### MAP, PLAN AND REPORT (ENGINEERING REPORT)

FOR THE

TOWN OF BERGEN
WATER IMPROVEMENT BENEFIT AREA NO. 1

GENESEE COUNTY, NEW YORK

DECEMBER 4, 2018
REVISED FEBRUARY 5, 2019
UPDATED MAY 17, 2019



MRB group

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# MAP, PLAN AND REPORT FOR THE TOWN OF BERGEN WATER IMPROVEMENT BENEFIT AREA No. 1 GENESEE COUNTY, NEW YORK FEBRUARY 5, 2019 (UPDATED MAY 17, 2019)

#### I. GENERAL

The purpose of this project is to provide a safe and reliable potable water supply and fire protection for residents of the proposed Town of Bergen Water Improvement Benefit Area No. 1 (hereinafter referred to as the "Project, Project Area or WIBA No. 1").

The Town of Bergen is located in Genesee County, as shown in Figure 1.

The proposed improvements consist of the installation of approximately 163,720 linear feet (LF) of 8", 10" and 12" diameter water main, valves, hydrants, and appurtenances along various roads in the Town of Bergen.

The proposed Project will connect to existing water mains in the Town of Bergen.

The Boundary Map and Description for the Project is provided in **Appendix A**.

#### II. PROJECT PLANNING AREA

#### A. Project Location

The Project Area is located along the following roads within the Town of Bergen:

- > NYS Route 33 (Clinton Street Road) between the end of the existing water main (west of the Bergen WST) and the westerly Town line.
- > Jerrico Road between NYS Route 33 and NYS Routes 262 (Town Line Road).
- > **Dublin Road** between NYS Route 33 and Byron WD #8 @ CSX Railroad Tracks.
- > West Bergen Road between north of the CSX Railroad Tracks and the south Town line.
- > Lyman Road between NYS Route 33 and the west Town line.
- ➤ Gilbert Road between NYS Route 33 and Old State Road.
- > Old State Road between West Bergen Road and the western Town line
- > Connelly Road between Maple Avenue and the southern Town line.
- > West Sweden Road between the Old Railroad Bed and Reed Road.
- > Creamery Road between NYS Route 19 and West Sweden Road.
- > Sackett Road between NYS Route 19 and West Sweden Road.

- > Cook Road between West Sweden Road and Warboys Road.
- > Warboys Road between West Sweden Road and the westerly Town line.
- > Sautell Road between Warboys Road and North Bergen Road.
- > North Bergen Road between West Sweden Road and the westerly Town line.
- > Reed Road between West Sweden Road and the Sweden Town Line.
- **Evans Road** between Jerrico Road and last house to the west.
- > **Swamp Road** between the End of Existing WD No. 2 (near 7569 Swamp Road) and the Byron Town Line.
- Pocock Road between Swamp Road and NYS Route 262.
- > Maple Avenue between NYS Route 33 and NYS Route 19.
- > North Lake Road between the end of Peachy Road WD and the north Town line.
- **Peachey Road** between the end of Peachy Road WD and east Town line.
- > NYS Route 33 between the end of existing water main to serve the shooting range.

Refer to **Figure 2** for a Map of the Proposed Project Location. Photographs of the Project Area are included in **Appendix B**.

#### B. Environmental Resources Present

The area of the proposed project is generally farmland and residential areas. There are several stream crossings within the project area.

There are several New York State and Federal (**Appendix C**) designated wetlands and streams that will need to be crossed, again within the highway right-of-way, in areas already disturbed by the highway and existing utilities. Measures will be incorporated into the design to mitigate adverse impacts. The related permits and environmental protection measures will be incorporated into the project.

The project is partially located within Genesee County's Agricultural District as shown in **Appendix D**. However, the majority of work will be located within the highway right-of-way and will have no adverse impact on the agricultural properties.

As part of the project planning process, a complete environmental review will take place including the State Environmental Quality Review (SEQR) Act and the National Environmental Policy Act (NEPA).

Care will be taken to preserve the existing cemeteries on Maple Street and Creamery Road. The water mains will be located on the opposite side of each road away from the cemeteries. This should eliminate any concern from the State Historic Preservation Office (SHPO) relating to any potential impact to the cemeteries.

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#### C. Population Trends and Parcel Information

The list of parcels to be included in the Project are provided in **Appendix E**. The Project including the following:

<u>Parcels</u>	# of Parcels	# of EDU's	<u>Notes</u>
Single-Family Dwellings	320	320	
Multi-Family Dwellings, Non-Residential	32	68	1
Vacant, Buildable Lots	92	47	
Ag. Use, In Ag. District, No water hookup	68	0	
Non-Agricultural, Not Buildable	_1	0	2
Totals	513	435	
Number of EDU's		388	3
Number of Hookups	352		4

#### Notes:

- 1. Includes multiple residences on one lot as well as farms, businesses and institutions that will use water.
- 2. Land owned by Bergen Swamp Society for ecological preservation.
- 3. Excludes vacant parcels.
- 4. One hookup per parcel with single-family dwellings, multiple residences, businesses, farms and institutions.
- > Estimated Existing Population = 890
- > Estimated Future Population (Assume 10% growth/20 years) = 979

Refer to Form A: Proposed Hook-up Sheet on the following page.

#### D. Community Engagement

The Town of Bergen has been approached by numerous residents in the Project Area over the past several years to be supplied with public water. There have been informal petitions circulated by the residents to request the Town evaluate the feasibility of providing public water to their area.

The Town of Bergen has provided the public with information in the past associated with the cost of water and the feasibility of obtaining loan and grant money from various funding agencies.

A Public Information Meeting was held on March 27, 2018 to present the initial project concept and costs. Since that meeting changes and modifications have occurred that are now incorporated into this PER.

As part of the Water Improvement Benefit Area formation process, a Legal Public Hearing will be held identifying the Project scope and costs.

Hook up Sheet (Form A)

#### III. EXISTING FACILITIES

#### A. General and Location Map of Existing Facilities

There are no existing facilities in the Project Area.

The Town of Bergen owns the distribution system and the Monroe County Water Authority (MCWA) operates the system in the existing water districts under a Retail Lease Agreement.

The Project will receive water supply from the MCWA. The MCWA owns and operates a 140 MGD Water Treatment Facility on the shores of Lake Ontario, with sufficient capacity to serve this Project.

The Existing Water System Facilities within the Town of Bergen are shown on Figure 3.

#### B. History

The Town of Bergen Water District No. 1 was constructed in the 1980's. Water District No. 2 was constructed around 2001 and consisted of various sized ductile iron pipe. The Peachy Road Water District (No. 3) was constructed in 2011 and consisted of 8" and 10" diameter PVC Water Main. As part of the Mill Seat Landfill construction, various sized water mains were installed within portions of Bergen in the early 1990's.

#### C. Condition of Existing Facilities

The condition of the existing facilities is excellent and routinely maintained by the MCWA as part of the Retail Lease Agreement.

#### D. Financial Status of Existing Facilities

The financial status of the existing facilities does not relate specifically to the creation of this Water District, as each district is responsible for their own debt service charges.

The cost for routine operation and maintenance are included in the normal water rate established by the MCWA.

The Town of Bergen is considering the use of PVC pipe for the installation of the water mains. In accordance with the MCWA Retail Lease Agreement, the Town of Bergen Water Improvement Benefit Area No. 1 will be responsible for the costs associated with repairs/replacement of the PVC water main, since it is not in accordance with the MCWA current standards. A repair/reserve account will be established by the Town of Bergen to fund future repairs as necessary.

#### E. Water/Energy Audits

Not applicable to this report.

#### IV. NEED FOR PROJECT

#### A. Health and Safety

The residents in the Project Area typically experience the following problems:

- 1. **Insufficient quantity** of water is available for some of the residential wells. Some residents must conserve water by: alternating shower days, alternating laundry days or not washing clothes in their residences at all.
- 2. **Poor water quality** is predominant in the existing well supplies. The water quality requires some residents to either boil water for consumption or purchase bottled water for cooking and consumption.
- 3. **High cost** to operate and maintain existing well supplies. Several residents must purchase chemicals for softening and treatment systems, and must frequently replace their plumbing systems due to corrosion of their fixtures. Several residents currently pay over \$500 per year to operate and maintain their water system, which provides them with poor quality water and insufficient quantities at times.
- 4. **Fire Protection.** Currently, there is no water system to provide fire protection in the proposed Project Area. Likewise, there are no significant bodies of water in the vicinity that provide an adequate supply of water for fire protection.

The completion of the proposed project would address all of these issues for the residents of the proposed Water District.

#### B. System Operation and Maintenance

Dead end water mains and rural water mains require periodic flushing and chlorine residual testing, which are typical of a rural water districts because of low population density and low water usage. Currently, the MCWA maintain chlorine residual throughout rural water mains by utilizing permanent programmable automatic flushing units, portable programmable automatic flushing units and manual flushing. The MCWA shall routinely flush and test chlorine residual of the proposed dead-end mains and rural water mains, as necessary.

In an effort to reduce the number of man-hours spent flushing water mains, automatic flushing hydrants will be installed on the water main dead ends and rural water mains. The installation of the automatic flushing hydrants will eliminate the need for the water operator to manually flush the system by opening and closing fire hydrants.

Future expansion of the water mains to areas of greater population may reduce the need for periodic flushing of the water mains.

#### C. Reasonable Growth

The ability to serve a growing population in the region has been addressed as part of the selection of water main size. The water mains for the Project Area have been sized to meet fire flows, which far exceed residential demand.

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Average daily demand for the Project Area is estimated to be 57,850 gallons per day (40 gpm). Peak daily demand is estimated at 231,400 gallons per day (161 gpm), assuming a peaking factor of 4.

Insurance Services Office (ISO) requires a minimum fire flow of 500 gpm at 20 psi residual pressure for this area. The MCWA generally requires minimum fire flow of 750 gpm at 20 psi residual pressure.

Fire flows in the Project Area will exceed the ISO, NYS Department of Health, and MCWA requirements in all areas. As shown on **Table 1**, fire flows will be in excess of 750 gpm @ 20 psi in all locations.

Future residential growth within the District will not be limited as a result of available fire flows. This project is utilizing 8" diameter and above water mains which is generally the minimum size water mains used for rural areas providing fire flow. This Project supports the necessary fire flow, and the current and future domestic demands, without putting an undue burden on the property owners within the Water Improvement Benefit Area.

#### V. ALTERNATIVES CONSIDERED

The only alternative to address the problems of the residents of the Project Area is to install a Public Water System. No other alternatives were considered.

#### A. Water Supply Alternatives

There are no feasible water supply alternatives to consider such as construction of wells, water treatment plant, etc. Construction of a water treatment plant to supply the needs of the Town of Bergen solely would not be feasible from a financial standpoint. Furthermore, the Town of Bergen does not have any operational staff that would be licensed to operate a water treatment plant and would have to likely hire from the outside for operation staff or train existing staff. In addition, they would have to increase their town payroll and benefits to treat their own water. Therefore, no further investigation or consideration of a surface water supply is warranted at this time.

It is likely that a well supply would not be feasible since the majority of the private wells within the Town of Bergen have experienced quality and quantity problems which have led to public water being installed. Therefore, no further investigation or consideration of well supply is warranted at this time.

Given that the Town of Bergen water system is operated on a Retail Lease Agreement with the MCWA, there are no water supply alternatives to consider.

#### B. Pipe Material Alternatives

The pipe material alternatives to consider include PVC pipe, ductile iron pipe (DIP) and high-density polyethylene pipe (HDPE). Ductile iron pipe is costlier to purchase and install than using PVC pipe. Using HDPE for water distribution systems is a feasible alternative for crossing highways, creeks and other obstacles that require horizontal directional drilling (HDD). The MCWA does not allow the use of HDPE pipe in areas where water services will be installed or in areas where gas stations have been located or spills have occurred. Approval of the use of HDPE pipe is on a case-by-

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case basis by the MCWA. We recommend using a combination of PVC and HDPE pipe for the water distribution system.

At the time of preparation of this PER, the cost of 8" DIP water main (Class 51) was \$20.50/LF, the cost of 12" DIP water main (Class 51) was \$32.30/LF, the cost of 8" PVC water main (DR 18) was \$8.40/LF, the cost of 12" PVC water main (DR 18) was \$17.60/LF and the cost of 8" HDPE (DR 9) was \$15.00/LF.

For this application, we anticipate the life span and operation and maintenance costs of the PVC pipe will be similar to DIP. With a cost of DIP more than 2 times that of PVC pipe, and the extremely limited budget, we recommend the use of PVC pipe for the majority of the areas.

The Town of Bergen Water Improvement Benefit Area No. 1 will be responsible for the costs associated with repairs/replacement of the PVC water main, since it is not in accordance with the MCWA current standards. A repair/reserve account will be established by the Town of Bergen to fund future repairs as necessary.

#### C. Breaking the Project into Phases Alternatives

The potential exists to break the project into phases if the USDA Rural Development does not have the ability to provide sufficient grant funds to help defray the cost of the Project all at one time.

Once the initial review has been completed by USDA Rural Development and a Preliminary Funding Estimate (PRF) has been provided, consideration could be given to breaking the Project into phases if necessary.

#### D. Sustainability Consideration Alternatives

The water main size will be based upon the needed fire flow and anticipated domestic water supply needs, therefore no alternative pipe size would be appropriate to consider. No other Sustainability measures are applicable to this Project.

#### VI. PROPOSED PROJECT (RECOMMENDED ALTERNATIVE)

#### A. Preliminary Project Design

#### Water Supply

The MCWA provides water and operates the Town of Bergen under a Retail Lease Agreement and provides all operation and maintenance of the system.

The estimated water usage for the Project is 57,850 gallons per day (40 gpm), assuming an average usage of 65 gallons per day per person. The future usage could reach 63,635 gallons per day (44 gpm) assuming a 10% growth over the next 20 years.

The MCWA Water Treatment Plant has excess capacity to meet the needs of Project.

#### 2. Treatment

The MCWA will treat the water supplied to the Project Area. The MCWA Treatment Facility can produce 140 MGD of potable water. The MCWA Treatment Facility currently produces approximately 70 MGD of potable water and has excess capacity.

#### 3. Storage

The proposed Water Improvement Benefit Area will provide no additional storage. The existing water system operated by the MCWA will be capable of supplying the anticipated water demands and storage requirements. The nearest water storage tank is a 2.0 MG steel ground storage tank located on NYS Route 33, just west of NYS Route 19.

#### 4. Pumping Stations

No additional pumping is needed to serve the proposed project.

#### 5. Distribution Layout

The proposed areas of service include:

NYS Route 33 (Clinton Street Road): The proposed improvements along NYS Route 33 consist of installing approximately 16,320 linear feet of 12" water main, valves, hydrants, services and appurtenances between the end of the existing water main (just west of 7880 NYS Route 33) and the last house near the western town line.

The proposed water main is anticipated to be located on the south side of the road, generally within the Highway right-of-way.

▶ Jerrico Road: The proposed improvements along Jerrico Road consist of installing approximately 5,250 linear feet of 8" water main, valves, hydrants, services and appurtenances between NYS Route 33 and NYS Routes 262.

The proposed water main is anticipated to be located on the west side of the Road, generally within the Highway right-of-way.

Dublin Road: The proposed improvements along Dublin Road consist of installing approximately 12,350 linear feet of 8" water main, valves, hydrants, services and appurtenances between NYS Route 33 and Byron WD #8 @ CSX Railroad Tracks.

The proposed water main is anticipated to be located on the north side of the Road between NYS Route 33 and West Bergen Road; and on the south side of Dublin Road between West Bergen Road and the connection to the Town of Byron Watermain, generally within the Highway right-of-way.

West Bergen Road: The proposed improvements along West Bergen Road consist of installing approximately 11,000 linear feet of 8" water main, valves, hydrants, services and appurtenances between north of the CSX Railroad Tracks and the south Town line. The proposed water main is anticipated to be located on the west side of the Road, generally within the Highway right-of-way.

➤ Lyman Road: The proposed improvements along Lyman Road consist of installing approximately 3,700 linear feet of 8" water main, valves, hydrants, services and appurtenances between NYS Route 33 and the west Town line.

The proposed water main is anticipated to be located on the south side of the Road, generally within the Highway right-of-way.

- ➤ **Gilbert Road:** The proposed improvements along **Gilbert Road** consist of installing approximately 3,400 linear feet of 8" water main, valves, hydrants, services and appurtenances between NYS Route 33 and Old State Road. The proposed water main is anticipated to be located on the north side of the Road, generally within the Highway right-of-way.
- ➤ Old State Road: The proposed improvements along Old State Road consist of installing approximately 2,900 linear feet of 8" water main, valves, hydrants, services and appurtenances between West Bergen Road and the western Town line.

The proposed water main is anticipated to be located on the south side of the Road, generally within the Highway right-of-way.

➤ Connelly Road: The proposed improvements along Connelly Road consist of installing approximately 2,700 linear feet of 10" water main between Maple Avenue and the southern Town line.

The proposed water main is anticipated to be located on the west side of Connelly Road, generally within the Highway right-of-way.

➤ West Sweden Road: The proposed improvements along West Sweden Road consist of installing approximately 15,950 linear feet of 8" water main, valves, hydrants, services and appurtenances between the old railroad bed and Reed Road.

The proposed water main is anticipated to be located on the west side of the Road, generally within the Highway right-of-way.

➤ **Creamery Road**: The proposed improvements along **Creamery Road** consist of installing approximately 12,900 linear feet of 8" water main, valves, hydrants, services and appurtenances between NYS Route 19 and West Sweden Road.

The proposed water main is anticipated to be located on the north side of the Road, generally within the Highway right-of-way.

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Sackett Road: The proposed improvements along Sackett Road consist of installing approximately 14,100 linear feet of 8" water main, valves, hydrants, services and appurtenances between NYS Route 19 and West Sweden Road.

The proposed water main is anticipated to be located on the south side of the Road, generally within the Highway right-of-way.

➤ Cook Road: The proposed improvements along Cook Road consist of installing approximately 5,300 linear feet of 8" water main, valves, hydrants, services and appurtenances between West Sweden Road and Warboys Road.

The proposed water main is anticipated to be located on the south side of the Road, generally within the Highway right-of-way.

➤ Warboys Road: The proposed improvements along Warboys Road consist of installing approximately 8,230 linear feet of 8" water main, valves, hydrants, services and appurtenances between West Sweden Road and the westerly Town line.

The proposed water main is anticipated to be located on the south side of the Road, generally within the Highway right-of-way.

> Sautell Road: The proposed improvements along Sautell Road consist of installing approximately 2,900 linear feet of 8" water main, valves, hydrants, services and appurtenances between Warboys Road and North Bergen Road.

The proposed water main is anticipated to be located on the west side of the Road, generally within the Highway right-of-way.

North Bergen Road: The proposed improvements along North Bergen Road consist of installing approximately 8,700 linear feet of 8" water main, valves, hydrants, services and appurtenances between West Sweden Road and the westerly Town line.

The proposed water main is anticipated to be located on the south side of the Road, generally within the Highway right-of-way.

➤ **Reed Road:** The proposed improvements along **Reed Road** consist of installing approximately 7,100 linear feet of 8" water main, valves, hydrants, services and appurtenances between West Sweden Road and the Sweden Town Line.

The proposed water main is anticipated to be located on the south side of the Road, generally within the Highway right-of-way.

➤ Evans Road: The proposed improvements along Evans Road consist of installing approximately 1,750 linear feet of 8" water main, valves, hydrants, services and appurtenances between Jerrico Road and last house to the west.

The proposed water main is anticipated to be located on the south side of the Road, generally within the Highway right-of-way.

> Swamp Road: The proposed improvements along Swamp Road consist of installing approximately 10,100 linear feet of 8" water main, valves, hydrants, services and appurtenances between the End of Existing WD No. 2 (near 7569 Swamp Road) and the Byron Town Line.

The proposed water main is anticipated to be located on the north side of the Road from 7569 Swamp Road to Pocock Road; and on the south side from Pocock Road to the Byron Town Line, generally within the Highway right-of-way.

▶ Pocock Road: The proposed improvements along Pocock Road consist of installing approximately 3,700 linear feet of 8" water main, valves, hydrants, services and appurtenances between Swamp Road and NYS Route 262.

The proposed water main is anticipated to be located on the west side of the Road, generally within the Highway right-of-way.

➤ Maple Avenue: The proposed improvements along Maple Avenue consist of installing approximately 4,400 linear feet of 10" water main, valves, hydrants, services and appurtenances between Connelly Road and west of NYS Route 19 at the termination of the existing water main.

The proposed water main is anticipated to be located on the north side of the Road, generally within the Highway right-of-way.

It also consists of installing approximately 4,600 linear feet of 8" water main, valves, hydrants, services and appurtenances between NYS Route 33 and Connelly Road.

The proposed water main is anticipated to be located on the west side of Maple Avenue, generally within the Highway right-of-way.

North Lake Road: The proposed improvements along North Lake Road consist of installing approximately 2,700 linear feet of 8" water main, valves, hydrants, services and appurtenances between the end of Peachy Road WD and the north Town line.

The proposed water main is anticipated to be located on the west side of the Road, generally within the Highway right-of-way.

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▶ Peachey Road: The proposed improvements along Peachey Road consist of installing approximately 2,170 linear feet of 8" water main, valves, hydrants, services and appurtenances between the end of Peachy Road WD and east Town line.

The proposed water main is anticipated to be located on the south side of the Road, generally within the Highway right-of-way.

➤ **Buffalo Road:** The proposed improvements along **Buffalo Road** consist of installing approximately 500 linear feet of 8" water main, valves, hydrants, services and appurtenances between the end of existing water main and the shooting range.

The proposed water main is anticipated to be located on the east side of the Road, generally within the Highway right-of-way.

> School Road: The proposed improvements along School Road consist of installing approximately 1,000 linear feet of 8" water main, valves, hydrants, services and appurtenances between Old State Road and the Leroy Town line.

The proposed water main is anticipated to be located on the east side of the Road, generally within the Highway right-of-way.

#### 6. Hydraulic Calculations

A computer model was used to estimate the hydraulic conditions in the proposed Water District. The detailed Hydraulic Calculations are included in **Appendix F. Table 1** Proposed Hydraulic Conditions summarizes the estimated static and residual pressures and fire flow conditions throughout the proposed water district.

TABLE 1
Proposed Hydraulic Conditions

	Static	Fire Flow	Residual
<b>Junction</b>	Pres.(psi)	(GPM)	<u>Pres. (psi)</u>
J-75	74	984	20
J-81	84	1,012	20
J-83	74	898	20
J-86	61	964	20
J-87	95	1,030	20
J-88	82	1,071	20
J-90	58	867	20
J-98	43	1,390	20
J-101	46	855	20
J-102	43	873	20
J-105	43	847	20
J-107	36	881	20
J-109	48	969	20
J-110	52	3,423	20
	J-75 J-81 J-83 J-86 J-87 J-88 J-90 J-98 J-101 J-102 J-105 J-107 J-109	Junction         Pres.(psi)           J-75         74           J-81         84           J-83         74           J-86         61           J-87         95           J-88         82           J-90         58           J-98         43           J-101         46           J-102         43           J-105         43           J-107         36           J-109         48	Junction         Pres.(psi)         (GPM)           J-75         74         984           J-81         84         1,012           J-83         74         898           J-86         61         964           J-87         95         1,030           J-88         82         1,071           J-90         58         867           J-98         43         1,390           J-101         46         855           J-102         43         873           J-105         43         847           J-107         36         881           J-109         48         969

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#### 7. Easements

The water main will generally be located within the highway right-of-way. On rare occasions, the water main, fire hydrants or appurtenances may need to be installed on private easements. In those cases, the Town Engineer will prepare a permanent easement map and work with the MCWA Staff who will prepare the easement and description for execution by the property owner. In addition, temporary easements may be necessary for installation of the improvements.

#### B. Project Schedule

The anticipated Project Schedule will be determined once the financing package has been received by the Town of Bergen. The general steps to be taken include:

- > Submit the PFE Application to USDA RD for their consideration
- Receive PFE from USDA RD
- Prepare the USDA RD Full Application for funding
- > Receive the Letter of Conditions from USDA RD
- > Finalize the Map, Plan and Report based upon USDA RD LOC
- > Town Board accepts Map, Plan and Report
- > Town Board holds Legal Public Hearing
- > Submission to the NYS Comptroller and approval
- > Design Phase of Improvements
- Submission to MCWA for review of plans prior to submission to DOH
- > Submission to agencies for approvals & permits
- > Bidding Phase, Construction Phase and Final Restoration
- Completion and Project Closeout

#### C. Permits, Approvals and Easement Requirements

The Project will require permits and approvals from the following agencies:

- > Execute a revised Agreement with MCWA for the Project
- > MCWA Approval of Plans prior to submission to agencies
- > Town of Bergen Highway Department Approval
- Genesee County Highway Department Approval
- > NYS Department of Transportation Highway Work Permit
- > Genesee County Health Department Approval
- > US Army Corp of Engineers Nationwide Permit
- > USDA Rural Development Approval
- > NYS Department of Environmental Conservation
  - > Stormwater Pollution Prevention Plan (SWPPP)
  - > Water Quality Certification
  - > Stream Disturbance

#### D. Sustainability Considerations

Residents are encouraged to conserve water by installing low flow plumbing devices. The MCWA has standardized various materials such as fire hydrants, valves, meters, etc. which limits the necessity for keeping a large inventory of various different manufacturers products.

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#### Preliminary Cost Estimate (Engineers Opinion of Probable Costs) E.

The summary of estimated for the proposed project are as follows:

a.	Construction	\$ 6,998,790
b.	Contingency	\$ 699,879
C.	Engineering	\$ 839,854
d.	Legal and Administrative	\$ 419,477
	Total Project Costs	\$ 8,958,000
	Less Anticipated USDA RD Grant	\$ (3,058,000)
	Net Local Share	\$ 5,900,000
Total 1	Number of EDUs in Proposed WD	435

Total Number of EDUs in Proposed WD

\$ 242,313.70 Annual debt service with Grant (2.5% for 38 years)

557.04 Annual debt service per parcel with Grant

Refer to Table 2 at the end of this report for a detailed Cost Estimate of the Proposed Project.

Costs are based upon receipt of a Grant and a USDA RD loan at 2.5% for 38years. The Town has completed an income survey and is in the poverty level.

We have included mobilization/demobilization, lawn restoration, fittings, bonds, insurance, and miscellaneous items in the cost estimate. Based upon our experience and similar project recently bid, we feel that 10% contingency is sufficient, given that the project will likely be constructed in the 2019-2020 construction season.

Included in Appendix E is the list of properties included in the Project. The Project Budget (Form E) is included in **Appendix G**.

#### F. **Annual Operating Budget**

#### 1. Income.

The residents of the Water Improvement Benefit Area will purchase water from the MCWA at a rate of \$3.26 per 1,000 gallons plus \$0.23 per day meter fee. They will also pay \$1.20 per 1,000 gallons for the Genesee County Water System debt service. These costs are subject to change annually.

#### Annual Operation and Maintenance (O & M) Cost 2.

The MCWA will be responsible for the Operation and Maintenance (O&M) of the proposed water system improvements. The cost for O & M is included in the water rate charged to each user of the system.

Income from the residential water usage will be used to cover the cost of water and associated operation and maintenance of the system. The water system is operated on a retail lease agreement with the MCWA.

As stated previously, costs associated with the town using materials that are not included in the current MCWA standards will be the responsibility of the Water Improvement Benefit Area.

The Average Water User (Household) which uses 60,000 gallons of water per year (15,000 gallons per quarter) will receive an invoice for water use as follows:

Total Cost of Water per Year	=	\$ 367.90
Repair Reserve Fee @ \$5.00/Quarter	=	<u>\$ 20.00</u>
Genesee Co. Debt service @ \$1.20/1,000 gallons	=	\$ 72.00
Meter fee @ \$0.22 per day	=	\$ 80.30
60,000 gallons @ \$3.26/1,000 gallons	=	\$ 195.60

#### Total AVG. Cost of Water per Quarter = \$ 367.90 /4 Quarters/Year = \$ 91.98/Quarter

The Total Annual Cost/Revenue for the Project is summarized as follows:

Total Annual Cost/Revenue	=	\$139,134.40
Repair Reserve Fee @ \$20/year/hookup x 352 hookups	=	<u>\$ 7,040.00</u>
Genesee Co. Debt service @ \$72/EDU x 388 EDU's	=	\$ 27,936.00
Meter fee @ \$80.30/structure x 352 structures	=	\$ 28,265.60
Water Purchase @ \$195.60/Hse x 388 structures/hookups	=	\$ 75,892.80

#### 3. Debt repayments

The debt service on initial project costs will be based on equivalent dwelling units (EDU's). The Town of Bergen intends to apply for a grant and loan from the USDA Rural Development (USDA RD) agency to help decrease the project debt service costs.

#### 4. Short Lived Assets and Debt Service Reserves

As this project is a water distribution project only, with no water treatment, booster pump stations or water storage tanks, there are no short-lived assets associated with this project. We anticipate there will be no replacement of water mains, hydrants, valves or appurtenances within the next 15 years.

#### 5. Estimated Costs for the Average Residential User

The estimated first year costs for the average residential user would be as follows:

1. 2. 3. 4. 5.	MCWA Water Meter & Account Fee Installation of Water Service (100 lf x \$12.00/lf) Internal Plumbing Changes Repayment of Long-Term Bonding Purchase of Water (60,000 gal./yr)	= \$ 240.00 = \$1,200.00 = \$ 200.00 = \$ 557.04 = \$ 347.90
6.	Plus reserve repair account	= \$ 20.00
	Total First Year Costs for the Average Residential User	= \$ 2,564.94

The estimated annual costs for the average residential user after the first year would be as follows:

	the Average Residential User	= \$	924.94
	Total Second Year and beyond Costs for		
3.	Plus reserve repair account	= \$	20.00
2.	Purchase of Water (60,000 gal./yr)	= \$	347.90
1.	Repayment of Long-Term Bonding	= \$	557.04

The property owner is responsible for paying the fee associated with obtaining the water meter from the MCWA along with the initial application fee. In addition, the property owner is responsible for installation of their own individual water service and connection to the new water service.

As part of this project, water services will be provided from the water main to the right-of-way in front of each building only for property owners who sign up for water service from the MCWA prior to the installation of the water main. A curb stop and box will be located at the right-of-way to shut off the water service if necessary.

Upon the completion of the proposed Project, should the budget permit, the Town should consider providing financial assistance to the residents for purchase of the water meter and application fee, and reimbursement for flushing of water mains prior to completion of the necessary water quality testing.

Another item for consideration if budget allows would be to provide financial assistance for the Town Highway Department to true and level areas of existing roadway within the District that gets disturbed during construction not as the result of the Contractors operation. These older rural roads may become deteriorated as a result of the contractors work operation and may not be avoidable by the contractor.

#### VII. CONCLUSIONS AND RECOMMENDATIONS

This project will provide potable water to residents of the Proposed Water Improvement Benefit Area No. 1, who are in dire need of the water for daily usage.

The Town of Bergen should apply for grants and low interest loans to provide a badly needed, reliable water service and fire protection to the project area.

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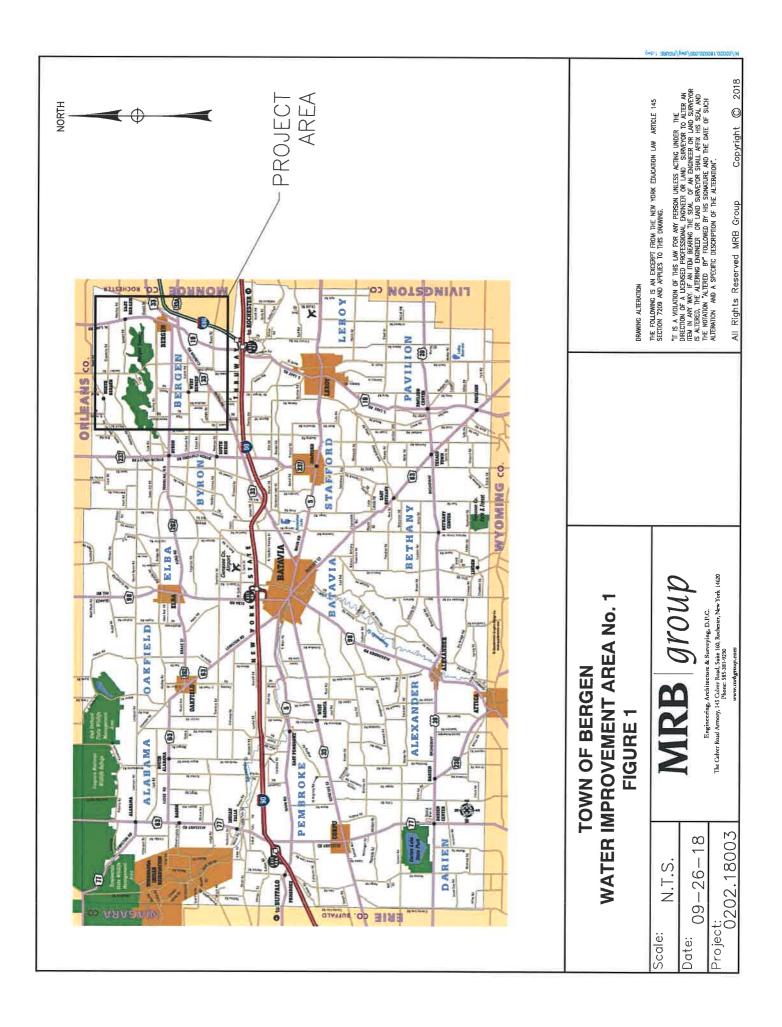
Report prepared for the Town of Bergen by,

MRB Group

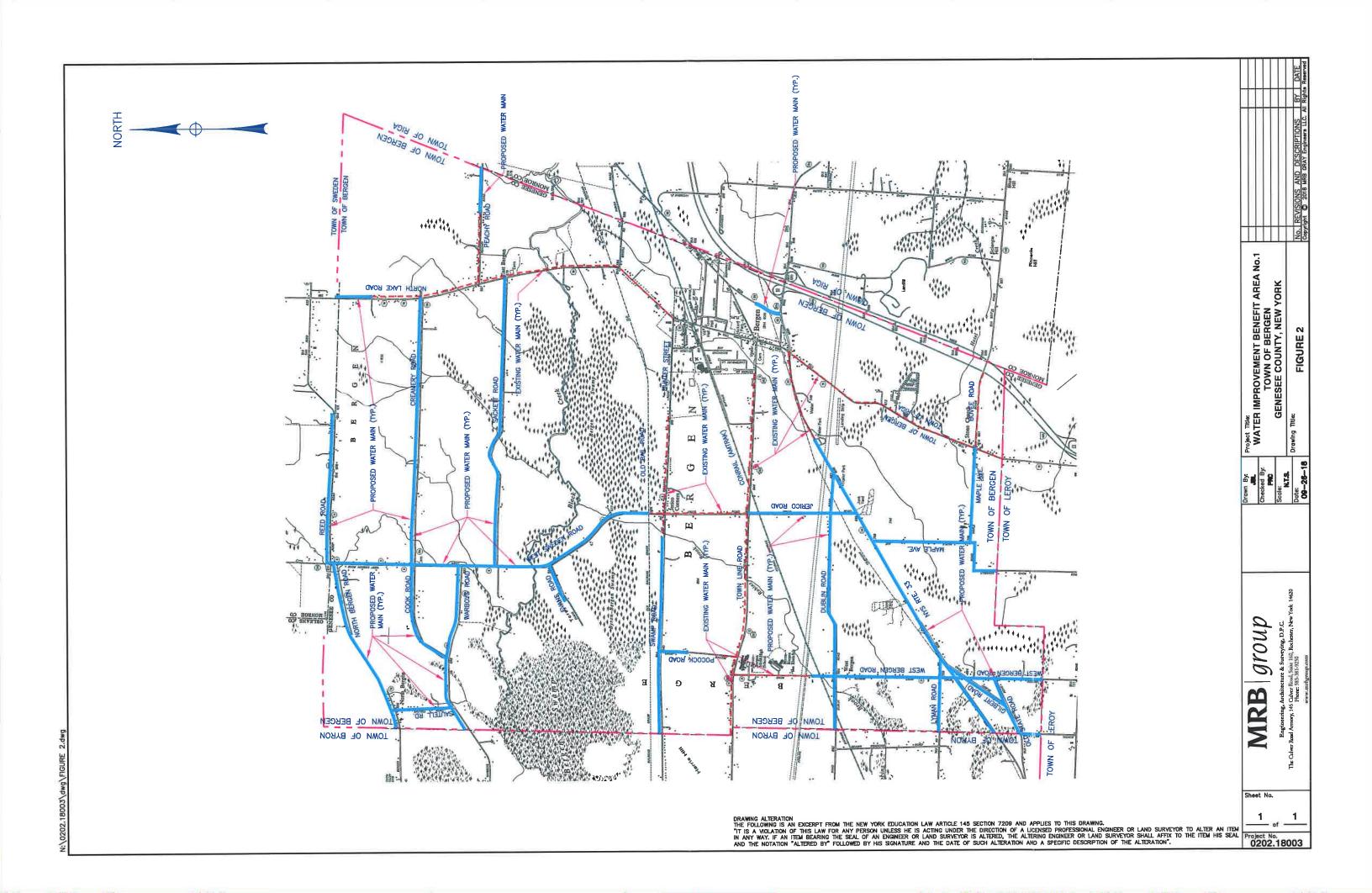
The Culver Road Armory 145 Culver Road, Suite 160 Rochester, NY 14620 Telephone: 585-381-9250 Paul.Chatfield@mrbgroup.com

2019-05-17

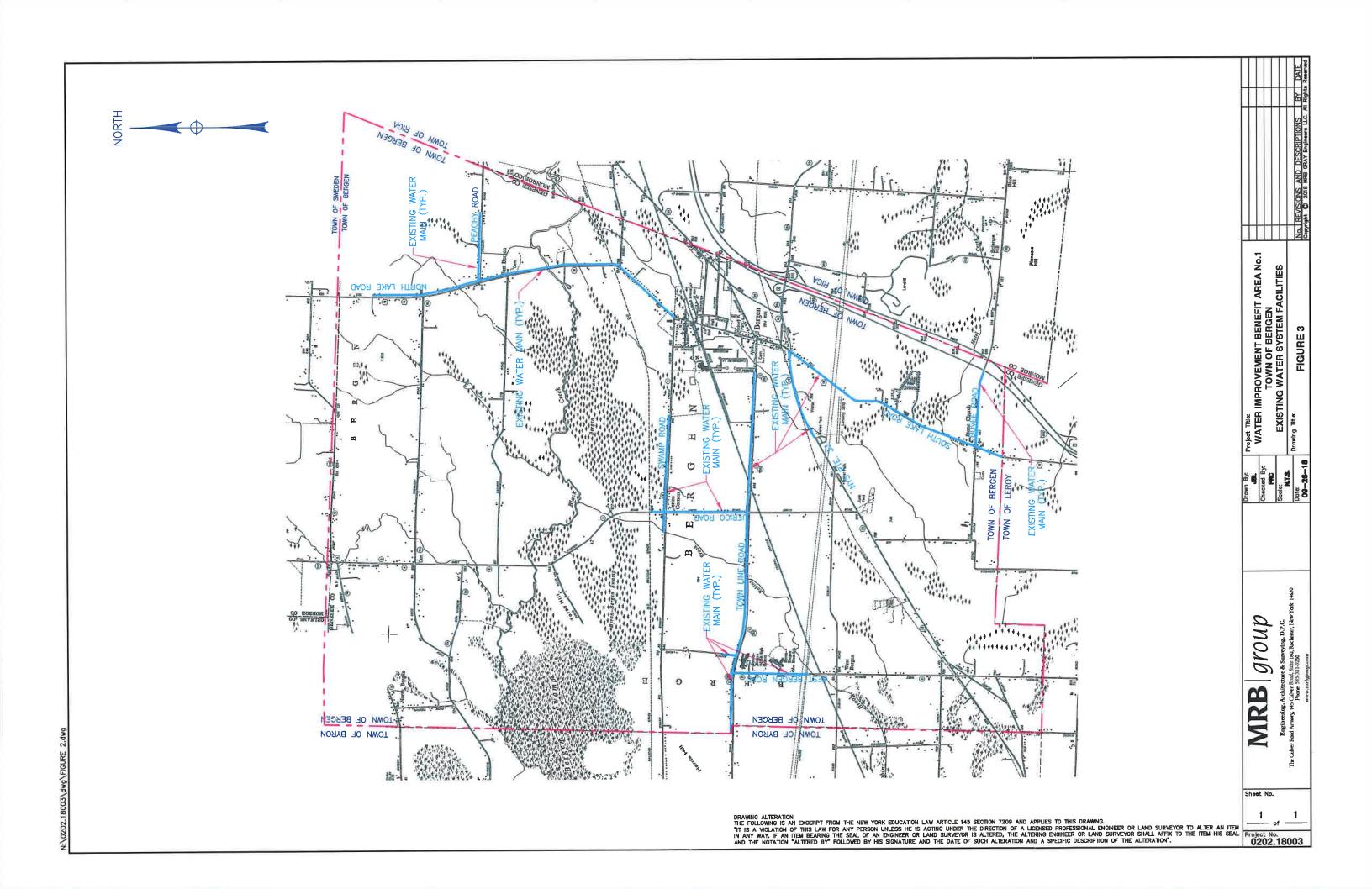
### FIGURE 1 GENERAL LOCATION MAP



### FIGURE 2 PROJECT LOCATION MAP



### FIGURE 3 EXISTING FACILITIES MAP

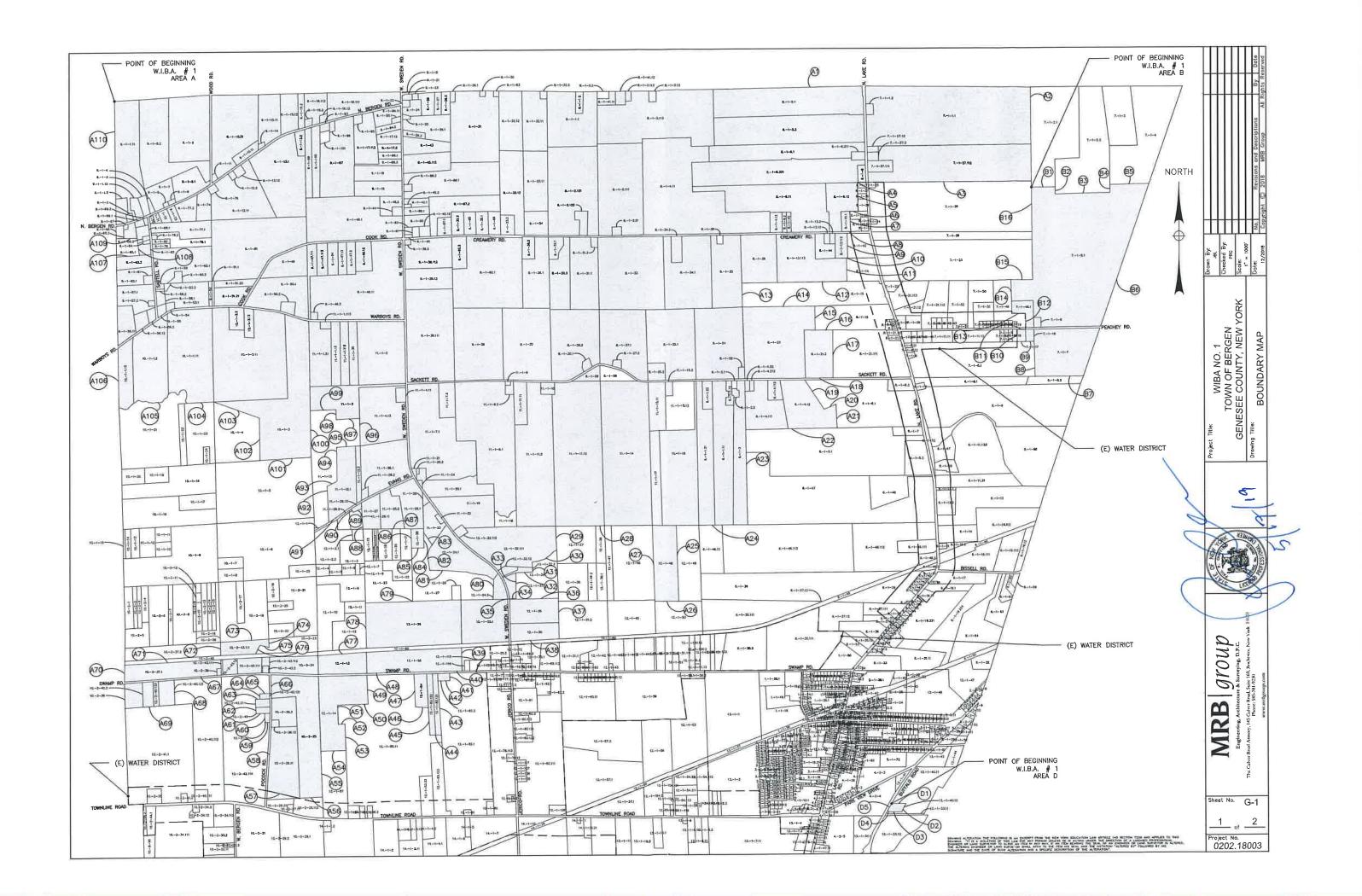


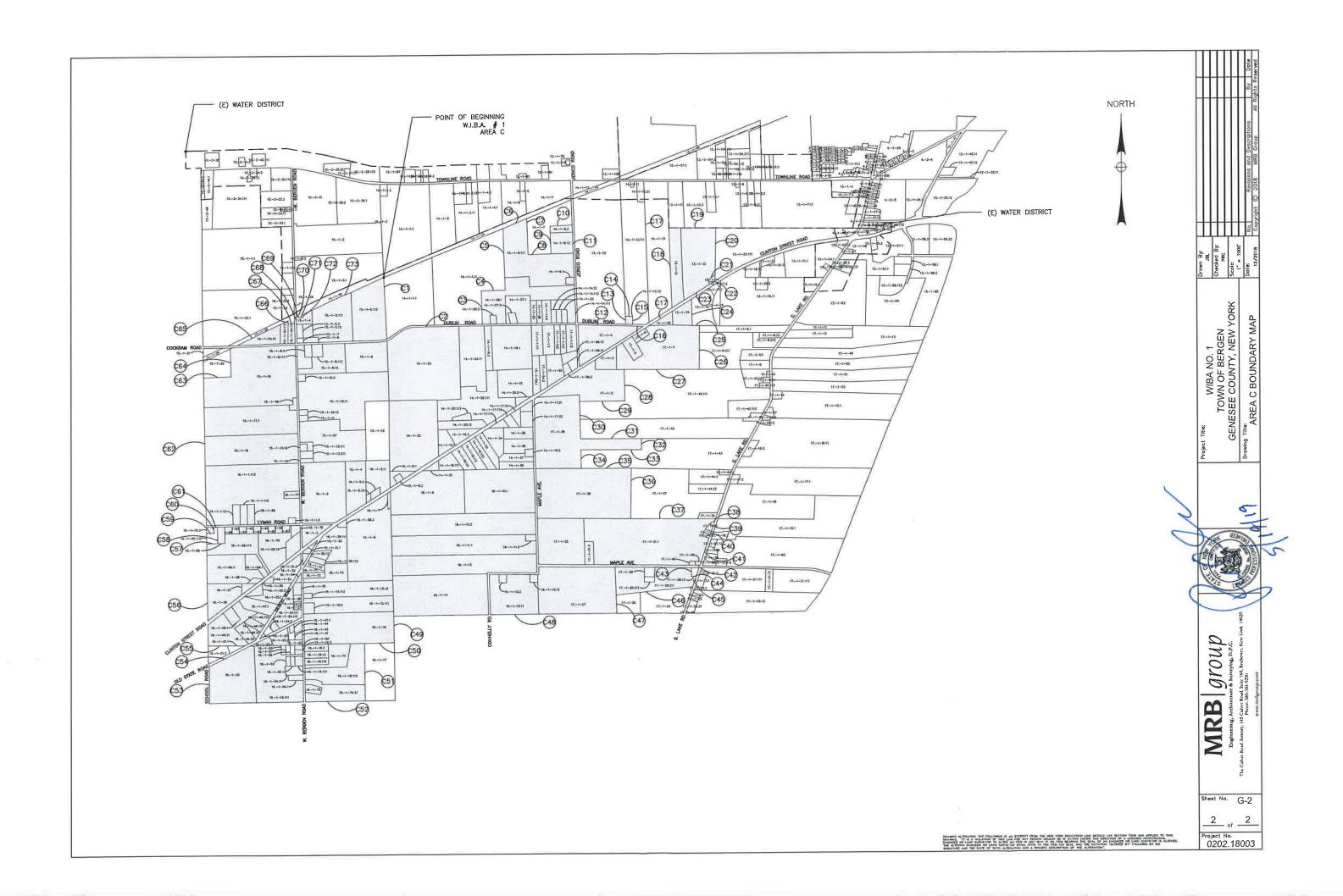
### TABLE 2 PRELIMINARY OPINION OF PROBABLE COST

## Table 2 Town of Bergen WIBA No. 1 Preliminary Opinion of Probable Cost May 17, 2019

Description	Quantity	Units	Unit Price	Amount
Rock Removal	200	Cubic Yard	\$75.00	\$15,000.00
Select Fill	200	Cubic Yard	\$30.00	\$6,000.00
8" PVC Water Main	140,300	Linear Feet	\$23.00	\$3,226,900.00
10" PVC Water Main	7,100	Linear Feet	\$30.00	\$213,000.00
12" PVC Water Main	16,320	Linear Feet	\$36.00	\$587,520.00
Pipe Bedding	163,720	Linear Feet	\$1.00	\$163,720.00
Directional Drilling Across State Roads	5	Each	\$35,000.00	\$175,000.00
Horizontal Boring of Railroad Tracks	3	Each	\$60,000.00	\$180,000.00
Creek Crossings by Directional Drilling	7	Each	\$15,000.00	\$105,000.00
1" Corp & Tap	352	Each	\$500.00	\$176,000.00
1" Short Side Service	2,300	Linear Feet	\$15.00	\$34,500.00
1" Long Side Service	6,800	Linear Feet	\$20.00	\$136,000.00
1" Curb Stop & Box	352	Each	\$325.00	\$114,400.00
Hydrant Assembly	273	Each	\$4,750.00	\$1,296,750.00
2" Tapped Tee Blow-Off	9	Each	\$2,500.00	\$22,500.00
6" Hydrant Extension	4	Each	\$425.00	\$1,700.00
12" Hydrant Extension	4	Each	\$475.00	\$1,900.00
18" Hydrant Extension	4	Each	\$525.00	\$2,100.00
Direct Water Main Connection	8	Each	\$3,000.00	\$24,000.00
Tapping Sleeve & Valve Connection	3	Each	\$6,000.00	\$18,000.00
Portable Flushing Unit	9	Each <sup>-</sup>	\$4,000.00	\$36,000.00
Test Assembly	5	Each	\$3,000.00	\$15,000.00
8" Gate Valve	150	Each	\$1,600.00	\$240,000.00
10" Gate Valve	8	Each	\$2,100.00	\$16,800.00
12" Gate Valve	17	Each	\$3,000.00	\$51,000.00
Asphalt Road Crossing Restoration	500	Linear Feet	\$40.00	\$20,000.00
Asphalt Driveway Restoration	3,400	Linear Feet	\$30.00	\$102,000.00
Crusher Run Driveway Restoration	1,200	Linear Feet	\$15.00	\$18,000.00
3.00.00.00.00.00.00.00.00.00.00.00.00.00		Sub-T	otal Amount =	\$6,998,790.00
		Plus 10% C	Contingency =	\$699,879.00
Plus I	Design and Con	struction Phase	Engineering =	\$839,854.00
	_	us Legal and Ad		\$419,477.00
		Total	Capital Cost =	\$8,958,000.00
	Less U	SDA RD Grant (/	Anticipated) =	-\$3,058,000.00
Town of Bergen WIBA No. 1 Net Local Share =				\$5,900,000.00
Total Number of EDU's in WIBA No. 1 =				435.0
Yearly Debt Service (2.5% for 38 Years) =				\$242,313.70
Yearly Debt Service/Parcel with Grant =				\$557.04
Plus Estimated cost of water/year from MCWA (Based upon 60,000 gpy/house) =				\$275.90
Plus Genesee County Surcharge @ \$1.20/1,000 gal. water =				\$72.00
Plus reserve repair account for using PVC Pipe =				\$20.00
		otal Estimated C		\$924.94

### APPENDIX A BOUNDARY MAP AND DESCRIPTION





#### BOUNDARY DESCRIPTION FOR THE TOWN OF BERGEN WATER IMPROVEMENT BENEFIT AREA #1 GENESSEE COUNTY, NEW YORK MAY 16, 2019



The Town of Bergen Water Improvement Area #1, Area A, shall have an exterior boundary described as follows:

Beginning at a point, said point being the northwesterly property corner of Tax Account No. 9.-1-1.11; thence

- A1. Easterly, 25,261 feet more or less, along the Genesee County line to a point, said point being the northeasterly property corner of Tax Account No. 7.-1-1.1; thence
- A2. Southerly, 2,592 feet more or less, along the easterly property lines of Tax Account Nos. 7.-1-1.1 and 7.-1-27.112 to a point, said point being the southeasterly property corner of Tax Account No. 7.-1-27.112; thence
- A3. Westerly, 4,779 feet more or less, along the southerly property lines of Tax Account Nos. 7.-1-27.112 and 8.-1-8 to a point, said point being the southwesterly property corner of Tax Account No. 8.-1-8; thence
- A4. Westerly, 21 feet more or less, along the southerly property line of Tax Account No. 8.-1-6.221 to a point, said point being the northeasterly property corner of Tax Account No. 8.-1-9.12; thence
- A5. Southerly, 790 feet more or less, along the easterly property line of Tax Account No. 8.-1-9.12 to a point, said point being a southeasterly property corner of 8.-1-9.12; thence
- A6. Westerly, 234 feet more or less, along a southerly property line of Tax Account No. 8.-1-9.12 to a point, said point being the northeasterly property corner of Tax Account No. 8.-1-10.1; thence
- A7. Southerly, 533 feet more or less, along the easterly property line of Tax Account No. 8.-1-10.1 to a point, said point being the southeasterly property corner of Tax Account No. 8.-1-10.1; thence
- A8. Westerly, 98 feet more or less, along the southerly property line of Tax Account No. 8.-1-10.1 to a point, said point being the northerly extension of the easterly property line of Tax Account No. 8.-1-13.112; thence
- A9. Southerly, 731 feet more or less, along the easterly property line of Tax Account No. 8.-1-13.112 to a point, said point being the southeasterly property corner of Tax Account No. 8.-1-13.112; thence
- A10. Westerly, 29 feet more or less, along the southerly property line of Tax Account No. 8.-1-13.112 to a point, said point being a northeasterly property corner of Tax Account No. 8.-1-13.113; thence

- A11. Southerly, 637 feet more or less, along an easterly property line of Tax Account No. 8.-1-13.113 to a point, said point being the southeasterly property corner of Tax Account No. 8.-1-13.113; thence
- A12. Westerly, 2,897 feet more or less, along the southerly property lines of Tax Account Nos. 8.-1-13.113 and 8.-1-26 to a point, said point being the southwesterly property corner of Tax Account No. 8.-1-26; thence
- A13. Southerly, 665 feet more or less, along the easterly property line of Tax Account No. 8.-1-35 to a point, said point being the southeasterly property corner of Tax Account No. 8.-1-35; thence
- A14. Easterly, 1,981 feet more or less, along the northerly property line of Tax Account No. 8.-1-23 to a point, said point being the northeasterly property corner of 8.-1-23; thence
- A15. Southerly, 660 feet more or less, along an easterly property line of 8.-1-23 to a point, said point being a southeasterly property corner of Tax Account No. 8.-1-23; thence
- A16. Easterly, 492 feet more or less, along the northerly property line of Tax Account No. 8.-1-21.2 to a point, said point being the northeasterly property corner of Tax Account No. 8.-1-21.2; thence
- A17. Southerly, 1,315 feet more or less, along an easterly property line of Tax Account No. 8.-1-21.2 to a point, said point being the southeasterly property corner of Tax Account No. 8.-1-21.2; thence
- A18. Westerly, 820 feet more or less, along the southerly property line of Tax Account No. 8.-1-21.2 to a point, said point being an extension of an easterly property line of Tax Account No. 6.-1-4.12; thence
- A19. Southeasterly, 1,029 feet more or less, extending along an easterly property line of Tax Account No. 6.-1-4.12 to a point, said point being a northeasterly property corner of Tax Account No. 6.-1-4.12; thence
- A20. Northeasterly, 357 feet more or less, along a northerly property line of Tax Account No. 6.-1-4.12 to a point, said point being a northeasterly property corner of Tax Account No. 6.-1-4.12; thence
- A21. Southerly, 656 feet more or less, along an easterly property line of Tax Account No. 6.-1-4.12 to a point, said point being a southeasterly property corner of Tax Account No. 6.-1-4.12; thence
- A22. Westerly, 2,521 feet more or less, along the southerly property lines of Tax Account Nos. 6.-1-4.12 and 6.-1-4.111 to a point, said point being a southwesterly property corner of Tax Account No. 6.-1-4.111; thence
- A23. Southerly, 2,614 feet more or less, along an easterly property line of Tax Account No. 6.-1-3 to a point, said point being a southeasterly property corner of Tax Account No. 6.-1-3; thence

- A24. Westerly, 1,963 feet more or less, along the southerly property lines of Tax Account Nos. 6.-1-3, 6.-1-1.11, 6.-1-1.21 and 11.-1-16 to a point, said point being a northeasterly property corner of Tax Account No. 12.-1-48; thence
- A25. Southerly, 2,086 feet more or less, along an easterly property line of Tax Account No. 12.-1-48 to a point, said point being a southeasterly property corner of Tax Account No. 12.-1-48; thence
- A26. Westerly, 674 feet more or less, along a southerly property line of Tax Account No. 12.-1-48 to a point, said point being a southwesterly property corner of Tax Account No. 12.-1-48; thence
- A27. Northerly, 2,095 feet more or less, along the westerly property line of Tax Account No. 12.-1-48 to a point, said point being a northwesterly property corner of Tax Account No. 12.-1-48; thence
- A28. Westerly, 2,679 feet more or less, along the southerly property lines of Tax Account Nos. 11.-1-14 and 11.-1-11.12 to a point, said point being a northeasterly property corner of Tax Account No. 12.-1-32.111; thence
- A29. Southerly, 659 feet more or less, along an easterly property line of Tax Account No. 12.-1-32.111 to a point, said point being a southeasterly property corner of Tax Account No. 12.-1-32.111; thence
- A30. Southwesterly, 761 feet more or less, along a southerly property line of Tax Account No. 12.-1-32.111 to a point, said point being a southeasterly property corner of Tax Account No. 12.-1-32.111; thence
- A31. Southerly, 272 feet more or less, along the easterly property lines of Tax Account Nos. 12.-1-32.111 and 12.-1-32.2 to a point, said point being a southeasterly property corner of Tax Account No. 12.-1-32.2; thence
- A32. Westerly, 462 feet more or less, along a southerly property line of Tax Account No. 12.-1-32.2 to a point, said point being a northeasterly property corner of Tax Account No. 12.-1-33; thence
- A33. Southerly, 709 feet more or less, along an easterly property line of Tax Account No. 12.-1-33 to a point, said point being a southeasterly property corner of Tax Account No. 12.-1-33; thence
- A34. Westerly, 180 feet more or less, along a southerly property line of Tax Account No. 12.-1-33 to a point, said point being a southwesterly property corner of Tax Account No. 12.-1-33; thence
- A35. Southerly, 22 feet more or less, along the easterly Right of Way line of West Sweden Road to a point, said point being a northwesterly property corner of Tax Account No. 12.-1-35; thence
- A36. Easterly, 1,338 feet more or less, along a northerly property line of Tax Account No. 12.-1-35 to a point, said point being a northeasterly property corner of Tax Account No. 12.-1-35; thence

- A37. Southerly, 1,119 feet more or less, along the easterly property lines of Tax Account Nos. 12.-1-35 and 12.-1-30 to a point, said point being a southeasterly property corner of Tax Account No. 12.-1-30; thence
- A38. Westerly, 2,679 feet more or less, along the southerly property lines of Tax Account Nos. 12.-1-30 and 12.-1-25.1 to a point, said point being a southwesterly property corner of Tax Account No. 12.-1-25.1; thence
- A39. Southerly, 745 feet more or less, along a northerly extension of the easterly property line of Tax Account No. 12.-1-26 to a point, said point being a southeasterly property corner of Tax Account No. 12.-1-26; thence
- A40. Westerly, 346 feet more or less, along the southerly property line of Tax Account No. 12.-1-26 to a point, said point being a northerly extension of the easterly property line of Tax Account No. 12.-1-82.2; thence
- A41. Southerly, 261 feet more or less, along a northerly extension of the easterly property line of Tax Account No. 12.-1-82.2 to a point, said point being the southeasterly property corner of Tax Account No. 12.-1-82.2; thence
- A42. Westerly, 329 feet more or less, along the southerly property line of Tax Account No. 12.-1-82.2 to a point, said point being the southwesterly property corner of Tax Account No. 12.-1-82.2; thence
- A43. Southerly, 1,495 feet more or less, along the easterly property line of Tax Account No. 12.-1-83.121 to a point, said point being the southeasterly property corner of Tax Account No. 12.-1-83.121; thence
- A44. Westerly, 322 feet more or less, along the southerly property lines of Tax Account Nos. 12.-1-83.121 and 12.-1-83.122 to a point, said point being the southwesterly property corner of Tax Account No. 12.-1-83.122; thence
- A45. Northerly, 755 feet more or less, along the westerly property line of Tax Account No. 12.-1-83.122 to a point, said point being the southeasterly property corner of Tax Account No. 12.-1-84; thence
- A46. Westerly, 353 feet more or less, along the southerly property line of Tax Account No. 12.-1-84 to a point, said point being the southwesterly property corner of Tax Account No. 12.-1-84; thence
- A47. Northerly, 955 feet more or less, along the westerly property line of Tax Account No. 12.-1-84 to a point, said point being located along the southerly property line of Tax Account No. 12.-1-26; thence
- A48. Westerly, 1,290 feet more or less, along the southerly property line of Tax Account No. 12.-1-26 to a point, said point being the southwesterly property corner of Tax Account No. 12.-1-26; thence
- A49. Southerly, 849 feet more or less, along a northerly extension of the easterly property line of Tax Account No. 12.-1-14 to a point, said point being a southeasterly property corner of Tax Account No. 12.-1-14; thence

- A50. Westerly, 830 feet more or less, along a southerly property line of Tax Account No. 12.-1-14 to a point, said point being a southwesterly property corner of Tax Account No. 12.-1-14; thence
- A51. Southerly, 525 feet more or less, along an easterly property line of Tax Account No. 12.-1-14 to a point, said point being a southeasterly property corner of Tax Account No. 12.-1-14; thence
- A52. Easterly, 186 feet more or less, along a southerly property line of Tax Account No. 12.-1-14 to a point, said point being a southeasterly property corner of Tax Account No. 12.-1-14; thence
- A53. Southerly, 733 feet more or less, along an easterly property line of Tax Account No. 12.-1-14 to a point, said point being a southeasterly property corner of Tax Account No. 12.-1-14; thence
- A54. Westerly, 682 feet more or less, along a southerly property line of Tax Account No. 12.-1-14 to a point, said point being located along an easterly property line of Tax Account No. 10.-2-25; thence
- A55. Southerly, 1,268 feet more or less, along an easterly property line of Tax Account No. 10.-2-25 to a point, said point being a southeasterly property corner of Tax Account No. 10.-2-25; thence
- A56. Westerly, 625 feet more or less, along a southerly property line of Tax Account No. 10.-2-25 to a point, said point being a southwesterly property corner of Tax Account No. 10.-2-25; thence
- A57. Westerly, 920 feet more or less, along a southerly property line of Tax Account No. 10.-2-26.11 to a point, said point being a southwesterly property corner of Tax Account No. 10.-2-26.11; thence
- A58. Northerly, 1,885 feet more or less, along a westerly property line of Tax Account No. 10.-2-26.11 to a point, said point being an easterly extension of the southerly property line of Tax Account No. 10.-2-50; thence
- A59. Westerly, 175 feet more or less, along an easterly extension of the southerly property line of Tax Account No. 10.-2-50 to a point, said point being a southwesterly property line of Tax Account No. 10.-2-50; thence
- A60. Northerly, 250 feet more or less, along the westerly property line of Tax Account No. 10.-2-50 to a point, said point being a northwesterly property corner of Tax Account No. 10.-2-50; thence
- A61. Westerly, 235 feet more or less, along the southerly property line of Tax Account No. 10.-2-49 to a point, said point being a southwesterly property line of Tax Account No. 10.-2-49; thence
- A62. Northerly, 556 feet more or less, along the westerly property lines of Tax Account Nos. 10.-2-49 and 10.-2-42.21 to a point, said point being a northwesterly property corner of Tax Account No. 10.-2-42.21; thence

- A63. Easterly, 165 feet more or less, along the northerly property line of Tax Account No. 10.-2-42.21 to a point, said point being a southwesterly property line of Tax Account No. 10.-2-42.121; thence
- A64. Northerly, 150 feet more or less, along the westerly property line of Tax Account No. 10.-2-42.121 to a point, said point being a northwesterly property line of Tax Account No. 10.-2-42.121; thence
- A65. Easterly, 275 feet more or less, along the northerly property line of Tax Account No. 10.-2-42.121 to a point, said point being located on a westerly property line of Tax Account No. 10.-2-25; thence
- A66. Northerly, 510 feet more or less, extending along the westerly property line of Tax Account No. 10.-2-25 to a point, said point being located on a southerly property line of Tax Account No. 10.-2-24; thence
- A67. Westerly, 2,665 feet more or less, along the northerly Right of Way line of Swamp Road to a point, said point being an extension of the easterly property line of Tax Account No. 10.-2-40.121; thence
- A68. Southerly, 728 feet more or less, along the easterly property line of Tax Account No. 10.-2-40.121 to a point, said point being a southeasterly property corner of Tax Account No. 10.-2-40.121; thence
- A69. Westerly, 1,373 feet more or less, along the southerly property lines of Tax Account Nos. 10.-2-40.121, 10.-2-40.122, 10.-2-40.2 and 10.-2-36 to a point, said point being a southwesterly property corner of Tax Account No. 10.-2-36; thence
- A70. Northerly, 1,196 feet more or less, along the westerly property lines of Tax Account Nos. 10.-2-36 and 10.-2-37.1 to a point, said point being a northwesterly property corner of Tax Account No. 10.-2-37.1; thence
- A71. Easterly, 2,644 feet more or less, along the northerly property line of Tax Account No. 10.-2-37.1 to a point, said point being a northeasterly property corner of Tax Account No. 10.-2-37.1; thence
- A72. Northerly, 474 feet more or less, along a southerly extension of the westerly property line of Tax Account No. 10.-2-43.111 to a point, said point being a northwesterly property line of Tax Account No. 10.-2-43.111; thence
- A73. Easterly, 1,330 feet more or less, along the northerly property line of Tax Account No. 10.-2-43.111 to a point, said point being a northeasterly property line of Tax Account No. 10.-2-43.111; thence
- A74. Southerly, 232 feet more or less, along the easterly property line of Tax Account No. 10.-2-43.111 to a point, said point being a southeasterly property line of Tax Account No. 10.-2-43.111; thence
- A75. Westerly, 259 feet more or less, along a southerly property line of Tax Account No. 10.-2-43.111 to a point, said point being a southeasterly property line of Tax Account No. 10.-2-43.111; thence

- A76. Southerly, 385 feet more or less, along an easterly property line of Tax Account No. 10.-2-43.111 to a point, said point being located along a northerly property line of Tax Account No. 10.-2-43.111; thence
- A77. Easterly, 3,097 feet more or less, along the northerly property lines of Tax Account Nos. 10.-2-43.111, 10.-2-43.112, 10.-2-24 and 12.-1-13 to a point, said point being a northeasterly property line of Tax Account No. 12.-1-13; thence
- A78. Northerly, 1,357 feet more or less, along a southerly extension of the westerly property line of Tax Account No. 12.-1-26 to a point, said point being a northwesterly property line of Tax Account No. 12.-1-26; thence
- A79. Easterly, 3,519 feet more or less, along the northerly property lines of Tax Account Nos. 12.-1-26 and 12.-1-25.1 to a point, said point being a southwesterly property corner of Tax Account No. 12.-1-24.2; thence
- A80. Northerly, 547 feet more or less, along the westerly property line of Tax Account No. 12.-1-24.2 to a point, said point being a southeasterly property line of Tax Account No. 12.-1-24.1; thence
- A81. Westerly, 1,089 feet more or less, along the southerly property line of Tax Account No. 12.-1-24.1 to a point, said point being a southwesterly property line of Tax Account No. 12.-1-24.1; thence
- A82. Northerly, 730 feet more or less, along the westerly property line of Tax Account No. 12.-1-24.1 to a point, said point being a southerly property corner of Tax Account No. 11.-1-23; thence
- A83. Northwesterly, 414 feet more or less, along the southwesterly property line of Tax Account No. 11.-1-23 to a point, said point being a southwesterly property corner of Tax Account No. 11.-1-23; thence
- A84. Southerly, 426 feet more or less, along the easterly property line of Tax Account No. 12.-1-28 to a point, said point being a southeasterly property corner of Tax Account No. 12.-1-28; thence
- A85. Westerly, 346 feet more or less, along the southerly property line of Tax Account No. 12.-1-28 to a point, said point being a southwesterly property corner of Tax Account No. 12.-1-28; thence
- A86. Northerly, 530 feet more or less, along the westerly property line of Tax Account No. 12.-1-28 to a point, said point being a northwesterly property corner of Tax Account No. 12.-1-28; thence
- A87. Westerly, 1,317 feet more or less, along the southerly property lines of Tax Account Nos. 11.-1-25.1, 11.-1-25.2, and 11.-1-27 to a point, said point being a southwesterly property corner of Tax Account No. 11.-1-27; thence
- A88. Northerly, 557 feet more or less, along the westerly property line of Tax Account No. 11.-1-27 to a point, said point being a southeasterly property corner of Tax Account No. 11.-1-29.12; thence

- A89. Southwesterly, 240 feet more or less, along the southerly property line of Tax Account No. 11.-1-29.12 to a point, said point being a southwesterly property corner of Tax Account No. 11.-1-29.12; thence
- A90. Northwesterly, 159 feet more or less, along the westerly property line of Tax Account No. 11.-1-29.12 to a point, said point being located along the southerly property line of Tax Account No. 11.-1-12.1; thence
- A91. Southwesterly, 709 feet more or less, along the southerly property line of Tax Account No. 11.-1-12.1 to a point, said point being the southwesterly property corner of Tax Account No. 11.-1-12.1; thence
- A92. Northerly, 998 feet more or less, along the westerly property line of Tax Account No. 11.-1-12.1 to a point, said point being a southwesterly property corner of Tax Account No. 11.-1-12.1; thence
- A93. Northeasterly, 300 feet more or less, along a northerly property line of Tax Account No. 11.-1-12.1 to a point, said point being a southwesterly property corner of Tax Account No. 11.-1-12.1; thence
- A94. Northerly, 939 feet more or less, along a westerly property line of Tax Account No. 11.-1-12.1 to a point, said point being a northwesterly property corner of Tax Account No. 11.-1-12.1; thence
- A95. Easterly, 653 feet more or less, along the northerly property lines of Tax Account Nos. 11.-1-12.1 and 11.-1-12.2 to a point, said point being the southwesterly property corner of Tax Account No. 11.-1-4.12; thence
- A96. Northerly, 756 feet more or less, along the westerly property line of Tax Account No. 11.-1-4.12 to a point, said point being the southeasterly property corner of Tax Account No. 11.-1-3; thence
- A97. Westerly, 642 feet more or less, along a southerly property line of Tax Account No. 11.-1-3 to a point, said point being a southwesterly property corner of Tax Account No. 11.-1-3; thence
- A98. Northerly, 274 feet more or less, along a westerly property line of Tax Account No. 11.-1-3 to a point, said point being a southwesterly property corner of Tax Account No. 11.-1-3; thence
- A99. Westerly, 705 feet more or less, along a southerly property line of Tax Account No. 11.-1-3 to a point, said point being a southwesterly property corner of Tax Account No. 11.-1-3; thence
- A100. Southerly, 1,283 feet more or less, along an easterly property line of Tax Account No. 10.-1-3 to a point, said point being a southeasterly property corner of Tax Account No. 10.-1-3; thence
- A101. Westerly, 1,416 feet more or less, along a southerly property line of Tax Account No. 10.-1-3 to a point, said point being a southwesterly property corner of Tax Account No. 10.-1-3; thence

- A102. Northerly, 1,172 feet more or less, along a westerly property line of Tax Account No. 10.-1-3 to a point, said point being a southwesterly property corner of Tax Account No. 10.-1-3; thence
- A103. Northwesterly, 1,331 feet more or less, along a southwesterly property line of Tax Account No. 10.-1-3 to a point, said point being a southwesterly property corner of Tax Account No. 10.-1-3; thence
- A104. Westerly, 728 feet more or less, along a southerly property line of Tax Account No. 10.-1-1.11 to a point, said point being a southwesterly property corner of Tax Account No. 10.-1-1.11; thence
- A105. Westerly, 2,567 feet more or less, along the southerly property lines of Tax Account Nos. 10.-1-1.11, 10.-1-1.2 and 10.-1-1.12 to a point, said point being a southwesterly property corner of Tax Account No. 10.-1-1.12; thence
- A106. Northerly, 4,152 feet more or less, along the westerly Townline to a point, said point being a northwesterly property corner of Tax Account No. 9.-1-62.2; thence
- A107. Easterly, 631 feet more or less, along the northerly property line of Tax Account No. 9.-1-62.2 to a point, said point being a southwesterly property corner of Tax Account No. 9.-1-63; thence
- A108. Northerly, 473 feet more or less, along the westerly property lines of Tax Account Nos. 9.-1-63 and 9.-1-68.1 to a point, said point being a southeasterly property corner of Tax Account No. 9.-1-65.2; thence
- A109. Westerly, 571 feet more or less, along the southerly property lines of Tax Account Nos. 9.-1-65.2 and 9.-1-66 to a point, said point being a southwesterly property corner of Tax Account No. 9.-1-66; thence
- A110. Northerly, 3,781 feet more or less, along the westerly Townline to a point, said point being point of beginning.

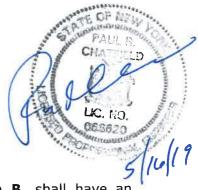
## End of Boundary Description of Area A

The following properties are not included in the Water Improvement Benefit Area:

#6.-1-2.1; #8.-1-3.2; #8.-1-28; #8.-1-38; #9.-1-53.2; #9.-1-58.2;

#9.-1-65.1; #9.-1-78.1; #9.-1-101; #11.-1-15.12; #11.-1-18

## BOUNDARY DESCRIPTION FOR THE TOWN OF BERGEN WATER IMPROVEMENT BENEFIT AREA #1 GENESSEE COUNTY, NEW YORK MAY 16, 2019



The Town of Bergen Water Improvement Area #1, Area B, shall have an exterior boundary described as follows:

Beginning at a point, said point being the northwesterly property corner of Tax Account No. 7.-1-5.1; thence

- B1. Easterly, 660 feet more or less, along a northerly property line of Tax Account No. 7.-1-5.1 to a point, said point being a northwesterly property corner of Tax Account No. 7.-1-5.1; thence
- B2. Southerly, 194 feet more or less, along a westerly property line of Tax Account No. 7.-1-5.1 to a point, said point being a northwesterly property corner of Tax Account No. 7.-1-5.1; thence
- B3. Easterly, 1,490 feet more or less, along a northerly property line of Tax Account No. 7.-1-5.1 to a point, said point being a northeasterly property corner of Tax Account No. 7.-1-5.1; thence
- B4. Northerly, 216 feet more or less, along an easterly property line of Tax Account No. 7.-1-5.1 to a point, said point being a northeasterly property corner of Tax Account No. 7.-1-5.1; thence
- B5. Easterly, 1,081 feet more or less, along a northerly property line of Tax Account No. 7.-1-5.1 to a point, said point being a northeasterly property corner of 7.-1-5.1; thence
- B6. Southwesterly, 5,583 feet more or less, along the easterly property lines of Tax Account Nos. 7.-1-5.1 and 7.-1-7 to a point, said point being a southeasterly property corner of Tax Account No. 7.-1-7; thence
- B7. Westerly, 1,342 feet more or less, along the southerly property line of Tax Account No. 7.-1-7 to a point, said point being a southwesterly property corner of Tax Account No. 7.-1-7; thence
- B8. Northerly, 964 feet more or less, along a westerly property line of Tax Account No. 7.-1-7 to a point, said point being a southeasterly property corner of Tax Account No. 7.-1-18; thence
- B9. Westerly, 478 feet more or less, along the southerly property lines of Tax Account Nos. 7.-1-18 and 7.-1-17 to a point, said point being a southwesterly property corner of Tax Account No. 7.-1-17; thence
- B10. Northerly, 334 feet more or less, along the westerly property line of Tax Account No. 7.-1-17 to a point, said point being the northwesterly property corner of Tax Account No. 7.-1-17; thence

- B11. Easterly, 239 feet more or less, along the northerly property line of Tax Account No. 7.-1-17 to a point, said point being the northeasterly property corner of Tax Account No. 7.-1-17; thence
- B12. Northerly, 441 feet more or less, along a southerly extension of the westerly property line of Tax Account No. 7.-1-48.1 to a point, said point being a southwesterly property corner of Tax Account No. 7.-1-48.1; thence
- B13. Westerly, 368 feet more or less, along a southerly property line of Tax Account No. 7.-1-48.1 to a point, said point being a southwesterly property corner of Tax Account No. 7.-1-48.1; thence
- B14. Northerly, 924 feet more or less, along the westerly property lines of Tax Account Nos. 7.-1-48.1 and 7.-1-5.1 to a point, said point being the northwesterly property corner of 7.-1-5.1; thence
- B15. Easterly, 603 feet more or less, along a northerly property line of 7.-1-5.1 to a point, said point being a northwesterly property corner of Tax Account No. 7.-1-5.1; thence
- B16. Northerly, 2,543 feet more or less, along a westerly property line of Tax Account No. 7.-1-5.1 to a point, said point being the point of beginning.

End of Boundary Description of Area B

## BOUNDARY DESCRIPTION FOR THE TOWN OF BERGEN WATER IMPROVEMENT BENEFIT AREA #1 GENESSEE COUNTY, NEW YORK MAY 16, 2019



The Town of Bergen Water Improvement Area #1, Area C, shall have an exterior boundary described as follows:

Beginning at a point, said point being the northeasterly property corner of Tax Account No. 15.-1-5.112; thence

- C1. Southerly, 1,751 feet more or less, along the easterly property line of Tax Account No. 15.-1-5.112 to a point, said point being a northwesterly property corner of Tax Account No. 14.-1-23; thence
- C2. Easterly, 2,738 feet more or less, along the northerly property lines of Tax Account Nos. 14.-1-23 and 14.-1-24.11 to a point, said point being a southerly extension of the westerly property line of Tax Account No. 14.-1-28.1; thence
- C3. Northerly, 972 feet more or less, along a southerly extension of the westerly property line of Tax Account No. 14.-1-28.1 to a point, said point being a northwesterly property corner of Tax Account No. 14.-1-28.1; thence
- C4. Easterly, 662 feet more or less, along a northerly property line of Tax Account No. 14.-1-28.1 to a point, said point being a northwesterly property corner of Tax Account No. 14.-1-28.1; thence
- C5. Northerly, 1,708 feet more or less, along the westerly property lines of Tax Account Nos. 14.-1-28.1 and 14.-1-8.111 to a point, said point being a northwesterly property corner of 14.-1-8.111; thence
- C6. Northeasterly, 716 feet more or less, along a northerly property line of Tax Account No. 14.-1-8.111 to a point, said point being a northeasterly property corner of Tax Account No. 14.-1-8.111; thence
- C7. Southerly, 1,000 feet more or less, along an easterly property line of Tax Account No. 14.-1-8.111 to a point, said point being a northwesterly property corner of Tax Account No. 14.-1-8.111; thence
- C8. Easterly, 637 feet more or less, along a northerly property line of Tax Account No. 14.-1-8.111 to a point, said point being a southwesterly property corner of Tax Account No. 14.-1-8.12; thence
- C9. Northerly, 991 feet more or less, along the westerly property lines of Tax Account Nos. 14.-1-8.12 and 14.-1-8.2 to a point, said point being a northwesterly property corner of Tax Account No. 14.-1-8.2; thence
- C10. Easterly, 626 feet more or less, along the northerly property line of Tax Account No. 14.-1-8.2 to a point, said point being the northeasterly property corner of Tax Account No. 14.-1-8.2; thence

- C11. Southerly, 2,760 feet more or less, extending along the westerly Right of Way line of Jerico Road to a point, said point being the northeasterly property corner of Tax Account No. 17.-1-1.112; thence
- C12. Easterly, 1,318 feet more or less, extending along the northerly property line of Tax Account No. 17.-1-4 to a point, said point being an extension of the westerly property line of Tax Account No. 14.-1-12.12; thence
- C13. Northerly, 268 feet more or less, extending along the westerly property lines of Tax Account Nos. 14.-1-12.12 to a point, said point being a northwesterly property corner of Tax Account No. 14.-1-12.12; thence
- C14. Easterly, 200 feet more or less, along a northerly property line of Tax Account No. 14.-1-12.12 to a point, said point being a northeasterly property corner of 14.-1-12.12; thence
- C15. Southerly, 270 feet more or less, along an easterly property line of 14.-1-12.12 to a point, said point being along a northerly property line of Tax Account No. 17.-1-4; thence
- C16. Easterly, 477 feet more or less, extending along a northerly property line of Tax Account No. 17.-1-4 to a point, said point being a southwesterly property corner of Tax Account No. 14.-1-30; thence
- C17. Northeasterly, 753 feet more less, along the northerly property line of Tax Account No. 14.-1-30 to a point, said point being a northeasterly property corner of Tax Account No. 14.-1-30; thence
- C18. Northerly, 2,311 feet more or less, along a southerly extension of the westerly property line of Tax Account No. 13.-1-12 to a point, said point being a northwesterly property corner of Tax Account No. 13.-1-12; thence
- C19. Easterly, 1,301 feet more or less, along the northerly property lines of Tax Account Nos. 13.-1-12 and 13.-1-13 to a point, said point being the northeasterly property corner of Tax Account No. 13.-1-13; thence
- C20. Southerly, 1,304 feet more or less, along the easterly property line of Tax Account No. 13.-1-13 to a point, said point being a southeasterly property corner of Tax Account No. 13.-1-13; thence
- C21. Southwesterly, 213 feet more or less, along a southerly property line of Tax Account No. 13.-1-13 to a point, said point being a southeasterly property corner of Tax Account No. 13.-1-13; thence
- C22. Southerly, 149 feet more or less, along an easterly property line of Tax Account No. 13.-1-13 to a point, said point being a southeasterly property corner of Tax Account No. 13.-1-13; thence
- C23. Southwesterly, 578 feet more or less, along a southerly property line of Tax Account No. 13.-1-13 to a point, said point being a northerly extension of the easterly property line of Tax Account No. 13.-1-15; thence

- C24. Southerly, 824 feet more or less, along a northerly extension of the easterly property line of Tax Account No. 13.-1-15 to a point, said point being a southeasterly property corner of Tax Account No. 13.-1-15; thence
- C25. Easterly, 192 feet more less, along a northerly property line of Tax Account No. 17.-1-7 to point, said point being a northeasterly property corner of Tax Account No. 17.-1-7; thence
- C26. Southerly, 1,215 feet more or less, along an easterly property line of Tax Account No. 17.-1-7 to a point, said point being a southeasterly property corner of Tax Account No. 17.-1-7; thence
- C27. Westerly, 2,095 feet more or less, along a southerly property line of Tax Account No. 17.-1-17 to a point, said point being a northeasterly property corner of Tax Account No. 17.-1-2; thence
- C28. Southerly, 871 feet more or less, along an easterly property line of Tax Account No. 17.-1-2 to a point, said point being a southeasterly property corner of Tax Account No. 17.-1-2; thence
- C29. Westerly, 1,245 feet more or less, along a southerly property line of Tax Account No. 17.-1-2 to a point, said point being a southwesterly property corner of Tax Account No. 17.-1-2; thence
- C30. Southerly, 1,031 feet more or less, along an easterly property line of Tax Account No. 17.-1-39 to a point, said point being a southeasterly property corner of Tax Account No. 17.-1-39; thence
- C31. Easterly, 1,688 feet more or less, along a northerly property line of Tax Account No. 17.-1-39 to a point, said point being a northeasterly property corner of Tax Account No. 17.-1-39; thence
- C32. Southerly, 308 feet more less, along an easterly property line of Tax Account No. 17.-1-39 to a point, said point being a southeasterly property corner of Tax Account No. 17.-1-39; thence
- C33. Westerly, 1,681 feet more or less, along a southerly property line of Tax Account No. 17.-1-39 to a point, said point being a southwesterly property corner of Tax Account No. 17.-1-39; thence
- C34. Southerly, 514 feet more or less, along an easterly property line of Tax Account No. 17.-1-39 to a point, said point being a southeasterly property corner of Tax Account No. 17.-1-39; thence
- C35. Easterly, 1,381 feet more or less, along the northerly property line of Tax Account No. 17.-1-38 to a point, said point being the northeasterly property corner of Tax Account No. 17.-1-38; thence
- C36. Southerly, 1,404 feet more or less, along the easterly property line of Tax Account No. 17.-1-38 to a point, said point being the southeasterly property corner of Tax Account No. 17.-1-38; thence

- C37. Easterly, 2,372 feet more or less, along a northerly property line of Tax Account No. 17.-1-31.1 to a point, said point being a northeasterly property corner of Tax Account No. 17.-1-31.1; thence
- C38. Southwesterly, 64 feet more or less, along an easterly property line of Tax Account No. 17.-1-31.1 to a point, said point being a northeasterly property corner of Tax Account No. 17.-1-31.1; thence
- C39. Southwesterly, 561 feet more or less, along an easterly property line of Tax Account No. 17.-1-31.1 to a point, said point being a northeasterly property corner of Tax Account No. 17.-1-31.1; thence
- C40. Southeasterly, 187 feet more or less, along a northerly property line of Tax Account No. 17.-1-31.1 to a point, said point being a northeasterly property corner of Tax Account No. 17.-1-31.1; thence
- C41. Southwesterly, 794 feet more or less, along the easterly property lines of Tax Account Nos. 17.-1-31.1 and 17.-1-45 to a point, said point being a southeasterly property corner of Tax Account No. 17.-1-45; thence
- C42. Westerly, 231 feet more or less, along the southerly property lines of Tax Account Nos. 17.-1-45 and 17.-1-48 to a point, said point being a northerly extension of an easterly property line of Tax Account No. 17.-1-28.211; thence
- C43. Southerly, 308 feet more or less, along a northerly extension of an easterly property line of Tax Account No. 17.-1-28.211 to a point, said point being a northeasterly property corner of Tax Account No. 17.-1-28.211; thence
- C44. Easterly, 132 feet more or less, along a northerly property line of Tax Account No. 17.-1-28.211 to a point, said point being a northeasterly property corner of Tax Account No. 17.-1-28.211; thence
- C45. Southwesterly, 308 feet more or less, along an easterly property line of Tax Account No. 17.-1-28.211 to a point, said point being a southeasterly property corner of Tax Account No. 17.-1-28.211; thence
- C46. Southwesterly, 2,152 feet more or less, along the southerly property line of Tax Account No. 17.-1-28.211 to a point, said point being a southwesterly property corner of Tax Account No. 17.-1-28.211; thence
- C47. Southerly, 501 feet more or less, along an easterly property line of Tax Account No. 17.-1-27 to a point, said point being a southeasterly property corner of Tax Account No. 17.-1-27; thence
- C48. Westerly, 6,173 feet more or less, along the southerly Townline to a point, said point being a southwesterly property corner of Tax Account No. 16.-1-14; thence
- C49. Southerly, 735 feet more or less, along an easterly property line of Tax Account No. 16.-1-16 to a point, said point being a southeasterly property corner of Tax Account No. 16.-1-16; thence

- C50. Westerly, 819 feet more or less, along the southerly property line of Tax Account No. 16.-1-16 to a point, said point being a northeasterly property corner of Tax Account No. 16.-1-18.115; thence
- C51. Southerly, 1,604 feet more or less, along the easterly property lines of Tax Account Nos. 16.-1-18.115 and 16.-1-76.21 to a point, said point being a southeasterly property corner of Tax Account No. 16.-1-76.21; thence
- C52. Westerly, 4,311 feet more or less, along the southerly Townline to a point, said point being a southwesterly property corner of Tax Account No. 16.-1-20; thence
- C53. Northerly, 1,030 feet more or less, along the westerly property line of Tax Account No. 16.-1-20 to a point, said point being a northwesterly property corner of Tax Account No. 16.-1-20; thence
- C54. Northeasterly, 1,261 feet more or less, along a northerly property line of Tax Account No. 16.-1-20 to a point, said point being a northwesterly property corner of Tax Account No. 16.-1-20; thence
- C55. Westerly, 1,161 feet more or less, along an easterly extension of the southerly property line of Tax Account No. 16.-1-48.21 to a point, said point being a southwesterly property corner of Tax Account No. 16.-1-48.21; thence
- C56. Northerly, 2,844 feet more or less, along the westerly Townline to a point, said point being a northwesterly property corner of Tax Account No. 16.-1-29.114; thence
- C57. Easterly, 309 feet more or less, along a northerly property line of Tax Account No. 16.-1-29.114 to a point, said point being a southwesterly property corner of Tax Account No. 16.-1-58; thence
- C58. Northerly, 465 feet more or less, along the westerly property line of Tax Account No. 16.-1-58 to a point, said point being a northwesterly property corner of Tax Account No. 16.-1-58; thence
- C59. Westerly, 99 feet more or less, along the southerly Right of Way line of Lyman Road to a point, said point being a northeasterly property corner of Tax Account No. 16.-1-29.2; thence
- C60. Southerly, 169 feet more or less, along the easterly property line of Tax Account No. 16.-1-29.2 to a point, said point being a southeasterly property corner of Tax Account No. 16.-1-29.2; thence
- C61. Westerly, 209 feet more or less, along the southerly property line of Tax Account No. 16.-1-29.2 to a point, said point being a southwesterly property corner of Tax Account No. 16.-1-29.2; thence
- C62. Northerly, 4,311 feet more or less, along the westerly Townline to a point, said point being a northwesterly property corner of Tax Account No. 15.-1-19; thence

- C63. Easterly, 761 feet more or less, along a northerly property line of Tax Account No. 15.-1-19 to a point, said point being a northwesterly property corner of Tax Account No. 15.-1-19; thence
- C64. Northerly, 779 feet more or less, along the westerly property line of Tax Account No. 15.-1-19 to a point, said point being a northwesterly property corner of Tax Account No. 15.-1-19; thence
- C65. Northeasterly, 1,774 feet more or less, along the northerly property lines of Tax Account Nos. 15.-1-19, 15.-1-24.21 and 15.-1-24.112 to a point, said point being a northeasterly property corner of Tax Account No. 15.-1-24.112; thence
- C66. Southerly, 88 feet more or less, along an easterly property line of Tax Account No. 15.-1-24.112 to a point, said point being a northwesterly property corner of Tax Account No. 15.-1-24.12; thence
- C67. Easterly, 235 feet more or less, along the northerly property line of Tax Account No. 15.-1-24.12 to a point, said point being located along a westerly property line of Tax Account No. 15.-1-4; thence
- C68. Northerly, 160 feet more or less, along the westerly property line of Tax Account No. 15.-1-4 to a point, said point being a northwesterly property corner of Tax Account No. 15.-1-4; thence
- C69. Northeasterly, 54 feet more or less, along a northerly property line of Tax Account No. 15.-1-4 to a point, said point being a northeasterly property corner of Tax Account No. 15.-1-4; thence
- C70. Southerly, 32 feet more or less, along a westerly property line of Tax Account No. 15.-1-4 to a point, said point being a northwesterly property corner of Tax Account No. 15.-1-4; thence
- C71. Southeasterly, 138 feet more or less, along a northerly property line of Tax Account No. 15.-1-4 to a point, said point being a northeasterly property corner of Tax Account No. 15.-1-4; thence
- C72. Northerly, 97 feet more or less, along a westerly property line of Tax Account No. 15.-1-4 to a point, said point being a northwesterly property corner of Tax Account No. 15.-1-4; thence
- C73. Northeasterly, 2,455 feet more or less, along the northerly property lines of Tax Account Nos. 15.-1-4, 15.-1-5.111 and 15.-1-5.112 to a point, said point being the point of beginning.

## End of Boundary description of Area C

The following properties are not included in the Water Improvement Benefit Area:

#15.-1-12; #16.-1-24.2; #16.-1-45; #16.-1-55;

#16.-1-56; #16.-1-57; #17-1-28.212

## BOUNDARY DESCRIPTION FOR THE TOWN OF BERGEN WATER IMPROVEMENT BENEFIT AREA #1 GENESSEE COUNTY, NEW YORK MAY 16, 2019



The Town of Bergen Water Improvement Area #1, Area D, shall have an exterior boundary described as follows:

Beginning at a point, said point being the northwesterly property corner of Tax Account No. 13.-1-40.12; thence

- D1. Easterly, 377 feet more or less, along a northerly property line of Tax Account No. 13.-1-40.12 to a point, said point being a northeasterly property corner of Tax Account No. 13.-1-40.12; thence
- D2. Southwesterly, 258 feet more or less, along an easterly property line of Tax Account No. 13.-1-40.12 to a point, said point being a southeasterly property corner of Tax Account No. 13.-1-40.12; thence
- D3. Westerly, 320 feet more or less, along a southerly property line of Tax Account No. 13.-1-40.12 to a point, said point being a southwesterly property corner of Tax Account No. 13.-1-40.12; thence
- D4. Northwesterly, 64 feet more or less, along a southerly property line of Tax Account No. 13.-1-40.12 to a point, said point being a westerly property corner of Tax Account No. 13.-1-40.12; thence
- D5. Northeasterly, 232 feet more or less, along a westerly property line of Tax Account No. 13.-1-40.12 to a point, said point being the point of beginning.

End of Boundary Description of Area D

# APPENDIX B PROJECT AREA PHOTOGRAPHS



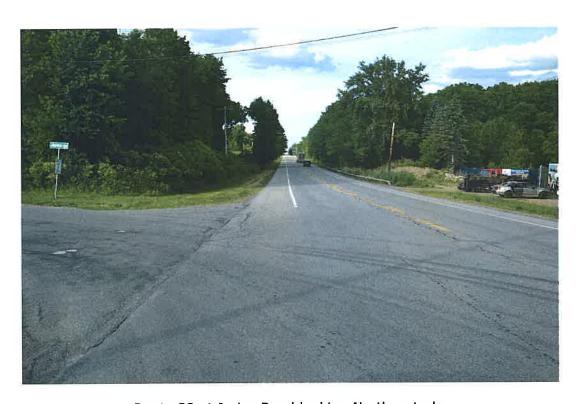
Route 33 at Dublin Road looking Northeasterly.



Route 33 at Dublin Road looking Southerly.



Route 33 at Dublin Road looking Southwesterly.



Route 33 at Jerico Road looking Northeasterly.



Route 33 at Jerico Road looking Southerly.



Route 33 at Jerico Road looking Southwesterly.



Route 33 looking Northeasterly towards West Bergen Road.



Old State Road at Gilbert Road looking Northeasterly.



Old State Road at School Road looking Southwesterly.



Old State Road at School Road looking Southerly.



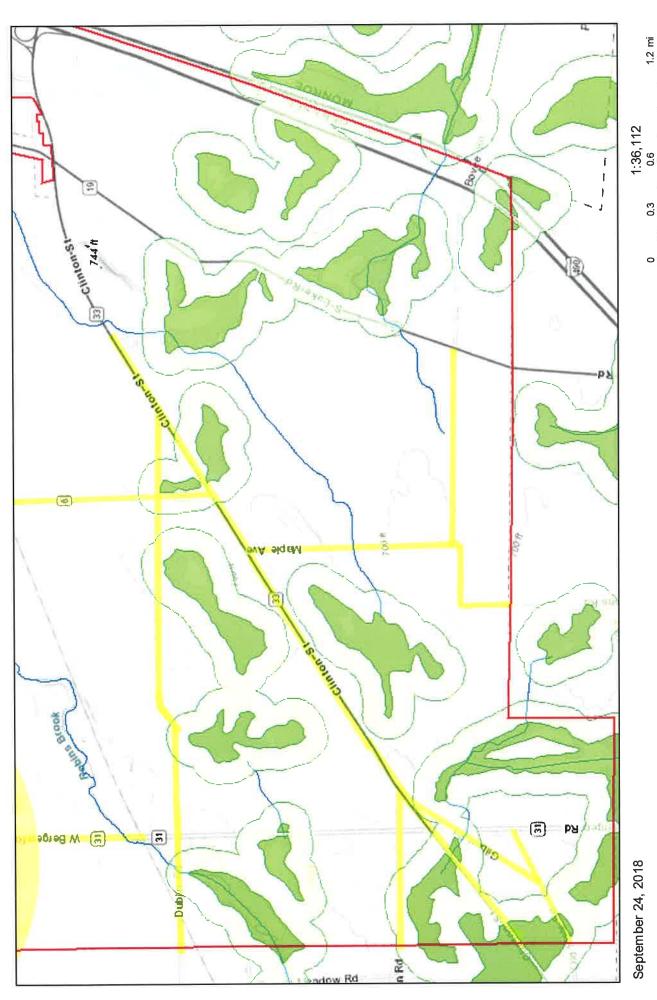
School Road at LeRoy Town line looking Southerly.



School Road at LeRoy Town line looking Northerly.

APPENDIX C

**WETLAND MAPS** 



Sources: Esri, HERE, Gamin, Internap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, Geoßase, IGN, Kadæter NL, Ordnance Survey, Esri

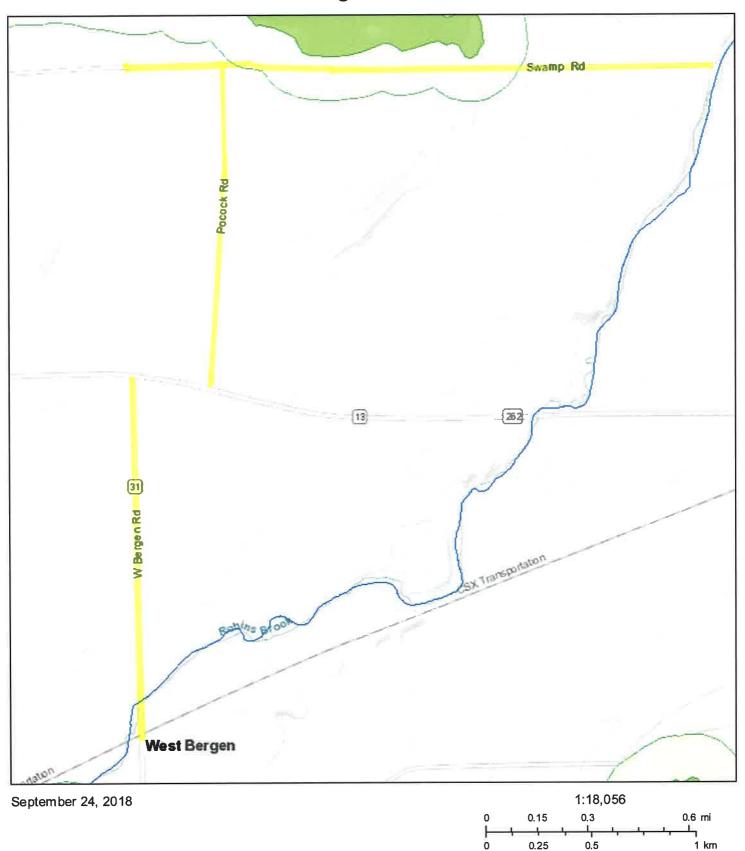
2 km

1.2 mi

0.3

NYS Department of Environmental Conservation Not a legal document

# Bergen WD#4



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, ● OpenStreetMap contributors, and the GIS User Community

1 km

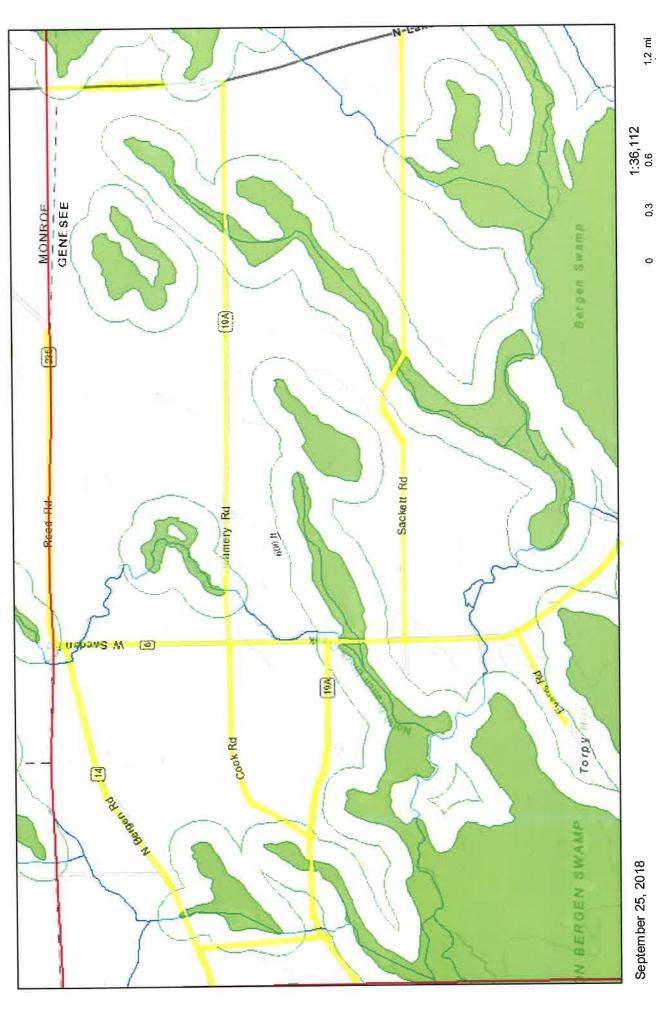


September 25, 2018

NYS Department of Environmental Conservation Not a legal document Sources: Esri, HERE, Garmin, Intermap, increment P.Corp., GEBCO, USGS, FAO, NPS, NRCAN, Geoßase, IGN, Kadaster NL, Ordnance Survey, Esri

0.6 mi

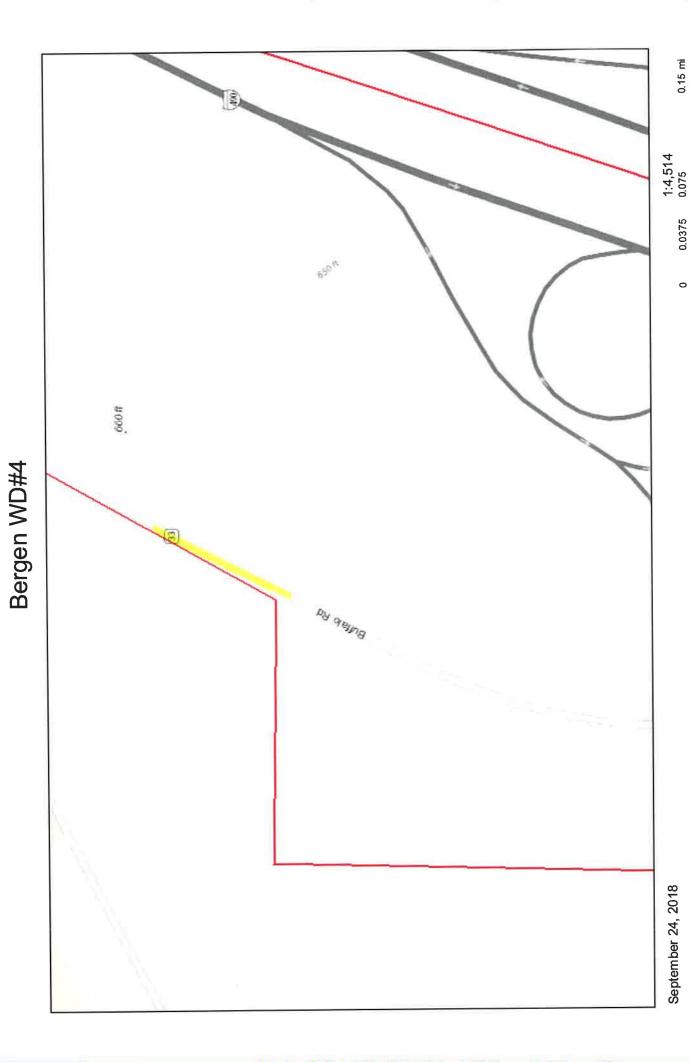
0.15



Sources: Esri, HERE, Garmin, Intermap, Increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster ML, Ordnance Survey, Esri

NYS Department of Environmental Conservation Nys Department of Environmental document

2 km



Sources: Esri, HERE, Garmin, Internap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri NYS Department of Environmental Conservation NYS Department of Environmental Conservation NAS Department of Environmental Conservation NAS Department





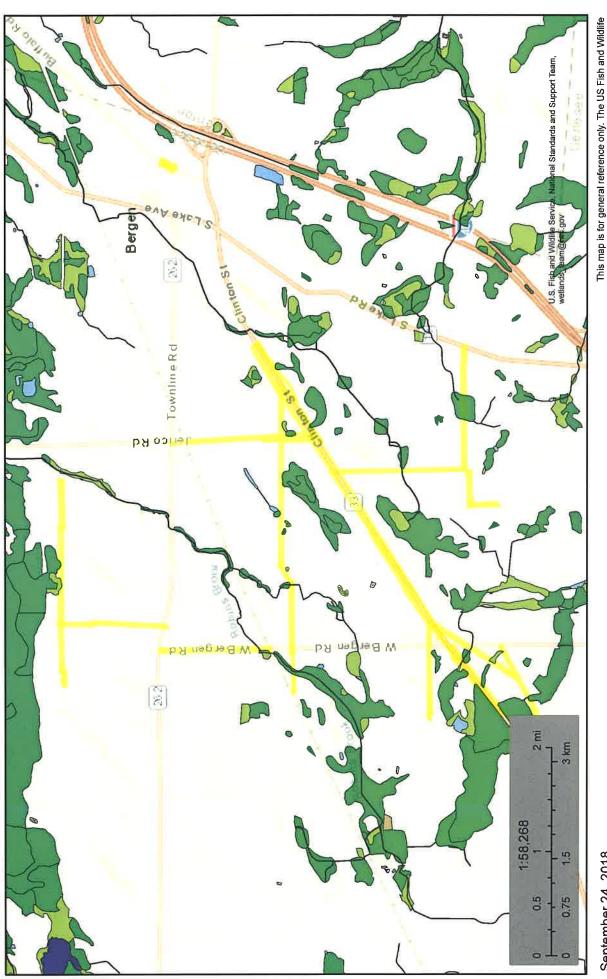
Sources: Esri, HERE, Gamin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri

0.3 mi

0.075

NYS Department of Environmental Conservation Not a legal document

# Bergen WD#4 National Wetlands 1



September 24, 2018

# Wetlands

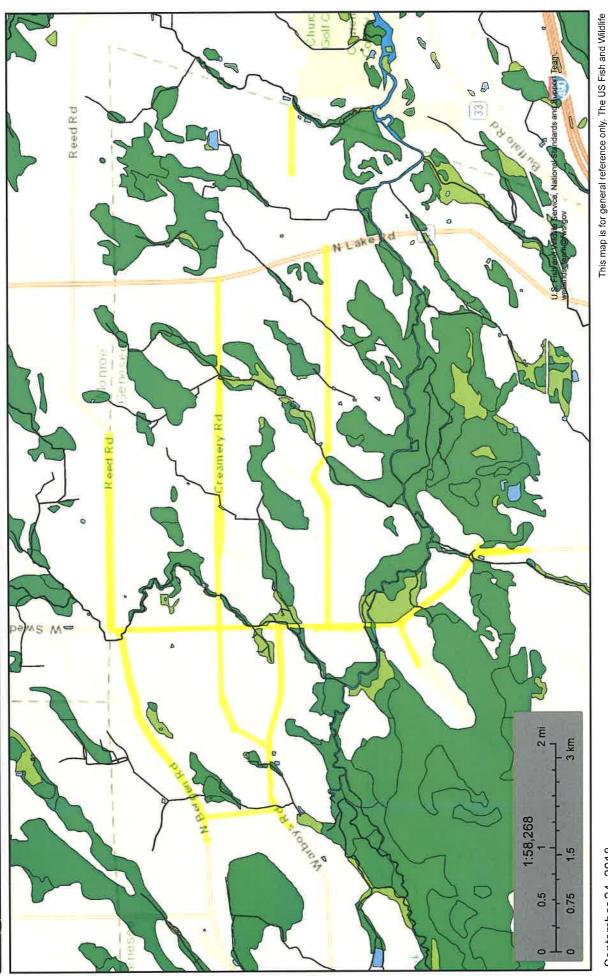
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond

Lake

- Other
- Riverine
- National Wetlands Inventory (NWI) This page was produced by the NWI mapper

Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

# Bergen WD#4 National Wetlands 2



September 24, 2018

# Wetlands

Estuarine and Marine Deepwater

- Estuarine and Marine Wetland
- Freshwater Forested/Shrub Wetland

Freshwater Pond

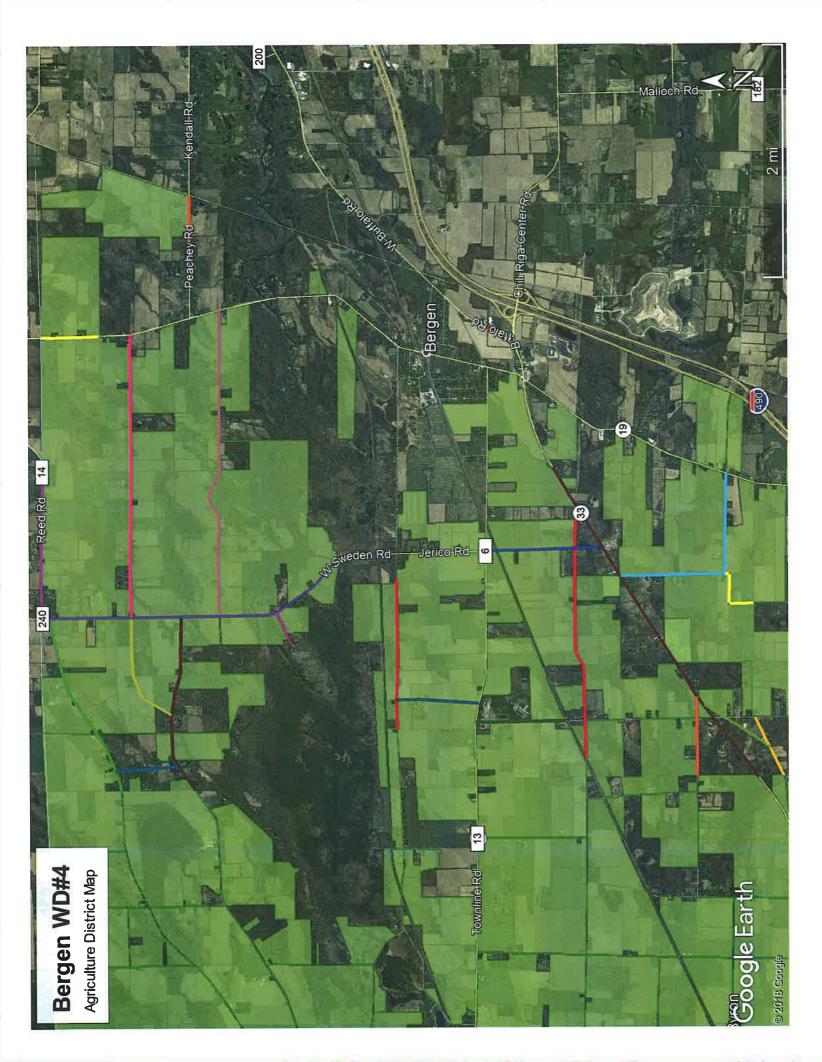
Freshwater Emergent Wetland

Lake

Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

- Other
- Riverine

# APPENDIX D GENESEE COUNTY AGRICULTURAL DISTRICT MAPS



# APPENDIX E LIST OF PARCELS IN WATER DISTRICT

Н
1 8240 Buffalo
Clinton
1 7134 Clinton St
1 7137 Clinton St
1 7147 Clinton St
1 7161 Clinton St
1 7232 Clinton St
7244
7316
7343
1 7393 Clinton St
0 Y 7402 Clinton S
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7652 (
1 7743 Clinton

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Stevens Dilcher Stacy	Capomaccio	Dilcher	Lamkin	Gilbert	Rouse	Keller	Capomaccio	Herget	Capomaccio	Pomales	Martino	Dilcher	Fodge	Dilcher	Peevey	Utter	Page	Farm Market Properties, I	Mason	Brookhart	Jolliff	Wild	Crowe	Stephens	Bettis	Richards	Brookhart	Revocable Tr. Toby L. Cook	Brookhart	Miller	Beverly	Johnson	Stevenson	Aradine
21,100 Alan 30,000 Martin 64,600 Richard	2,700 Lee	` ~	15,100 Dorothy	James	15,000 Roger V.	100 Wayne	23,400 Lee	31,600 Timothy	4,000 Lee		3,500 Agatha	48,500 Martin	13,000 Thomas	12,000 Martin		16,200 Daniel	68,200 Deanna	009	19,600 David	300 Robyn	23,600 Christopher	23,600 Aaron	23,700 Dennis	21,700 Thomas	21,900 Keith	27,400 Harold	75,800 Michael	17,500 Revocable T	64,400 Robyn	8,700 David	22,400 Aubrey	17,400 Ira	21,300 Lois	26,500 Jeffrey
86,700 \$ 21,100 170,000 \$ 130,000 64,600 \$ 64,600	₩ ₩	<del>) 6)</del>	<del>∨</del>	↔	15,000 \$ 15,0	↔	↔	↔	4,000 \$ 4,	<del>∽</del>	↔	48,500 \$ 48,	13,000 \$ 13,	12,000 \$ 12,	97,000 \$ 16,	↔	292,000 \$ 68,	205,600 \$ 205,600	19,600 \$ 19,	₩	↔	↔	↔	114,900 \$ 21,	30,000 \$ 21,	62,000 \$ 27,	175,800 \$ 175,	17,500 \$ 17,	64,400 \$ 64,	83,600 \$ 8,	179,500 \$ 22,	16,500 \$ 17,	48,300 \$ 21,	15,000 \$ 26,
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171-5 171-6 141-15	141-20.112	141-21	161-25.2	161-26	161-29.114	161-39	161-4	161-48.21	161-5.12	161-68.2	161-8.1	171-7	131-15	141-30	161-13.12	161-13.2	161-13.11	161-14	91-51.22	91-81	91-47.111	91-47.112	91-94	91-47.12	91-47.2	91-46.12	91-48.1	91-48.2	91-49	91-40	91-91	91-45.12	91-87.1	91-82.2

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WIBA01	WIBA01 WIBA01 WIBA01 WIBA01 WIBA01 WIBA01 WIBA01 WIBA01
VanStreader Powell Lashbrook Walker Bellavia Gluckman Casper Mercovich Burke Swapceinski Swapceinski Swapceinski Redinger Herbert Whitney Raley Herbert Langdon Brew Vallese Hoehn Stevens Capomaccio Dean Swapceinski Swapceinski	Swapceinski Donofrio Frederick Volkmar Buell Buell Sandow Sandow Sands
Gerald William Steven Dennis Linn James Robert Virginia Eric Dennis John Peggy Robert Henry Lee Basil Margaret Henry Lee Scott Mathew Mark Jennifer Gerald Lee Gerald John John John John	, , , , , , , , , , , , , , , , , , , ,
25,500 19,100 16,900 16,900 16,900 20,300 71,400 71,400 8 18,000 9 4,000 9 4,000 16,600 17,40	\$ 52,700 \$ 12,800 \$ 20,100 \$ 25,700 \$ 16,400 \$ 16,400 \$ 26,600 \$ 71,000 \$ 57,700 \$ 57,700
109,700 106,500 145,900 155,700 182,500 182,500 182,500 182,500 114,900 114,900 117,000 113,000	52,700 24,300 26,500 159,800 206,500 129,400 52,400 52,400 64,300 49,300
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179,000 \$ 18,000 Gary 164,000 \$ 16,800 Donald 143,500 \$ 17,100 Lonnie 38,800 \$ 27,400 Martin 151,300 \$ 25,200 Tammy 52,100 \$ 17,900 Mark 119,000 \$ 16,700 Harry 138,200 \$ 16,700 Harry 138,200 \$ 16,700 Harry 138,200 \$ 16,700 Harry 138,200 \$ 16,700 Harry 139,900 \$ 17,200 Pohn 139,900 \$ 17,200 Dohn 139,900 \$ 17,200 Cerald 172,000 \$ 18,400 Michael 163,100 \$ 16,000 Todd 177,000 \$ 16,000 Todd 177,000 \$ 16,000 Todd 177,000 \$ 16,000 Todd 124,000 \$ 16,000 Todd 122,000 \$ 16,000 Daniel 158,800 \$ 16,000 Daniel 115,000 \$ 16,000 Daniel 115,000 \$ 16,000 Jeffery 16,000 \$ 16,000 Jeffery	\$ 164,800 \$ 10,800 \$ 17,100 \$ 19,900 \$ 23,200
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7523 Gilbert 7527 Gilbert 7531 Gilbert 7660 Gilbert 7666 Gilbert 7678 Gilbert 7682 Gilbert 7682 Gilbert 7682 Gilbert 7682 Gilbert 7682 Gilbert 7692 Jerico 7022 Jerico 7038 Jerico 7052 Jerico 7052 Jerico 7052 Jerico 7130 Lyman 7114 Lyman 7131 Lyman 7131 Lyman 7132 Lyman 7146 Lyman 7153 Lyman 7153 Lyman 7154 Lyman 7154 Lyman 7154 Lyman 7155 Lyman 7155 Lyman 7166 Lyman 7170 Lyman	
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161-38.12 161-38.11 161-70 161-24.111 161-47.1 161-49.121 161-49.21 161-49.21 161-49.21 161-49.21 161-25.1 141-8.1 141-8.1 141-8.1 141-8.1 141-8.1 141-8.1 141-8.1 141-8.1 141-8.1 161-6.1 161-6.5	161-2 161-3 141-17.21 141-17.22

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5,200 Brian 1,100 6,000 Margaret 1,400 John 1,100 David 6,500 Richard 1,800 Delores 6,300 Christine 3,600 9,700 Delores 6,300 Christine 8,400 Harvey 0,000 8,500 Christine 1,7100 David Burton 8,500 Christine 8,500 Christine 6,900 Gregory 8,200 Geoffrey 6,900 Gregory 8,900 Geoffrey 6,900 Gregory 8,900 Geoffrey	10,800 19,000 Matthew 16,200 Mark 13,000 John 16,000 Jamie L. 18,300 Ruth Betty 16,200 Ronald 27,600 Frank 17,800 Samuel 8,600 George 8,100 George 8,100 George 19,500 George 6,400 George 45,600 Timothy 25,700 Audrey 16,300 Nile
\$ 25,200 \$ 16,000 \$ 21,400 \$ 21,400 \$ 21,100 \$ 156,500 \$ 156,500 \$ 139,700 \$ 139,700 \$ 139,700 \$ 10,000 \$ 178,200 \$	\$ 10,800 \$ 16,200 \$ 16,200 \$ 16,000 \$ 16,000 \$ 16,000 \$ 16,000 \$ 16,000 \$ 16,200 \$ 16,000 \$ 16,200 \$ 27,600 \$ 17,800 \$ 17,800 \$ 17,800 \$ 17,800 \$ 16,000 \$ 1
154,300 276,200 77,900 122,900 195,000 263,000 325,100 162,100 219,000 252,700 156,900 61,000 105,900 105,900 105,900 105,900 105,900 105,900 118,200 169,300 169,300	300,000 300,000 176,300 99,500 141,000 99,400 95,100 109,000 111,000 93,800 93,800 91,500 194,200 168,000 98,000 38,000
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7.1 70.3 1 4.4 4.4 54.3 79.5 1.2 48.4 38.1 3.7 0 0 0 49.7 48.5 63.9 63.9	1.8 0 0.7 1.1 1.1 1.1 2.2 0 0 3.3 7.48 1.3
Maple	North Bergen
7336 7353 7354 7366 7378 7445 7445 7641 7677 7774 7828 7843 7843 7857 7045	7068 7083 7084 7100 7103 7105 7116 7116 7116 7129 7129 7132 7132 7132 7138
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141-36 171-39 141-37 141-37 141-38 161-10.1 171-38 161-12 171-29 171-29 171-29 171-48 171-45 171-45 171-45 171-27 91-10.2 161-11.1 171-27 91-66	91-65.2 91-69.1 91-69.1 91-7 91-7 91-7 91-5 91-5 91-6 91-73 91-74 91-74

-	210	_		7238	North Bergen	0.74	↔	85,000	\$ 13,700	Terry	Strobel	WIBAUI
2	210	_		7240	North Bergen	9.1	↔	114,000	\$ 16,900	Erin	Jackson	WIBA01
=	210	_		7245	North Bergen	4.79	↔	142,000	\$ 21,700	Todd	Audsley	WIBA01
91-13.1	241	_		7268	North Bergen	56.3	↔	252,300	\$ 152,300	Thomas	Tiefel	WIBA01
	210	-		7285	North Bergen	0	↔	000'09	\$ 15,900	David	Prince	WIBA01
=	241	2		7327	North Bergen	16.9	↔	356,000	\$ 82,800	Kevin	Schenk	WIBA01
12	117	_		7331	North Bergen	12.4	↔	228,500	\$ 61,600	Dawn	Callari	WIBA01
91-13.2	210	_		7338	North Bergen	က	↔	134,000	\$ 19,000	James	Abernethy	WIBA01
	210			7354	North Bergen	9.25	↔	122,900	\$ 26,000	Ryan	Farnsworth	WIBA01
2	215	2		7355	North Bergen	-	↔	143,100	\$ 16,000	Michael	List	WIBA01
0	210	_		7358	North Bergen	9.5	↔	102,000	\$ 26,400	Keith	Stein	WIBA01
91-16.112	210	_		7371	North Bergen	11.09	↔	185,500	\$ 23,600	_	List	WIBA01
12	210	_		7375	North Bergen	1.12	↔	118,300	\$ 16,200	Christopher Christopher	Paolucci	WIBA01
	483	5		7376	North Bergen	1.3	↔	157,000	\$ 8,300	) Timothy	Mieney	WIBA01
	210	_		7384	North Bergen	_	↔	136,400	\$ 16,000	) Edward	Pretko	WIBA01
	210	-		7440	North Bergen		↔	125,000	\$ 16,200	) Bethany	Domm	WIBA01
111	241	_		7443	North Bergen	23.49	↔	162,200	\$ 106,000	) Myrna	List	WIBA01
.112	210	_		7446	North Bergen	18.1	↔	305,300	\$ 41,700	) Jeffrey	Cook	WIBA01
Ξ.	210	_		7460	North Bergen	6.2	↔	160,000	\$ 23,800	) Benjamin	Strong	WIBA01
_	105	0	>		North Bergen	43.2	<del>∽</del>	131,300	\$ 131,300		Legacy Lands Lic	WIBA01
=	105	0	>-		North Bergen	41.1	↔	90,600	\$ 90,600	) Thomas	Tiefel	WIBA01
2	314	0.5			North Bergen	4.2	↔	5,000	\$ 5,000	) Dawn	Callari	WIBA01
2	314	0.5			North Bergen	7.48	↔	23,300	\$ 23,300	) Donald	Borland	WIBA01
	105	0	>		North Bergen	40.9	↔	140,600	\$ 140,600	Stephen	Starowitz	WIBA01
	210	_		5839	North Lake	1.4	↔	000'66	\$ 16,600	_	Geoffrey	WIBA01
	241	_		5862	North Lake	71.9	ઝ	252,400	\$ 222,400	) Barbara	Richardson	WIBA01
	241	-		2866	North Lake	71.9	↔	195,100	\$ 151,900		CY Properties, LLC	WIBA01
	241			5894	North lake	40	↔	315,500	\$ 93,800	) Steven	Kissel	WIBA01
	241	_		5903	North Lake	166.4	↔	252,500	\$ 122,600	) Keith	Bowers	WIBA01
11	210	_		2906	North Lake	1.9	↔	74,000	\$ 17,400		Alexander	WIBA01
12	210	-		5911	North Lake	_	↔	140,000	\$ 16,000	) Brian	Dugan	WIBA01
2	220	2		5919	North Lake	1.6	<del>\$</del>	131,000	\$ 16,900	) Scott	DeVelder	WIBA01
21	241	_		5922	North Lake	67.11	↔	364,200	\$ 149,600	) Keith	Diehl	WIBA01
111	210	-		5923	North Lake	4.8	↔	91,000	\$ 21,700	) Mary	Donk	WIBA01
	220	7		5934	North Lake	2.4	↔	182,000	\$ 18,100	) Timothy Victor Bowman	or Bowman	WIBA01
61-49.22	210	_		7121	Old State	3.56	↔	195,000	\$ 19,800	) Jeffery	Wheeler	WIBA01
61-22.1	210	_		7154	Old State	1.87	↔	149,000	\$ 17,300	) David	Volta	WIBA01
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Wesley Leo George George George Thomas John Melvin Joseph Ronald Ann M William Paul David Martin John Martin Soger Thomas George Guy	Steptien Marc Ann M Joseph Martin Stephen Stephen Stephen Donald David
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1 -			West Bergen	48.5	<del>-</del> → •	\$ 000,091	62,500		Kedinger	WIBAUI
_			West Bergen	1.7	₩.	151,500 \$	20,300	William	Kobinson	WIBAUI
_		7331	West Bergen	0	<del>∽</del> •	\$ 000,59	15,900		Tompkins	WIBA01
-			West Bergen	2.12	₩.	236,/00 \$	00/'/1		Harder	WIBAUI
-			West Bergen	89.29	↔	430,100 \$	325,000	Wayne	Keller	WIBAUI
_			West Bergen	9	<del>⇔</del>	305,000 \$	21,800		Bethel Baptist Church	WIBA01
			West Bergen		↔	\$ 008′66	16,200		Hintz	WIBA01
- 1			West Bergen	∞	↔	\$ 008'86	19,200	Jeffrey	Keller	WIBA01
0			West Bergen	1.6	↔	145,600 \$	16,900	Stephen	Wahls	WIBA01
-			West Bergen	2.2	↔	170,000 \$	17,800	Mark	Reuter	WIBA01
-			West Bergen	8.87	↔	\$ 009'6/1	27,800	Jeffery	Goodenbery	WIBA01
2			West Bergen	23.8	↔	372,100 \$	50,200	James	Morrison	WIBA01
0			West Bergen	1.9	↔	125,000 \$	17,400	David	Bell	WIBA01
0			West Bergen	0.92	↔	126,000 \$	14,700	Pamela	Birge	WIBA01
0			West Bergen	0	↔	116,600 \$	16,400	Janice	Gilbert	WIBA01
0			West Bergen	0	↔	\$ 000'86	11,900	Mark	Haymon	WIBA01
		7585	West Bergen	22.9	↔	208,700 \$	73,000	Gerald	Birge	WIBA01
		7588	West Bergen	0	↔	12,500 \$	11,300	Martin	Dilcher	WIBA01
0			West Bergen	1.5	↔	112,500 \$	16,800	Sarah	Goulet	WIBA01
			West Bergen	48.8	↔	310,000 \$	67,900	Larry	Stalbaum	WIBA01
			West Bergen	0	↔	116,400 \$	17,000	James	Gilbert	WIBA01
			West Bergen	1.1	<del>⇔</del>	133,500 \$	16,200	Eunice	Gardner	WIBA01
		7637	West Bergen	2.9	↔	151,000 \$	18,900	Jason	Heimlich	WIBA01
		7650	West Bergen	0	<del>⇔</del>	139,800 \$	10,300	David	Coffta	WIBA01
		7663	West Bergen	2.9	↔	16,500 \$	16,500	Daniel	Zury	WIBA01
		7685	West Bergen	2.9	↔	\$ 000'981	18,900	Richard	Alexyn	WIBA01
		7688	West Bergen	0	↔	110,500 \$	16,200	Gary	Heimlich	WIBA01
		7705	West Bergen	10.42	↔	239,000 \$	30,100	Thomas	Fodge	WIBA01
		7708	West Bergen	2.9	↔	129,000 \$	18,900	Andrew	Nickerson	WIBA01
		7711	West Bergen	22.4	↔	300,000	79,300	Breton	Quinlan	WIBA01
		7714	West Bergen	0	↔	134,000 \$	12,600	Mark	Cross	WIBA01
		7725	West Bergen	2.36	↔	151,500 \$	18,000	Luis	Altache	WIBA01
	>-		West Bergen	8.89	↔	164,900 \$	164,900	Russell	Redinger	WIBA01
			West Bergen	1.1	↔	1,700 \$	1,700	Robert	Corcimiglia	WIBA01
	15		West Bergen	2.6	↔	\$ 000'91	16,000	William	Powell	WIBA01
	>		West Bergen	39.1	4	\$ 000 17	4 000		Podingor	MID A O I

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27,200 \$ 27,200 James 5,000 \$ 3,700 Peter 400 \$ 3,700 Peter 400 \$ 20,900 James 8,600 \$ 20,900 James 8,600 \$ 20,900 James 8,600 \$ 1,200 Jeffrey 170,000 \$ 1,200 Jeffrey 172,900 \$ 1,300 Douglas 400 \$ 19,300 Douglas 129,100 \$ 19,300 James 91,300 \$ 19,300 James 91,300 \$ 19,300 James 114,200 \$ 19,000 Ralph 315,600 \$ 50,100 Craig 157,000 \$ 18,200 David 227,000 \$ 26,300 Justine 144,700 \$ 34,800 Timothy	
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WIBA01	WIBA01	WIBA01	WIBA01	WIBA01	WIBA01	WIBA01	WIBA01	WIBA01	WIBA01	WIBA01	WIBA01	WIBA01	WIBA01	WIBA01	WIBA01	WIBA01	WIBA01	WIBA01	WIBA01	WIBA01	
Sands	Leach	Shimko	Patterson	Starowitz	Sands	Oehler	Olander	Roggow	Sands	Bergen Swamp Pres. Soc	Oehler	Sands	Sands	Sands	Hahn	Stevens	Stevens	Legacy Lands Llc	Legacy Lands Llc	Legacy Lands Llc	
\$ 66,000 Richard	\$ 12,900 Mark	\$ 1,000 Richard	\$ 5,800 Robert	\$114,200 Stephen	\$ 135,800 Richard	\$ 54,600 James	\$ 2,500 Susan	\$ 8,600 David	\$ 159,200 Richard	\$ 1,500	\$ 11,900 James		\$ 52,800 Richard		\$ 37,500 David	\$ 16,400 Craig	\$ 17,700 Craig	\$ 148,800	\$ 147,100	\$ 136,000	
900′99	13,400	1,000	5,800	114,200	135,800	54,600	2,500	8,600	159,200	1,500	11,900	163,400	52,800	61,000	43,800	16,400	17,700	148,800	170,600	136,000	99,615,060
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31.3	21.5	0.3	9.6	41.9	76	35.91	4.2	14.3	57.8	2.9	19.9	77	22.6	17.4	46.9	2.84	3.71	51.5	50.5	45.6	Total AV =
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105	312	311	320	105	105	321	320	311	105	970	323	105	105	322	312	310	310	105	105	105	Total EDU's =
111-19	111-20.1	111-20.2	11,-1-23	111-4.12	111-7.1	121-25.1	121-28	121-30	121-32.111	121-33	121-35	91-39.111	91-39.112	91-39.12	91-88.1	91-98.1	91-98.2	91-10.21	91-8.2	91-9	To

## APPENDIX F HYDRAULIC MODEL INFORMATION

## Fire Flow Node FlexTable: Fire Flow Report

Label	Zone	Fire Flow (Needed) (gpm)	Fire Flow (Available) (gpm)	Flow (Total Needed) (gpm)	Flow (Total Available) (gpm)	Pressure (Residual Lower Limit) (psi)	Pressure (Calculated Residual) (psi)	Pressure (Calculated Zone Lower Limit) (psi)	Junction w/ Minimum Pressure (Zone)
J-42	Exisitng	500	451	502	453	20	20	30	J-1
J-1	Exisitng	500	472	2,250	2,222	20	20	36	
J-77	WD 4	500	759	507	766	20	20	30	J-106
J-76	WD 4	500	829	507	836	20	20	13	J-77
J-105	WD 4	500	847	506	853	20	20	29	J-106
J-101	WD 4	500	855	506	861	20	20	29	J-106
J- <del>9</del> 0	WD 4	500	867	504	871	20	20	30	J-106
J-102	WD 4	500	873	506	879	20	20	28	J-103
J-107	WD 4	500	881	506	887	20	20	20	J-106
J-83	WD 4	500	898	507	905	20	20	25	J-77
J-106	WD 4	500	910	506	916	20	20	25	J-107
J- <b>8</b> 4	WD 4	500	959	507	966	20	20	19	J-77
J-86	WD 4	500	964	507	971	20	20	30	J-106
J-109	WD 4	500	969	506	975	20	20	29	J-106
J-75	WD4	500	984	507	991	20	20	8	J-77
J-82	WD4	500	998	507	1,005	20	20	17	J-83
J-74	WD4	500	1,012	507	1,019	20	20	8	J-77
J-81	WD4	500	1,012	507	1,019	20	20	20	J-77
J-87	WD4	500	1,030	507	1,037	20	20	30	J-106
J- <b>3</b> 9	Exisitng	500	1,038	502	1,040	20	20	29	J-106 J-1
J- <b>8</b> 8	WD 4	500	1,071	507	1,078	20	20	30	J-106
J-59	Exisitng	500	1,149	502	1,150	20	20		J-106 J-1
J-80	WD 4	500	1,149	507	1,156	20	20		J-77
J-103	WD 4	500	1,167	506	1,173	20	20		
J-43	Exisitng	500	1,178	502	1,179	20	20		J-102 J-1
J-100	WD 4	500	1,238	506	1,244	20	20		
J-85	WD 4	500	1,250	507	1,257	20	20		J-103
1-79	WD 4	500	1,301	507	1,308	20	20		J-77
1-73	WD 4	500	1,307	507	1,314	20	20		J-77
l-50	Exisitng	500	1,376	502	1,378	20	20		J-77
- <b>9</b> 8	WD 4	500	1,390	506	1,396	20	20		J-1
1-72	WD4	500	1,400	507	1,407	20	31		J-103
-61	Exisitng	500	1,416	502	1,418	20			J- <b>7</b> 7
-78	WD 4	500	1,505	507	1,512	20	20		J-1
-71	WD 4	500	1,537	507	1,512	20	20		J-77
-70	WD 4	500	1,542	507	1,549		20		J-77
-41	Exisitng	500	1,568	502		20	34		J-86
-60	Exisitng	500	1,608		1,570	20	20		J-1
-47	Exisiting	500	1,650	502 502	1,610	20	20		J-61
	WD 4	500			1,651	20	20		J-1
	Exisitng	500	1,659	500	1,659	20	20		J-106
			1,682	502	1,684	20	20		J-1
	WD 4	500	1,727	506	1,733	20	20		J-103
	Exisitng	500	1,745	502	1,746	20	20	28	
	Exisitng	500	1,770	502	1,772	20	20	28 3	
	Exisitng	500	1,773	502	1,774	20	20	13	
104	WD 4	500	1,782	506	1,788	20	20	19   3	l-105

## Fire Flow Node FlexTable: Fire Flow Report

Jeh-1	T		1116 1 1044	Node Fle	x i apie:	rire Flow	Report		
Label	Zone	Fire Flow (Needed) (gpm)	Fire Flow (Available) (gpm)	Flow (Total Needed) (gpm)	Flow (Total Available) (gpm)	Pressure (Residual Lower Limit) (psi)	Pressure (Calculated Residual) (psi)	Pressure (Calculated Zone Lower Limit) (psi)	Junction w/ Minimum Pressure (Zone
J-16	Exisitng	500	1,799	502	1,801	20	20	28	J-1
I-97	WD 4	500	1,822	506	1,828	20	20	18	1
<b>-9</b> 5	WD 4	500	1,838	506	1,844	20	20		
I-96	WD 4	500	1,858	506	1,864	20	20	19 17	J-103
l <b>-</b> 38	Exisitng	500	1,875	502	1,877	20	20		J-103
l <b>-</b> 89	WD 4	500	1,880	504	1,883	20	20	26	J-39
-34	Exisitng	500	1,924	502	1,926	20	20	7	J-90
-3	Exisitng	500	1,971	502	1,972	20	20	22	J-47
-91	WD 4	500	1,984	504	1,987	20		8	J-1
-57	Exisitng	500	1,998	502	2,000	20	20	15	J-90
<del>-4</del> 0	Exisitng	500	2,021	502	2,023		20	6	J-61
21	Exisitng	500	2,023	502		20	20	15	J-38
-69	Exisiting	500	2,095	502	2,025 2,096	20	20	28	J-1
-19	Exisitng	500	2,172	502		20	20	24	J-68
-37	Exisiting	500	2,175	502	2,174	20	20	27	J-1
48	Exisitng	500	2,184		2,177	20	20	17	J <del>-4</del> 2
108	WD 4	500	2,194	502	2,186	20	20	28	J-1
68	Exisitng	500	2,211	506	2,200	20	20	16	J-109
36	Exisitng	500		502	2,213	20	20	21	J-69
62	Exisiting	500	2,262	502	2,263	20	20	14	J-38
54	Exisitng		2,269	502	2,271	20	20	24	J-68
52	Exisiting	500	2,320	502	2,322	20	20	27	J-1
56	Exisiting	500	2,344	502	2,345	20	20		J-1
17		500	2,353	502	2,354	20	20		J-61
18	Exisitng	500	2,367	502	2,368	20	20		J-19
49	Exisitng	500	2,432	502	2,433	20	20		J-19
55 I	Exisitng	500	2,492	502	2,494	20	20		J-48
	Exisitng	500	2,522	502	2,524	20	20		J-61
15	Exisitng	500	2,551	502	2,553	20	20		J-16
51	Exisitng	500	2,580	502	2,581	20	20		J-61
14	Exisitng	500	2,597	502	2,599	20	20	1	J-16
29	Exisitng	500	2,669	502	2,671	20	20		)-1  -1
94	WD 4	500	2,678	506	2,684	20	20		J-106
	Exisitng	500	2,720	502	2,721	20	20		-100  -1
:0	Exisitng	500	2,724	502	2,726	20	20		
6	Exisitng	500	2,752	502	2,754	20	20		l-52
	Exisitng	500	2,791	502	2,793	20	20	19 ]	
	Exisitng	500	2,847	502	2,849	20	20		-50
	Exisitng	500	2,927	502	2,929	20			-38
4	Exisitng	500	3,013	502	3,015		20	17 J	
2	Exisitng	500	3,021	502	3,023	20	20	21 J	
	WD4	500	3,423	506		20	20	27 J	
	Exisitng	500	3,495	502	3,429	20	20	20 J	
	Exisitng	500	3,500		3,496	20	20	3 ] J	
1.000	Exisitng	500	3,500	502	3,502	20	21	4 J.	-1
	Exisitng	500		502	3,502	20	52	26 J.	1
	Exisiting	500	3,500	502	3,502	20	49	26 J-	
18	- isiting	200 [	3,500	502	3,502	20	48	28 J-	1

## Fire Flow Node FlexTable: Fire Flow Report

Label	Zone	Fire Flow (Needed) (gpm)	Fire Flow (Available) (gpm)	Flow (Total Needed) (gpm)	Flow (Total Available) (gpm)	Pressure (Residual Lower Limit)	Pressure (Calculated Residual)	Pressure (Calculated Zone Lower	Junction w/ Minimum Pressure (Zone)
J-10	Evicitae	F0.0	1			(psi)	(psi)	Limit) (psi)	
J-10 J-11	Exisitng	500	3,500	502	3,502	20	55	26	J-1
J-11 J-12	Exisitng	500	3,500	502	3,502	20	48	26	J-1
J-12 J-13	Exisitng	500	3,500	502	3,502	20	34	25	J-1
J-22	Exisitng Exisitng	500	3,500	502	3,502	20	36	24	J-16
J-22 J-23	Exisiting	500	3,500	502	3,502	20	36	26	J-1
1-25	_	500	3,500	502	3,502	~ 20	29	26	J-1
J-25 J-26	Exisitng	500	3,500	502	3,502	20	37	26	J-1
1-20 1-27	Exisitng	500	3,500	502	3,502	20	55	26	J-1
-30	Exisitng	500	3,500	502	3,502	20	45	26	J-1
-30 -31	Exisitng	500	3,500	502	3,502	20	56	26	J-1
-63	Exisiting	500	3,500	502	3,502	20	60	26	J-1
-63 -64	Exisitng	500	3,500	502	3,502	20	54	28	J-1
	Exisitng	500	3,500	502	3,502	20	51	- 1	J-1
-65	Exisitng	500	3,500	502	3,502	20	52	- 4	J-1
-66	Exisitng	500	3,500	502	3,502	20	39		J-1
-67	Exisitng	500	3,500	502	3,502	20	26	- 1	J-1
-92	WD 4	500	3,500	506	3,506	20	31		J-106
-93	WD 4	500	3,500	506	3,506	20	26	-	J-100 J-94

## FlexTable: Pipe Table

ID	Label	Length (Scaled) (ft)	Start Node	Stop Node	Diameter (in)	Material	Hazen- Williams C	Flow (gpm)	Velocity (ft/s)	Length (User Defined) (ft)
32	P-1	1,127	J-1	J-2	16.0	Ductile Iron	110.0	-1,750	2.79	8,700
34	P-2	265	J-2	J-3	12.0	Ductile Iron	110.0	-1,752	4.97	,
36	P-3	3,603	J-3	J-4	12.0	Ductile Iron	130.0	-881	2.50	C
38	P-4	644	J-4	J-5	16.0	Ductile Iron	130.0	-883	1.41	C
40	P-5	8,636	J-6	J-3	12.0	Ductile Iron	120.0	539	1.53	ď
42	P-6	1,582	J-6	3-7	8.0	PVC	130.0	-541	3.45	C
47	P-8	2,434	J-8	J-9	16.0	Ductile Iron	110.0	-368	0.59	
48	P-9	1,986	J-9	3-7	16.0	Ductile Iron	110.0	351	0.56	0
49	P-10	1,032	T-1	J-9	16.0	Ductile Iron	110.0	720	1.15	o
51	P-11	1,770	J-7	J-10	16.0	Ductile Iron	110.0	306	0.49	Ō
53	P-12	1,440	J-10	J-11	12.0	Ductile Iron	110.0	131	0.37	0
55	P-13	2,608	J-11	J-12	12.0	Ductile Iron	110.0	154	0.44	. III 0
57	P-14	4,367	J-12	J-13	12.0	Ductile Iron	110.0	151	0.43	0
59	P-15	6,959	J-13	J-14	12.0	Ductile Iron	110.0	76	0.22	0
61	P-16	888	J-14	J-15	12.0	Ductile Iron	110.0	55	0.16	0
63	P-17	2,917	J-15	J-16	12.0	Ductile Iron	110.0	- 2	0.00	0
65	P-18	716	J-15	J-17	12.0	Ductile Iron	110.0	52	0.15	. 0
67	P-19	1,442	J-17	J-18	12.0	Ductile Iron	110.0	51	0.14	Ö
69	P-20	1,846	J-18	J-19	12.0	Ductile Iron	110.0	49	0.14	0
71	P-21	4,019	J-13	J-20	8.0	Ductile Iron	110.0	40	0.26	0
73	P-22	1,075	J-12	J-21	8.0	Ductile Iron	110.0	2	0.01	0
75	P-23	432	J-11	J-22	8.0	Ductile Iron	110.0	-25	0.16	0
77	P-24	1,231	J-22	J-23	8.0	PVC	130.0	-1	0.01	0
79	P-25	487	J-23	J-24	8.0	PVC	130.0	23	0.14	0
81	P-26	881	J-22	J-25	8.0	Ductile Iron	110.0	-25	0.14	0
82	P-27	1,225	J-25	J-23	8.0	PVC	130.0	25	0.16	0
84	P-28	454	J-25	J-26	8.0	Ductile Iron	110.0	-52	0.10	0
86	P-29	802	J-26	J-27	12.0	Ductile Iron	110.0	20	0.06	0
88	P-30	805	J-27	J-28	4.0	Cast iron	90.0	18	0.46	0
90	P-31	386	J-24	J-29	8.0	PVC	130.0	21	0.48	
91	P-32	588	J-29	J-28	4.0	Cast iron	90.0	19	0.13	0
93	P-33	689	J-10	J-30	16.0	Ductile Iron	110.0	173	0.30	
95	P-34	251	J-10 J-26	J-31	12.0	Ductile Iron	110.0	-73	0.28	0
96	P-35	549	J-31	J-30	16.0	Ductile Iron		-73 -75		0
98	P-36		J-30	J-30 J-32	8.0	Cast Iron	110.0 90.0	96	0.12	0
	P-37		J-30 J-32	J-32 J-33	8.0	Cast iron	90.0	66	0.61	0
- 11				J-33 J-34					0.42	0
102	P-38 P-39		J-28		6.0	Cast iron	90.0	36	0.41	0
103			J-34	J-33	6.0	Cast iron	,90.0	16	0.18	0
105	P-40		J-32	J-35	6.0	Cast iron	90.0	28	0.32	0
107	P-41		J-35	J-36	6.0	Cast iron	90.0	18	0.20	0
109	P-42		J-36	J-37	6.0	Cast Iron	90.0	24	0.27	0
	P-43		J-33	J-36	6.0	Cast iron	90.0	5	0.06	0
	P-44		J-35	J-38	6.0	Cast iron	90.0	9	0.11	0
	P-45		J-38	J-39	6.0	Ductile Iron	110.0	2	0.02	0
	P-46		J-38	J-40	12.0	Ductile Iron	110.0	6	0.02	0
	P-47		J-36	J-40		Ductile Iron	110.0	-3	0.01	0
119	P-48	894	J-40	J-41	8.0	Ductile Iron	110.0	2	0.01	0

## FlexTable: Pipe Table

15				riex i able: Pipe							
10		Length (Scaled) (ft)			Diameter (in)	Material	Hazen- Williams C	Flow (gpm)	Velocity (ft/s)	Length (User Defined)	
13		55	3 1-37	J-42	4.0	Cast iron	90.0	2	0.04	(ft)	
1:		76	6 J-37	J-43	6.0		110.0	2	0.04 0.02	0	
12		28	17 J-33	J-44	8.0		90.0	75	0.02	0	
12		38	0 J-44	J-37	6.0		90.0	-19	0.48	0	
12		24		J-45	8.0		110.0	93	0.59	0	
13		29		J-46	8.0		110.0	91	0.59	0	
13		18		J-47	6.0		90.0	19	0.38	0	
13		70		J-48	4.0		90.0	17	0.44		
13		57	1	J-49	8.0	PVC	130.0	24	0.16	0	
13		549		J-50	4.0	Cast iron	90.0	-9	0.22	0	
13		748		J-46	6.0	Cast iron	90.0	-10	0.12	0	
14		1,427		J-51	8.0	PVC	130.0	10	0.06	0	
14		571		J-51	8.0	Ductile Iron	110.0	79	0.50	0	
14		8,022		J-20	8.0	Ductile Iron	110.0	13	0.08	0	
14.		758		J-52	8.0	Ductile Iron	110.0	-7	0.04		
149		786		J-54	8.0	Ductile Iron	110.0	58	0.37	0	
15:		1,550		J-51	12.0	Ductile Iron	110.0	-87	0.25	0	
153		1,997		J-56	10.0	PVC	130.0	86	0.25	0	
155		5,441		J-57	10.0	PVC	130.0	84	0.34		
157		1,371		J-58	10.0	PVC	130.0	54	0.22	0	
159		3,474		J-59	8.0	PVC	130.0	9	0.22		
161		2,797		J-60	10.0	PVC	130.0	44	0.18	0	
163		1,408	J-60	J-61	10.0	PVC	130.0	او	0.04	0	
165		1,059	J-7	J-62	8.0	PVC	130.0	5	0.03	0	
168		2,249	J-63	J-7	12.0	Ductile Iron	110.0	502	1.42	0	
170		615	J-63	J-64	12.0	Ductile Iron	110.0	-504	1.43	0	
172	P-77	882	J-64	J-65	12.0	Ductile Iron	110.0	-509	1.44	ŏ	
174	P-78	795	J-64	J-66	12.0	Ductile Iron	110.0	3	0.01	ő	
176	P-79	704	J-66	J-67	12.0	Ductile Iron	110.0	2	0.00	o	
178	P-80	894	J-62	J-68	12.0	Ductile Iron	110.0	3	0.01	0	
180	P-81	956	J-68	J-69	12.0	Ductile Iron	110.0	2	0.00	ő	
183	P-82	5,511	J-54	J-70	8.0	PVC	130.0	57	0.36	ő	
185	P-83	2,629	J-70	J-71	8.0	PVC	130.0	43	0.27	0	
187	P-84	1,706	J-71	J-72	8.0	PVC	130.0	57	0.36	ŏ	
189	P-85	2,254	J-72	J-73	8.0	PVC	130.0	26	0.17	ŏ	
191	P-86		J-73	J-74	8.0	PVC	130.0	33	0.21	٥	
193	P-87		J-74	J-75	8.0	PVC	130.0	21	0.13	0	
197	P-89		J-75	J-77	10.0	PVC	130.0	14	0.06	ő	
198	P-90		J-77	J-76	10.0	PVC	130.0	7	0.03	0	
200	P-91			J-78	8.0	PVC	130.0	-21	0.14	ő	
201	P-92			J-57	8.0 4	PVC	130.0	-28	0.18	٥	
203	P-93			J-79	8.0 F	PVC	130.0	24	0.15		
205	P-94			J-80	8.0	vc	130.0	30	0.19	0	
207	P-95			J-81	8.0 F		130.0	7	0.19	0	
208	P-96			J-73	8.0 P	vc	130.0	-13	0.09	0	
210	P-97	2,841		J-82		vc	130.0	16	0.10	0	
212	P-98	947	1-82	J-83	8.0 P	vc	130.0	7	0.10	U J	

### FlexTable: Pipe Table

	riextable: Pipe Table										
ID	Label	Length (Scaled) (ft)	Start Node	Stop Node	Diameter (in)	Material	Hazen- Williams C	Flow (gpm)	Velocity (ft/s)	Length (User	
		(10)					'			Defined) (ft)	
214	P-99	1,921	J-82	J-84	8.0	PVC	130.0	2	0.01	0	
215	P-100	5,738	J-84	J-74	8.0	PVC	130.0	-5	0.03	0	
217	7 P-101	6,023	J-73	J-85	8.0	PVC	130.0	-27	0.17	o	
218	P-102	6,887	J-85	J-60	8.0	PVC	130.0	-34	0.22	0	
220		1,812	J-70	J-86	8.0	PVC	130.0	7	0.04	0	
222		2,133	J-59	J-87	8.0	PVC	130.0	7	0.04	0	
224		2,577	J-61	J-88	8.0	PVC	130.0	7	0.04	0	
226		5,871	J-52	J-89	8.0	PVC	130.0	-9	0.05	0	
228		3,987	J-89	J-90	8.0	PVC	130.0	4	0.02	0	
230		1,417	J-91	J-89	8.0	PVC	130.0	16	0.10	0	
232		1,905	J-8	J-92	12.0	PVC	130.0	366	1.04	0	
234		2,177	J-92	J-93	12.0	PVC	130.0	280	0.80	0	
236		1,582	J-93	]-94	12.0	PVC	130.0	353	1.00	0	
238		6,507	J-94	J-95	12.0	PVC	130.0	2	0.01	0	
240		454	J-95	J-96	12.0	PVC	130.0	20	0.06	o	
242		711	J-96	J-97	12.0	PVC	130.0	2	0.01	o	
244	P-115	3,279	J-97	J-98	12.0	PVC	130.0	6	0.02	o	
ુ 246	P-116	537	J-97	J-99	8.0	PVC	130.0	18	0.11	0	
248	P-117	1,366	J-99	J-100	8.0	PVC	130.0	14	0.09	0	
250	P-118	2,246	J-100	J-101	8.0	PVC	130.0	6	0.04	0	
253	P-119	1,488	J-102	J-103	8.0	PVC	130.0	-6	0.04	o	
254	P-120	1,427	J-103	J-100	8.0	PVC	130.0	-2	0.01	0	
255	P-121	2,352	J-103	J-99	8.0	PVC	130.0	-10	0.07	o	
256	P-122	1,115	3 <del>-9</del> 9	J-96	8.0	PVC	130.0	-12	0.08	0	
258	P-123	946	J-95	J-104	8.0	PVC	130.0	-24	0.15	0	
259	P-124	743	J-104	J-97	8.0	PVC	130.0	28	0.18	0	
261	P-125	2,602	J-105	J-104	8.0	PVC	130.0	-6	0.04	0	
263	P-126	4,641	J-94	J-106	8.0	PVC	130.0	345	2.20	0	
265	P-127	2,638		J-107	10.0	PVC	130.0	6	0.02	0	
266	P-128	4,534	J-106	J-3	10.0	PVC	130.0	333	1.36	0	
268	P-129	5,006	J-104	J-108	8.0	PVC	130.0	-64	0.41	0	
269	P-130	911	J-108	J-19	8.0	PVC	130.0	-47	0.30	0	
271	P-131	2,562	J-109	J-108	8.0	PVC	130.0	-6	0.04	0	
273	P-132		J-108	J-110	8.0	PVC	130.0	-29	0.18	0	
274	P-133		J-110	J-92	8.0	PVC	130.0	-80	0.51	0	
275	P-134		J-93	J-110	8.0	PVC	130.0	-78	0.50	0	
	P-135	3,972		J-13	8.0	PVC	130.0	-33	0.21	0	
278		642		J-111	8.0	PVC	130.0	0	0.00	0	
285			R-1	PMP-1	12.0	Ductile Iron	130.0	510	1.45	1	
286			PMP-1	J-65	12.0	Ductile Iron	130.0	510	1.45	1	
289			R-2	PMP-2	12.0	Ductile Iron	130.0	884	2.51	1	
290	P-140	2 4 2 4 5 6 6 6 6 7 5 7	PMP-2	J-5	12.0	Ductile Iron	130.0	884	2.51	1	
293	P-141	2,288	J-14	J-91	8.0	PVC	130.0	19	0.12	0	

### FlexTable: Junction Table

ID	Label	Elevation (ft)	Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
30	J-1	694.00	Exisitng	1,750	763.47	30
31	J-2	689.00	Exisitng	2	784.33	41
33	J-3	689.00	Exisitng	2	786.92	42
35	]-4	677.00	Exisitng	2	794.14	51
37	J-5	677.00	Exisitng	2	794.46	51
39	]-6	665.00	Exisitng	2	795.01	56
41	J-7	666.00	Exisitng	)37 <b>2</b>	804.28	60
43	J-8	665.00	Exisitng	2	804.20	60
46	J-9	684.00	Exisitng	2	804.52	52
50	J-10	648.00	Exisitng	2	804.11	68
52	J-11	648.00	Exisitng	2	804.00	67
54	J-12	650.00	Exisitng	2	803.71	67
56	J-13	638.00	Exisiting	2	803.26	71
58	J-14	678.00	Exisitng	2	803.05	54
60	J-15	676.00	Exisitng	2	803.04	55
62	J-16	682.00	Exisitng	2	803.04	52
64	3-17	683.00	Exisitng	2	803.03	52
66	J-18	675.00	Exisitng	2	803.01	55
68	J-19	686.00	Exisitng	2	802.98	51
70	J-20	611.00	Exisitng	2	802.99	83
72	J-21	629.00	Exisitng	2	803.71	76
74	J-22	649.00	Exisitng	2	804.01	67
76	J-23	624.00	Exisitng	2	804.01	78
78	J-24	621.00	Exisitng	2	804.00	79
80	J-25	646.00	Exisitng	2	804.03	68
83	J-26	636.00	Exisitng	2	804.08	73
85	J-27	634.00	Exisitng	2	804.08	74
87	J-28	613.00	Exisitng	2	803.57	82
89	J-29	619.00	Exisitng	2	803.99	80
92	J-30	642.00	Exisitng	2	804.09	70
94	J-31	628.00	Exisitng	2	804.08	76
97	J-32	630.00	Exisitng	2	803.70	75
99	J-33	612.00	Exisitng	2	803.43	83
101	J-34	609.00	Exisitng	2	803.49	84
104	J-35	633.00	Exisitng	2	803.48	74
106	J-36	616.00	Exisitng	2	803.42	81
108	J-37	605.00	Exisitng	_ 2	803.38	86
111	J-38	630.00	Exisitng	_ 2	803.42	75
113	J-39	616.00	Exisitng	_ 2	803.42	81
115	J-40	618.00	Exisitng	2	803.42	80
118	J-41	617.00	Exisitng	2	803.42	81
120	J-42	612.00	Exisiting	2	803.37	83
122	J-43	600.00	Exisitng	2	803.38	88
124	J-43 J-44	609.00	Exisiting	2	803.34	84
127	J <del>-44</del> J-45	605.00	Exisiting	2	803.27	86
127	J-45 J-46	601.00	Exisiting	2	803.18	87
		608.00	Exisitng	2	803.47	85
131	J-47 J-48	609.00	Exisiting	2	803.07	84
133		595.00	-	2	803.06	90
135	J-49	D93.00	LAISIUIG	ا حا	003.00	50

Bentley Systems, Inc. Haestad Methods Solution Center 27 Siemon Company Drive Suite 200 W Watertown, CT 06795 USA +1-203-755-1666

## FlexTable: Junction Table

ID	Label	Elevation (ft)	Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
137	3-50	606.00	Exisitng	2	803.16	85
140	J-51	607.00	Exisitng	2	803.05	85
144	J-52	614.00	Exisitng	2	803.00	82
148	J-54	596.00	Exisitng	2	802.89	90
150	J-55	596.00	Exisitng	2	802.99	90
152	J-56	584.00	Exisitng	2	802.86	95
154		579.00	Exisitng	2	802.52	97
156	J-58	597.00	Exisitng	2	802.48	89
158	J-59	597.00	Exisitng	2	802.47	89
160		600.00	Exisitng	2	802.43	88
162	J-61	614.00	Exisitng	2	802.43	82
164	J-62	660.00	Exisitng	2	804.28	62
167	J-63	650.00	Exisitng	2	806.45	68
169	J-64	658.00	Exisitng	2	807.04	64
171	J-65	658.00	Exisitng	2	807.91	65
173	J-66	656.00	Exisitng	2	807.04	65
175	J-67	661.00	Exisitng	2	807.04	63
177	J-68	651.00	Exisiting	2	804.28	66
179	J-69	648.00	Exisitng	2	804.28	68
182	3-70	582.00	WD 4	7	802,40	95
184	J-71	611.00	WD 4	7	802.26	83
186	J-72	583.00	WD 4	7	802.10	95
188	J-73	616.00	WD 4	7	802.05	80
190	J-74	631.00	WD 4	7	801.93	74
192	J-75	631.00	WD 4	7	801.93	74
194	J-76	631.00	WD 4	7	801.91	74
196	J-77	658.00	WD 4	- 7	801.92	62
199	J-78	578.00	WD 4	7	802.37	97
202	J-79		WD 4	7	802.02	88
204	J-80	604.00	WD 4	-	801.95	86
206	J-81		WD 4		801.95	84
209	J-82		WD 4	7	801.93	77
211	J-83		WD 4	7	801.92	74
213	J-84		WD 4	7	801.93	74
216	J-85		WD 4	7	802.19	82
219	J-86		WD 4	7	802.39	61
221	J-87		WD 4	7	802.47	95
223	J-88		WD 4	7	802.42	82
225	J-89		WD 4	4	803.01	71
227	J-90	1	WD 4	4	803.01	58
229	J-91		WD 4	4	803.02	68
231	J-92		WD 4	6	803.45	50
233	J-93		WD 4	6	802.92	51
235	J-94		WD 4	6	802.34	
237	J-95		WD 4	6		41
239	J-96		WD 4	6	802.34	43
241	J-97		WD 4	6	802.34	45
- 1	J-98		WD 4		802.34	45
245			WD4	6	802.34	43
4 10		054.00	דעויו [	6	802.34	47

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## FlexTable: Junction Table

ID	Label	Elevation (ft)	Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)		
247	J-100	703.00	WD 4	6	802,33	43		
249	J-101	696.00	WD 4	6	802.32	46		
251	J-102	703.00	WD 4	6	802.32	43		
252	J-103	705.00	WD 4	6	802.33	42		
257	J-104	700.00	WD 4	6	802.36	44		
260	J-105	703.00	WD 4	6	802.36	43		
262	J-106	719.00	WD 4	6	790.55	31		
264	J-107	_ 707.00	WD 4	6	790.55	36		
267	J-108	684.00	WD 4	6	802.92	51		
270	J-109	693.00	WD 4	6	802.92	48		
272	J-110	683.00	WD 4	6	803.12	52		
277	J-111	656.00	WD 4	0	804.28	64		

APPENDIX G
BUDGET REPORT (FORM E)

### RURAL DEVELOPMENT (RD) PROJECT BUDGET/COST CERTIFICATION

Project Name:	Town of Bergen WIBA No. 1	Date:	05/17/19	Report No.: Actual: Estimate:	Preliminary
Funding Source(s)	Amount	Other Funding Source	<u>e(s)</u>	Amount	
RD Loan	\$5,900,000.00	Other Source:			
RD Loan		Other Source:			
RD Grant	\$3,058,000.00	Other Source:			
RD Grant			SUBTOTAL:	\$0.00	
SUB TOTAL:	\$8,958,000.00		TOTAL:	\$8,958,000.00	

ITEM	APPROVED	MODIFIED	PREVIOUS	EXPENDITURES	EXPENDITURES	BALANCE
	BUDGET	BUDGET	EXPENDITURES	THIS PERIOD	TO DATE	REMAINING
A A D B KYNII CODD A CDINYE						
A. ADMINISTRATIVE						
1. Legal	\$75,000.00					
2. Bonding	\$75,000.00					
3. Net Interest	\$135,000.00					
4. Fiscal Coordination	\$40,000.00					
5. Project Management	\$50,000.00					
6. Lands & Rights of Way	\$10,000.00					
7. Single Audit	\$25,000.00					
8. Miscellaneous	\$9,477.00					
Total A. Administrative	\$419,477.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
B. TECHNICAL SVCS.						
1. Engineering					İ	
a. Study and Report Phase	\$10,000.00					
b. Preliminary Design Phase	\$197,426.00					
c. Final Design Phase	\$180,000,00					
d. Bidding and Negotiation Phase	\$26,000.00					
e. Construction Phase	\$110,000.00					
f. Post Construction Phase	\$6,928.00					
g. Resident Project Representative	\$275,000.00	T.				
h. Additional Services	\$25,000.00					
2. SEQR/NEPA Compliance	\$9,500.00					
Total B. Technical Svcs.	\$839,854.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
C CONCEDITORION						
C. CONSTRUCTION						
1. Construction Contracts						
a. Contract 1	\$6,998,790.00					
b. Contract 2			1			
c. Contract 3						
d. Contract 4						
e. Contract 5						
2. Direct Expenditures						
a						
b.						
C.						
Total C. Construction	\$6,998,790.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
D. CONTINGENCY						
1. Contingency	\$699,879.00					
Total D. Contingency	\$699,879.00		A 1 = -10-			\$0.00
TOTAL PROJECT COST						

I certify to the best of my knowledge and belief that the billed costs or disbursements are in accordance with the terms of the project and that the reimbursement represents the Federal share due, which has not been previously requested and that an inspection has been performed and all work is in accordance with the terms of the award.

Applicant Title Engineer/ Architect

Reviewed By \_\_\_\_\_ Date Reviewed \_\_\_\_\_