main along Lloyd Expressway between Tekoppel Avenue and Wabash Avenue. It includes replacement with 20-inch diameter and 12-inch diameter water main along Lloyd Expressway from Dexter Avenue to Artillery Road and along Vann Avenue. It includes replacement with all 12-inch diameter water main along Cross Pointe Boulevard between Eagle Crest Boulevard and Indiana Avenue. Alternative 2 included all the same main diameters as Alternative 1 except along Vann Avenue, where it includes replacement with 12-inch diameter water main.

2.1. Results

The existing available fire flow in the project limits are shown in **Figures 2 through 5**. The available fire flow in the project limits for Alternative 1 are shown in **Figures 6 through 9**. The available fire flow in the project limits for Alternative 2 are shown in **Figure 10**. Only one figure is included for Alternative 2 since this is the only area that differs from Alternative 1.

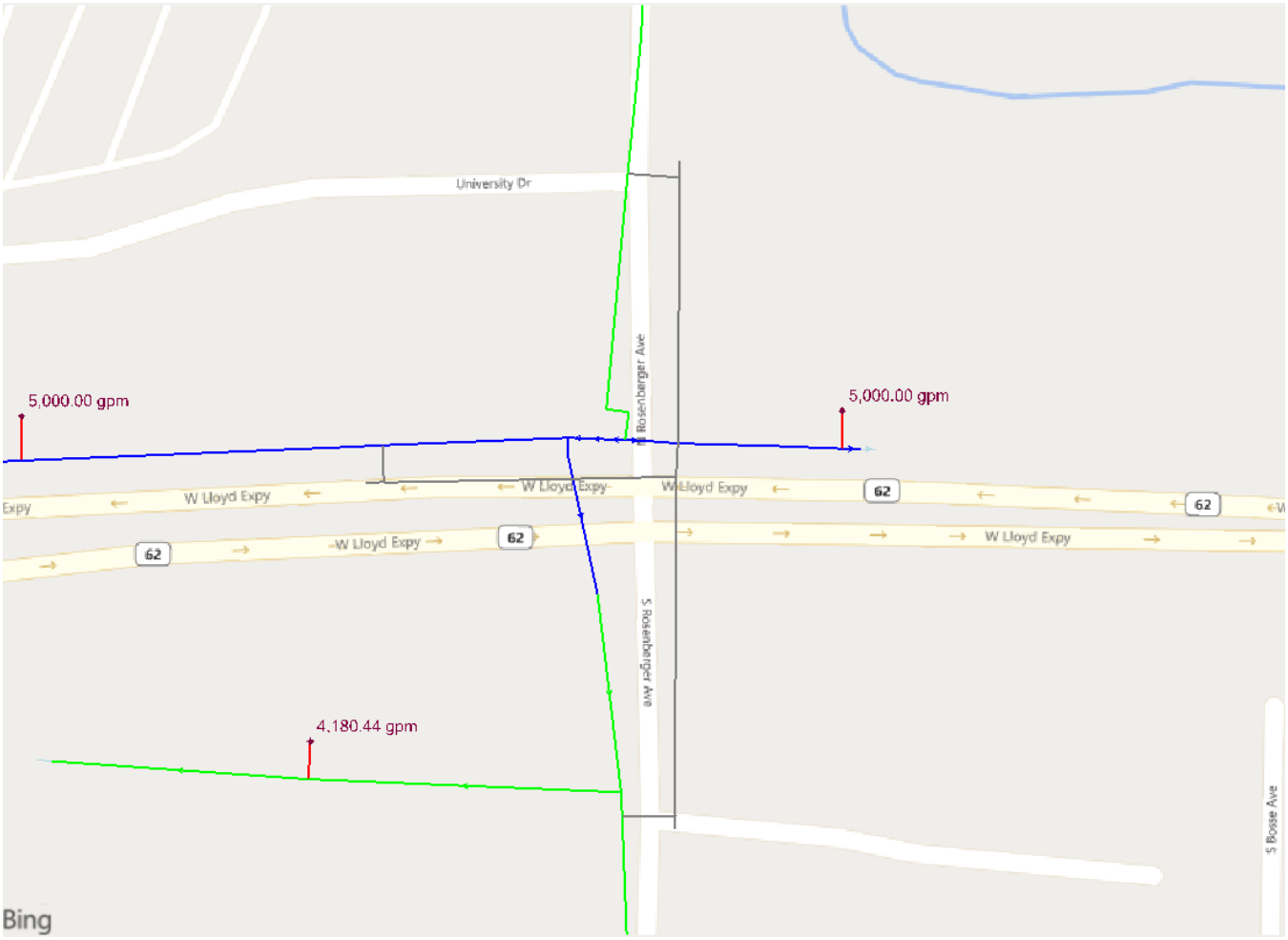

Figure 2. Existing Available Fire Flow

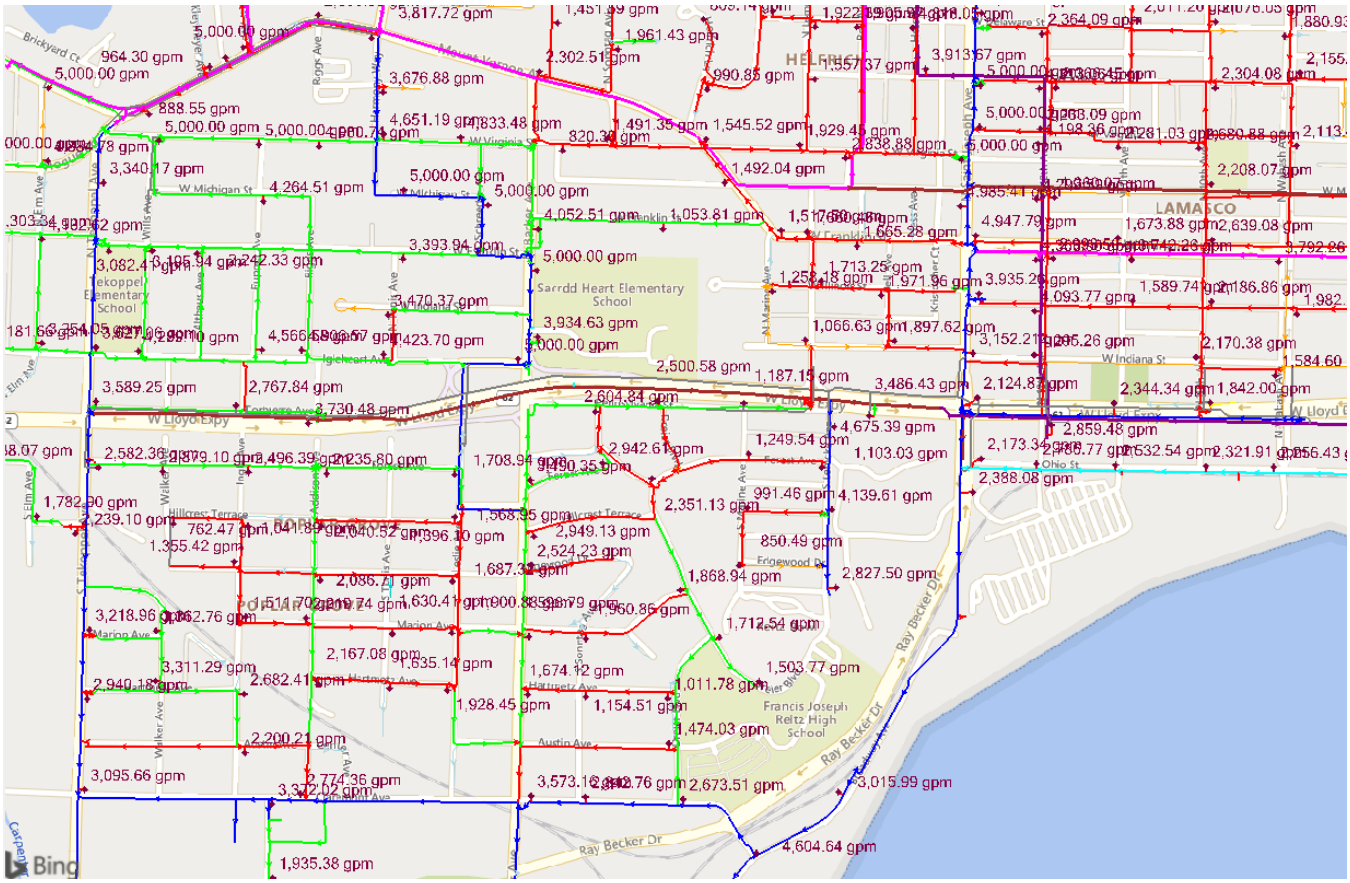

Figure 3. Existing Available Fire Flow

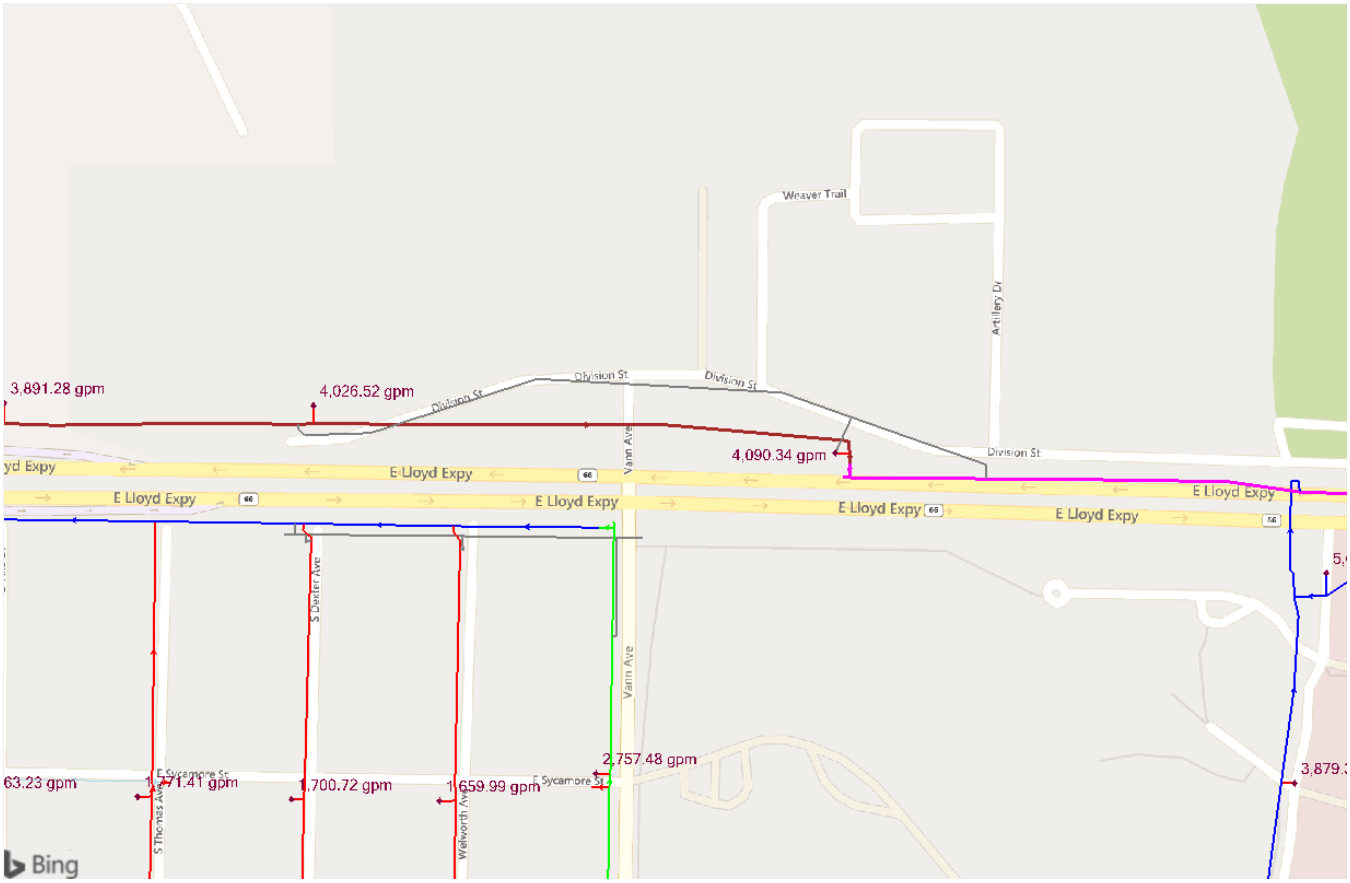

Figure 4. Existing Available Fire Flow

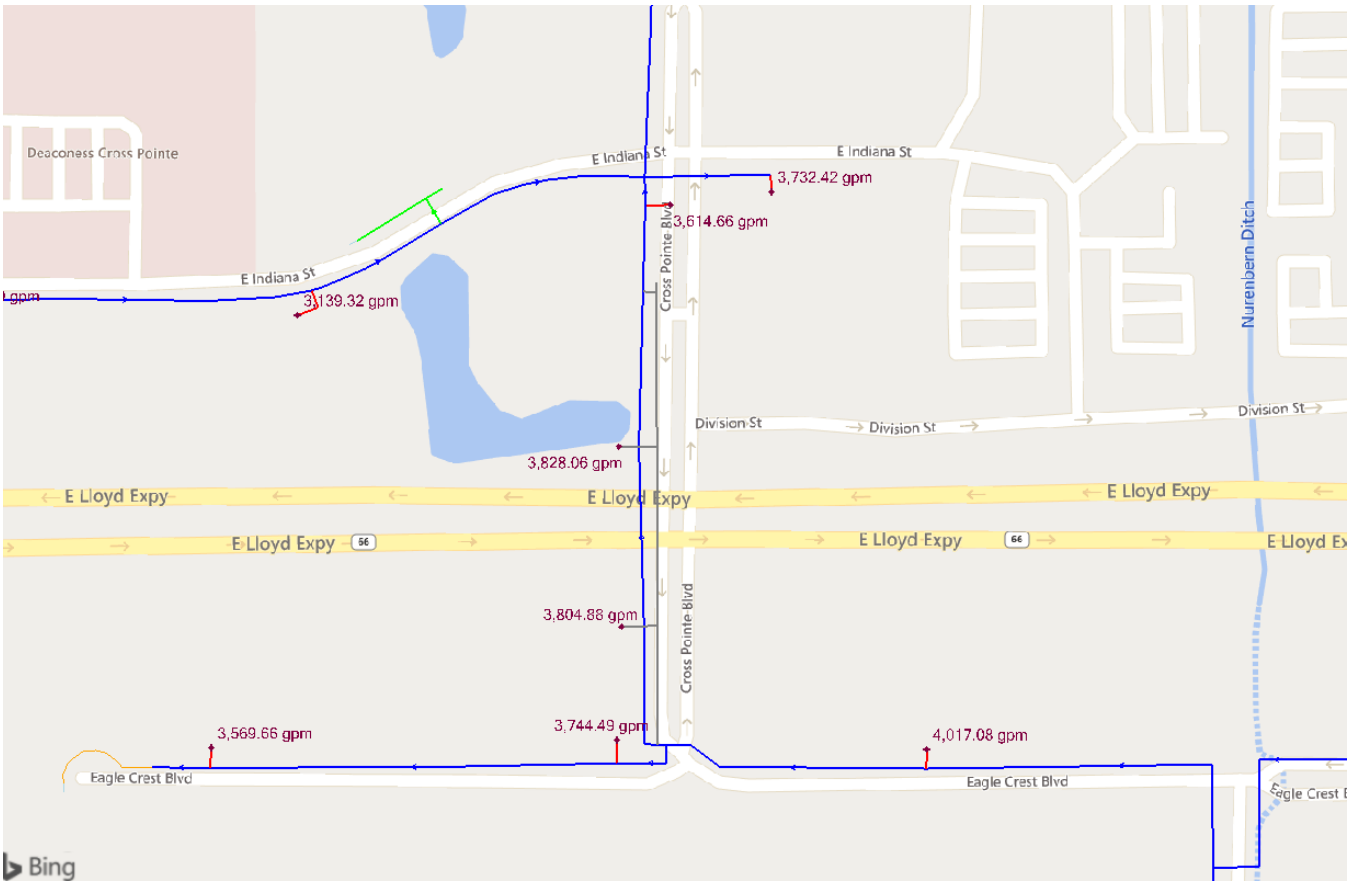

Figure 5. Existing Available Fire Flow

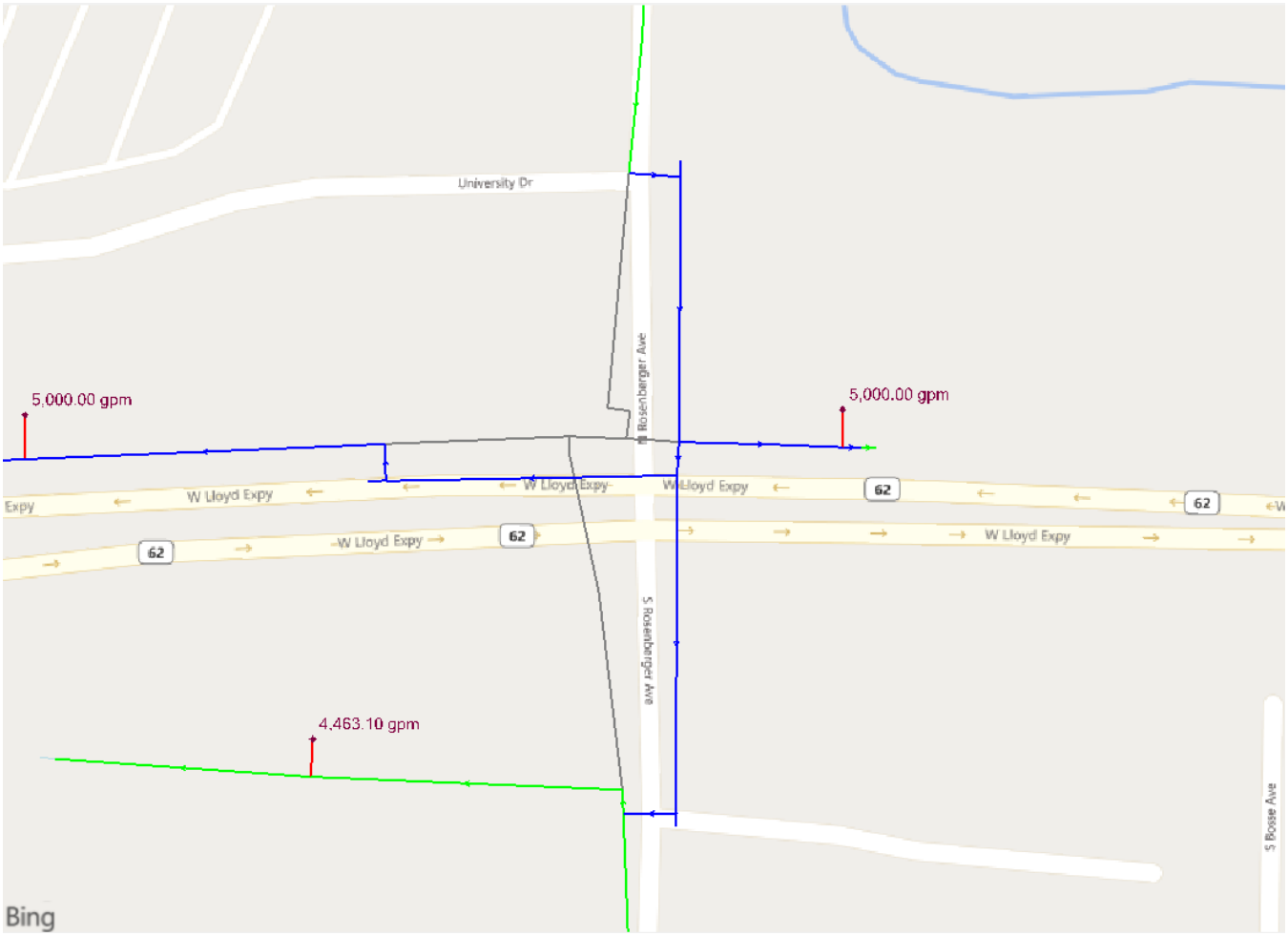

Figure 6. Alternative 1 Available Fire Flow

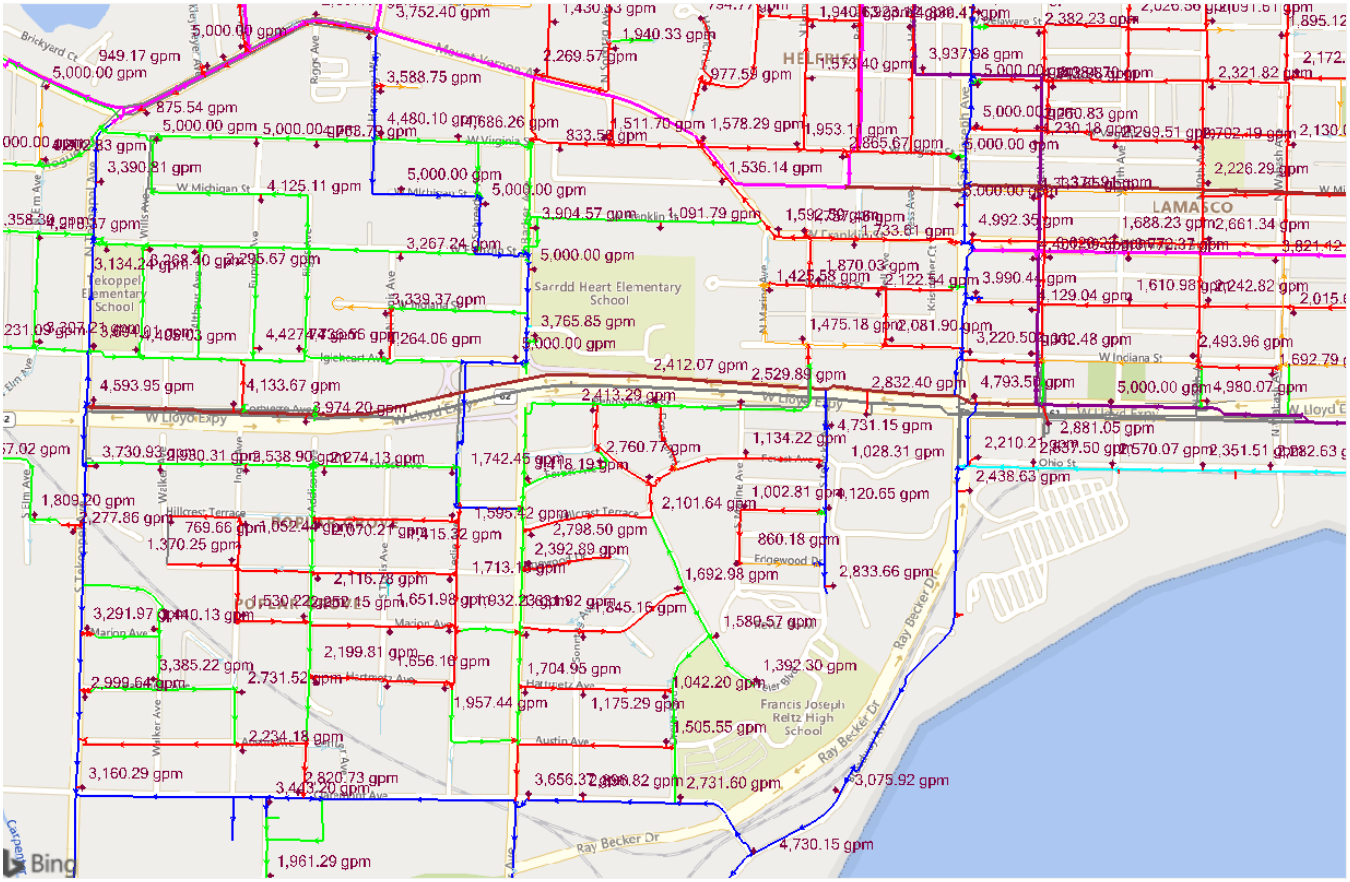

Figure 7. Alternative 1 Available Fire Flow

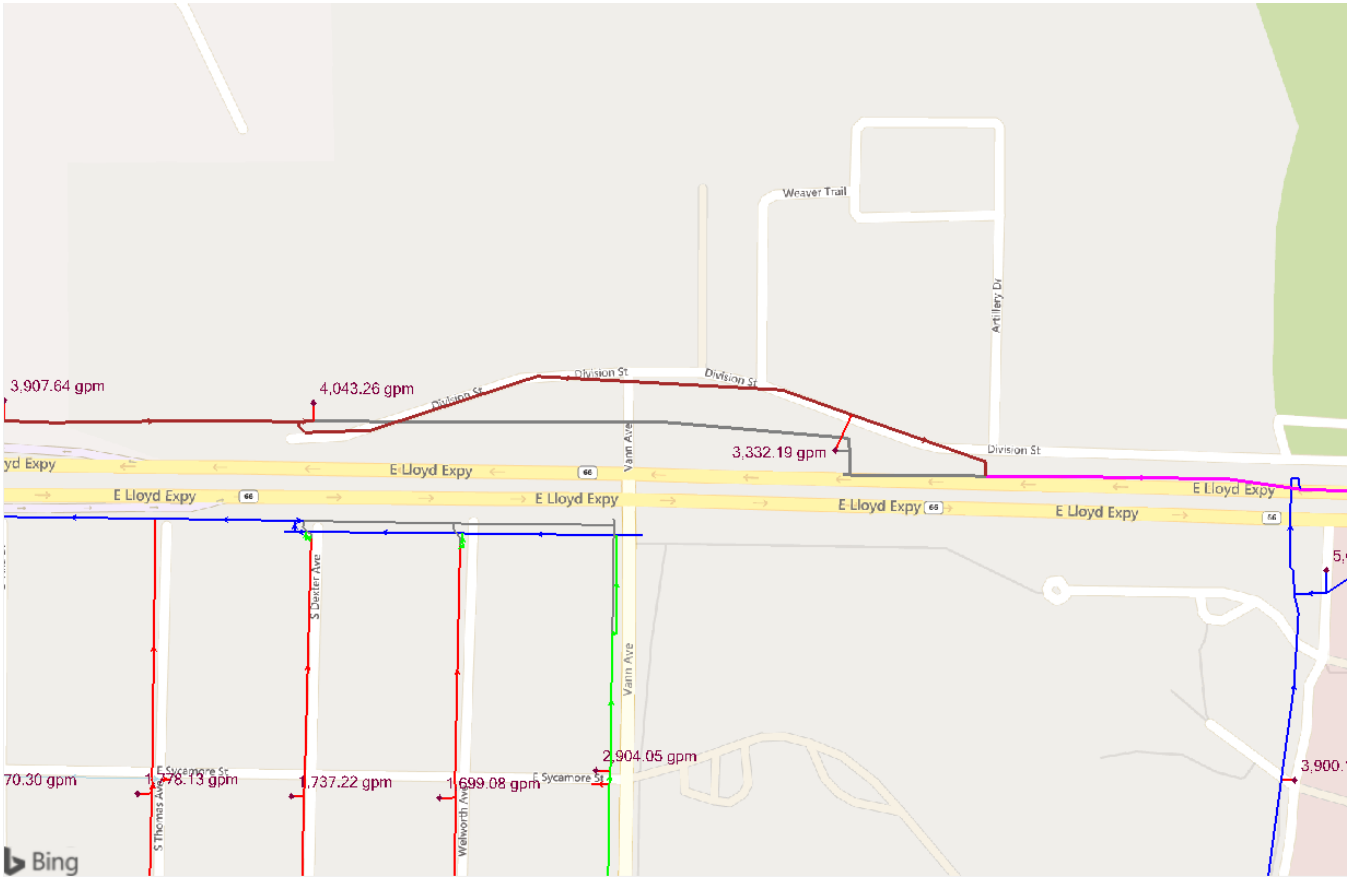

Figure 8. Alternative 1 Available Fire Flow

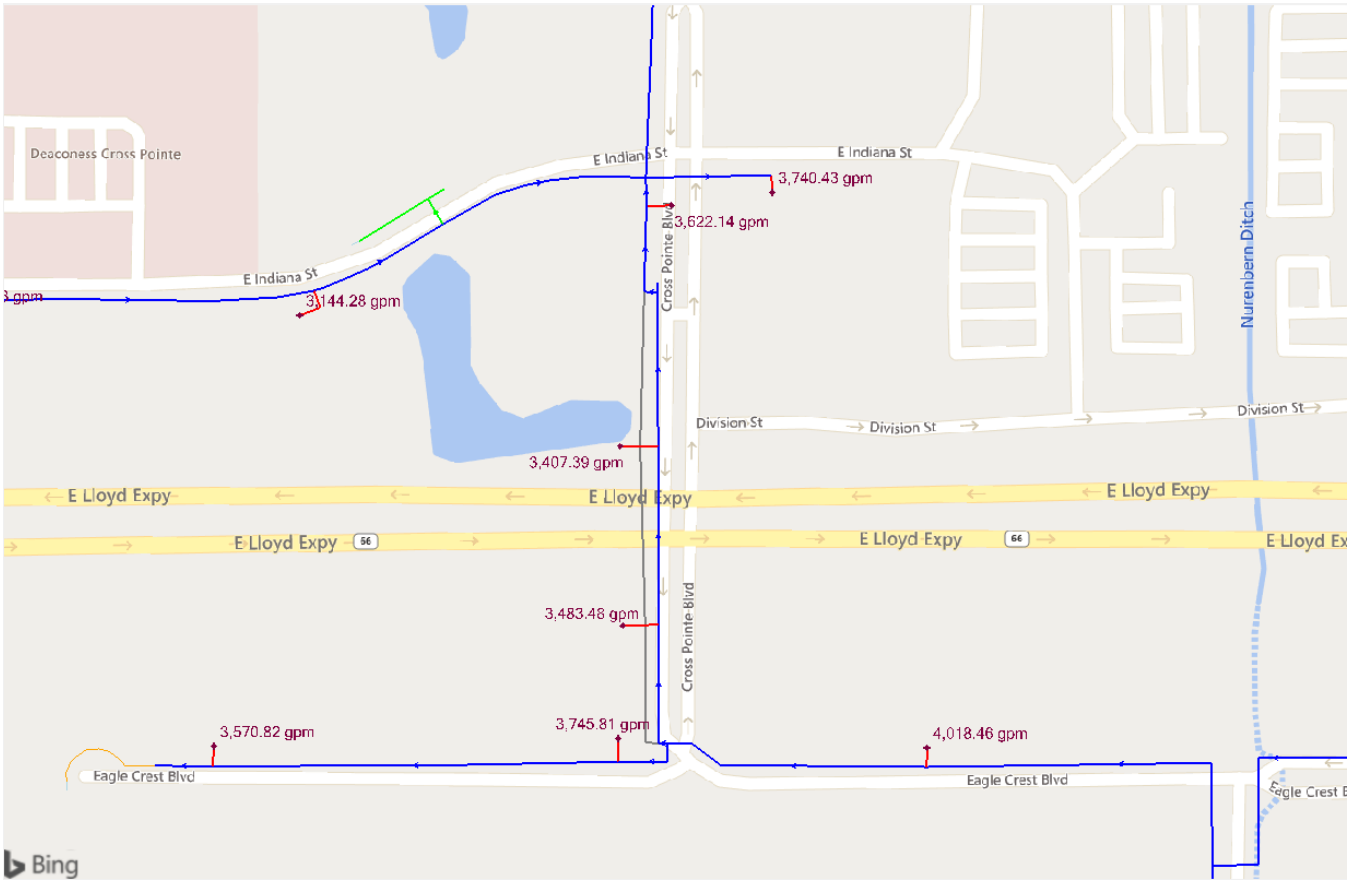

Figure 9. Alternative 1 Available Fire Flow

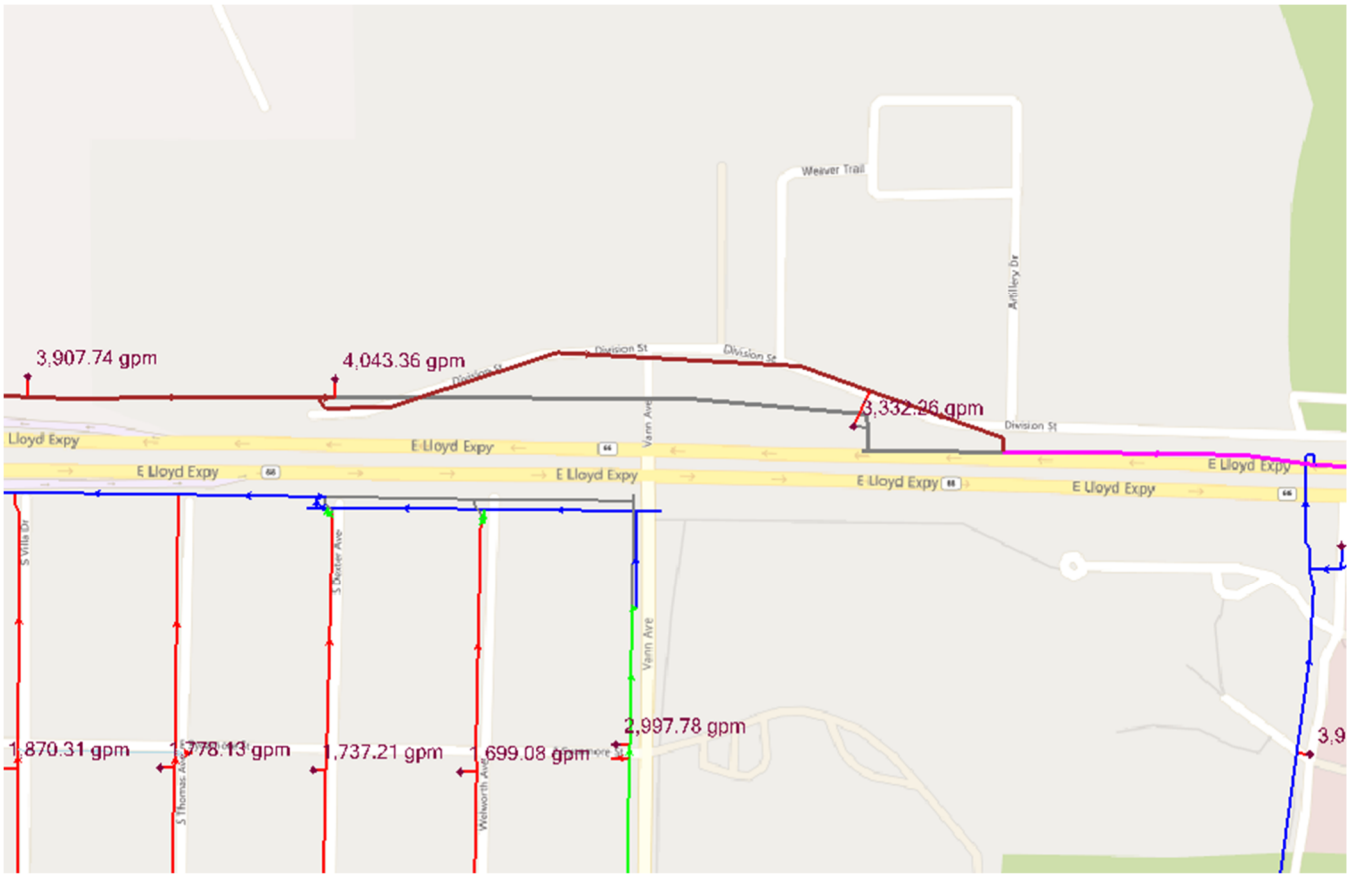

Figure 10. Alternative 2 Available Fire Flow

2.1. Conclusion

The project area is a mixture of commercial and residential, so the required fire flow is expected to be approximately 2,000 gallons per minute. All alternatives provide the required fire flow, however Alternative 2 was selective to provide to set up a future replacement along Vann Avenue to connect existing 12-inch water mains along the Lloyd Expressway and Lincoln Avenue.

3. Environmental Assessment

No environmental assessment was performed for this project scoping report.

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Scoping Report

Project Capital Cost Estimate

Lloyd Expy, Rosenberger to Epworth INDOT Roadwork Water Main Relocation

Project #: R2

CONSTRUCTION COSTS

ITEM ID	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
STANDARD PAY ITEMS					
1083	8" PVC C900 PIPE	1,560	LF	$86.00	$134,160.00
1085	12" PVC C900 PIPE	4,230	LF	$102.00	$431,460.00
1166	20" DUCTILE IRON PIPE	7,220	LF	$550.00	$3,971,000.00
1167	24" DUCTILE IRON PIPE	2,610	LF	$582.00	$1,519,020.00
1089	8" DUCTILE IRON PIPE	430	LF	$145.00	$62,350.00
1140	12" STEEL CASING PIPE	430	LF	$150.00	$64,500.00
1096	8" SOLID SLEEVE	4	EA	$394.00	$1,576.00
1091	12" DUCTILE IRON PIPE	1,060	LF	$192.00	$203,520.00
1141	16" STEEL CASING PIPE	1,060	LF	$160.00	$169,600.00
1098	12" SOLID SLEEVE	10	EA	$394.00	$3,940.00
1026	8" MJ GATE VALVE	4	EA	$1,645.00	$6,580.00
1028	12" MJ GATE VALVE	21	EA	$2,818.00	$59,178.00
1266	20" BUTTERFLY VALVE	3	EA	$7,500.00	$22,500.00
1230	24" MJ BUTTERFLY VALVE	4	EA	$10,094.00	$40,376.00
1013	8" MJ 45° BEND	2	EA	$441.00	$882.00
1015	12" MJ 45° BEND	10	EA	$765.00	$7,650.00
1267	20" MJ 45° BEND	14	EA	$3,000.00	$42,000.00
1225	24" MJ 45° BEND	5	EA	$3,495.00	$17,475.00
1043	12" MJ TEE	8	EA	$982.00	$7,856.00
1271	20"X12" MJ TEE	6	EA	$8,500.00	$51,000.00
1259	24"X8" MJ TEE	3	EA	$10,000.00	$30,000.00
1268	20"X8" MJ TEE	4	EA	$7,500.00	$30,000.00
1274	24"X20" MJ REDUCER	2	EA	$6,000.00	$12,000.00
1272	24" MJ TEE	1	EA	$12,500.00	$12,500.00
1041	12"X8" MJ TEE	3	EA	$866.00	$2,598.00
1036	8" MJ TEE	5	EA	$679.00	$3,395.00
1119	FIRE HYDRANT ASSEMBLY WITH GATE VALVE	11	EA	$5,814.00	$63,954.00
1132	3/4"-1" WATER SERVICE RELOCATION, OPEN CUT	101	EA	$1,682.00	$169,882.00
6026	Proposed 12" to Existing 12" Connection	10	LS	$10,368.00	$103,680.00
6008	Proposed 12" to Existing 8" Connection	3	LS	$7,446.00	$22,338.00
6003	Proposed 8" to Existing 6" Connection	5	LS	$6,308.00	$31,540.00
6004	Proposed 8" to Existing 8" Connection	4	LS	$7,122.00	$28,488.00
6002	Proposed 8" to Existing 4" Connection	2	LS	$5,964.00	$11,928.00
6030	Proposed 24" to Existing 24" Connection	2	LS	$46,560.00	$93,120.00
5006	ABANDON AND GROUT FILL EXISTING MAIN	21,030	LF	$10.00	$210,300.00
5007	COMPACTED AGGREGATE, NO. 53S	17,110	LF	$9.00	$153,990.00
5021	HOT MIX ASPHALT BASE	17,110	LF	$28.00	$479,080.00
5023	HOT MIX ASPHALT SURFACE	17,110	LF	$12.00	$205,320.00
NON-STANDARD PAY ITEMS					
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STANDARD LUMP SUM PAY ITEMS				
DESCRIPTION	**QUANTITY**	**UNIT**	**%**	**TOTAL PRICE**
Mobilization & Demobilization (4% - 5%)	1	LS	5.0%	$424,100.00

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Scoping Report

Project Capital Cost Estimate

Construction Engineering (2% - 3%)	1	LS	3.0%	$254,500.00
Clearing & Grubbing (0.5% - 1.5%)	1	LS	1.0%	$84,900.00
Erosion Control Devices (1% - 2%)	1	LS	2.0%	$169,700.00
Maintenance of Traffic (3% - 4%)	1	LS	4.0%	$339,300.00
Restoration, Grading, and Seeding (2% - 3%)	1	LS	3.0%	$254,500.00
			CONSTRUCTION COSTS SUBTOTAL =	$10,007,736.00
			CONTINGENCY (30%) =	$3,002,400.00

TOTAL ESTIMATED CONSTRUCTION COSTS, SCOPING REPORT = $13,011,000.00

NON-CONSTRUCTION COSTS

DESCRIPTION	QUANTITY	UNIT	%	TOTAL PRICE
Engineering Program Management Fees (estimated)	1	LS	3.0%	$390,400.00
Engineering Design Fees (estimated)	1	LS	10.0%	$1,301,100.00
Engineering Construction Engineering Fees (estimated)	1	LS	9.6%	$1,249,100.00
			NON-CONSTRUCTION COSTS SUBTOTAL =	$2,941,000.00

TOTAL ESTIMATED CAPITAL COST, SCOPING REPORT = $15,952,000.00

OAK HILL ROAD, EASTWOOD TO MILLERSBURG VANDERBURGH COUNTY ROADWORK WATER MAIN RELOCATION SCOPING REPORT

2022 WATER RATE CASE

January 2021

PREPARED FOR

Evansville Water & Sewer Utility
1 SE 9th Street
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Evansville, IN 47708
Phone: (812) 421-2120
Contact: Michael Labitkze, P.E.

PREPARED BY

HNTB Corporation
111 Monument Circle
Suite 1200
Indianapolis, IN 46204
Phone: (317) 636-4682
Contact: Jason Hoff, P.E.

OAK HILL ROAD, EASTWOOD TO MILLERSBURG VANDERBURGH COUNTY ROADWORK WATER MAIN RELOCATION SCOPING REPORT

1. Project Summary

The proposed Oak Hill Road, Eastwood To Millersburg Vanderburgh County Roadwork Water Main Relocation Project includes relocation of approximately 5,320 feet of water main. The project is expected to include approximately four (4) fire hydrants, six (6) gate valves, and fifty-five (55) service connections. Approximately 5,220 feet of existing water main will be abandoned and filled with grout.

1.1. Project Limits

The project scope includes relocation of existing water mains along Oak Hill Road from Millersburg Road to Eastwood Drive due to a planned road project. The proposed project and potential alignment for the proposed water mains are shown in **Figure 1**. Actual horizontal and vertical alignment will be determined during final design based on surveyed locations of existing utilities in the project area and the final design of the road project.

1.2. Project Drivers

A road project is planned for Oak Hill Road within the project limits and may require the relocation of some or all of the water main. Though not being driven by the replacement criteria scoring, the existing water mains within the proposed project limits have replacement prioritization scores ranging from 150 to 210. The average score weighted by length for the existing water mains is 163.

1.3. Project Cost

The total capital cost estimate for the project is $1,972,000. This includes $1,608,000 construction costs and $364,000 non-construction costs. The project costs were estimated using the EWSU Cost Estimating Tool Scoping Report tab. The cost estimate is included at the end of the scoping report.

Figure 1
R3 Oak Hill Road, Eastwood to Millersburg
Vanderburgh County Roadwork
Water Main Replacement

Legend

Proposed Project

- Trenchless Installation
- Main to be Abandoned
- Proposed Main

Water Infrastructure

- Hydrants

Valves

- System Isolation
- System Separation

Mains

- Private
- <6"
- 6"
- 8"
- 10"
- 12"
- 16"
- 20"
- 24"
- 30"
- 36"
- 48"

Pressure Zones

- Central
- Killian
- Lincoln
- Northern

Sanitary Infrastructure

- Manholes
- Sewer

N

Print Date: January 2021

0 700 1,400 Feet

2. Hydraulic Modeling

The available fire flow within the project limits and surrounding areas were evaluated using the WaterGEMS distribution system model under maximum day demands of 26.7 million gallons per day (MGD) based upon 2019 data. One (1) alternative was evaluated for replacement. Alternative 1 includes replacement-in-kind with all 12-inch diameter water main in the project limits.

2.1. Results

The existing available fire flow in the project limits are shown in **Figure 2**. The available fire flow in the project limits for Alternative 1 are shown in **Figure 3**.

Figure 2. Existing Available Fire Flow

Figure 3. Alternative 1 Available Fire Flow

2.1. Conclusion

The project area is primarily residential, so the required fire flow is expected to be approximately 1,500 gallons per minute. Alternative 1 provides the required fire flow, therefore Alternative 1 was selective to provide the required fire flow in the project area.

3. Environmental Assessment

No environmental assessment was performed for this project scoping report.

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Scoping Report

Project Capital Cost Estimate

Oak Hill Rd, Eastwood to Millersburg VC Roadwork Water Main Relocation

Project #: R3

CONSTRUCTION COSTS

ITEM ID	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
STANDARD PAY ITEMS					
1085	12" PVC C900 PIPE	4,940	LF	$102.00	$503,880.00
1083	8" PVC C900 PIPE	380	LF	$86.00	$32,680.00
1028	12" MJ GATE VALVE	6	EA	$2,818.00	$16,908.00
1015	12" MJ 45° BEND	16	EA	$765.00	$12,240.00
1043	12" MJ TEE	6	EA	$982.00	$5,892.00
1119	FIRE HYDRANT ASSEMBLY WITH GATE VALVE	4	EA	$5,814.00	$23,256.00
1132	3/4"-1" WATER SERVICE RELOCATION, OPEN CUT	55	EA	$1,682.00	$92,510.00
6003	Proposed 8" to Existing 6" Connection	2	LS	$6,308.00	$12,616.00
6004	Proposed 8" to Existing 8" Connection	2	LS	$7,122.00	$14,244.00
6026	Proposed 12" to Existing 12" Connection	2	LS	$10,368.00	$20,736.00
5006	ABANDON AND GROUT FILL EXISTING MAIN	5,220	LF	$10.00	$52,200.00
5007	COMPACTED AGGREGATE, NO. 53S	5,320	LF	$9.00	$47,880.00
5021	HOT MIX ASPHALT BASE	5,320	LF	$28.00	$148,960.00
5023	HOT MIX ASPHALT SURFACE	5,320	LF	$12.00	$63,840.00
NON-STANDARD PAY ITEMS					
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STANDARD LUMP SUM PAY ITEMS				
DESCRIPTION	**QUANTITY**	**UNIT**	**%**	**TOTAL PRICE**
Mobilization & Demobilization (4% - 5%)	1	LS	5.0%	$52,400.00
Construction Engineering (2% - 3%)	1	LS	3.0%	$31,500.00
Clearing & Grubbing (0.5% - 1.5%)	1	LS	1.0%	$10,500.00
Erosion Control Devices (1% - 2%)	1	LS	2.0%	$21,000.00
Maintenance of Traffic (3% - 4%)	1	LS	4.0%	$42,000.00
Restoration, Grading, and Seeding (2% - 3%)	1	LS	3.0%	$31,500.00

CONSTRUCTION COSTS SUBTOTAL = $1,236,742.00

CONTINGENCY (30%) = $371,100.00

TOTAL ESTIMATED CONSTRUCTION COSTS, SCOPING REPORT = $1,608,000.00

NON-CONSTRUCTION COSTS

DESCRIPTION	QUANTITY	UNIT	%	TOTAL PRICE
Engineering Program Management Fees (estimated)	1	LS	3.0%	$48,300.00
Engineering Design Fees (estimated)	1	LS	10.0%	$160,800.00
Engineering Construction Engineering Fees (estimated)	1	LS	9.6%	$154,400.00

NON-CONSTRUCTION COSTS SUBTOTAL = $364,000.00

TOTAL ESTIMATED CAPITAL COST, SCOPING REPORT = $1,972,000.00

BOONEVILLE NEW HARMONY, PETERSBURG TO SR 57 VANDERBURGH COUNTY ROADWORK WATER MAIN RELOCATION SCOPING REPORT

2022 WATER RATE CASE

refresh EVANSVILLE

January 2021

PREPARED FOR

Evansville Water & Sewer Utility
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Contact: Michael Labitkze, P.E.

PREPARED BY

HNTB Corporation
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Suite 1200
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Phone: (317) 636-4682
Contact: Jason Hoff, P.E.

HNTB

BOONEVILLE NEW HARMONY, PETERSBURG TO SR 57 VANDERBURGH COUNTY ROADWORK WATER MAIN RELOCATION SCOPING REPORT

1. Project Summary

The proposed Booneville New Harmony, Petersburg To SR 57 Vanderburgh County Roadwork Water Main Relocation Project includes relocation of approximately 6,660 feet of water main. The project is expected to include approximately ten (10) fire hydrants, eight (8) gate valves, and sixty-seven (67) service connections. Approximately 6,650 feet of existing water main will be abandoned and filled with grout.

1.1. Project Limits

The project scope includes relocation of existing water mains along Booneville New Harmony Road from Petersburg Road to SR 57 and Petersburg Road 400 feet north and south of Booneville New Harmony Road due to a planned road project . The proposed project and potential alignment for the proposed water mains are shown in **Figure 1**. Actual horizontal and vertical alignment will be determined during final design based on surveyed locations of existing utilities in the project area and the final design of the road project.

1.2. Project Drivers

A road project is planned for Booneville New Harmony Road within the project limits and may require the relocation of some or all of the water main. Though not being driven by the replacement criteria scoring, the existing water mains within the proposed project limits have replacement prioritization scores ranging from 150 to 280. The average score weighted by length for the existing water mains is 164.

1.3. Project Cost

The total capital cost estimate for the project is $2,661,000. This includes $2,170,000 construction costs and $491,000 non-construction costs. The project costs were estimated using the EWSU Cost Estimating Tool Scoping Report tab. The cost estimate is included at the end of the scoping report.

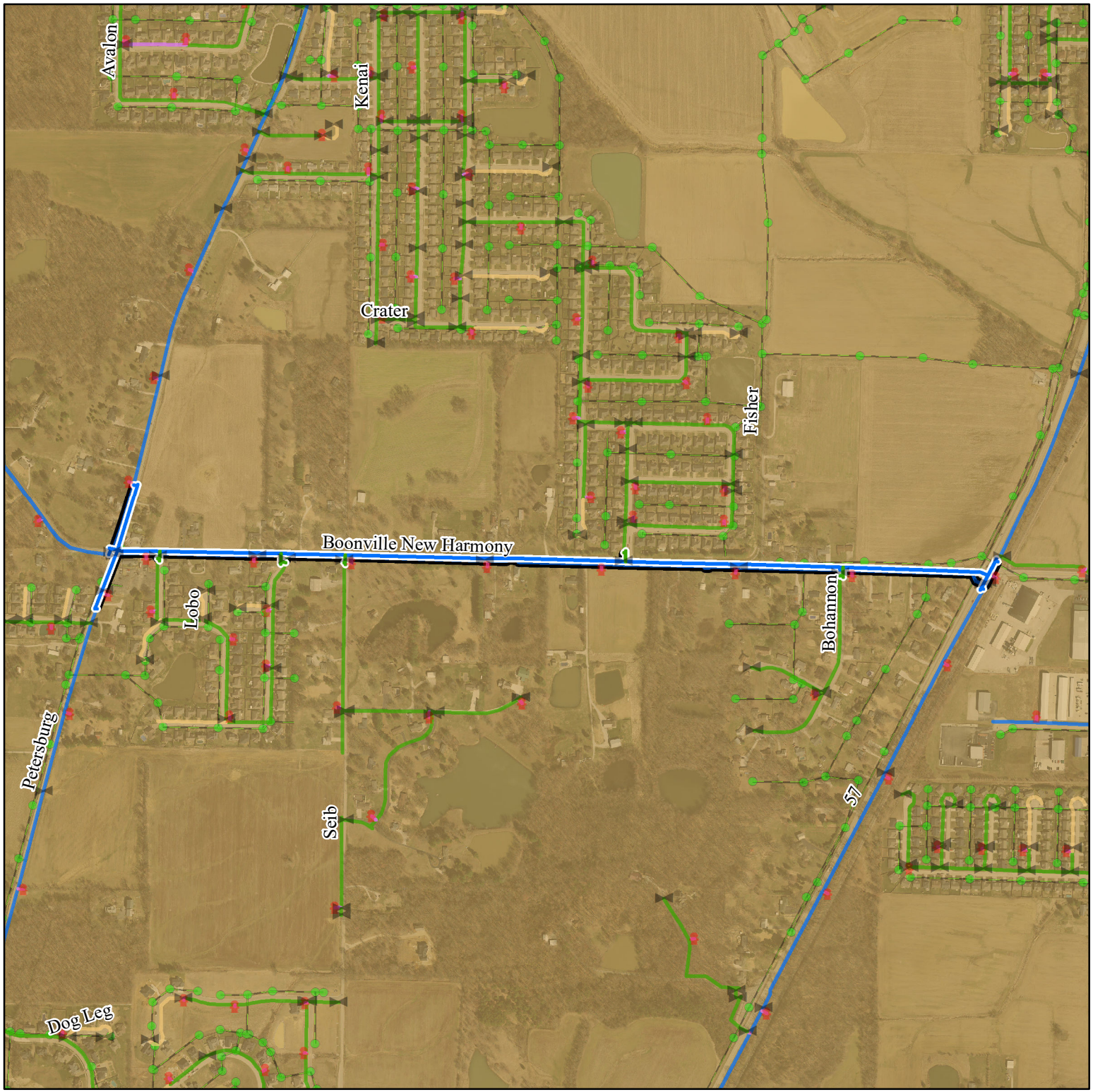

Figure 1
U1110 Booneville New Harmony, Petersburg to SR 57 Vanderburgh County Roadwork Water Main Replacement

Legend

Proposed Project

- Trenchless Installation
- Main to be Abandoned
- Proposed Main

Water Infrastructure

- Hydrants

Valves

- System Isolation
- System Separation

Mains

- Private
- <6"
- 6"
- 8"
- 10"
- 12"
- 16"
- 20"
- 24"
- 30"
- 36"
- 48"

Pressure Zones

- Central
- Killian
- Lincoln
- Northern

Sanitary Infrastructure

- Manholes
- Sewer

N

Print Date: January 2021

0 800 1,600 Feet

2. Hydraulic Modeling

The available fire flow within the project limits and surrounding areas were evaluated using the WaterGEMS distribution system model under maximum day demands of 26.7 million gallons per day (MGD) based upon 2019 data. One (1) alternative was evaluated for replacement. Alternative 1 includes replacement-in-kind with all 12-inch diameter water main in the project limits.

2.1. Results

The existing available fire flow in the project limits are shown in **Figure 2**. The available fire flow in the project limits for Alternative 1 are shown in **Figure 3**.

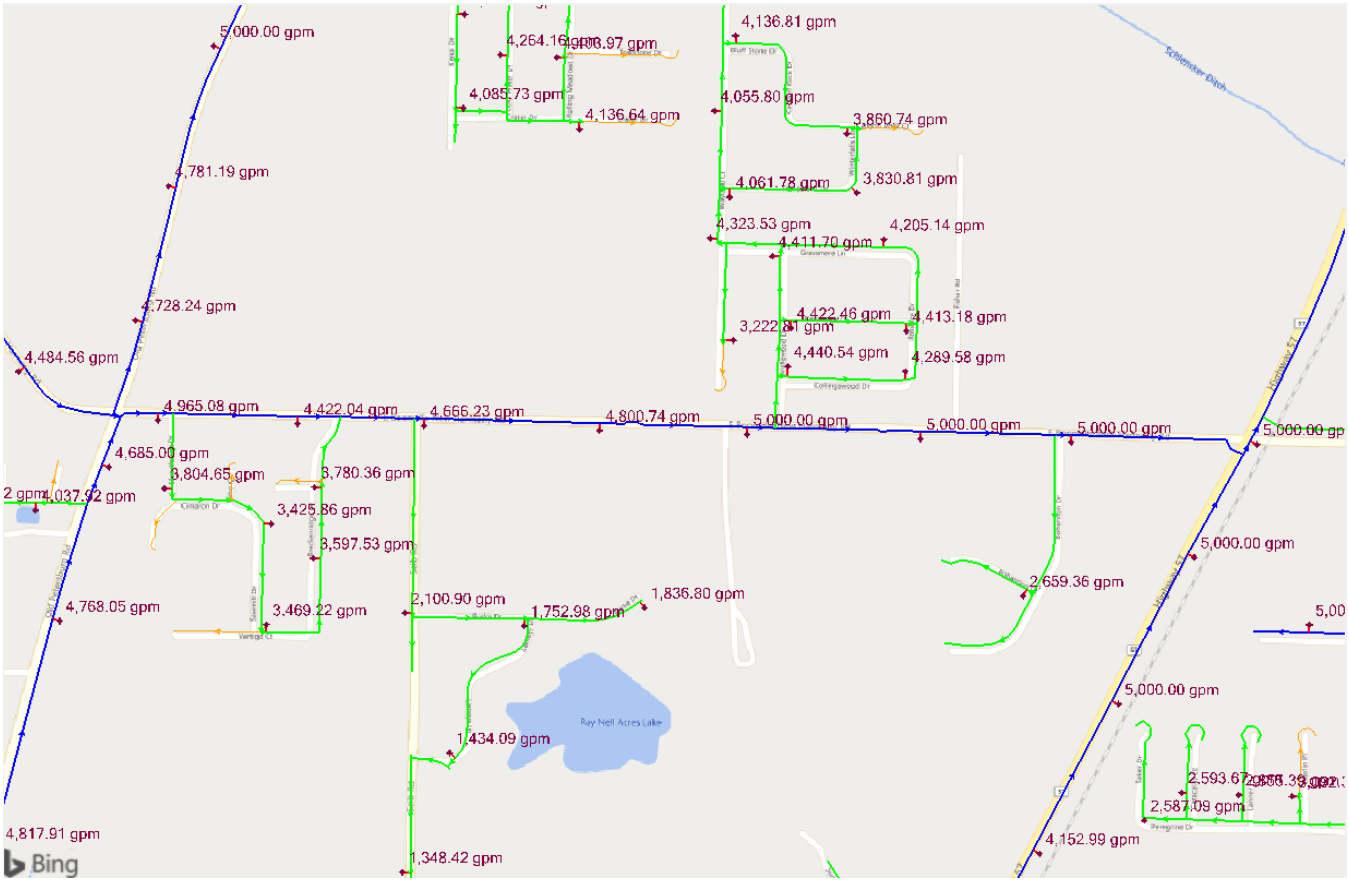

Figure 2. Existing Available Fire Flow

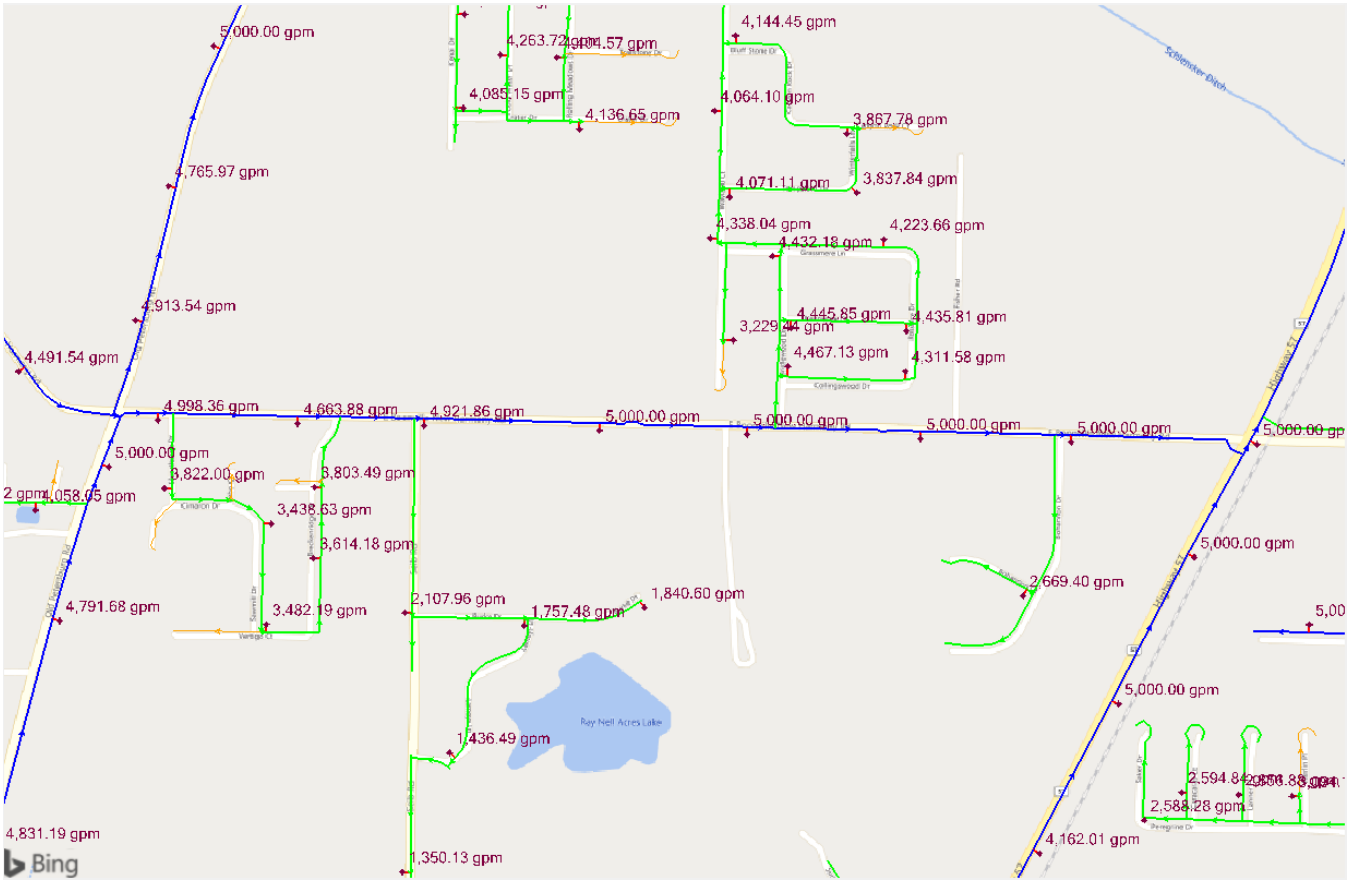

Figure 3. Alternative 1 Available Fire Flow

2.1. Conclusion

The project area is primarily residential, so the required fire flow is expected to be approximately 1,500 gallons per minute. Alternative 1 provides the required fire flow, therefore Alternative 1 was selective to provide the required fire flow in the project area.

3. Environmental Assessment

No environmental assessment was performed for this project scoping report.

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Scoping Report

Project Capital Cost Estimate

Booneville New Harmony, Petersburg to SR 57 VC Roadwork Water Main Relocation
Project #: U1110

CONSTRUCTION COSTS

ITEM ID	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
STANDARD PAY ITEMS					
1085	12" PVC C900 PIPE	6,660	LF	$102.00	$679,320.00
1083	8" PVC C900 PIPE	390	LF	$86.00	$33,540.00
1028	12" MJ GATE VALVE	8	EA	$2,818.00	$22,544.00
1015	12" MJ 45° BEND	25	EA	$765.00	$19,125.00
1013	8" MJ 45° BEND	1	EA	$441.00	$441.00
1043	12" MJ TEE	8	EA	$982.00	$7,856.00
1119	FIRE HYDRANT ASSEMBLY WITH GATE VALVE	10	EA	$5,814.00	$58,140.00
1132	3/4"-1" WATER SERVICE RELOCATION, OPEN CUT	67	EA	$1,682.00	$112,694.00
6026	Proposed 12" to Existing 12" Connection	5	LS	$10,368.00	$51,840.00
6004	Proposed 8" to Existing 8" Connection	5	LS	$7,122.00	$35,610.00
5006	ABANDON AND GROUT FILL EXISTING MAIN	6,650	LF	$10.00	$66,500.00
5007	COMPACTED AGGREGATE, NO. 53S	6,660	LF	$9.00	$59,940.00
5021	HOT MIX ASPHALT BASE	6,660	LF	$28.00	$186,480.00
5023	HOT MIX ASPHALT SURFACE	6,660	LF	$12.00	$79,920.00
NON-STANDARD PAY ITEMS					
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--					

STANDARD LUMP SUM PAY ITEMS				
DESCRIPTION	**QUANTITY**	**UNIT**	**%**	**TOTAL PRICE**
Mobilization & Demobilization (4% - 5%)	1	LS	5.0%	$70,700.00
Construction Engineering (2% - 3%)	1	LS	3.0%	$42,500.00
Clearing & Grubbing (0.5% - 1.5%)	1	LS	1.0%	$14,200.00
Erosion Control Devices (1% - 2%)	1	LS	2.0%	$28,300.00
Maintenance of Traffic (3% - 4%)	1	LS	4.0%	$56,600.00
Restoration, Grading, and Seeding (2% - 3%)	1	LS	3.0%	$42,500.00

CONSTRUCTION COSTS SUBTOTAL = $1,668,750.00

CONTINGENCY (30%) = $500,700.00

TOTAL ESTIMATED CONSTRUCTION COSTS, SCOPING REPORT = $2,170,000.00

NON-CONSTRUCTION COSTS

DESCRIPTION	QUANTITY	UNIT	%	TOTAL PRICE
Engineering Program Management Fees (estimated)	1	LS	3.0%	$65,100.00
Engineering Design Fees (estimated)	1	LS	10.0%	$217,000.00
Engineering Construction Engineering Fees (estimated)	1	LS	9.6%	$208,400.00

NON-CONSTRUCTION COSTS SUBTOTAL = $491,000.00

TOTAL ESTIMATED CAPITAL COST, SCOPING REPORT = $2,661,000.00

OAK HILL ROAD, LYNCH TO SAINT GEORGE VANDERBURGH COUNTY ROADWORK WATER MAIN RELOCATION SCOPING REPORT

2022 WATER RATE CASE

January 2021

PREPARED FOR

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OAK HILL ROAD, LYNCH TO SAINT GEORGE VANDERBURGH COUNTY ROADWORK WATER MAIN RELOCATION SCOPING REPORT

1. Project Summary

The proposed Oak Hill Road, Lynch to Saint George Vanderburg County Roadwork Water Main Relocation Project includes relocation of approximately 6,080 feet of water main. The project is expected to include approximately seven (7) fire hydrants, eight (8) gate valves, and sixty-eight (68) service connections. Approximately 6,040 feet of existing water main will be abandoned and filled with grout.

1.1. Project Limits

The project scope includes relocation of existing water mains along Oak Hill Road from St. George Road to Lynch Road due to a planned road project. The proposed project and potential alignment for the proposed water mains are shown in **Figure 1**. Actual horizontal and vertical alignment will be determined during final design based on surveyed locations of existing utilities in the project area and the final design of the road project.

1.2. Project Drivers

A road project is planned for Oak Hill Road within the project limits and may require the relocation of some or all of the water main. Though not being driven by the replacement criteria scoring, the existing water mains within the proposed project limits have replacement prioritization scores ranging from 100 to 275. The average score weighted by length for the existing water mains is 161.

1.3. Project Cost

The total capital cost estimate for the project is $2,234,000. This includes $1,822,000 construction costs and $412,00 non-construction costs. The project costs were estimated using the EWSU Cost Estimating Tool Scoping Report tab. The cost estimate is included at the end of the scoping report.

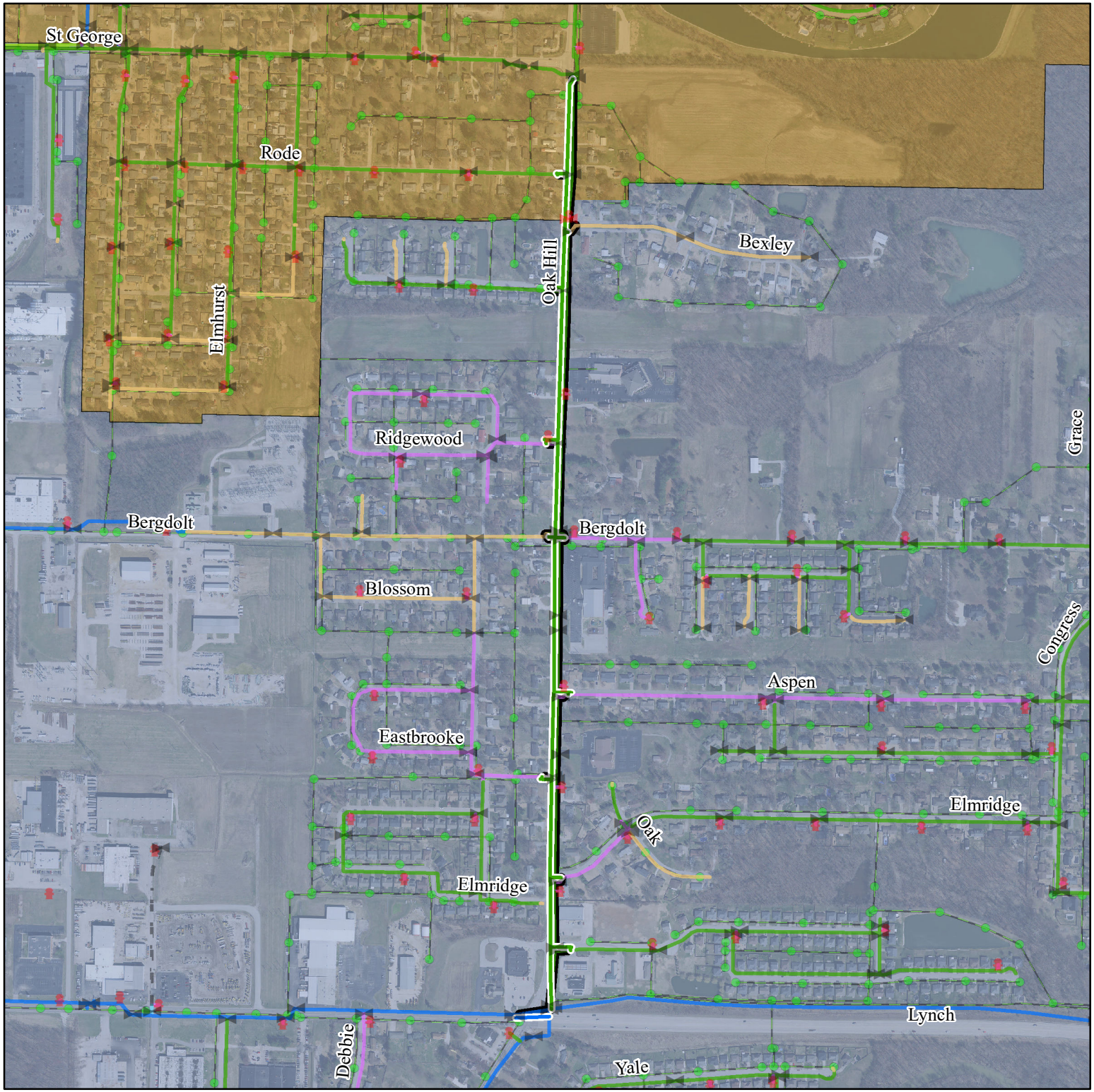

Figure 1
U1131 Oak Hill Road, Lynch to St. George
Vanderburgh County Roadwork
Water Main Replacement

Legend

Proposed Project

- Trenchless Installation
- Main to be Abandoned
- Proposed Main

Water Infrastructure

- Hydrants

Valves

- System Isolation
- System Separation

Mains

- Private
- <6"
- 6"
- 8"
- 10"
- 12"
- 16"
- 20"
- 24"
- 30"
- 36"
- 48"

Pressure Zones

- Central
- Lincoln
- Killian
- Northern

Sanitary Infrastructure

- Manholes
- Sewer

N

Print Date: January 2021

0 700 1,400 Feet

2. Hydraulic Modeling

The available fire flow within the project limits and surrounding areas were evaluated using the WaterGEMS distribution system model under maximum day demands of 26.7 million gallons per day (MGD) based upon 2019 data. One (1) alternative was evaluated for replacement. Alternative 1 includes replacement-in-kind with all 8-inch diameter water main in the project limits.

2.1. Results

The existing available fire flow in the project limits are shown in **Figure 2**. The available fire flow in the project limits for Alternative 1 are shown in **Figure 3**.

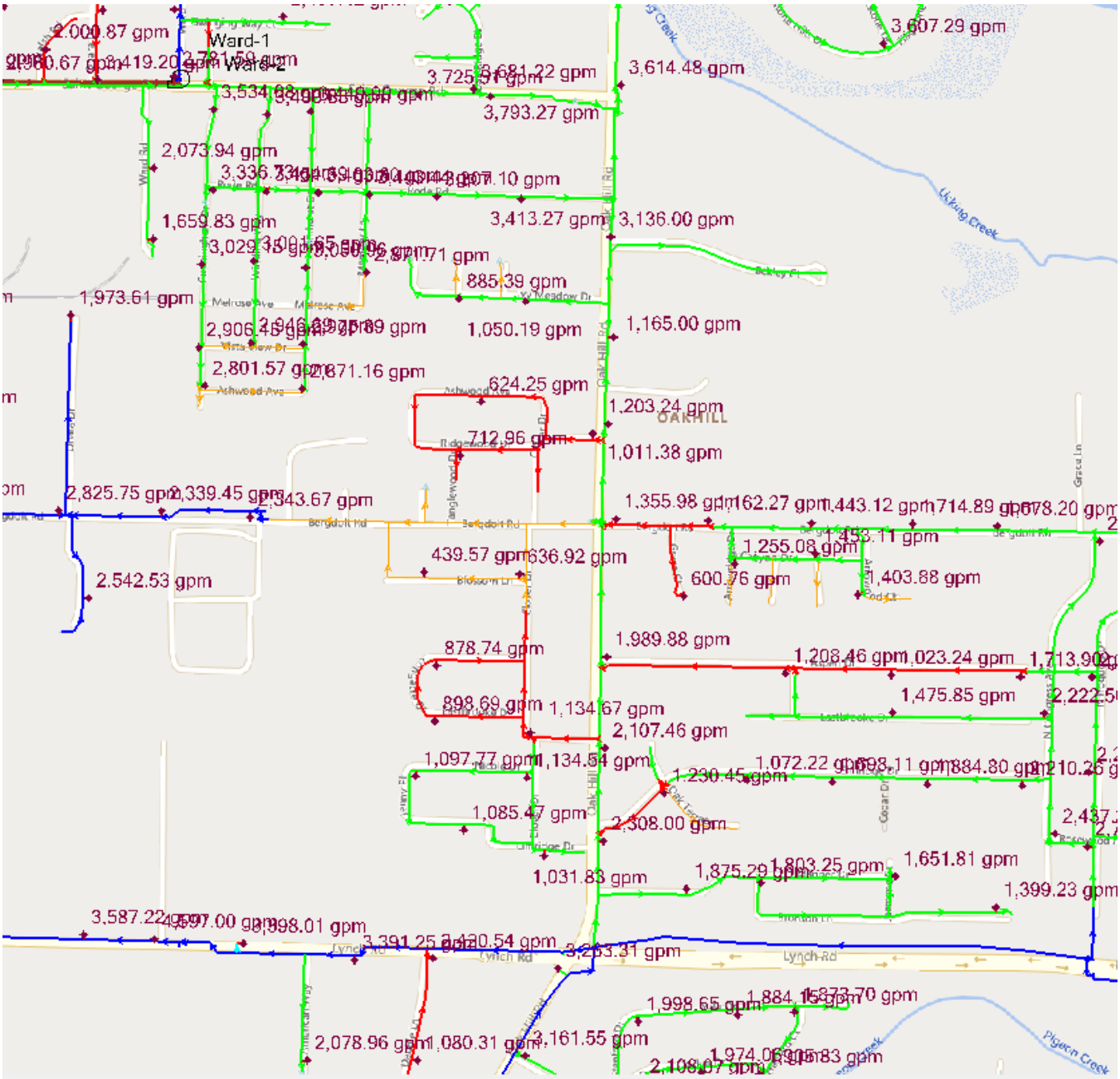

Figure 2. Existing Available Fire Flow

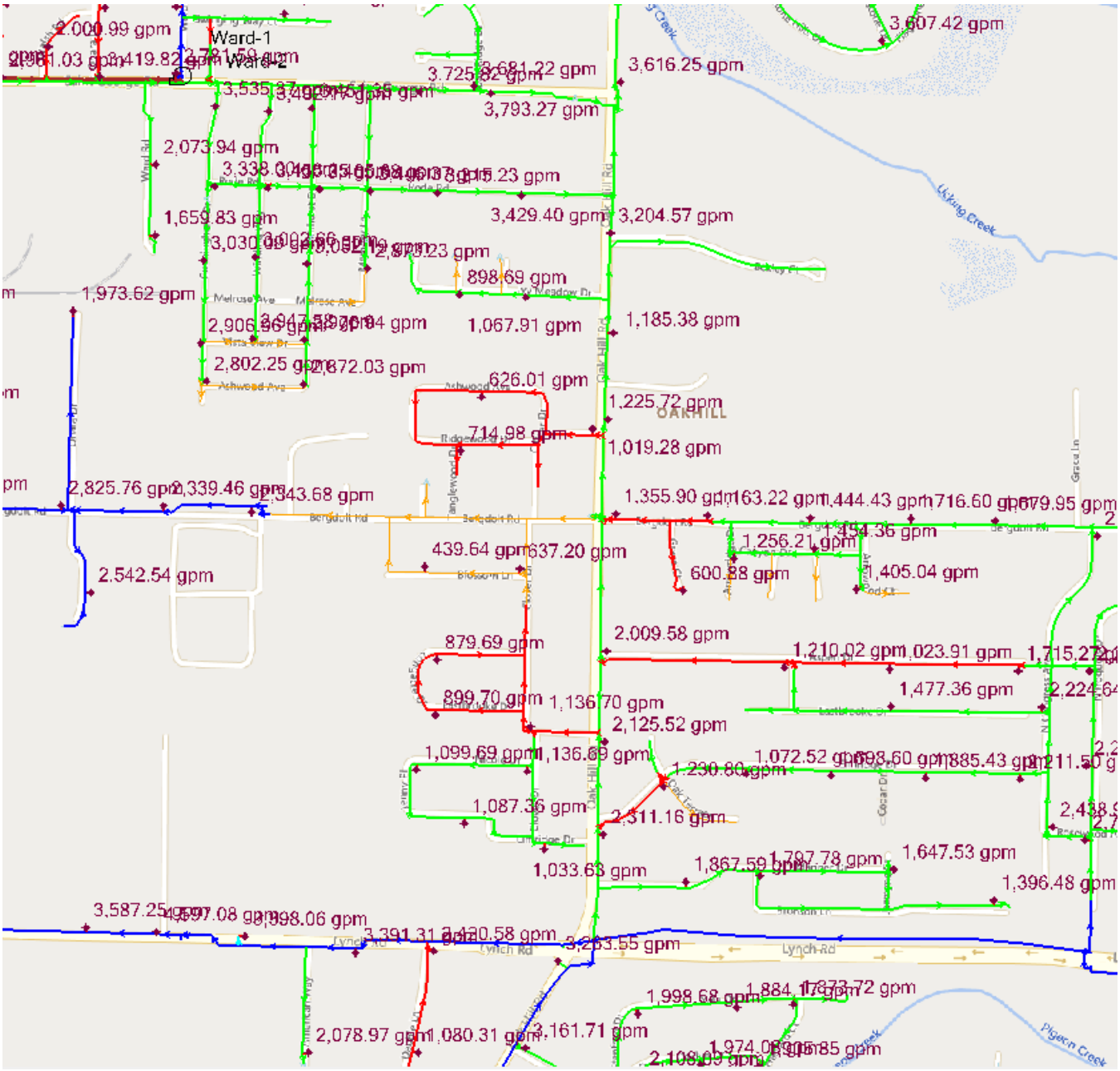

Figure 3. Alternative 1 Available Fire Flow

2.1. Conclusion

The project area is primarily residential, so the required fire flow is expected to be approximately 1,500 gallons per minute. Alternative 1 does not provide the required fire flow, but does improve it, therefore Alternative 1 was selective to provide the required fire flow in the project area.

3. Environmental Assessment

No environmental assessment was performed for this project scoping report.

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Scoping Report

Project Capital Cost Estimate

Oak Hill Rd, Lynch to St. George VC Roadwork Water Main Relocation

Project #: U1131

CONSTRUCTION COSTS

ITEM ID	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
STANDARD PAY ITEMS					
1083	8" PVC C900 PIPE	5,900	LF	$86.00	$507,400.00
1085	12" PVC C900 PIPE	180	LF	$102.00	$18,360.00
1026	8" MJ GATE VALVE	8	EA	$1,645.00	$13,160.00
1013	8" MJ 45° BEND	32	EA	$441.00	$14,112.00
1015	12" MJ 45° BEND	4	EA	$765.00	$3,060.00
1036	8" MJ TEE	10	EA	$679.00	$6,790.00
1119	FIRE HYDRANT ASSEMBLY WITH GATE VALVE	7	EA	$5,814.00	$40,698.00
1132	3/4"-1" WATER SERVICE RELOCATION, OPEN CUT	68	EA	$1,682.00	$114,376.00
6003	Proposed 8" to Existing 6" Connection	7	LS	$6,308.00	$44,156.00
6004	Proposed 8" to Existing 8" Connection	5	LS	$7,122.00	$35,610.00
6025	Proposed 8" to Existing 12" Connection	1	LS	$10,115.00	$10,115.00
6026	Proposed 12" to Existing 12" Connection	2	LS	$10,368.00	$20,736.00
5006	ABANDON AND GROUT FILL EXISTING MAIN	6,040	LF	$10.00	$60,400.00
5007	COMPACTED AGGREGATE, NO. 53S	6,080	LF	$9.00	$54,720.00
5021	HOT MIX ASPHALT BASE	6,080	LF	$28.00	$170,240.00
5023	HOT MIX ASPHALT SURFACE	6,080	LF	$12.00	$72,960.00
NON-STANDARD PAY ITEMS					
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STANDARD LUMP SUM PAY ITEMS				
DESCRIPTION	**QUANTITY**	**UNIT**	**%**	**TOTAL PRICE**
Mobilization & Demobilization (4% - 5%)	1	LS	5.0%	$59,400.00
Construction Engineering (2% - 3%)	1	LS	3.0%	$35,700.00
Clearing & Grubbing (0.5% - 1.5%)	1	LS	1.0%	$11,900.00
Erosion Control Devices (1% - 2%)	1	LS	2.0%	$23,800.00
Maintenance of Traffic (3% - 4%)	1	LS	4.0%	$47,500.00
Restoration, Grading, and Seeding (2% - 3%)	1	LS	3.0%	$35,700.00

CONSTRUCTION COSTS SUBTOTAL = $1,400,893.00

CONTINGENCY (30%) = $420,300.00

TOTAL ESTIMATED CONSTRUCTION COSTS, SCOPING REPORT = $1,822,000.00

NON-CONSTRUCTION COSTS

DESCRIPTION	QUANTITY	UNIT	%	TOTAL PRICE
Engineering Program Management Fees (estimated)	1	LS	3.0%	$54,700.00
Engineering Design Fees (estimated)	1	LS	10.0%	$182,200.00
Engineering Construction Engineering Fees (estimated)	1	LS	9.6%	$175,000.00

NON-CONSTRUCTION COSTS SUBTOTAL = $412,000.00

TOTAL ESTIMATED CAPITAL COST, SCOPING REPORT = $2,234,000.00

ATTACHMENT ML-3

FILED AS AN EXCEL FILE

BOOSTER STATION IMPROVEMENTS SCOPING REPORTS

2022 WATER RATE CASE

December 2020
Last Revision February 2021

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BOOSTER STATION IMPROVEMENTS SCOPING REPORTS

1. Introduction

The Evansville Water & Sewer Utility (EWSU) retained HNTB Corporation to prioritize booster station improvement projects for the 2022 Water Rate Case.

1.1. Project Prioritization

HNTB was asked to prepare a scoring system for all of EWSU vertical assets (water treatment, booster station, tanks, etc.), similar to the distribution system scoring system utilized by HNTB first during the 2016 EWSU Water Master Plan and again for the 2019 and 2022 Water Rate Cases. The intent would be to objectively score, rank, and prioritize EWSU's vertical assets in the same way as the water mains. This would allow for funding to be allocated to the greatest need based on scoring, not subjective opinions. HNTB prepared a list of scoring criteria and categories based on review of industry best practices and review of other asset management plans from other various size utilities. The criteria are described below.

Proposed criteria:

- Historical Rate of Failure – the work orders for each asset would be analyzed to determine the average number of failures and unplanned repairs per year.
- Expected Service Life Remaining – assets would be ranked based upon their anticipated remaining service life per guidance from AWWA and the known asset age.
- Asset Condition or Level of Service– each asset would be ranked based upon their overall condition per guidance from AWWA.
- Redundancy – the number of similar assets would be analyzed to determine the redundancy of each asset and the ability to overcome the failure of that asset.
- Environmental Exposure – environmental conditions such as corrosivity, moisture, sunlight, extreme temperatures, etc. would be analyzed to determine the severity of each asset's environment.
- System Disruption – the scale of impact of asset failure.
- Regulatory Compliance – the potential to receive regulatory violations will be considered for each asset if they were to fail.
- Health & Safety – the potential for injuries resulting from the asset's failure.

After review of the proposed criteria with EWSU in April 2020, the scope of the vertical asset scoring was reduced to only rating booster station assets need for repair/replacement with each asset rated as low, medium, high or critical. The change was based on the following reasons:

- Tanks are maintained under a service contract with SUEZ North America.
- The Water Treatment Plant Advanced Facility Plan, by others, is on-going and will renovate or replace most of the assets within the plant.
- Available data for the proposed criteria is limited and would result in many assumptions which could make the ratings subjective rather than objective.

HNTB was provided with the asset listing from EWSU for all assets with a facility type of booster station. HNTB expanded the asset listing to break up larger assets into smaller components and add items that were not yet included. HNTB assigned ratings of low, medium, high, and critical to each asset based on expected service life remaining and condition from our experience during previous visits to each booster station for the 2016 EWSU Water Master Plan. The basis used for the ratings is shown in **Table 1** with the highest of either of the criteria used to rate the asset. The asset listing and ratings were reviewed with EWSU Operations staff on September 22, 2020. Draft ratings were provided to EWSU on November 16, 2020 and feedback was received on December 3, 2020. Additional feedback about the existing assets was received on January 27 and 28, 2021. The final rating of all assets, as included in **Appendix A**, is the compilation of all feedback.

Table 1. Booster Station Asset Rating Criteria

Rating	*Expected Service Life Remaining*	*Condition*
Low	More than 15 years of expected service life remaining	Good
Medium	Within 10-15 years of expected service life	Acceptable
High	Within 5 years of expected service life	Poor
Critical	At or past expected service life	Very Poor, Failed or Failing

1.2. Proposed Projects

Based on the repair/replacement rating of all the booster station assets, five improvement projects are proposed for inclusion in the 2022 Water Rate Case, two at the Campground Booster Station and three at the Killian Booster Station. The rating of all assets is included in **Appendix A.** The proposed projects are listed in **Table 2.**

1.3. Project Costs

Booster station improvement project cost estimates were completed using the EWSU Cost Estimating Tool Scoping Report tab. Only non-standard pay items and lump sum pay items were used to determine the capital costs for each project, given the unique nature of the projects compared to the intent behind the standard pay items in the tool for use on water main replacement projects. The Scoping Report tab in the tool includes a contingency percentage of 30% for construction costs. Non-construction costs include program management, design engineering, and construction engineering. Standard percentages of 3.0%, 10.0% and 9.6% were used for each, respectively. The sum of construction costs, contingency, and non-construction costs comprise the estimated total capital cost for EWSU. The costs for each proposed project are shown in **Table 2.**

Table 2. Booster Station Improvement Projects

Project Number	*Project Name*	*Total Construction Cost*	*Total Non-Construction Cost*	*Total Capital Cost*
TBD	Campground Booster Station Electrical Improvements	$577,000	$131,000	$708,000
TBD	Campground Booster Station Disinfectant Feed Improvements	$251,000	$57,000	$308,000
TBD	Killian Booster Station Disinfectant Feed Improvements	$251,000	$57,000	$308,000
TBD	Killian Booster Station Electrical Improvements	$592,000	$134,000	$726,000
TBD	Killian Booster Station Improvements	$188,000	$43,000	$231,000

CAMPGROUND BOOSTER STATION ELECTRICAL IMPROVEMENTS SCOPING REPORT

2022 WATER RATE CASE

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December 2020
Last Revision February 2021

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HNTB

CAMPGROUND BOOSTER STATION ELECTRICAL IMPROVEMENTS SCOPING REPORT

1. Project Summary

The proposed Campground Booster Station Electrical Improvements Project includes a variety of improvements to the electrical equipment in the existing Campground Booster Station. The project includes replacement of pump starters with variable frequency drives (VFDs), entire station motor control center, and transformer.

1.1. Project Drivers

The condition and age of the electrical equipment in the existing booster station resulted in high or critical scores for repair/replacement. **Figure 1** shows the existing electrical equipment.

FIGURE 1. EXISTING MOTOR CONTROL CENTER AND TRANSFORMER

1.2. Project Cost

The total capital cost estimate for the project is $708,000. This includes $577,000 construction costs and $131,000 non-construction costs. The project costs were estimated using the EWSU Cost Estimating Tool Scoping Report tab and all non-standard pay items. The cost estimate is included at the end of the scoping report.

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Scoping Report
Project Cost Estimate

Campground Booster Station Electrical Improvements
Project #: TBD

CONSTRUCTION COSTS

ITEM ID	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
STANDARD PAY ITEMS					
NON-STANDARD PAY ITEMS					
--	Variable Frequency Drive	2	EA	$25,000.00	$50,000.00
--	Motor Control Center Section	7	EA	$40,000.00	$280,000.00
--	Surge Protection Device	1	EA	$5,000.00	$5,000.00
--	Transformer	1	EA	$12,000.00	$12,000.00
--	Demolition	1	LS	$50,000.00	$50,000.00
--	Conduit & Wiring	1	LS	$10,000.00	$10,000.00
STANDARD LUMP SUM PAY ITEMS					
DESCRIPTION		**QUANTITY**	**UNIT**	**%**	**TOTAL PRICE**
Mobilization & Demobilization (4% - 5%)		1	LS	5.0%	$20,400.00
Construction Engineering (2% - 3%)		1	LS	2.0%	$8,200.00
Clearing & Grubbing (0.5% - 1.5%)		1	LS	-	-
Erosion Control Devices (1% - 2%)		1	LS	-	-
Maintenance of Traffic (3% - 4%)		1	LS	-	-
Restoration, Grading, and Seeding (2% - 3%)		1	LS	2.0%	$8,200.00

CONSTRUCTION COSTS SUBTOTAL = $443,800.00

CONTINGENCY (30%) = $133,200.00

TOTAL ESTIMATED CONSTRUCTION COSTS, SCOPING REPORT = $577,000.00

NON-CONSTRUCTION COSTS

DESCRIPTION	QUANTITY	UNIT	%	TOTAL PRICE
Engineering Program Management Fees (estimated)	1	LS	3.0%	$17,400.00
Engineering Design Fees (estimated)	1	LS	10.0%	$57,700.00
Engineering Construction Engineering Fees (estimated)	1	LS	9.6%	$55,400.00

NON-CONSTRUCTION COSTS SUBTOTAL = $131,000.00

TOTAL ESTIMATED CAPITAL COST, SCOPING REPORT = $708,000.00

CAMPGROUND BOOSTER STATION DISINFECTANT FEED IMPROVEMENTS SCOPING REPORT

2022 WATER RATE CASE

February 2021

PREPARED FOR

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CAMPGROUND BOOSTER STATION DISINFECTANT FEED IMPROVEMENTS SCOPING REPORT

1. Project Summary

The proposed Campground Booster Station Disinfectant Feed Improvements Project includes a variety of improvements to the disinfectant feed system at the existing Campground Booster Station. The project includes replacement of the existing chlorine gas feed equipment and structure with a new enclosure and packaged disinfectant feed system.

1.1. Project Drivers

The condition and age of the existing chlorine gas feed equipment in the existing booster station and the safety concerns with using chlorine gas resulted in high or critical scores for repair/replacement. Additionally, the water treatment plant is planned to change from chlorine gas to sodium hypochlorite as a result of the rehabilitation/replacement evaluation being completed by others. **Figure 1** shows the existing feed equipment and structure that houses the equipment.

FIGURE 1. EXISTING DISINFECTANT FEED

1.2. Project Cost

The total capital cost estimate for the project is $308,000. This includes $251,000 construction costs and $57,000 non-construction costs. The project costs were estimated using the EWSU Cost Estimating Tool Scoping Report tab and all non-standard pay items. The cost estimate is included at the end of the scoping report.

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Scoping Report
Project Cost Estimate

Campground Booster Station Disinfectant Feed Improvements
Project #: TBD

CONSTRUCTION COSTS

ITEM ID	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
STANDARD PAY ITEMS					
NON-STANDARD PAY ITEMS					
--	Packaged Sodium Hypochlorite Feed System	1	EA	$50,000.00	$50,000.00
--	Site Piping	1	LS	$25,000.00	$25,000.00
--	Demolition	1	LS	$50,000.00	$50,000.00
--	Conduit & Wiring	1	LS	$50,000.00	$50,000.00
STANDARD LUMP SUM PAY ITEMS					
DESCRIPTION		**QUANTITY**	**UNIT**	**%**	**TOTAL PRICE**
Mobilization & Demobilization (4% - 5%)		1	LS	5.0%	$8,800.00
Construction Engineering (2% - 3%)		1	LS	2.0%	$3,500.00
Clearing & Grubbing (0.5% - 1.5%)		1	LS	-	-
Erosion Control Devices (1% - 2%)		1	LS	1.0%	$1,800.00
Maintenance of Traffic (3% - 4%)		1	LS	-	-
Restoration, Grading, and Seeding (2% - 3%)		1	LS	2.0%	$3,500.00
				CONSTRUCTION COSTS SUBTOTAL =	$192,600.00
				CONTINGENCY (30%) =	$57,800.00

TOTAL ESTIMATED CONSTRUCTION COSTS, SCOPING REPORT = $251,000.00

NON-CONSTRUCTION COSTS

DESCRIPTION	QUANTITY	UNIT	%	TOTAL PRICE
Engineering Program Management Fees (estimated)	1	LS	3.0%	$7,600.00
Engineering Design Fees (estimated)	1	LS	10.0%	$25,100.00
Engineering Construction Engineering Fees (estimated)	1	LS	9.6%	$24,100.00
			NON-CONSTRUCTION COSTS SUBTOTAL =	$57,000.00

TOTAL ESTIMATED CAPITAL COST, SCOPING REPORT = $308,000.00

KILLIAN BOOSTER STATION DISINFECTANT FEED IMPROVEMENTS SCOPING REPORT

2022 WATER RATE CASE

February 2021

PREPARED FOR

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KILLIAN BOOSTER STATION DISINFECTANT FEED IMPROVEMENTS SCOPING REPORT

1. Project Summary

The proposed Killian Booster Station Disinfectant Feed Improvements Project includes a variety of improvements to the disinfectant feed system at the existing Killian Booster Station. The project includes replacement of the existing chlorine gas feed equipment with a new enclosure and packaged disinfectant feed system.

1.1. Project Drivers

The condition and age of the existing chlorine gas feed equipment in the existing booster station and the safety concerns with using chlorine gas resulted in high or critical scores for repair/replacement. Additionally, the water treatment plant is planned to change from chlorine gas to sodium hypochlorite as a result of the rehabilitation/replacement evaluation being completed by others. **Figure 1** shows the existing feed equipment.

FIGURE 1. EXISTING DISINFECTANT FEED

1.2. Project Cost

The total capital cost estimate for the project is $308,000. This includes $251,000 construction costs and $57,000 non-construction costs. The project costs were estimated using the EWSU Cost Estimating Tool Scoping Report tab and all non-standard pay items. The cost estimate is included at the end of the scoping report.

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Scoping Report

Project Cost Estimate

Killian Booster Station Disinfectant Feed Improvements

Project #: TBD

CONSTRUCTION COSTS

ITEM ID	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
STANDARD PAY ITEMS					
NON-STANDARD PAY ITEMS					
--	Packaged Sodium Hypochlorite Feed System	1	EA	$50,000.00	$50,000.00
--	Site Piping	1	LS	$25,000.00	$25,000.00
--	Demolition	1	LS	$50,000.00	$50,000.00
--	Conduit & Wiring	1	LS	$50,000.00	$50,000.00
STANDARD LUMP SUM PAY ITEMS					
DESCRIPTION		**QUANTITY**	**UNIT**	**%**	**TOTAL PRICE**
Mobilization & Demobilization (4% - 5%)		1	LS	5.0%	$8,800.00
Construction Engineering (2% - 3%)		1	LS	2.0%	$3,500.00
Clearing & Grubbing (0.5% - 1.5%)		1	LS	-	-
Erosion Control Devices (1% - 2%)		1	LS	1.0%	$1,800.00
Maintenance of Traffic (3% - 4%)		1	LS	-	-
Restoration, Grading, and Seeding (2% - 3%)		1	LS	2.0%	$3,500.00
				CONSTRUCTION COSTS SUBTOTAL =	$192,600.00
				CONTINGENCY (30%) =	$57,800.00

TOTAL ESTIMATED CONSTRUCTION COSTS, SCOPING REPORT = $251,000.00

NON-CONSTRUCTION COSTS

DESCRIPTION	QUANTITY	UNIT	%	TOTAL PRICE
Engineering Program Management Fees (estimated)	1	LS	3.0%	$7,600.00
Engineering Design Fees (estimated)	1	LS	10.0%	$25,100.00
Engineering Construction Engineering Fees (estimated)	1	LS	9.6%	$24,100.00
			NON-CONSTRUCTION COSTS SUBTOTAL =	$57,000.00

TOTAL ESTIMATED CAPITAL COST, SCOPING REPORT = $308,000.00

KILLIAN BOOSTER STATION ELECTRICAL IMPROVEMENTS SCOPING REPORT

2022 WATER RATE CASE

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February 2021

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KILLIAN BOOSTER STATION ELECTRICAL IMPROVEMENTS SCOPING REPORT

1. Project Summary

The proposed Killian Booster Station Electrical Improvements Project includes a variety of improvements to the electrical equipment in the existing Killian Booster Station. The project includes replacement of pump starters with variable frequency drives (VFDs), entire station motor control center, and transformer.

1.1. Project Drivers

The condition and age of the electrical equipment in the existing booster station resulted in medium or high scores for repair/replacement. **Figure 1** shows the existing electrical equipment.

FIGURE 1. EXISTING MOTOR CONTROL CENTER AND TRANSFORMER

1.2. Project Cost

The total capital cost estimate for the project is $726,000. This includes $592,000 construction costs and $134,000 non-construction costs. The project costs were estimated using the EWSU Cost Estimating Tool Scoping Report tab and all non-standard pay items. The cost estimate is included at the end of the scoping report.

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Scoping Report

Project Cost Estimate

Killian Booster Station Electrical Improvements

Project #: TBD

CONSTRUCTION COSTS

ITEM ID	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
STANDARD PAY ITEMS					
NON-STANDARD PAY ITEMS					
--	Variable Frequency Drive	4	EA	$25,000.00	$100,000.00
--	Motor Control Center Section	6	EA	$40,000.00	$240,000.00
--	Surge Protection Device	1	EA	$5,000.00	$5,000.00
--	Transformer	1	EA	$12,000.00	$12,000.00
--	Demolition	1	LS	$50,000.00	$50,000.00
--	Conduit & Wiring	1	LS	$10,000.00	$10,000.00
STANDARD LUMP SUM PAY ITEMS					
DESCRIPTION		**QUANTITY**	**UNIT**	**%**	**TOTAL PRICE**
Mobilization & Demobilization (4% - 5%)		1	LS	5.0%	$20,900.00
Construction Engineering (2% - 3%)		1	LS	2.0%	$8,400.00
Clearing & Grubbing (0.5% - 1.5%)		1	LS	-	-
Erosion Control Devices (1% - 2%)		1	LS	-	-
Maintenance of Traffic (3% - 4%)		1	LS	-	-
Restoration, Grading, and Seeding (2% - 3%)		1	LS	2.0%	$8,400.00

CONSTRUCTION COSTS SUBTOTAL = $454,700.00

CONTINGENCY (30%) = $136,500.00

TOTAL ESTIMATED CONSTRUCTION COSTS, SCOPING REPORT = $592,000.00

NON-CONSTRUCTION COSTS

DESCRIPTION	QUANTITY	UNIT	%	TOTAL PRICE
Engineering Program Management Fees (estimated)	1	LS	3.0%	$17,800.00
Engineering Design Fees (estimated)	1	LS	10.0%	$59,200.00
Engineering Construction Engineering Fees (estimated)	1	LS	9.6%	$56,900.00

NON-CONSTRUCTION COSTS SUBTOTAL = $134,000.00

TOTAL ESTIMATED CAPITAL COST, SCOPING REPORT = $726,000.00

KILLIAN BOOSTER STATION IMPROVEMENTS SCOPING REPORT

2022 WATER RATE CASE

refresh EVANSVILLE

December 2020
Last Revision February 2021

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KILLIAN BOOSTER STATION IMPROVEMENTS SCOPING REPORT

1. Project Summary

The proposed Killian Booster Station Improvements Project includes a variety of improvements to the existing Killian Booster Station. The project includes replacement of two windows, repairs to interior and exterior masonry, concrete repairs to the building foundation, removal of non-working HVAC equipment, replacement of the altitude valve for the adjacent reservoir, and general cleaning and coating work throughout the station.

1.1. Project Drivers

The condition and age of the components in the existing booster station resulted in high or critical scores for repair/replacement. **Figures 1** and **2** show some of the cracks on the foundation and masonry that require repair, **Figure 3** shows the non-working HVAC equipment to be removed, **Figure 4** shows the altitude to be replaced, and **Figure 5** shows some examples of the cleaning and coating work needed.

FIGURE 1. FOUNDATION REPAIR NEEDS

FIGURE 2. INTERIOR BLOCK REPAIR NEEDS

FIGURE 3. NON-WORKING HVAC TO BE DEMOLISHED

FIGURE 4. EXISTING ALTITUDE VALVE

FIGURE 5. CLEANING AND COATING WORK NEEDS

1.2. Project Cost

The total capital cost estimate for the project is $231,000. This includes $188,000 construction costs and $43,000 non-construction costs. The project costs were estimated using the EWSU Cost Estimating Tool Scoping Report tab and all non-standard pay items. The cost estimate is included at the end of the scoping report.

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Scoping Report

Project Cost Estimate

Killian Booster Station Improvements
Project #: TBD

CONSTRUCTION COSTS

ITEM ID	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
STANDARD PAY ITEMS					
NON-STANDARD PAY ITEMS					
--	Windows	2	EA	$1,000.00	$2,000.00
--	Exterior Brick Repairs	1,500	SF	$10.00	$15,000.00
--	Interior Block Repairs	1,500	SF	$10.00	$15,000.00
--	Concrete Foundation Repairs	1	LS	$15,000.00	$15,000.00
--	Demolition	1	LS	$10,000.00	$10,000.00
--	Altitude Valve	1	LS	$50,000.00	$50,000.00
--	Coatings	1	LS	$25,000.00	$25,000.00
STANDARD LUMP SUM PAY ITEMS					
DESCRIPTION		**QUANTITY**	**UNIT**	**%**	**TOTAL PRICE**
Mobilization & Demobilization (4% - 5%)		1	LS	5.0%	$6,600.00
Construction Engineering (2% - 3%)		1	LS	2.0%	$2,700.00
Clearing & Grubbing (0.5% - 1.5%)		1	LS	-	-
Erosion Control Devices (1% - 2%)		1	LS	-	-
Maintenance of Traffic (3% - 4%)		1	LS	-	-
Restoration, Grading, and Seeding (2% - 3%)		1	LS	2.0%	$2,700.00

CONSTRUCTION COSTS SUBTOTAL = $144,000.00

CONTINGENCY (30%) = $43,200.00

TOTAL ESTIMATED CONSTRUCTION COSTS, SCOPING REPORT = $188,000.00

NON-CONSTRUCTION COSTS

DESCRIPTION	QUANTITY	UNIT	%	TOTAL PRICE
Engineering Program Management Fees (estimated)	1	LS	3.0%	$5,700.00
Engineering Design Fees (estimated)	1	LS	10.0%	$18,800.00
Engineering Construction Engineering Fees (estimated)	1	LS	9.6%	$18,100.00

NON-CONSTRUCTION COSTS SUBTOTAL = $43,000.00

TOTAL ESTIMATED CAPITAL COST, SCOPING REPORT = $231,000.00

APPENDIX A
BOOSTER STATION ASSET RATINGS

ahGuid	Site	Process	Equipment Group	Asset	Rating	Comments
B112C937-DF82-EF3A-8467-D279FC1AF9CA	First Ave Pump Station	Facility Support	Building	Underground Structure	Low	
	First Ave Pump Station	Facility Support	Building	Hatch	Low	
	First Ave Pump Station	Facility Support	Building	Ladder	Low	
	First Ave Pump Station	Facility Support	Building	Pump Hatch 01	Low	
	First Ave Pump Station	Facility Support	Building	Pump Hatch 02	Low	
	First Ave Pump Station	Facility Support	Building	Pump Hatch 03	Low	
	First Ave Pump Station	Facility Support	Building	Intake/Exhaust Pipes	Low	
	First Ave Pump Station	Facility Support	Building	Cathodic Protection System	Medium	okay for now, may look at replacing in future - Larry | Needs to be checked out with tie-in on First Ave 36" main - Cris
	First Ave Pump Station	Facility Support	Building	Foundation	Low	
	First Ave Pump Station	Facility Support	HVAC	Dehumidifier	Medium	
	First Ave Pump Station	Facility Support	Piping	Discharge Piping	Low	
	First Ave Pump Station	Facility Support	Piping	Suction Piping	Low	
2A29B6CD-79A9-F4D4-7649-8EAE266BDEC2	First Ave Pump Station	Pumping	Electrical	Main Breaker Panel	Low	
	First Ave Pump Station	Pumping	Electrical	Motor Control Center	Low	
	First Ave Pump Station	Pumping	Electrical	Backup Generator Connection	Low	
	First Ave Pump Station	Pumping	Electrical	Interior Lighting	Low	
7FB2CCEA-3BDF-EF74-1A57-FA5C78EA2869	First Ave Pump Station	Pumping	Instrumentation and Control	Booster Pump Control Panel	Low	
84FBE744-6846-2750-650F-4B592614D8AD	First Ave Pump Station	Pumping	Instrumentation and Control	Chlorine Analyzer	Low	
411C8602-5152-C44D-83B1-D389097ACCF8	First Ave Pump Station	Pumping	Instrumentation and Control	pH Meter	Low	
142AF0BE-E741-DDD9-E5F0-3AEA85E9C2D8	First Ave Pump Station	Pumping	Instrumentation and Control	Turbidity Meter	Low	
	First Ave Pump Station	Pumping	Instrumentation and Control	Pressure Sensor 01	Low	
	First Ave Pump Station	Pumping	Instrumentation and Control	Pressure Sensor 02	Low	
	First Ave Pump Station	Pumping	Instrumentation and Control	Flow Meter	Low	
7020EE27-10A7-61CC-462A-7A6593934028	First Ave Pump Station	Pumping	Piping	Booster Station Piping	Low	
D5BDFD6B-01B3-A853-3F53-A83B7478A74C	First Ave Pump Station	Pumping	Pumps and Motors	Booster Pump 01	Medium	

ahGuid	Site	Process	Equipment Group	Asset	Rating	Comments
66EC809B-32E8-0563-802C-97B5EF0ABDB4	First Ave Pump Station	Pumping	Pumps and Motors	Booster Pump 01 Motor	Medium	
33BE5284-C69C-0CDE-D703-B89AE508D15E	First Ave Pump Station	Pumping	Pumps and Motors	Booster Pump 01 VFD	Medium	
1D05DF69-9817-D262-E3B3-B99762D55D66	First Ave Pump Station	Pumping	Pumps and Motors	Booster Pump 02	Medium	
D1C822A5-9408-57C0-F278-CA8DDD9DF2A1	First Ave Pump Station	Pumping	Pumps and Motors	Booster Pump 02 Motor	Medium	
B7253784-5056-6D2E-83D1-D5EBFFA42ED5	First Ave Pump Station	Pumping	Pumps and Motors	Booster Pump 02 VFD	Medium	
	First Ave Pump Station	Pumping	Pumps and Motors	Sump Pump System 01	Low	
	First Ave Pump Station	Pumping	Pumps and Motors	Sump Pump System 02	Low	
A76BF597-3E13-58CA-6C41-6617E213C7D5	First Ave Pump Station	Pumping	Valves and Gates	Check Valve 01	Low	
2E3C8DB1-2EBA-77FE-66AC-EC7B574C36B0	First Ave Pump Station	Pumping	Valves and Gates	Check Valve 02	Low	
413D0180-0892-B375-AD9A-A16CB6A2BDDA	First Ave Pump Station	Pumping	Valves and Gates	Check Valve 03	Low	
36F03460-C11A-5017-C42E-DA7D88F8ADB7	First Ave Pump Station	Pumping	Valves and Gates	Check Valve 04	Low	
FEE2474F-53C8-CEEE-EA57-47DB8FC18BC1	First Ave Pump Station	Pumping	Valves and Gates	Resilient Seat Valve 01	Low	
5431E19A-DB86-22C1-FC75-145B22B49749	First Ave Pump Station	Pumping	Valves and Gates	Resilient Seat Valve 02	Low	
0CEB8339-D6DD-BA54-13D1-EFF513C4E128	First Ave Pump Station	Pumping	Valves and Gates	Resilient Seat Valve 03	Low	
710544E4-F518-ADE9-AA35-BBE38AD6A8EB	First Ave Pump Station	Pumping	Valves and Gates	Resilient Seat Valve 04	Low	
C76AA919-F00F-7D2A-2BBB-3D18EC2E8108	First Ave Pump Station	Pumping	Valves and Gates	Resilient Seat Valve 05	Low	
09B0C96C-BD24-D92C-B94D-5FE654630068	First Ave Pump Station	Pumping	Valves and Gates	Resilient Seat Valve 06	Low	
	First Ave Pump Station	Pumping	Valves and Gates	Valve 07	Low	
	First Ave Pump Station	Pumping	Valves and Gates	Valve 08	Low	
	First Ave Pump Station	Pumping	Valves and Gates	Valve 09	Low	
	First Ave Pump Station	Pumping	Valves and Gates	Valve 10	Low	
	First Ave Pump Station	Pumping	Valves and Gates	Surge Relief Valve	Low	This may have been misclassified as one of the check valves
72C5CBB8-3FC7-1BCC-826C-434A5547E669	Killian Pump Station	Facility Support	Building	Booster Station Building	Medium	
	Killian Pump Station	Facility Support	Building	Walls	High	good condition - Larry | Cracks in internal blocks need to be sealed, address corner cracking on exterior - Cris
	Killian Pump Station	Facility Support	Building	Foundation	High	good condition
	Killian Pump Station	Facility Support	Building	Roof	Medium	good condition
	Killian Pump Station	Facility Support	Building	Doors	Medium	good condition

ahGuid	Site	Process	Equipment Group	Asset	Rating	Comments
	Killian Pump Station	Facility Support	Building	Windows	High	old, but have metal bars on the windows - Larry | Two older windows need replaced. Other three are newer. - Cris
CA271A4B-78C7-42BC-ED71-78ED85827988	Killian Pump Station	Facility Support	Fencing	Security Fences	Low	Shared with Reservoir
5F99DD99-EFE5-52B7-1702-2BFABABC79D0	Killian Pump Station	Facility Support	HVAC	Exhaust Fan	Medium	
	Killian Pump Station	Facility Support	HVAC	Unit Heater 01	Low	
	Killian Pump Station	Facility Support	HVAC	Unit Heater 02	Low	
	Killian Pump Station	Facility Support	HVAC	Unit Heater 03	Low	
	Killian Pump Station	Facility Support	HVAC	Unit Heater 04	Low	
	Killian Pump Station	Facility Support	HVAC	Air Handling Unit	High	big unit has not worked for 15 or more years. There is an exhaust fan on the north wall.
77520DE8-0A67-CE8A-D935-BF319420FD90	Killian Pump Station	Facility Support	Instrumentation and Control	Communication Panel	Low	
6DA0083E-ED48-3870-0449-F42D20401EDE	Killian Pump Station	Facility Support	Paving	Booster Station Driveway	Low	Shared with Reservoir
	Killian Pump Station	Facility Support	Piping	Discharge Piping	High	needs to be recoated, some bolts replaced - Cris
	Killian Pump Station	Facility Support	Piping	Suction Piping	High	needs to be recoated, some bolts replaced - Cris
	Killian Pump Station	Facility Support	Plumbing	Water Heater	Medium	
	Killian Pump Station	Facility Support	Plumbing	Restroom	Low	
0C289FFB-D54E-E819-FD57-F5E095DE4AE5	Killian Pump Station	Facility Support	Power Distribution	Booster Station Backup Generator	Low	
63CA06B0-92F0-47A0-FC3C-B84D5DB52543	Killian Pump Station	Facility Support	Process Mechanical	Booster Station Overhead Crane	Low	
B1EA0EC6-3690-B0B7-7DA1-2B147A58B99F	Killian Pump Station	Pumping	Electrical	Booster Station Power Transfer & Bypass Switch	Low	
	Killian Pump Station	Pumping	Electrical	Booster Pump 01 Starter	Medium	
	Killian Pump Station	Pumping	Electrical	Booster Pump 02 Starter	Medium	
	Killian Pump Station	Pumping	Electrical	Booster Pump 03 Starter	Medium	
	Killian Pump Station	Pumping	Electrical	Booster Pump 04 Starter	Medium	
	Killian Pump Station	Pumping	Electrical	Exterior Lighting	Low	
	Killian Pump Station	Pumping	Electrical	Interior Lighting	Low	
	Killian Pump Station	Pumping	Electrical	Motor Control Center	High	
724A2023-00DF-5791-3A35-4CC4288815D4	Killian Pump Station	Pumping	Instrumentation and Control	Booster Pump Control Panel	Low	
485F5CE5-9DC1-C149-5DFA-F9F2CA6A653F	Killian Pump Station	Pumping	Instrumentation and Control	Booster Pump Control/SCADA	Low	
2E042476-1B4C-B7D9-BBE2-F17128377A26	Killian Pump Station	Pumping	Instrumentation and Control	Chlorine Analyzer	Low	
970B87EC-FC46-D93F-F468-BBD3FC0C6CAA	Killian Pump Station	Pumping	Instrumentation and Control	Chlorine Gas Analyzer	Low	
AF62160E-F18E-242F-8332-6D62B8DAAEA4	Killian Pump Station	Pumping	Instrumentation and Control	pH Meter	Low	
8A88B233-F4F4-6E4D-AB35-50D3287CBA26	Killian Pump Station	Pumping	Instrumentation and Control	Turbidity Meter	Low	
	Killian Pump Station	Pumping	Instrumentation and Control	Flow Meter	Low	
	Killian Pump Station	Pumping	Instrumentation and Control	Pressure Sensor 01	Low	
	Killian Pump Station	Pumping	Instrumentation and Control	Pressure Sensor 02	Low	

ahGuid	Site	Process	Equipment Group	Asset	Rating	Comments
	Killian Pump Station	Pumping	Instrumentation and Control	Radio Antenna	Low	
F88F91C5-3BE3-CFB3-CC77-2146DEA86C86	Killian Pump Station	Pumping	Process Mechanical	Chlorine Addition System	High	okay but not isolated from rest of building - Larry
2EB82BAC-EB0A-74D0-BA22-AFE83C17D5DB	Killian Pump Station	Pumping	Pumps and Motors	Booster Pump 01	Low	
BA3C6030-458E-C3F1-1F1D-BD232D31D37E	Killian Pump Station	Pumping	Pumps and Motors	Booster Pump 01 Motor	Low	
807DDEB3-58EC-5648-06AB-4B3D8323CB1B	Killian Pump Station	Pumping	Pumps and Motors	Booster Pump 02	**Critical**	needs to be replaced not rebuilt - Larry | In process - Cris
AA3ECC6D-4580-BBB4-67E7-34A96F904676	Killian Pump Station	Pumping	Pumps and Motors	Booster Pump 02 Motor	High	needs to be replaced not rebuilt - Larry | In process - Cris
FA51A132-7253-7C41-03C7-8296857C5E5D	Killian Pump Station	Pumping	Pumps and Motors	Booster Pump 03	Low	
ABF0848A-5120-3D47-8C98-2FED5C6B1D35	Killian Pump Station	Pumping	Pumps and Motors	Booster Pump 03 Motor	Low	
C12CA125-7D96-1764-3D6E-3D39937B0493	Killian Pump Station	Pumping	Pumps and Motors	Booster Pump 04	Medium	
283106AF-CB62-5D36-7172-69CF6C2DD925	Killian Pump Station	Pumping	Pumps and Motors	Booster Pump 04 Motor	Medium	
	Killian Pump Station	Pumping	Pumps and Motors	Sump Pump System	Medium	
2832AD05-CA93-91A6-B9EC-80595DD1392C	Killian Pump Station	Pumping	Valves and Gates	Check Valve 01	Medium	
239DA907-0680-2562-F007-034910F4CC36	Killian Pump Station	Pumping	Valves and Gates	Check Valve 02	Medium	
	Killian Pump Station	Pumping	Valves and Gates	Check Valve 03	Medium	
	Killian Pump Station	Pumping	Valves and Gates	Check Valve 04	Medium	
9261CFB4-0C64-CC31-1AEE-86DE87EE9327	Killian Pump Station	Pumping	Valves and Gates	Valve 01	Medium	
4A647620-3D8F-82C0-8A98-EFCC558BDD8D	Killian Pump Station	Pumping	Valves and Gates	Valve 02	Medium	
F09EDFF2-5FE6-88C0-63D4-07DD8943954F	Killian Pump Station	Pumping	Valves and Gates	Valve 03	Medium	
1F09840F-B104-EF70-1085-53B38B6560BC	Killian Pump Station	Pumping	Valves and Gates	Valve 04	Medium	
F20F57C2-6BBA-CFEE-1D12-6B35A3FFD219	Killian Pump Station	Pumping	Valves and Gates	Valve 05	Medium	
76948C03-410C-284D-27E1-D9BCA6511CF7	Killian Pump Station	Pumping	Valves and Gates	Valve 06	Medium	
5B49E564-997F-69C2-2175-3A226E6D3998	Killian Pump Station	Pumping	Valves and Gates	Valve 07	Medium	
74F17887-FA05-0D48-4012-E37D7D8AE5DD	Killian Pump Station	Pumping	Valves and Gates	Valve 08	Medium	
6B7BD029-43BE-4475-CD48-30BEAD1D57BA	Killian Pump Station	Pumping	Valves and Gates	Valve 09	Medium	
0BC603B4-B8B7-2821-1251-505BE115C973	Killian Pump Station	Pumping	Valves and Gates	Valve 10	Medium	
D202ABB4-1B23-3656-58F4-474F52C9F0D0	Killian Pump Station	Pumping	Valves and Gates	Valve 11	Medium	
9877EDF3-90C5-68A7-F6AE-00A9268A273A	Killian Pump Station	Pumping	Valves and Gates	Valve 12	Medium	
1CBAB139-EB9F-4C19-EC0D-8FFF4703EDFD	Killian Pump Station	Pumping	Valves and Gates	Valve 13	Medium	
	Killian Pump Station	Pumping	Valves and Gates	Surge Relief Valve	Medium	
	Killian Pump Station	Pumping	Valves and Gates	Altitude Valve	**Critical**	For Reservoir, Needs to have a new altitude valve - Larry | Just rebuilt, replace when next attention needed. Estimate about 60,000 for purchase and install. -Cris
90E8F727-D296-A299-706F-F485D85C42A4	Lincoln Ave Pump Station	Facility Support	Building	Booster Station Building	N/A	Not scored station being replaced in next two years
BA2F6655-2F08-9F8A-B669-D973ABC56AA4	Lincoln Ave Pump Station	Facility Support	Fencing	Security Fencing	N/A	Not scored station being replaced in next two years
AB637B4E-4F76-F0DA-A9DC-7465C471DED7	Lincoln Ave Pump Station	Facility Support	Instrumentation and Control	Communication Panel	N/A	Not scored station being replaced in next two years
F75E6237-A756-34F8-893D-A818D2C9AA34	Lincoln Ave Pump Station	Pumping	Instrumentation and Control	Booster Pump Control/SCADA	N/A	Not scored station being replaced in next two years
17C9857B-8F25-9F96-DE88-08E6420155F6	Lincoln Ave Pump Station	Pumping	Instrumentation and Control	Chlorine Analyzer	N/A	Not scored station being replaced in next two years
FC595F27-1B4F-1673-BD98-2E2B1911525D	Lincoln Ave Pump Station	Pumping	Instrumentation and Control	pH Meter	N/A	Not scored station being replaced in next two years
264F18FE-4EE9-A7CC-4791-47C4DF625945	Lincoln Ave Pump Station	Pumping	Instrumentation and Control	Turbidity Meter	N/A	Not scored station being replaced in next two years

ahGuid	Site	Process	Equipment Group	Asset	Rating	Comments
1FCBEB52-8EAC-7C3C-0275-28756D3B8B64	Lincoln Ave Pump Station	Pumping	Pumps and Motors	Booster Pump 01	N/A	Not scored station being replaced in next two years
0D95198A-6A60-B65B-0A3F-ADC3331E1409	Lincoln Ave Pump Station	Pumping	Pumps and Motors	Booster Pump 02	N/A	Not scored station being replaced in next two years
7E0D8990-3E17-2005-81B5-B80B253BB957	Lincoln Ave Pump Station	Pumping	Pumps and Motors	Booster Pump 03	N/A	Not scored station being replaced in next two years
23F908C2-B167-BE82-6484-480C13E7F101	Stallings Pump Station	Facility Support	Building	Booster Station Building	N/A	Not scored station being replaced in next two years
FAE065CF-FEB3-756F-E3E4-5D4C43F7D3E2	Stallings Pump Station	Facility Support	Fencing	Security Fence	N/A	Not scored station being replaced in next two years
B330CB30-92AD-756E-98AB-C74D0F83B39D	Stallings Pump Station	Facility Support	Paving	Drive Way	N/A	Not scored station being replaced in next two years
2B32855E-11EE-9C8D-125F-C24FD90B9968	Stallings Pump Station	Pumping	Electrical	Main Breaker Panel	N/A	Not scored station being replaced in next two years
E8A909FC-12C0-3839-2BB8-6A67CE55981A	Stallings Pump Station	Pumping	Instrumentation and Control	Booster Pump Control Panel	N/A	Not scored station being replaced in next two years
00BD57FC-BE39-83E9-F2B5-BB7DE4087B86	Stallings Pump Station	Pumping	Instrumentation and Control	Booster Pump Control/SCADA	N/A	Not scored station being replaced in next two years
0CE23EA4-B885-BED0-A056-32CCE85FC0C1	Stallings Pump Station	Pumping	Instrumentation and Control	Chlorine Analyzer	N/A	Not scored station being replaced in next two years
EC77BD5A-C0CA-83FD-4A99-8C1AC6DE541C	Stallings Pump Station	Pumping	Instrumentation and Control	pH Meter	N/A	Not scored station being replaced in next two years
D4C25CAB-3193-BAA4-80C0-54E7DDE3FB8A	Stallings Pump Station	Pumping	Instrumentation and Control	Turbidity Meter	N/A	Not scored station being replaced in next two years
E7693260-F5D3-9195-BFC3-F7FFC552E8EE	Stallings Pump Station	Pumping	Pumps and Motors	Booster Pump 01	N/A	Not scored station being replaced in next two years
2CB6436D-0986-73A0-FE9C-C8A0A95DD818	Stallings Pump Station	Pumping	Pumps and Motors	Booster Pump 01 Motor	N/A	Not scored station being replaced in next two years
6C61A70E-372D-8B52-7C46-D090F56E81FD	Stallings Pump Station	Pumping	Pumps and Motors	Booster Pump 02	N/A	Not scored station being replaced in next two years
3ABDF1D7-CA71-6C54-5A78-13D50392E9B7	Stallings Pump Station	Pumping	Pumps and Motors	Booster Pump 02 Motor	N/A	Not scored station being replaced in next two years
12C4FAD8-04F8-E89D-C3CD-9C645BF5DD18	Stallings Pump Station	Pumping	Pumps and Motors	Booster Pump 03	N/A	Not scored station being replaced in next two years
B0782BA5-4CA4-C694-D131-8D2F531C30FE	Stallings Pump Station	Pumping	Pumps and Motors	Booster Pump 03 Motor	N/A	Not scored station being replaced in next two years
E9AF773A-8D1B-3CFE-FB31-6A571CA4AE42	Stallings Pump Station	Pumping	Pumps and Motors	Sump Pump System	N/A	Not scored station being replaced in next two years
B576BBE2-E7AD-60D7-ABB9-4E2AF10EEC0A	Upper Campground Pump Station	Facility Support	Building	Underground Structure	Low	
	Upper Campground Pump Station	Facility Support	Building	Above Grade Walls	Low	
	Upper Campground Pump Station	Facility Support	Building	Above Grade Roof	Low	
	Upper Campground Pump Station	Facility Support	Building	Below Grade Walls	Low	
	Upper Campground Pump Station	Facility Support	Building	Below Grade Roof	Low	
	Upper Campground Pump Station	Facility Support	Building	Foundation	Low	

ahGuid	Site	Process	Equipment Group	Asset	Rating	Comments
	Upper Campground Pump Station	Facility Support	Building	Doors	Low	
88C386E3-FB13-42B3-66CA-C2B74D9D31C6	Upper Campground Pump Station	Facility Support	HVAC	Exhaust Fan 1	Low	
1F270582-D6A4-A57C-56DF-309C40C3BCBC	Upper Campground Pump Station	Facility Support	HVAC	Exhaust Fan 2	Low	
7BC542A4-9E23-C624-5BAB-91D2579FD036	Upper Campground Pump Station	Facility Support	HVAC	Exhaust Fan 3	Low	
024B707C-53A7-7F69-17F3-0851C6CA0306	Upper Campground Pump Station	Facility Support	HVAC	Exhaust Fan 4	Low	
C03F1504-5DD0-0A11-EAA6-69E36157FA6D	Upper Campground Pump Station	Facility Support	HVAC	Exhaust Fan 5	Low	
	Upper Campground Pump Station	Facility Support	HVAC	Gravity Intake Hood 01	Low	
	Upper Campground Pump Station	Facility Support	HVAC	Gravity Intake Hood 02	Low	
	Upper Campground Pump Station	Facility Support	HVAC	Motor Operated Damper	Low	
	Upper Campground Pump Station	Facility Support	HVAC	Unit Heater 01	Low	
	Upper Campground Pump Station	Facility Support	HVAC	Unit Heater 02	Low	
	Upper Campground Pump Station	Facility Support	HVAC	Unit Heater 03	Low	
	Upper Campground Pump Station	Facility Support	HVAC	Unit Heater 04	Low	
	Upper Campground Pump Station	Facility Support	HVAC	Unit Heater 05	Low	
	Upper Campground Pump Station	Facility Support	Piping	Suction Piping	Low	
	Upper Campground Pump Station	Facility Support	Piping	Discharge Piping	Low	
A4D36215-CD42-0391-B330-C0591102464B	Upper Campground Pump Station	Facility Support	Power Distribution	Booster Station Backup Generator	Low	
	Upper Campground Pump Station	Facility Support	Process Mechanical	Chlorine Addition System	**Critical**	in good condition, is isolated from pump station building - Larry
	Upper Campground Pump Station	Pumping	Electrical	Booster Pump 01 Starter	Medium	Needs to have a VFD added for control of motor
	Upper Campground Pump Station		Electrical	Booster Pump 02 Starter	High	works now but may need to be re-conditioned
	Upper Campground Pump Station	Pumping	Electrical	Transformer	Low	
	Upper Campground Pump Station	Pumping	Electrical	Motor Control Center	High	need to be upgraded, lots of old controls
	Upper Campground Pump Station	Pumping	Electrical	Exterior Lighting	Low	
	Upper Campground Pump Station	Pumping	Electrical	Interior Lighting	Low	
8B0EC916-93D4-725A-2140-710BA1328131	Upper Campground Pump Station	Pumping	Instrumentation and Control	Booster Pump Control Panel	Low	

ahGuid	Site	Process	Equipment Group	Asset	Rating	Comments
D47A28AC-7DF2-E327-113D-62B72FD455B6	Upper Campground Pump Station	Pumping	Instrumentation and Control	Booster Pump Control/SCADA	Low	
093BB857-ECD1-647D-A98B-C2321CE57AF4	Upper Campground Pump Station	Pumping	Instrumentation and Control	Chlorine Analyzer	Low	
FDB68600-5B50-9A4D-6631-AD2278D00082	Upper Campground Pump Station	Pumping	Instrumentation and Control	pH Meter	Low	
27BAAD6B-657B-2A9F-959E-FC9BB692987A	Upper Campground Pump Station	Pumping	Instrumentation and Control	Turbidity Meter	Low	
	Upper Campground Pump Station	Pumping	Instrumentation and Control	Pressure Sensor 01	Low	
	Upper Campground Pump Station	Pumping	Instrumentation and Control	Pressure Sensor 02	Low	
	Upper Campground Pump Station	Pumping	Instrumentation and Control	Flow Meter	Low	
C1129E52-6083-158C-D99F-016187ADE517	Upper Campground Pump Station	Pumping	Pumps and Motors	Booster Pump 01	Low	
1E5E32EA-0CC7-5E27-1E1A-9B66335A47B0	Upper Campground Pump Station	Pumping	Pumps and Motors	Booster Pump 01 Motor	Low	
4A34E1D8-D140-4C15-95BA-7BE53C905D03	Upper Campground Pump Station	Pumping	Pumps and Motors	Booster Pump 02	Low	
7FA612BA-6842-9488-D3C0-8A1F545D32EF	Upper Campground Pump Station	Pumping	Pumps and Motors	Booster Pump 02 Motor	Low	
	Upper Campground Pump Station	Pumping	Pumps and Motors	Sump Pump System	Medium	
	Upper Campground Pump Station	Pumping	Valves and Gates	Air Release Valve 01	Low	
	Upper Campground Pump Station	Pumping	Valves and Gates	Air Release Valve 02	Low	
	Upper Campground Pump Station	Pumping	Valves and Gates	Check Valve 01	Low	
	Upper Campground Pump Station	Pumping	Valves and Gates	Check Valve 02	Low	
FA99D4F2-6BB1-219D-ED83-B15FACA460AC	Upper Campground Pump Station	Pumping	Valves and Gates	Valve 01	Low	
449697B3-D704-3D22-AADC-4E52FE34B8C7	Upper Campground Pump Station	Pumping	Valves and Gates	Valve 02	Low	
11265308-DDB7-85D7-3268-3414B048A2D9	Upper Campground Pump Station	Pumping	Valves and Gates	Valve 03	Low	
49BFAEF3-11D0-3790-0421-1B3C09A8581D	Upper Campground Pump Station	Pumping	Valves and Gates	Valve 04	Low	
	Upper Campground Pump Station	Pumping	Valves and Gates	Valve 05	Low	
	Upper Campground Pump Station	Pumping	Valves and Gates	Valve 06	Low	
	Upper Campground Pump Station	Pumping	Valves and Gates	Valve 07	Low	
	Upper Campground Pump Station	Pumping	Valves and Gates	Valve 08	Low	
21D6A63A-E954-A238-1C1B-6B16D463345D	Ward Road Pump Station	Facility Support	Building	Underground Structure	Medium	

ahGuid	Site	Process	Equipment Group	Asset	Rating	Comments
	Ward Road Pump Station	Facility Support	Building	Foundation	Low	
	Ward Road Pump Station	Facility Support	Building	Hatch	Medium	
	Ward Road Pump Station	Facility Support	Building	Ladder	Medium	
	Ward Road Pump Station	Facility Support	Building	Intake/Exhaust Pipes	Medium	
	Ward Road Pump Station	Facility Support	Building	Bollards	Low	
	Ward Road Pump Station	Facility Support	HVAC	Dehumidifier	High	dehumidifer in station burnt up, need to be replaced soon.
	Ward Road Pump Station	Facility Support	HVAC	Exhaust Fan	Low	
	Ward Road Pump Station	Facility Support	HVAC	Unit Heater	Low	
	Ward Road Pump Station	Facility Support	Piping	Discharge Piping	Medium	
	Ward Road Pump Station	Facility Support	Piping	Suction Piping	Medium	
	Ward Road Pump Station		Electrical	Booster Pump 01 Starter	Low	
	Ward Road Pump Station		Electrical	Booster Pump 02 Starter	Low	
	Ward Road Pump Station	Pumping	Electrical	Main Breaker Panel	Low	
	Ward Road Pump Station	Pumping	Electrical	Interior Lighting	Low	
	Ward Road Pump Station	Pumping	Electrical	Power Panel	Low	
7554DD07-02CB-AA2C-ABA3-ED0559373D37	Ward Road Pump Station	Pumping	Instrumentation and Control	Booster Pump Control Panel	Low	
5A682A16-3B48-BCA3-41EE-AFC61311F35A	Ward Road Pump Station	Pumping	Instrumentation and Control	Chlorine Analyzer	Low	
2EF9D501-B65B-1C2E-3F28-8E69E18B2518	Ward Road Pump Station	Pumping	Instrumentation and Control	pH Meter	Low	
820AF3D5-F09E-8218-C445-3601D238E96E	Ward Road Pump Station	Pumping	Instrumentation and Control	Turbidity Meter	Low	
	Ward Road Pump Station	Pumping	Instrumentation and Control	Flow Meter	Low	
	Ward Road Pump Station	Pumping	Instrumentation and Control	Pressure Sensor 01	Low	
	Ward Road Pump Station	Pumping	Instrumentation and Control	Pressure Sensor 02	Low	
39CD9FE9-F193-4416-DB5B-571228A0B710	Ward Road Pump Station	Pumping	Pumps and Motors	Booster Pump 01	Medium	
BC6762DD-B945-BE1D-9C8F-CC91F29A2A63	Ward Road Pump Station	Pumping	Pumps and Motors	Booster Pump 02	Medium	
	Ward Road Pump Station	Pumping	Pumps and Motors	Sump Pump System	Medium	

ahGuid	Site	Process	Equipment Group	Asset	Rating	Comments
	Ward Road Pump Station	Pumping	Valves and Gates	Air Release Valve 01	Medium	
	Ward Road Pump Station	Pumping	Valves and Gates	Air Release Valve 02	Medium	
	Ward Road Pump Station	Pumping	Valves and Gates	Air Release Valve 03	Medium	
	Ward Road Pump Station	Pumping	Valves and Gates	Valve 01	Medium	
	Ward Road Pump Station	Pumping	Valves and Gates	Valve 02	Medium	
	Ward Road Pump Station	Pumping	Valves and Gates	Valve 03	Medium	
	Ward Road Pump Station	Pumping	Valves and Gates	Valve 04	Medium	
	Ward Road Pump Station	Pumping	Valves and Gates	Surge Relief Valve	Medium	
	Ward Road Pump Station	Pumping	Valves and Gates	Check Valve 01	Medium	
	Ward Road Pump Station	Pumping	Valves and Gates	Check Valve 02	Medium	
42927DF8-AEF1-57D2-78F9-B87A6E2074E7	Weinbach Pump Station	Facility Support	Building	Booster Station Building	Low	Consider splitting into multiple assests
	Weinbach Pump Station	Facility Support	Building	Doors	Low	
	Weinbach Pump Station	Facility Support	Building	Roof	Low	
	Weinbach Pump Station	Facility Support	Building	Walls	Medium	
	Weinbach Pump Station	Facility Support	Building	Foundation	Low	
	Weinbach Pump Station	Facility Support	Fencing	Security Fence	Low	Shared with Lift Station
9415A8BA-B086-1592-ACC8-ED8C12C7D248	Weinbach Pump Station	Facility Support	HVAC	AC Unit	Low	
	Weinbach Pump Station	Facility Support	HVAC	Dehumidifier	Medium	Residential portable unit in the lower level
	Weinbach Pump Station	Facility Support	HVAC	Motor Operated Damper	Low	
	Weinbach Pump Station	Facility Support	HVAC	Unit Heater 01	Low	
	Weinbach Pump Station	Facility Support	HVAC	Unit Heater 02	Low	
	Weinbach Pump Station	Facility Support	Paving	Drive Way	Low	Shared with Lift Station
	Weinbach Pump Station	Facility Support	Piping	Discharge Piping	Low	
	Weinbach Pump Station	Facility Support	Piping	Suction Piping	Low	
	Weinbach Pump Station	Facility Support	Process Mechanical	Booster Station Overhead Crane	Low	

ahGuid	Site	Process	Equipment Group	Asset	Rating	Comments
	Weinbach Pump Station	Pumping	Electrical	Backup Generator Connection	Low	
	Weinbach Pump Station	Pumping	Electrical	Exterior Lighting	Low	
	Weinbach Pump Station	Pumping	Electrical	Interior Lighting	Low	
	Weinbach Pump Station	Pumping	Electrical	Lighting Panel	Low	
0CBF4603-861A-AC2C-E6EF-6DC242060E0E	Weinbach Pump Station	Pumping	Electrical	Main Breaker Panel	Low	
	Weinbach Pump Station	Pumping	Electrical	Manual Transfer Switch	Low	
	Weinbach Pump Station	Pumping	Electrical	Power Panel	Low	
	Weinbach Pump Station	Pumping	Electrical	Transformer 01	Low	
97DB93C1-5B6B-CB64-5629-13C0058F5EAA	Weinbach Pump Station	Pumping	Instrumentation and Control	Chlorine Analyzer	Low	
	Weinbach Pump Station	Pumping	Instrumentation and Control	Flow Meter	Low	
87C6F208-A854-78B9-5CE7-C9AC3D3FEC56	Weinbach Pump Station	Pumping	Instrumentation and Control	pH Meter	Low	
	Weinbach Pump Station	Pumping	Instrumentation and Control	Pressure Sensor 01	Low	
	Weinbach Pump Station	Pumping	Instrumentation and Control	Pressure Sensor 02	Low	
	Weinbach Pump Station	Pumping	Instrumentation and Control	Radio Antenna	Low	Shared with Lift Station
	Weinbach Pump Station	Pumping	Instrumentation and Control	Telemetry Panel	Low	
	Weinbach Pump Station	Pumping	Instrumentation and Control	Temperature Sensor	Low	
A10E1CC7-F13D-C84C-4D36-E05D9833F4C8	Weinbach Pump Station	Pumping	Instrumentation and Control	Turbidity Meter	Low	
0F677BA7-2EB8-EAAF-A7A3-9B966F5DFB72	Weinbach Pump Station	Pumping	Pumps and Motors	Booster Pump 01	Low	
F30D8F9F-8876-D529-6C8F-14156B4DA279	Weinbach Pump Station	Pumping	Pumps and Motors	Booster Pump 01 Motor	Low	
05738877-A404-F640-54C1-8E54897BC12A	Weinbach Pump Station	Pumping	Pumps and Motors	Booster Pump 01 VFD	Low	
318830DC-8963-E193-EE6E-18F2B98C01E1	Weinbach Pump Station	Pumping	Pumps and Motors	Booster Pump 02	Low	
A2774829-C56E-CFC2-27A3-AD774F027225	Weinbach Pump Station	Pumping	Pumps and Motors	Booster Pump 02 Motor	Low	
AB34E318-CD28-A07B-1272-50360900934F	Weinbach Pump Station	Pumping	Pumps and Motors	Booster Pump 02 VFD	Low	Booster Pump 01 VFD was listed twice
2B7B4C62-8F3A-DA6D-73A0-BA74A3DAF018	Weinbach Pump Station	Pumping	Valves and Gates	Actuated Valve 01	Low	
	Weinbach Pump Station	Pumping	Valves and Gates	Air Release Valve 01	Low	

ahGuid	Site	Process	Equipment Group	Asset	Rating	Comments
	Weinbach Pump Station	Pumping	Valves and Gates	Air Release Valve 02	Low	
385BCA9F-579D-8F52-70A4-EE791BF4D0AF	Weinbach Pump Station	Pumping	Valves and Gates	Valve 01	Low	
B7688821-A842-7D94-84DB-D5B74864AAF9	Weinbach Pump Station	Pumping	Valves and Gates	Valve 02	Low	
BABADE30-90F1-64D8-743D-5E2C6D6F9F98	Weinbach Pump Station	Pumping	Valves and Gates	Valve 03	Low	
5644B321-8612-4D03-3ED7-CD8C0E8B8996	Weinbach Pump Station	Pumping	Valves and Gates	Valve 04	Low	
73D41414-2B81-7ACB-6A38-50B1EE86360C	Weinbach Pump Station	Pumping	Valves and Gates	Valve 05	Low	
1D637166-9464-03B6-2753-F9470DDDFB9A	Weinbach Pump Station	Pumping	Valves and Gates	Valve 06	Low	
	Weinbach Pump Station	Pumping	Valves and Gates	Check Valve 01	Low	
	Weinbach Pump Station	Pumping	Valves and Gates	Check Valve 02	Low	

FACILITY RELOCATION FEASIBILITY ASSESSMENT

FOR THE

EVANSVILLE STREET MAINTENANCE DEPARTMENT

&

EVANSVILLE VANDERBURGH LEVEE AUTHORITY

FACILITY LOCATION(S): (1304 Waterworks Road & 1300 Waterworks Road)

DATE: December 15, 2020

PREPARED FOR:
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VS ENGINEERING

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1.0 NEED AND PURPOSE

The Evansville Water and Sewer Utility (EWSU) is in the process of analyzing various alternatives for addressing its aging Water Filtration Plant (WFP). An alternative being considered utilizes the current sites of the Evansville Street Maintenance Department (ESMD) and the Evansville Vanderburgh Levee Authority (EVLA) for a new WFP.

The purpose of this report is to identify potential relocation sites for each facility, determine the feasibility of each site, and if a site is feasible, establish budgetary costs to relocate each facility to the identified site.

2.0 DISCUSSION OF SITE ASSESSMENT FACTORS

VS Engineering (VS) met with Greg Bryant, ESMD Superintendent and Jay Perry, EVLA Superintendent on October 16th, 2020 to discuss facility size requirements, current facility pros and cons, and general operational requirements for each department. After each interview was concluded, a summary of each interview was prepared.

See Appendix A for Interview summaries.

2.1 Building Functionality Assessment

Both department superintendents have expressed a desire for additional space to better accommodate operational requirements. Comments made (by department superintendents) supporting the need for additional building space are as follows:

- Insufficient space to perform multiple tasks simultaneously (several spaces currently serve multiple functions).
- Proper locker room accommodations for employee storage do not exist.
- Proper space for employee training areas and breakrooms do not exist.
- Substandard ADA accommodations for second story areas (ESMD only).

For purposes of evaluating the feasibility of a potential site and developing associated budgetary costs, it was assumed that the size of each building would be increased by thirty percent.

2.2 Existing Site Assessment

Departmental superintendents also indicated that the lack of available non-building occupied land contributes to operational inefficiencies. Adequate acreage for separate employee parking lots (independent of equipment and storage areas) does not currently exist. Additional items that are not currently present (due to acreage restrictions) on ESMD's site includes a concrete batch plant and salt storage area. EVLA currently

stores equipment at multiple locations rather than one location due to lack of available land.

3.0 DISCUSSION OF SITE ASSESSMENTS

In order to aid in the evaluation of each site, a site assessment matrix for each facility was developed. The intent of the matrix is to ensure that all necessary factors are considered in determining the feasibility of a potential site.

3.1 Site Assessment Matrix

The factors considered in determining the feasibility of a potential site are as follows:

- Location
- Current Owner
- Square Footage of Existing Building(s) if on Property
- Lot Size
- Zoning / Neighborhood Compatibility
- Ingress / Egress
- Primary Access / Functional Class (for roadways)
- Distance to Closet Fueling Depot (or to K-4 Pump Station for EVLA)
- Assessed Value
- Comments

See Appendix B for Site Assessment Matrices.

3.2 Relocation Site Development and Feasibility Analysis

Existing aerial photography, historical aerial photography, GIS data, and windshield surveys were utilized to develop a list of potential relocation sites for each facility. The list of sites analyzed included properties owned by the City of Evansville as well as private property owners. No private property owners were contacted as part of the preparation of this assessment.

During conversations with EWSU staff, it was determined that any property that requires re-zoning was not feasible. Additionally, sites that were not compatible with adjacent neighborhoods, had poor ingress/egress routes, and/or were located away from fueling depots, were considered to be less feasible.

A review of the Indiana Department of Environmental Management's (IDEM) Virtual File Cabinet was also conducted to determine whether or not potential sites have documented environmental issues.

The results of the feasibility analysis are documented in the Site Assessment Matrices contained in Appendix B.

4.0 SITE SELECTIONS

Once the feasibility analysis was completed, the following sites were determined to be feasible and were carried forward for further analysis:

Evansville Vanderburgh Levee Authority

- 1304 Waterworks Road – Existing Street Maintenance Department

Evansville Street Maintenance Department

- [redacted]
- [redacted]

4.1 EVLA Feasible Sites

Waterworks Road – Existing ESMD Facility

Ideally, the EVLA would remain in the vicinity of downtown Evansville such that operational efficiency is not sacrificed. As such, it was proposed to utilize a portion of the existing ESMD facility at 1304 Waterworks Road. The portion of the existing ESMD facility not utilized by the EVLA would be razed and made available for use by the WFP. This site is only feasible if enough acreage remains for the construction of the WFP. At the time of this assessment, the configuration of the WFP was not known.

See Appendix D for a Proposed Site Layout and Appendix G for the detailed Preliminary Cost Estimate.

4.2 ESMD Feasible Sites

Each site that is feasible to relocate ESMD to have at least one existing building on site. The buildings have not had a structural evaluation at this point but are being considered as a part of the development for each site as described below.

[redacted]

This property is located at [redacted]. The current zoning is Industrial (M-3). The property has a total acreage of 4.71 Acres. The usable acreage is 4.48 Acres

due to existing easements on the west side of the property. In order for this site to be feasible it suggested additional property from [redacted] immediately to the south of [redacted]. Acquisition of this property would increase the site size by 0.67 Acres creating a total site of 5.15 Acres. There is one existing building on the property. The assumption is to renovate the existing building and construct a new building adjacent to the existing building to accommodate ESMD.

If the property from [redacted] is not acquired, the site would likely not have adequate acreage to accommodate all of the operation requirements conveyed during the initial interview with ESMD, rendering it not feasible.

Hazardous materials have been documented on the property. If this site is determined to be the preferred alternative, it is recommended that coordination occur with IDEM to better understand mitigation requirements prior to negotiating a purchase price for the site.

See Appendix E for Proposed Site Layout and Appendix H for the detailed Preliminary Cost Estimate.

[redacted]

This property is located at [redacted]. The current zoning is a mix of General Industrial (M-2) and Industrial (M-3). The property had previously been two separate tracts, but has recently been consolidated into one tract of land. The property has a total and usable acreage of 8.294 Acres. The assumption is to construct a new building to accommodate ESMD.

From the previous 2 tract layout, the northern tract (approximately 2 Acres) contains four existing buildings. This acreage could be resold to help offset the project cost or repurposed for use by ESMD. If this site is determined to be the preferred alternative, it is recommended that a structural and functionality evaluation for each building be conducted prior to negotiating a purchase price for the site.

A review of IDEM's virtual file cabinet did not result in any documented environmental issues. If this site is determined to be the preferred alternative, it is recommended that a Phase I Environmental Site Assessment be completed prior to negotiating a purchase price for the site.

See Appendix F for Proposed Site Layout and Appendix I for the detailed Preliminary Cost Estimate.

5.0 PRELIMINARY COST ESTIMATE SUMMARY

The total costs are summarized below. See Appendix G through I for detailed Preliminary Cost Estimates.

5.1 Summary of Preliminary Costs

Table 5.1 summarizes the costs for the proposed facility relocations. The building costs were developed using the 2020 RSMeans Square Footage cost data. The civil/site costs are based on recent project bids and the site layout quantities.

Table 5.1: Proposed Site Information and Preliminary Cost

Assessed Site	Proposed BLDG Size	Usable Acreage	Preliminary Cost Estimate [A]
EVLA – Existing ESMD Site	22,500 ft^2	1.974 Acres	$4,635,489
ESMD – [redacted]	75,860 ft^2	5.15 Acres	$13,114,999
ESMD – [redacted]	85,000 ft^2	6.297 Acres [B]	$13,277,395

[A] Costs Above are Figured in 2020 Dollars. Land Costs are Figured at the Assessed Value per Vanderburgh Co. Assessor's Office. Legal/Land Development Costs are Figured by Previous Projects Records. Engineering Design Fees are Assumed at 5% for Civil/Site & 7% for Architecture/MEP/Structural Work. Contractor Overhead, Labor, and Profit is Figured at 25%. The Project Contingency is Figured at 25% of Each Total Sum.

[B] Acreage Value Assumes Selling of the Northern Surplus Acreage.

APPENDIX A – Interview Meeting Notes

SUMMARY OF FACILITY ASSESSMENT INTERVIEW NOTES
EVANSVILLE-VANDERBURGH LEVEE AUTHORITY
OCTOBER 16, 2020

The following were present during the interview:

- Jay Perry
- Jarvis Hand
- Nick Jahn

Number of Employees

- Teamsters – 12
- Foreman
- Secretary
- Director

No department growth expected

Number of Employees Requiring Offices

- Foreman and Director

Size of Offices

- 16’ x 20’ (Director)
- 8’ x 10’ (Foreman)

Size of Conference Room

- Currently combined with the Directors office

Conference room/training room and director office should be separate spaces

Size of Non-Office Working/Production/Support Area

- File & Drawing Storage, Permits, and Proposed Improvements are all in secretarial space
- Current Employee area is work area/breakroom/storage

Ideal to have separated spaces for: Weld/Fab. Shop, Tool Room, Tool Storage, Lube Shop, etc.

Size of Breakroom

- No true breakroom

Size of Shower / Locker Room Area

- Need separate bathroom rooms for both genders, currently only men's lockers are available

Size of Inside Garage/Storage Space

- Garage height is too short to work on bigger equipment
- No inside storage for diesel equipment
- Equipment currently is being ran through employee parking

Size of Outside Material and Equipment Yard

- Parking is mixed with employee cars
    - Ideal to have separate and secure employee lot
- No room for Lay down yard, bone yard, or material stockpiles

ADA Accessibility Requirements

- Needs to meet Code

Power Service Requirements, Specifically 3-Phase Power

- Welder is the highest power load

Communications System Requirements (i.e. Fiber, Radio, etc.)

- City Ethernet

General Notes:

- Building is undersized for use
- Ideal to have all equipment stored in enclosed space and heated if needed
- Having separate spaces for each type of work would be ideal
    - Tool Room for small motor repair
    - Lube Room for general equipment maintenance
    - Weld/Fab. Shop
    - Indoor Wash Bay
- No Lay down yard for Precast Concrete Separators or old flap gates parts, etc.
- No room for on-site material storage
    - Mulch, Rock, Rip Rap
- Diesel Island is needed if relocated

.

SUMMARY OF FACILITY ASSESSMENT INTERVIEW NOTES
EVANSVILLE STREET MAINTENANCE DEPARTMENT
OCTOBER 16, 2020

The following were present during the interview:

- Greg Bryant
- Jarvis Hand
- Nick Jahn

Number of Employees

- SMD – 35
- Traffic Eng. – 10 to 15
- City Maintenance – 10

No department growth expected

Number of Employees Requiring Offices

- 10 to 15

Existing office count is sufficient

Size of Offices

- Average office size is 10’ x 15’
- Bigger offices would be ideal for most

Technician spaces require space to preform job related tasks

Size of Conference Room

- 15’ x 25’ (Only one conference room is needed)
- Upper stairs conference room (not typically used)

Conference room was sufficient prior to social distancing requirements

Size of Non-Office Working/Production/Support Area

- Bullpen – 20’ x 20’ (Only one existing bullpen)
- Storage Cages (Two needed for Flammable and Sensitive Item Storage)

Cages are under sized for current storage needs.

Size of Breakroom

- SMD – 20’ x 20’
- Traffic – 10’ x 15’ (Undersized)
- City Maint. – 10’ x 10’ (Undersized)

Separate breakrooms are ideal for each department.

Size of Shower / Locker Room Area

- 35’ x 20’ (35 Lockers and uniform storage)
- Each employee has their own locker space

Size of Inside Garage/Storage Space

- Garage space is undersized for multiuse that is currently being done
    - 4 Mechanical bays would be ideal
- 25 Diesel vehicles are stored inside
- Oil and grease separator required for Wash Bay and Mechanic spaces

Size of Outside Material and Equipment Yard

- Parking is mixed with employee cars
    - Ideal to have separate and secure employee lot
- Laid down yard & stockpiles would ideally be fenced and secure
- 100 Tons onsite Road Salt Brine
    - (4) 6000 gallon Tanks
- Fenced area is undersized for SMD needs
- Hoper storage hangers would ideally be under canopy

ADA Accessibility Requirements

- Needs to meet Code
- Upstairs conference room isn’t accessible if needed to be utilized

Power Service Requirements, Specifically 3-Phase Power

- 3-Phase power is needed for operations

Communications System Requirements (i.e. Fiber, Radio, etc.)

- Dedicated Fiber is required

Special Ventilation Needs for Garage Areas

- Exhaust Fans & Dampers on Roof
- Overhead Radiant Heat for Diesel Storage

General Notes:

- Salt Storage currently at East WWTP
- Ideal to keep to same brine making capacity on-site
- Would like to have a small batch plant for on-site concrete making
- Central Location is not Priority
- Proximity to materials is important
    - Heritage Fuel and Pacific Pride
    - Mulzer's

APPENDIX B – Site Assessment Matrices

SITE ASSESSMENT FOR RELOCATION OF THE EVANSVILLE-VANDERBURGH LEVEE AUTHORITY FACILITY

LOCATION	CURRENT OWNER	EXISTING BLDG IF PRESENT ON SITE	LOT SIZE	ZONING / NEIGHBORHOOD COMPATIBLITY	INGRESS / EGRESS	PRIMARY ACCESS / FUNCTIONAL CLASS	DISTANCE TO K4 PUMP STATION	ASSESSED VALUE		COMMENTS
		SQ FT.	ACRES	Zone Class / 1 : 2 : 3	1 : 2 : 3	Road Names / Functional Class	MILES	DOLLAR (CURRENT YEAR)		
1400 Waterworks Rd.	City of Evansville	OFFICE / GARAGE: 5,400	13.05	R-4	2	Waterworks / V.M. Pkwy	< 1	LAND:	$556,400.00	Current acreage and facilities size is insufficient for ELA needs. No issues with surrounding neighborhood concerns. Low traffic on waterworks is ideal. Direct access to levee system.
		CANOPY: 6,000	1.41 (Fenced)	3		Local / Other Frwy or Exprswy		BLDG:	$3,092,006.00	
1400 Waterworks Rd.	City of Evansville	OFFICE: 12,000	13.05	R-4	2	Waterworks / V.M. Pkwy	< 1	LAND:	$556,400.00	No issues with surrounding neighborhood concerns. Low traffic on waterworks and being in the same location is ideal. Portion of the existing SMD garage is setup for the needs of the Levee Authority. Building exterior can be reconsturcted with a more durable materials like block and brick.
		GARAGE: 52,800	3.5 (Fenced)	3		Local / Other Frwy or Exprswy		BLDG:	$3,092,006.00	
[redacted]	[redacted]	[redacted]	10.38	M-3	1	Maryland / Fulton	0.5	LAND:	$384,200.00	Acreage is sufficient for SMD needs. Mixed neighborhood of existing industrial and residental. Expected low traffic on Maryland St. Within a mile of access to Lloyd Expy on Fulton Ave. and 3.2 miles to East WWTP.
			≈ 4.0 (Use)	3		Local / Minor Arterial		BLDG:	$4,824,741.00	
[redacted]	[redacted]	[redacted]	13.4	M-3	3	5,498 (2019)	1.2	LAND:	$702,600.00	Fenced area of north of Ohio Street and owned by Mulzer. No issues with surrounding neighborhood. Near K4 Pump Station and close to ELA's BLGD on Riverside Drive. Good access to levee system.
			2.5 (Fenced)	3		Ohio St. West of Fulton Ave.		BLDG:	N/A	
[redacted]	[redacted]	[redacted]	8	M-3	3	Ohio St. / NW Riverside Dr.	1.5	LAND:	$435,600.00	Owned by Mulzer. No issues with surrounding neighborhood. Near K4 Pump Station and close to ELA's BLGD on Riverside Drive. Good access to levee system. Property is in the flood zone AE & 0.2 PCT Annual Chance Flood Hazard and not all of property is useable.
			3.3 (Usable) if lot is split & Blk Co remains	3		Major Collector / Other Principal Arterial		BLDG:	$77,887.00	
[redacted]	[redacted]	[redacted]	4.4 (Usable)	M-3	3	Tekoppel Ave / Broadway Ave	4	LAND:	$450,400.00	Acreage is sufficient for SMD needs. Area of site is being used a parking and laydown yard for West WWTP project. Would have dircet access to portion of Levee system.
				3		Major Collector / Minor Arterial		BLDG:	N/A	

SITE ASSESSMENT FOR RELOCATION OF THE EVANSVILLE STREET MAINTENANCE DEPARTMENT FACILITY

LOCATION	CURRENT OWNER	EXISTING BLDG IF PRESENT ON SITE	LOT SIZE	ZONING / NEIGHBORHOOD COMPATIBLITY	INGRESS / EGRESS	PRIMARY ACCESS / FUNCTIONAL CLASS	DISTANCE TO CLOSEST FUELING DEPOT	ASSESSED VALUE		COMMENTS
		SQ FT.	ACRES	1 : 2 : 3	1 : 2 : 3	Road Names / Functional Class	MILES	DOLLAR (CURRENT YEAR)		
1400 Waterworks Rd.	City of Evansville	OFFICE: 12,000	13.05	R-4	2	Waterworks / V.M. Pkwy	2.3	LAND:	$556,400.00	Current acreage is insufficient for SMD needs. No issues with surrounding neighborhood concerns. Low traffic on waterworks is ideal.
		GARAGE: 52,800	3.5 (Fenced)	3		Local / Other Frwy or Exprswy	Heritage Petroleum	BLDG:	$3,092,006.00	
[redacted]	[redacted]	[redacted]	17.44	R-2	3	Stringtown / Diamond	1.3	LAND:	$1,519,400.00	Acreage is sufficient with the parking lot and a little less ideal without the parking lot. Residential neighborhood to the south on Wedeking Ave and Industrial to the east. Good access to arterial and higher functioning class roads. Within a mile of Hwy 41 interchange. Unsure usage of track and gym building for academy school. Rezoning will be required.
		[redacted]	≈ 5.5 (Track & Parking Lot)	2		Minor Arterial / Minor Collector	Pacific Pride	BLDG:	$24,052,828.00	
[redacted]	[redacted]	[redacted]	2.43	R-2	3	Stringtown / Diamond	1.3	LAND:	$106,000.00	Acreage is less than ideal for new SMD facility. Residential neighborhood to the south on Wedeking Ave and Industrial to the east. Low traffic is expected on Wedeking. Within a mile of Hwy 41 interchange. New buildings has been constructed, unsure on plans for vacant lot. Rezoning will be required.
				2		Minor Arterial / Minor Collector	Pacific Pride	BLDG:	N/A	
[redacted]	[redacted]	[redacted]	4.71	M-3	3	[redacted]	1	LAND:	$38,800.00	[redacted]
				3		[redacted]	Pacific Pride	BLDG:	$530,172.00	
[redacted]	[redacted]	[redacted]	10.17	R-4	1	N Barker Ave / Lloyd Expy	1.6	LAND:	$111,600.00	Acreage is sufficient for SMD needs. Surrounded by residential neighborhood. No major streets around the property, access to the Lloyd is in close proximity. Rezoning will be required.
				1		Local / Principal Arterial	Heritage Petroleum	BLDG:	N/A	
[redacted]	[redacted]	[redacted]	10.38	M-3	1	Maryland / Fulton	0.5	LAND:	$384,200.00	Acreage is less than ideal for new SMD facility. Mixed neighborhood of existing industrial and residential. Expected low traffic on Maryland St. Within a mile of access to Lloyd Expy on Fulton Ave. and 3.2 miles to East WWTP. Rezoning will be required. Site has hydrocarbon concerns from previous uses, but no site restrictions for SMD use.
			≈ 4.0 (Use)	3		Local / Minor Arterial	Heritage Petroleum	BLDG:	$4,824,741.00	
[redacted]	[redacted]	[redacted]	6.58	M-2 / M-3	2	[redacted]	0.1	LAND:	$156,000.00	Acreage is sufficient for SMD needs. Next to several industrial buildings and adjacent to fueling location. Low daily traffic and within a mile of US 41 and close to Lloyd and 41 interchange. Rezoning will be required.
				3		[redacted]	Pacific Pride	BLDG:	$60,789.00	

SITE ASSESSMENT FOR RELOCATION OF THE EVANSVILLE STREET MAINTENANCE DEPARTMENT FACILITY

LOCATION	CURRENT OWNER	EXISTING BLDG IF PRESENT ON SITE	LOT SIZE	ZONING / NEIGHBORHOOD COMPATIBLITY	INGRESS / EGRESS	PRIMARY ACCESS / FUNCTIONAL CLASS	DISTANCE TO CLOSEST FUELING DEPOT	ASSESSED VALUE		COMMENTS
		SQ FT.	ACRES	1 : 2 : 3	1 : 2 : 3	Road Names / Functional Class	MILES	DOLLAR (CURRENT YEAR)		
2901 E Morgan Ave.	City of Evansville	BLDG: 2,294	6	R-1	1	Morgan Ave.	1.5	LAND:	$1,698,800.00	Acreage is sufficient for SMD needs. Golf course and residential neighborhood adjacent to property. Heavy daily traffic and left turn on to Morgan Ave. could attract wrecks. No dedicated left turn lane and existing right turn lane taper is too short. Relocation costs will be needed for Weights & Measures department. Rezoning will be required.
			≈ 2.33 (Fenced)	2		Other Principal Arterial	Pacific Pride	BLDG:	$206,795.00	
[redacted]	[redacted]	[redacted]	21.69	R-4	3	Bayse / Kentucky / V.M. Pkwy	3.5	LAND:	$1,466,500.00	Sufficient Acreage to get from school property and still maintain school yard for children. Could also, purchase lot adjacent to Kentucky for direct access to Kentucky Ave. Mixed neighborhood of existing industrial and residential. Good access to HWY 41 and V.M. Pkwy. Within a mile of 4.2 miles to East WWTP. Rezoning will be required.
			≈ 5 (South End of Lot along Bayse St.)	3		Local / Major Collector / Other Principal Arterial	Pacific Pride	BLDG:	$10,670,115.00	
1900 BLK Buchanan Rd.	City of Evansville	EFD Training Area	82.31	R-1	3	Buchanan / St. Joseph Ave.	1.8	LAND:	$1,973,300.00	No issues with surrounding neighborhood, secluded area next the EFD Training Center and Zoo Green Houses. Good access to St. Joe Ave. Low traffic would be expected on Buchanan Road. Northeast corner of site are part of flood zones and Floodway. Tree clearing would be required to make room for new BLDG, etc. Rezoning will be required.
			≈ 5	3		Local / Other Principal Arterial	Heritage Petroleum	BLDG:	$132,272.00	

APPENDIX C – Existing ESMD Facility

N
W E
S

LEGEND:

Existing Building

GENERAL NOTES:

1. Lot is zoned R-4
2. Existing Lot Use: Construction Office, Warehouse, and Lay Down Yard.
3. Required Building Setbacks
   - 20.0' Front Yard Setback
   - 20.0' Rear Yard Setback
   - 5.0' Side Yard Setback at Street
4. Legal Description: Parcel 2 of Waterworks Parcelization.
5. Existing Building Size; 62,400 Sq. Ft.
6. Usable acreage; 3.534 Acres
7. 5 Total Parking Stalls Provided. No Defined Interior Parking for Employees. 60 Employees Total.

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4275 North High School Road
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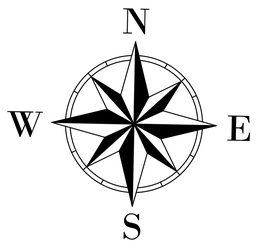
CITY OF EVANSVILLE
STREET MAINTENANCE DEPT. NEW FACILITIES SITE PROPOSAL

1400 Waterworks Road
Existing Facility

Scale:	1" = 40'
Designed By: JKS	Job Number: 16-3636
Drawn By: JKS	Date: 11/17/2020
Filename:	
Sheet Number:	1 of 1

APPENDIX D – EVLA Site Layout (ESMD Site)



LEGEND:

- Existing Building
- Building Demolition
- Landscape Parking Island

GENERAL NOTES:

1. Lot is zoned R-4
2. Existing Lot Use: Construction Office, Warehouse, and Lay Down Yard.
3. Required Building Setbacks
   - 20.0' Front Yard Setback
   - 20.0' Rear Yard Setback
   - 5.0' Side Yard Setback at Street
4. Legal Description: Parcel 2 of Waterworks Parcelization.
5. Proposed Building Size; 22,500 Sq. Ft.
6. Usable acreage; 1.974 Acres
7. 20 Total Parking Stalls Provided. 15 Employees Total.
8. Parking Stalls are a Minimum 9' Wide by 18' Deep. Travel Lanes are a Minimum 24' Wide.

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CITY OF EVANSVILLE
STREET MAINTENANCE DEPT. NEW FACILITIES SITE PROPOSAL

1400 Waterworks Road
Levee Authority Relocation

Scale:	1" = 40'
Designed By: JKS	Job Number: 16-3636
Drawn By: JKS	Date: 11/17/2020
Filename:	
Sheet Number:	1 of 1

APPENDIX E – [redacted] Site Layout

APPENDIX E REDACTED IN ITS ENTIRETY

APPENDIX F – [redacted] Site Layout

APPENDIX F REDACTED IN ITS ENTIRETY

APPENDIX G – Cost Estimate EVLA (ESMD SITE)

VS ENGINEERING CELEBRATING 40 YEARS

RENOVATION ESTIMATE
BASE COST PER UNIT
NOVEMBER 2020

PROJECT INFORMATION

SUBJECT PROPERTY:	CITY OF EVANSVILLE		
ADDRESS:	1400 WATERWORKS RD		
BUILDING USE:	COMMERICAL / INDUSTRAL		
EXISTING BUILDING MODIFICATION			
FRAME:	METAL SIDING, RIGID STEEL		
OFFICE - FLOOR AREA:	80' x 150'	12,000	ft^2
WAREHOUSE - 1ST FLOOR AREA:	400' x 175'	52,800	ft^2
DEMOLISHED AREA:		-42,300	ft^2
TOTAL AREA:	**SUM:**	**22,500**	ft^2
NUMBER OF STORIES:	1		
STORY HEIGHT:	20 FT.		
PERIMETER:	600 FT.		
TOTAL BUILDING AREA:	**TOTAL SUM:**	**22,500**	ft^2

ITEM		DESCRIPTION	ESTIMATED QUANTITY	UNITS	COST PER UNIT	TOTAL PRICE
A: BUILDING COSTS						
1.	DEMOLITION	Partial Building Removal	42,300	S.F.	$35.00	$1,480,500.00
2.	RENOVATION	Office Area (1-Story)	3,000	S.F.	$125.00	$375,000.00
3.	RENOVATION	Warehouse (Multi-Use) Area	19,500	S.F.	$95.00	$1,852,500.00
4.	RENOVATION	Exterior Façade	12,000	S.F.	$45.50	$546,000.00
					BLDG SUM:	$3,708,000.00
		LOCATION MODIFIER:	Commercial Factor for Evansville IN			0.90
					ADJUSTED BLDG SUM:	**$3,337,200.00**

COST ESTIMATE NOTES: 1.) Unit Prices Include 25% Contractor Fees & 7% Engineer/Architect Fees.

ITEM		DESCRIPTION	ESTIMATED QUANTITY	UNITS	COST PER UNIT	TOTAL PRICE
B: CIVIL/SITE IMPROVEMENTS						
1.	PARKING LOT	Proposed Parking Lot Area is 2,453 SYD				
1.1	EXCAVATION	Nominal 1.0-FT Depth Material Removal	817	CYD	$32.50	$26,552.50
1.2	BASE STONE	6-IN Layer - #53 Stone	817	TONS	$45.50	$37,173.50
1.3	ASPHALT	2.5-IN HMA Int. & 1.5-IN HMA Surface	540	TONS	$162.50	$87,750.00
2.	LAYDOWN YARD STONE	9-IN Layer - #53 Stone on Grade	1,730	TONS	$45.50	$78,715.00
3.	PERIMETER FENCE	6-FT Screened Chain Link	1,150	L.F.	$90.00	$103,500.00
					CIVIL/SITE SUM:	**$333,691.00**
	COST ESTIMATE NOTES:	1.) Unit Prices Include 25% Contractor Fees & 5% Engineer Fees.				
C: LAND ACQUISITION COSTS						
1.	LEGAL	Title & Rezoning Attorney Fees	1	L.S.	$15,000.00	$15,000.00
2.	LAND DEVELOPMENT	Title Search & Alta Survey	1	L.S.	$10,000.00	$10,000.00
3.	SURVEY	Minor Subdivision	1	L.S.	$7,500.00	$7,500.00
					LAND ACQUISITION SUM:	**$32,500.00**
D: RELOCATION COSTS						
1.	RELOCATION	Professional Mover Fees	1	L.S.	$5,000.00	**$5,000.00**
					TOTAL SUM:	**$3,708,391.00**
					PROJECT CONTINGENCY:	**25.00%**
					TOTAL PROJECT ESTIMATE:	**$4,635,489.00**

COST ESTIMATE NOTES:
1.) Equipment Purchase for Vehicular Equipment (i.e. Hoists, Tools, Etc.) Not Included in Costs.
2.) Office Furnishings Not Included in Costs.
3.) Utility Fees Not Included (Permits, Tap Fees, Etc.).

COST ESTIMATION SOURCE: Gordian® 2020 Square Foot Costs with RSMeans data

APPENDIX H– Cost Estimate [redacted]

VS ENGINEERING

VS ENGINEERING CELEBRATING 40 YEARS

RENOVATION / NEW CONSTRUCTION ESTIMATE
BASE COST PER UNIT
NOVEMBER 2020

PROJECT INFORMATION

SUBJECT PROPERTY:	[redacted]		
ADDRESS:			
BUILDING USE:	COMMERICAL / INDUSTRAL		
EXISTING 1924 BUILDING			
CONSTRUCTION MATERIAL:	BRICK		
OFFICE AREA:	3,600 SQ. FT.	3,600	ft^2
WAREHOUSE/STORAGE AREA:	12,260 SQ. FT.	12,260	ft^2
TOTAL AREA:	**SUM:**	**15,860**	ft^2
NUMBER OF STORIES:	1		
STORY HEIGHT:	12 FT.		
PERIMETER:	504 FT.		
PROPOSED BUILDING ADDITION			
FRAME:	BLOCK, BRICK, STEEL K-TRUSSES		
OFFICE - 1ST FLOOR AREA:	30' x 200'	6,000	ft^2
OFFICE - 2ND FLOOR AREA:	30' x 200'	6,000	ft^2
TOTAL AREA:	**SUM:**	**12,000**	ft^2
NUMBER OF STORIES:	2		
STORY HEIGHT:	14 FT.		
PERIMETER:	460 FT.		
FRAME:	METAL SIDING, RIGID STEEL		
WAREHOUSE - 1ST FLOOR AREA:	270' x 200'	54,000	ft^2
TOTAL AREA:	**SUM:**	**54,000**	ft^2
NUMBER OF STORIES:	1		
STORY HEIGHT:	24 FT.		
PERIMETER:	940 FT.		
TOTAL BUILDING AREA:	**TOTAL SUM:**	**81,860**	ft^2

ITEM		DESCRIPTION	ESTIMATED QUANTITY	UNITS	COST PER UNIT	TOTAL PRICE
A: BUILDING COSTS						
1.	RENOVATION	Office Area	3,600	S.F.	$125.00	$450,000.00
2.	RENOVATION	Warehouse Area	12,260	S.F.	$85.00	$1,042,100.00
3.	NEW CONSTRUCTION	Office Area (2-Story)	12,000	S.F.	$221.15	$2,653,800.00
4.	NEW CONSTRUCTION	Warehouse Area	54,000	S.F.	$115.00	$6,210,000.00
					BLDG SUM:	$10,355,900.00
		LOCATION MODIFIER: Commercial Factor for Evansville IN				0.90
					ADJUSTED BLDG SUM:	**$9,320,310.00**

COST ESTIMATE NOTES:
1.) Unit Prices Include 25% Contractor Fees & 7% Engineer/Architect Fees.
2.) New Construction Office S.F. Cost Has Been Adjusted for 14 FT Story Hgt. & Additional Perimeter Length as Compared to S.F. Cost for the Model Building in Estimating Guide.

ITEM		DESCRIPTION	ESTIMATED QUANTITY	UNITS	COST PER UNIT	TOTAL PRICE
B: CIVIL/SITE IMPROVEMENTS						
1.	PARKING LOT	Proposed Parking Lot Area is 5,700 SYD				
1.1	EXCAVATION	Nominal 1.0-FT Depth Material Removal	1,898	CYD	$32.50	$61,685.00
1.2	BASE STONE	6-IN Layer - #53 Stone	1,900	TONS	$45.50	$86,450.00
1.3	ASPHALT	2.5-IN HMA Int. & 1.5-IN HMA Surface	1,254	TONS	$162.50	$203,775.00
2.	ON-SITE DETENTION	Max On-Site Undgrd Storage for Storm Water	10,000	CFT	$19.50	$195,000.00
3.	LAYDOWN YARD STONE	9-IN Layer - #53 Stone on Grade	4,138	TONS	$45.50	$188,279.00
4.	PERIMETER FENCE	6-FT Screened Chain Link	2,000	L.F.	$90.00	$180,000.00
5.	FIRE PROTECTION LINE	6-IN C-900 Pipe w/ 2 Hydrants	600	L.F.	$130.00	$78,000.00
					CIVIL/SITE SUM:	**$993,189.00**
	COST ESTIMATE NOTES:	1.) Unit Prices Include 25% Contractor Fees & 5% Engineer Fees.				
C: LAND ACQUISITION COSTS						
1.	LAND PURCHASE	Assessed Value	1	L.S.	$128,500.00	$128,500.00
2.	LEGAL	Title Attorney Fees	1	L.S.	$15,000.00	$15,000.00
3.	LAND DEVELOPMENT	Title Search & Alta Survey	1	L.S.	$10,000.00	$10,000.00
4.	SURVEY	Survey Lot Line Adjustment	1	L.S.	$5,000.00	$5,000.00
5.	ADDITIONAL ACERAGE	Assessed Value	1	L.S.	$10,000.00	$10,000.00
					LAND ACQUISITION SUM:	**$168,500.00**
D: RELOCATION COSTS						
1.	RELOCATION	Professional Mover Fees	1	L.S.	$10,000.00	**$10,000.00**
					TOTAL SUM:	**$10,491,999.00**
					PROJECT CONTINGENCY:	**25.00%**
					TOTAL PROJECT ESTIMATE:	**$13,114,999.00**

COST ESTIMATE NOTES:
1.) Equipment Purchase for Vehicular Equipment (i.e. Hoists, Tools, Etc.) Not Included in Costs.
2.) Office Furnishings Not Included in Costs.
3.) Utility Fees Not Included (Permits, Tap Fees, Etc.)

COST ESTIMATION SOURCE: Gordian® 2020 Square Foot Costs with RSMeans data

APPENDIX I – Cost Estimate [redacted]

VS ENGINEERING

VS ENGINEERING CELEBRATING 40 YEARS

NEW CONSTRUCTION ESTIMATE
BASE COST PER UNIT
NOVEMBER 2020

PROJECT INFORMATION

SUBJECT PROPERTY:	[redacted]		
ADDRESS:			
BUILDING USE:	COMMERICAL / INDUSTRAL		
PROPOSED BUILDING			
FRAME:	BLOCK, BRICK, STEEL K-TRUSSES		
OFFICE - 1ST FLOOR AREA:	150' x 100'	15,000	ft^2
TOTAL AREA:	**SUM:**	**15,000**	ft^2
NUMBER OF STORIES:	1		
STORY HEIGHT:	14 FT.		
PERIMETER:	500 FT.		
FRAME:	METAL SIDING, RIGID STEEL		
WAREHOUSE - 1ST FLOOR AREA:	400' x 175'	70,000	ft^2
TOTAL AREA:	**SUM:**	**70,000**	ft^2
NUMBER OF STORIES:	1		
STORY HEIGHT:	24 FT.		
PERIMETER:	940 FT.		
TOTAL BUILDING AREA:	**TOTAL SUM:**	**85,000**	ft^2

ITEM		DESCRIPTION	ESTIMATED QUANTITY	UNITS	COST PER UNIT	TOTAL PRICE
A: BUILDING COSTS						
1.	DEMOLITION	Existing Building Removal	544	S.F.	$35.00	$19,040.00
2.	NEW CONSTRUCTION	Office Area (1-Story)	15,000	S.F.	$172.55	$2,588,250.00
3.	NEW CONSTRUCTION	Warehouse Area	70,000	S.F.	$110.00	$7,700,000.00
					BLDG SUM:	$10,307,290.00
		LOCATION MODIFIER:	Commercial Factor for Evansville IN			0.90
					ADJUSTED BLDG SUM:	**$9,276,561.00**

COST ESTIMATE NOTES:
1.) Unit Prices Include 25% Contractor Fees & 7% Engineer/Architect Fees.
2.) New Construction Office S.F. Cost Has Been Adjusted for 14 FT Story Hgt. as Compared to S.F. Cost for the Model Building in Estimating Guide.

VS ENGINEERING CELEBRATING 40 YEARS

ITEM		DESCRIPTION	ESTIMATED QUANTITY	UNITS	COST PER UNIT	TOTAL PRICE
B: CIVIL/SITE IMPROVEMENTS						
1.	PARKING LOT	Proposed Parking Lot Area is 5,590 SYD				
1.1	EXCAVATION	Nominal 1.0-FT Depth Material Removal	1,861	CYD	$32.50	$60,482.50
1.2	BASE STONE	6-IN Layer - #53 Stone	1,862	TONS	$45.50	$84,721.00
1.3	ASPHALT	2.5-IN HMA Int. & 1.5-IN HMA Surface	1,230	TONS	$162.50	$199,875.00
2.	ON-SITE DETENTION	Max On-Site Undgrd Storage for Storm Water	10,000	CFT	$19.50	$195,000.00
3.	LAYDOWN YARD STONE	9-IN Layer - #53 Stone on Grade	7,083	TONS	$45.50	$322,276.50
4.	PERIMETER FENCE	6-FT Screened Chain Link	2,010	L.F.	$90.00	$180,900.00
5.	FIRE PROTECTION LINE	6-IN C-900 Pipe w/ 2 Hydrants	750	L.F.	$130.00	$97,500.00
					CIVIL/SITE SUM:	**$1,140,755.00**

COST ESTIMATE NOTES: 1.) Unit Prices Include 25% Contractor Fees & 5% Engineer Fees.

C: LAND ACQUISITION COSTS						
1.	LAND PURCHASE	Assessed Value	1	L.S.	$417,100.00	$417,100.00
2.	LEGAL	Title Attorney Fees	1	L.S.	$10,000.00	$10,000.00
3.	LAND DEVELOPMENT	Title Search & Alta Survey	1	L.S.	$10,000.00	$10,000.00
4.	SURVEY	Minor Subdivision	1	L.S.	$7,500.00	$7,500.00
5.	SURPLUS ACREAGE	Lot Sale Northern 2 Acres	1	L.S.	$250,000.00	$ (250,000.00)
					LAND ACQUISITION SUM:	**$194,600.00**
D: RELOCATION COSTS						
1.	RELOCATION	Professional Mover Fees	1	L.S.	$10,000.00	**$10,000.00**
					TOTAL SUM:	**$10,621,916.00**
					PROJECT CONTINGENCY:	**25.00%**
					TOTAL PROJECT ESTIMATE:	**$13,277,395.00**

COST ESTIMATE NOTES:
1.) Equipment Purchase for Vehicular Equipment (i.e. Hoists, Tools, Etc.) Not Included in Costs.
2.) Office Furnishings Not Included in Costs.
3.) Utility Fees Not Included (Permits, Tap Fees, Etc.).
4.) Existing Buildings May be Available for Use.

COST ESTIMATION SOURCE: Gordian® 2020 Square Foot Costs with RSMeans data