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Village of Sherman Comprehensive Water and Stormwater Assessment Studies

CDBG Planning Grant Public Hearing

February 5, 2020

Sustainable Infrastructure Planning

Comprehensive Water Assessment Study

Village of Sherman, Chautauqua County, New York

Preliminary Engineering Report

August 2019

Barton & Loguidice

Water

Stormwater Infrastructure Engineering Study Report

Village of Sherman

Chautauqua County, New York

Prepared for

Village of Sherman

111A Mill Street

P.O. Box 568

Sherman, New York 14781

January 2020

Stormwater

Comprehensive Sewer Assessment Study

Village of Sherman, Chautauqua County, New York

Preliminary Engineering Report

August 2018

Barton & Loguidice

Sanitary Sewer

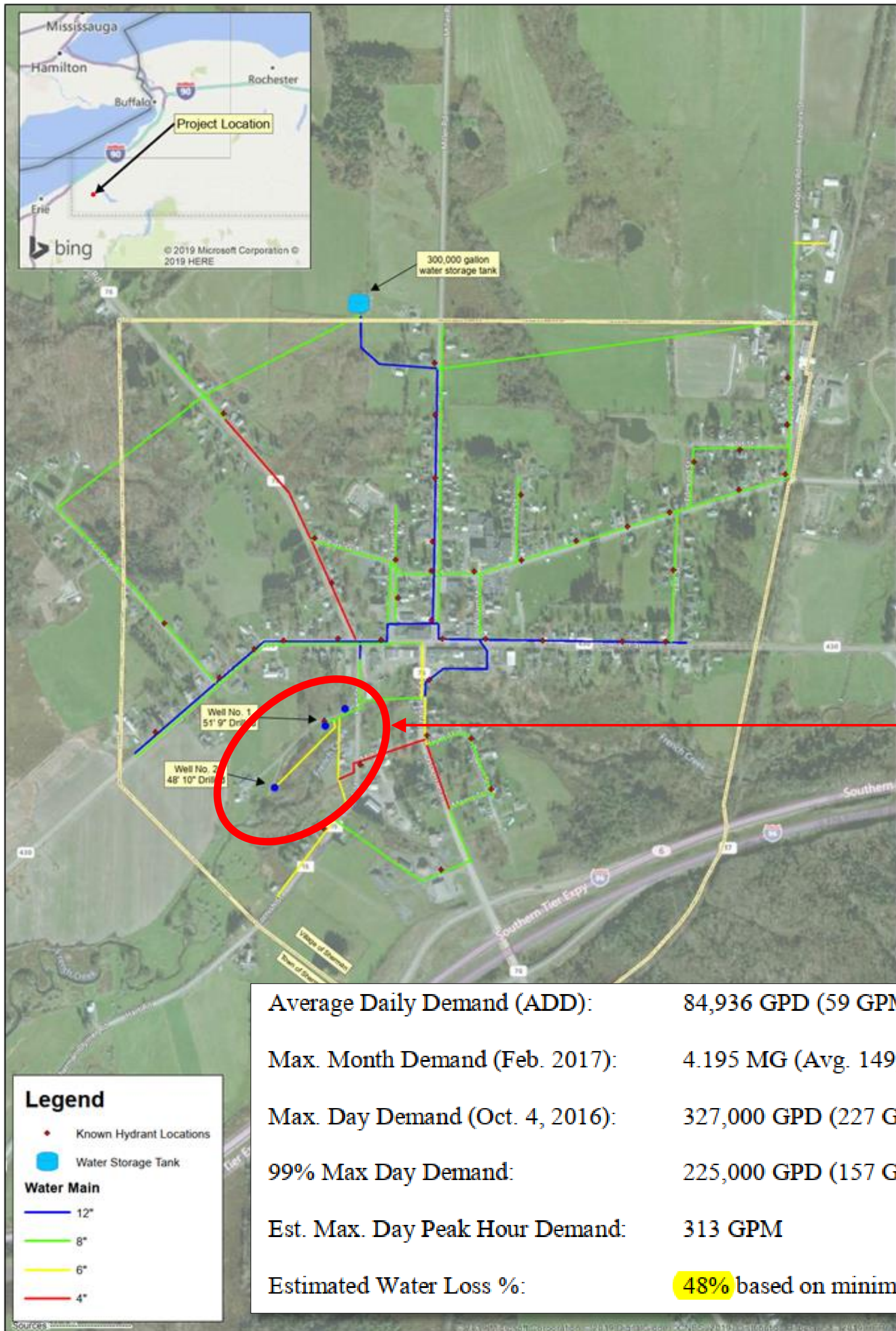
The Village has secured $80,000 in grant funding for completing comprehensive, long-range planning documents for its critical infrastructure systems.

CDBG Public Hearing Focus

- CDBG Grant Overview
- Comprehensive Water Assessment Study
- Stormwater Infrastructure Engineering Study Report
- Next Steps

Comprehensive Water Assessment Study

Water System



Average Daily Demand (ADD):	84,936 GPD (59 GPM)
Max. Month Demand (Feb. 2017):	4.195 MG (Avg. 149,821 GPD)
Max. Day Demand (Oct. 4, 2016):	327,000 GPD (227 GPM)
99% Max Day Demand:	225,000 GPD (157 GPM)
Est. Max. Day Peak Hour Demand:	313 GPM
Estimated Water Loss %:	48% based on minimal data available

System Assets

- 2 drilled groundwater wells
- 300,000 gal. storage tank
- 42,000' (~8 miles) 4", 6", 8", 12" main
- 326 water meters

Well House No. 1

Well House No. 2

Water System Deficiencies

Groundwater Source and Treatment

Deficiency No.	Description
1	The water system has extremely hard well water and as a result several residents complain of water taste issues, the constant need to replace household appliances, and dry skin.
2	Exposed piping and valving in both well houses are significantly corroded. This is a noted violation by the CCDOH.
3	The water meters in the well houses are antiquated and have reached the end of their useful lives. This is a noted violation by the CCDOH.
4	Neither well house has a separate isolated chemical room for sodium hypochlorite storage.
5	Well Building No. 1 requires various minor improvements including new pipe gallery grating, removal of abandoned control panels, and general cosmetic updates and improvements. The Well Building is located in the 100 year flood plain and is not protected from flooding. This well building has been reported by CCDOH to experienced flooding in the past. The lack of flood protecting is a noted violation by CCDOH and can result in untreated surface water entering the public water supply.
6	Well Building No. 2 is half buried and in extremely poor condition. This well house needs to be replaced in its entirety. The Well Building is located in the 100 year flood plain and is not protected from flooding. This well building has been reported by CCDOH to experienced flooding in the past. These items are noted violations by the CCDOH and can result in untreated surface water entering the public water supply.
7	The critical valve outside Well No. 1 is in operable and needs to be replaced. This is a noted violation by the CCDOH.
8	The monitoring well outside of Well House No. 2 is damaged and needs to be properly decommissioned. This is a noted violation by the CCDOH.
9	The chemical disinfection equipment (dosing pumps, piping, injection quills, containment, etc.) has exceeded their useful lives and are in need of replacement.
10	The current process of disinfecting Well No. 1 is unacceptable. Due to a failed injection quill, unchlorinated water from Well No. 1 is blended with over chlorinated water from Well No. 2 to achieve a proper chlorine residual. This is a noted violation by the CCDOH.
11	The current treatment system does not provide adequate chlorine contact time to achieve 4-log inactivation of viruses (required by USEPA Groundwater Treatment Rule) prior to serving water to the systems first customer. This is a noted violation by the CCDOH.
12	The treatment system does not have any automated controls, alarms, or monitoring systems. Operators manually check the level of the water tank and can only operate well pumps in hand mode. There are no alarm systems to alert operators of low tank level, high tank level, or low well level. This is a noted violation by the CCDOH.

Historic Photo of Flooding Around Well House No. 2

Historic Photo of Flooding Around Well House No. 1

Water System Deficiencies

Water Storage Tank and System Pressures

Deficiency No.	Description
13	The water tank does not have any level sensor, level alarms, or monitoring systems. Operators have to go the water tank site every day and sometimes multiple times a day to check the tank level and plan well pump operation. This is a noted violation by the CCDOH.
14	The tank access hatches are located flush with surrounding grade and need to be raised a minimum of 24-inches. This is a noted violation by the CCDOH.
15	Approximately three (3) homes experience pressures of less than 35 PSI during normal system operation and one (1) house would experience a residual pressure less than 20 PSI during fire flow conditions. This is a noted violation by the CCDOH.

Sto

Water Distribution and Transmission

Deficiency No.	Description
16	There are various sections of water main have reached the end of their useful lives and needs to be replaced. This is a noted violation by the CCDOH.
17	There are various sections of antiquated redundant sections of water main that need any remaining water services transferred off of them and be decommissioned. This is a noted violation by the CCDOH.

Residential Water Meters

Deficiency No.	Description
18	Approximately 297 water meters are no longer accurate, have exceeded their useful lives, and are in need of replacement. This is a noted violation by the CCDOH.

Recommended Capital Improvement Plan

To Address Deficiency No.	Improvement
1	Install a Municipal Water Softening process (Optional Project Adder)
2, 3, 4, 5, 6, 7, 9, 10, 12	Remove Existing Well Buildings, Replace Existing Pumps with Pitless Submersible Well Pumps, and Construct a Single New Water Treatment Building
8	Decommission Monitoring Well
11	Install properly sized Chlorine Contact Piping
13	Install Level Sensors in the Storage Tank
14	Raise the Storage Tank Access Hatches
15	Do Nothing
16	Replace Various Sections of Water Main In-Kind
17	Decommission Various Sections of Redundant Water Main
18	Replace Remaining 297 Water Meters (Optional Project Adder: Contract out the Replacement of Water Meters)

CIP Estimated Costs

6.0 Estimated Probable Project Costs

The estimated total probable project cost for the recommended CIP is $2,401,000 (with having DPW Staff install the water meters and without water softening) and $3,206,000 (with water softening and contracting out meter installations) inflated to 2021 dollars. This cost estimate includes the cost of all materials, labor, engineering, legal, and administration, as well as a 15% construction cost contingency. The cost estimate represents the maximum amount to be expended by the Village of Sherman for the recommended CIP, and would therefore be the amount of a bond resolution. A preliminary itemized cost estimate is provided in Appendix M and summarized below.

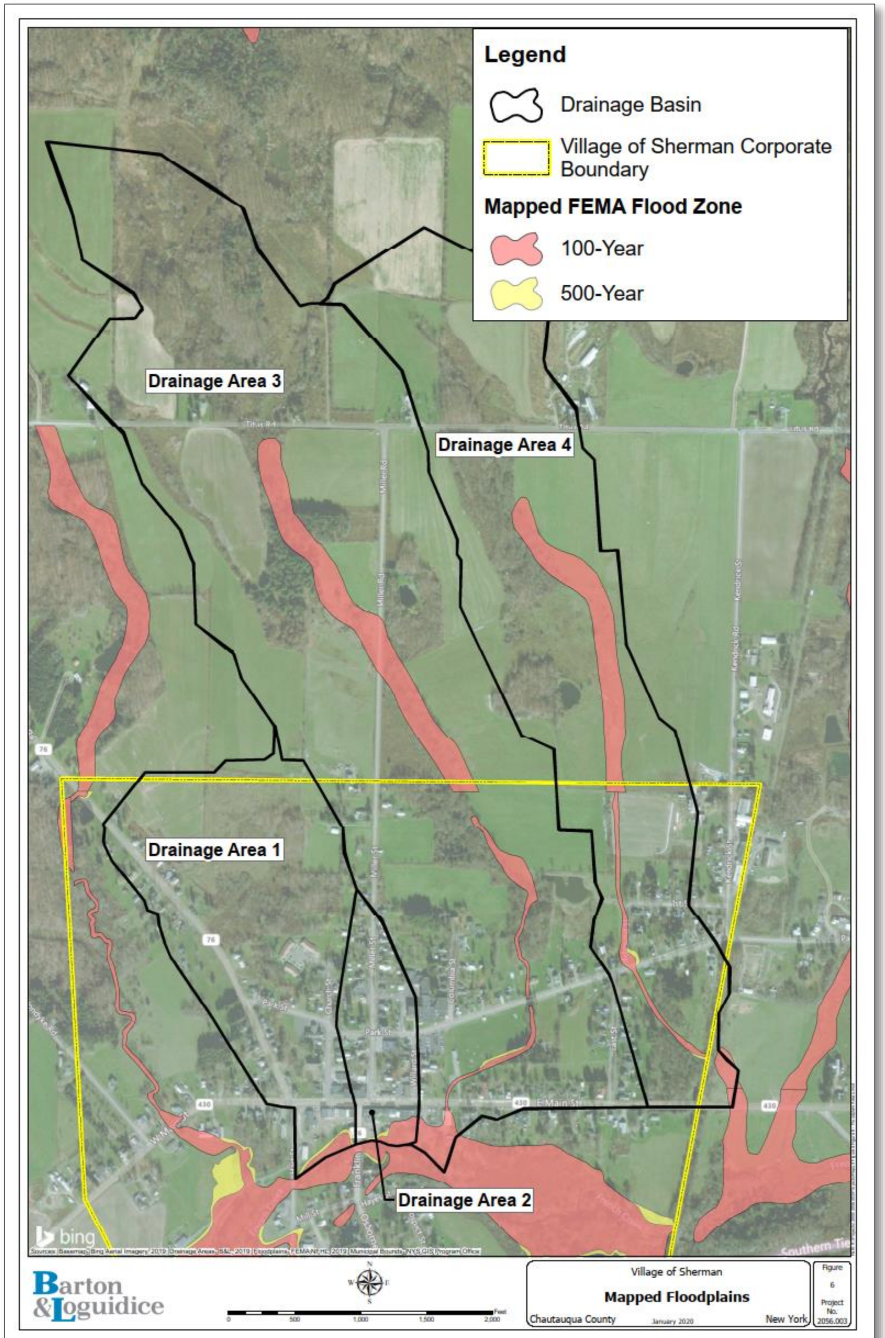
Groundwater Source and Treatment Improvements	$706,000
Water Storage Improvements	$37,500
Water Distribution and Transmission Improvement	$757,000
Base Project Total Construction Cost:	**$1,501,000**
Water Meter Purchase	$75,000
Inflation/ General Conditions:	$135,000
Contingency:	$225,000
Engineering /Legal /Administrative:	$465,000
Total Base Project Cost:	**$2,401,000**
Project Adders: Water Softening, Meter Install by Contractor	*$554,250*
Additional Soft Costs	*$250,000*
Total Base Plus Adders Project Cost:	***$3,206,000***

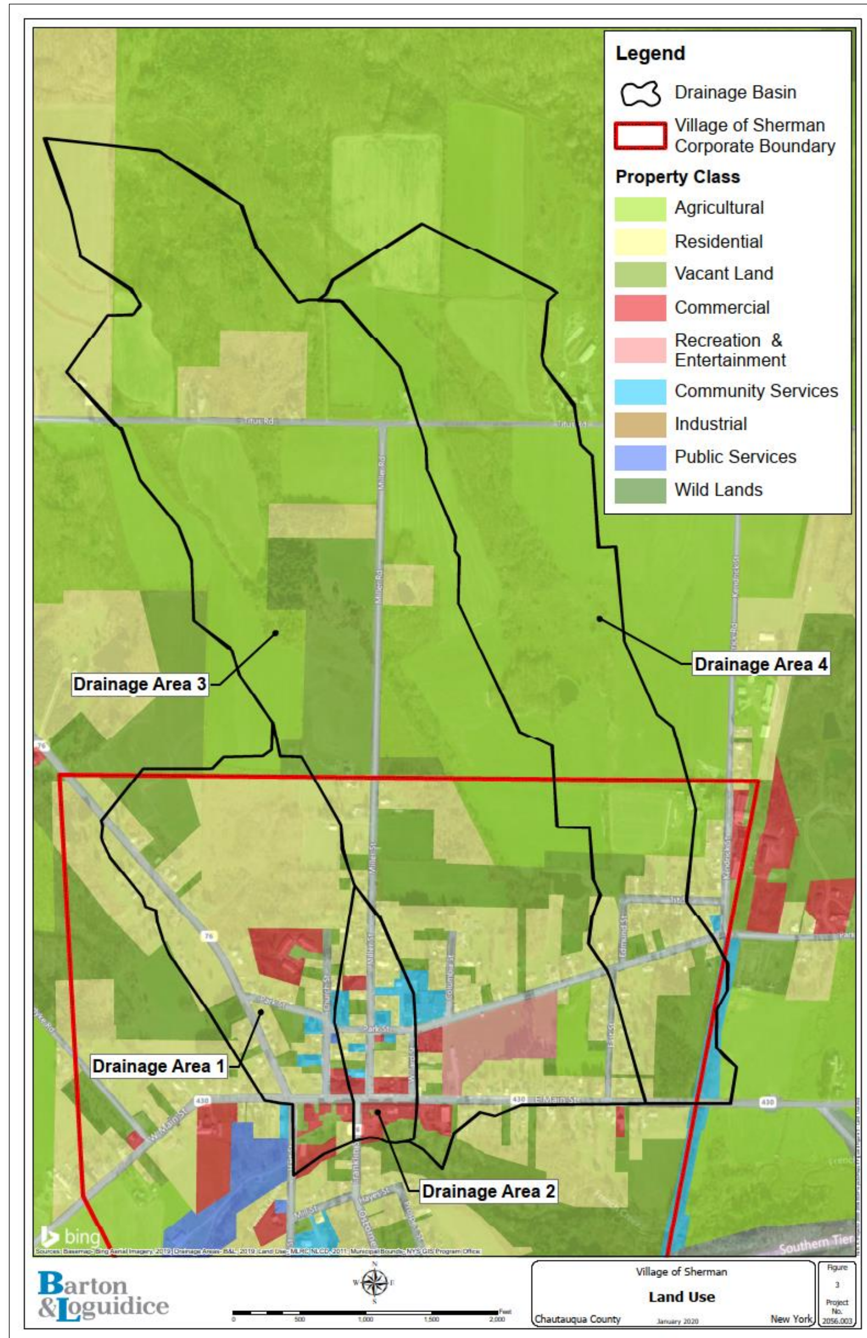
Implementation & Funding!

- CIP Estimated Project Cost: $3.2 M
- DWSRF Listing: Hardship (0% interest, 30-yr term)
- DWSRF Loan: $1.32 M
- DWSRF Grant: $1.98 M (60%!)
- Additional Co-Funding Grant Opportunities:
  - Climate Smart Community → Well Hardening/Resiliency

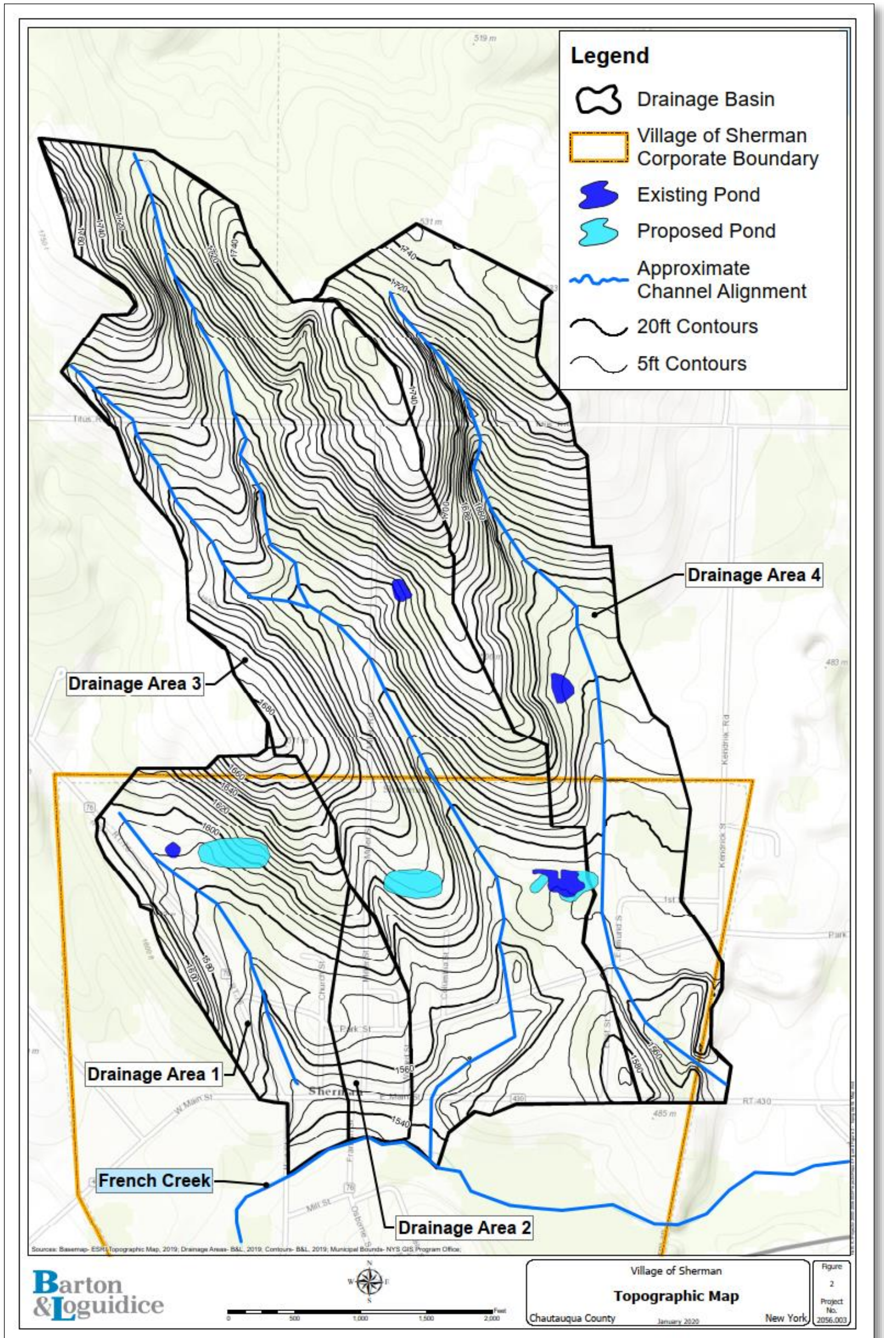
Stormwater Infrastructure Engineering Study Report

Mapped Floodplains & Land Use





Topography & Drainage Areas



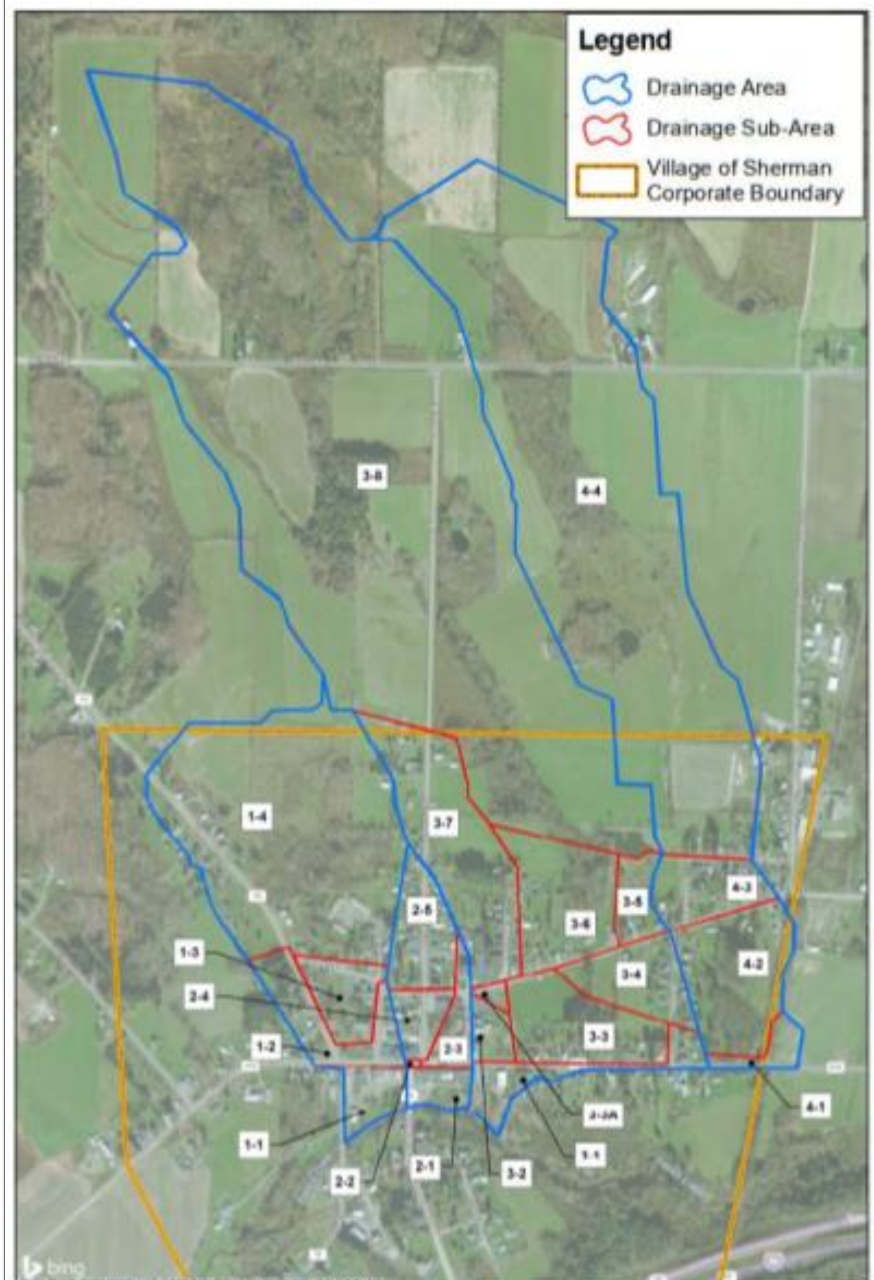


Figure 3-1: Delineated Watershed Study Area

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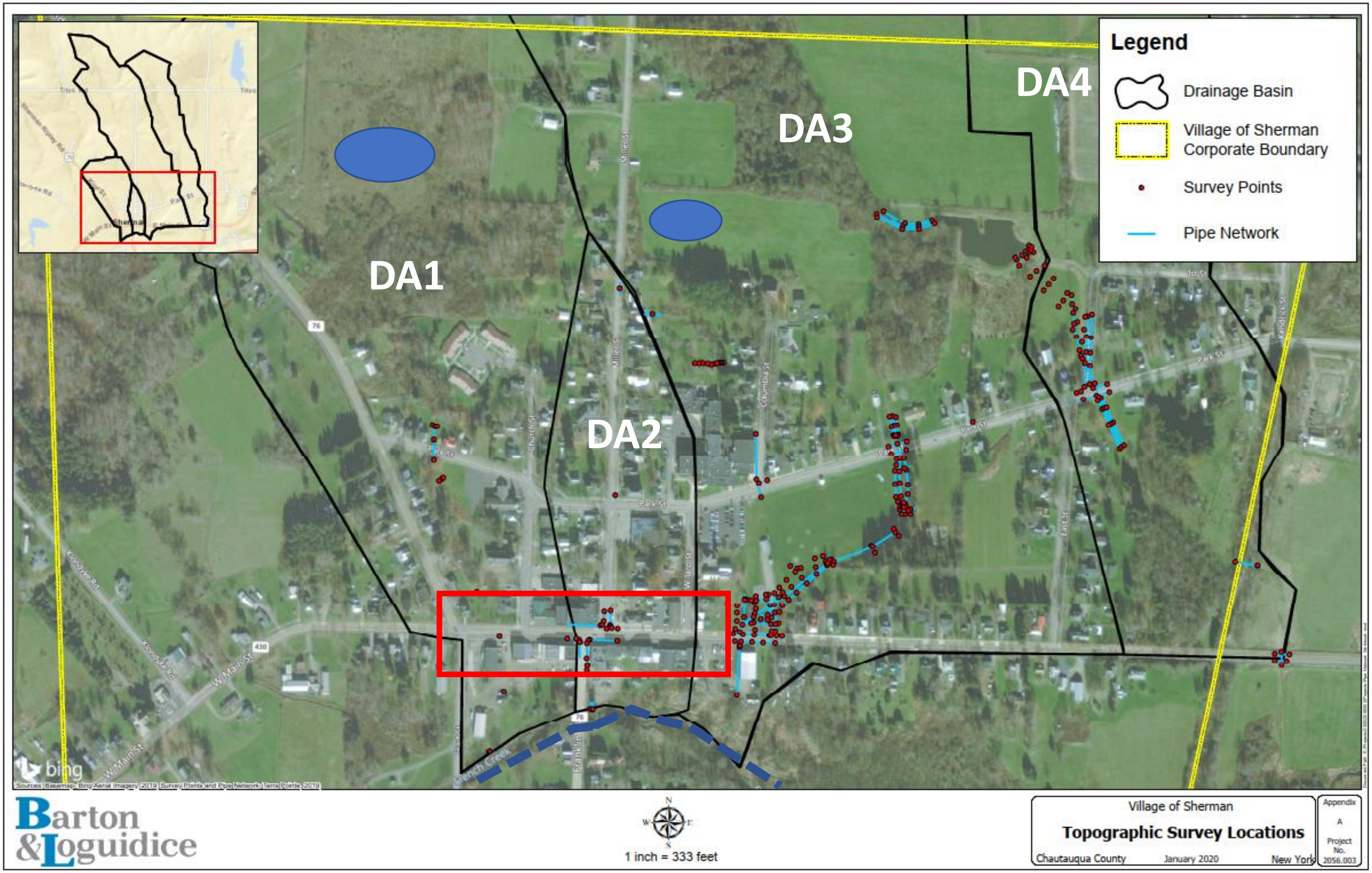
Field Survey for Stormwater Modeling



Stormwater Modeling – DA 1 & 2

Figure 3-2: DA- 1 Model

Figure 3-3: DA-2 Model

Storm Event	Modeled Peak Flow at Outlet (cfs)	Modeled Peak Flow at Outlet(cfs)
1-Year Storm	59	10
1.5-Year Storm	59	13
2-Year Storm	60	15
10-Year Storm	71	33
25-Year Storm	78	49
50-Year Storm	85	63
100-Year Storm	94	81
500-Year Storm	123	138

Stormwater Modeling – DA 3 & 4

Figure 3-4: DA-3 & DA-4 Model

Table 3-3: DA-3 and DA-4 Peak Flow and Flooding Locations		
Storm Event	Modeled Peak Flow at Outlet (cfs)	Modeled Flooding Location
1-Year Storm	68	• Within the reach west of Columbia St. north of Sherman High School in residents' backyards • Sherman High School athletic fields just southwest of the baseball diamond • Sherman High School athletic fields just south of Park St. and east of the faculty lot • Within the reach northwest of the Sherman Community Nature Center pond • Within a reach north of Sherman Mayville Rd. just east of Chautauqua-Rails-To-Trails
1.5-Year Storm	70	• No additional flooding areas
2-Year Storm	71	• No additional flooding areas
10-Year Storm	84	• Within the reach that borders the Sherman High School athletic fields to the south • Within the reach south of Park St. and east of East St. • Overtopping the east side of Edmunds St.
25-Year Storm	92	• Overtopping the west side of Edmunds St. • Overtopping south side of E. Main St. • Within the reach south of E. Main St. • Overtopping west side of Columbia St. just north of the Sherman High School • Overtopping CB-118 adjacent to a house north of Park St. • Overtopping the intersection of Columbia St. and Park St. • Within the reach south of Park St. along the east side of the athletic fields
50-Year Storm	92	• Overtopping the Sherman Community Nature Center's pond with flow going east from DA-3 to DA-4 • Within the reach west of Edmunds St. within DA-4
100-Year Storm	91	• Overtopping the existing Sherman Community Nature Center pond
500-Year Storm	91	• Overtopping north side of Park St. upstream of the swale that runs along the athletic fields

Stormwater Management Strategies

4.0 ALTERNATIVES ANALYSIS

A retrofit opportunity matrix was developed to evaluate potential stormwater mitigation alternatives based on information obtained from prior studies and field data collection activities. The potential alternatives include:

- Stormwater detention – this practice focuses on providing localized storage to a drainage area to allow either detention and sedimentation or retention and infiltration, reducing total nutrient and sediment loads and peak runoff flow rates downstream.
- Reduction in impervious areas – this practice focuses on replacing existing or proposed impervious areas with more permeable areas that capture and infiltrate stormwater runoff. As a result, peak flow and nutrient and sediment loads are reduced.
- Riparian buffer restoration – this practice focuses on restoring the naturally-vegetated areas which serve as the transition zone between terrestrial (land) and aquatic (water) habitats. If sufficiently structured, protected, and maintained, riparian buffers serve to mitigate the volume and intensity of stormwater runoff entering the adjacent waterbody, and can act to mitigate the discharge of pollutants to the waterway often associated with stormwater runoff.
- Bioretention/rain garden/drainage infrastructure improvements – these GI practices focus on modifying existing drainage infrastructure to incorporate a bioretention/rain garden area to aid in reducing peak flows downstream by allowing retention and infiltration while benefiting habitat and enhancing public safety and community aesthetics.

The projects were ranked based on criteria associated with stormwater benefits (quantity and quality), constructability, cost and co-benefits. The rankings were based on the following criteria with total available points for each criterion in parentheses (see **Appendix F** for the detailed ranking matrix).

Project No. 1 – Main Street

Village of Sherman

Stormwater Infrastructure Preliminary Engineering Report

Project No. 1: Concept Plan

January 2020

GREEN INFRASTRUCTURE RETROFIT PRACTICES

1. **BIO-RETENTION BUMPOUTS**
Installation of bio-retention bumpouts with curb drops to capture stormwater runoff, for a total coverage of 10,000 SF.

2. **PERMEABLE ASPHALT PARKING**
Replacement of existing pavement, for a total coverage of 3,500 SF.

3. **FLEXIBLE POROUS PAVEMENT**
Replacement of existing pavement with flexible porous pavement for snow storage and infiltration. Place stormwater street trees with CU structural soil where feasible. 6,500 SF coverage.

4. **CONCRETE SIDEWALK**
Concrete sidewalks pitched towards flexible porous pavement for infiltration. Install granite curbing with 6" reveal to direct roadway runoff to curb drops.

5. **EASTERN & WESTERN VILLAGE GATEWAYS**
Visually notify the driver that they are entering a dense residential area…and to SLOW DOWN!

6. **DOWNSPOUT DISCONNECTIONS**
Installation of rain barrels and stormwater to planters capture and re-use stormwater from downspouts, for a total coverage of 1,060 SF.

SITE IMPROVEMENTS

7. **PEDESTRIAN CROSSINGS**
Enhanced crossings at bumpouts provide traffic calming and pedestrian safety.

8. **SHARED LANE MARKINGS**
Install shared lane markings indicating shared space between vehicles and bicyclists.

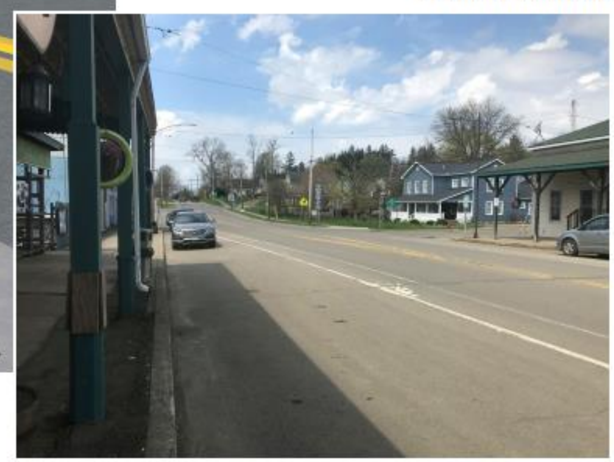
9. **EV CHARGING STATIONS**
Install electric vehicle charging stations at select location (s) for Climate Smart Community certification.

Project No. 1 – Main Street

Village of Sherman
Stormwater Infrastructure Preliminary Engineering Report
Project No.1: Perspective on Main Street (view west)
January 2020

Proposed Concept Sketch

Existing Conditions



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Project No. 1 – Main Street

Village of Sherman

Stormwater Infrastructure Preliminary Engineering Report

Project No. 1: Perspective on Main Street (view east)

January 2020

Proposed Concept Sketch

Existing Conditions

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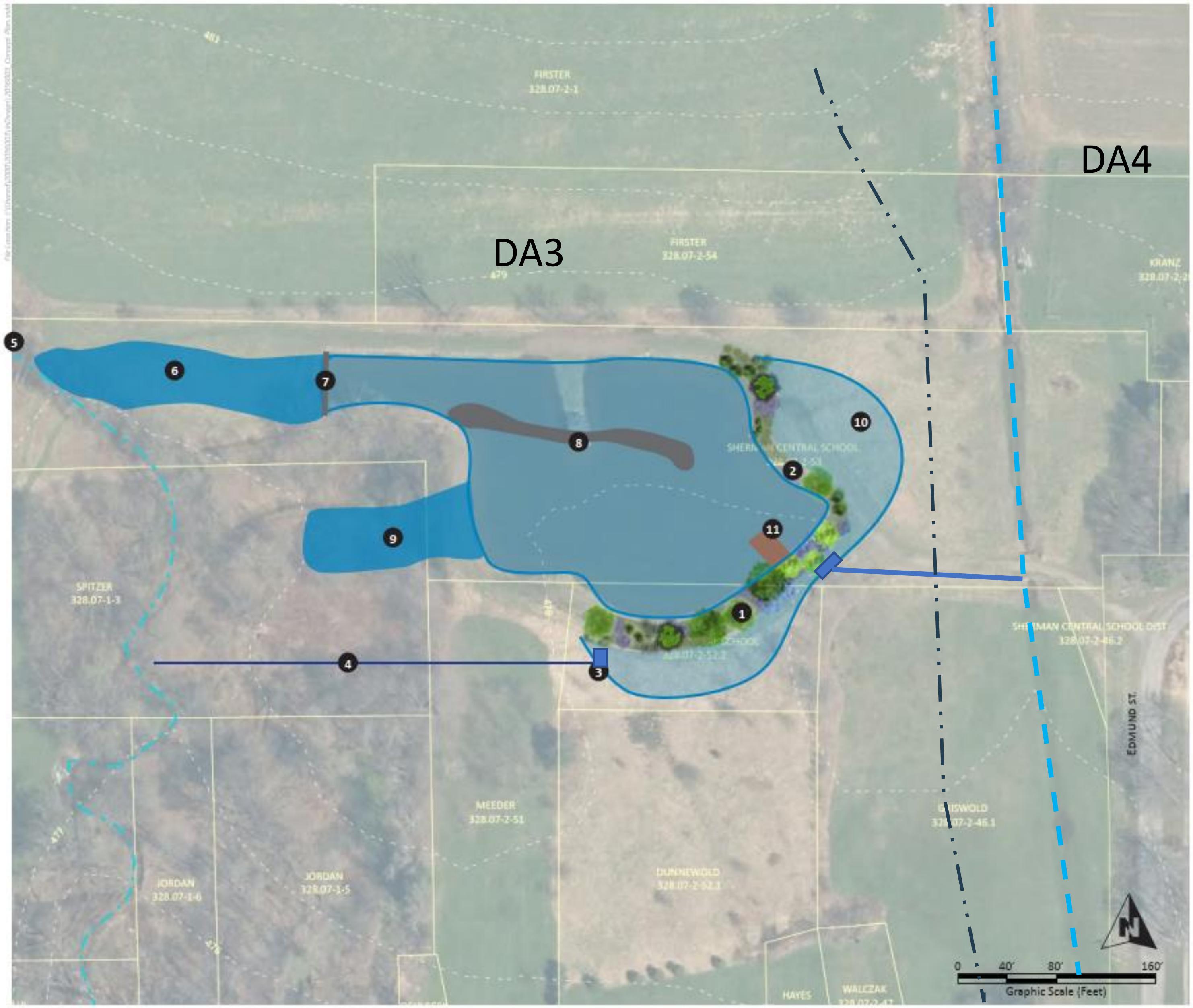
Project No. 4 – Nature Conservancy Pond



Village of Sherman

Stormwater Infrastructure Preliminary Engineering Report

Project No. 4: Concept Plan

January 2020

STORMWATER DETENTION

Stormwater Detention expands on the existing pond at the Sherman Community Nature Center to reduce peak flows downstream via detention and controlled stormwater outflow in lieu of just providing storage.

1. **VEGETATED BERM**
   Vegetated berm to separate detention pond from wet pond and increase aesthetics and habitat diversity.
2. **OVERFLOW**
   Overflow into detention pond at 1567.0' designed to allow water from wet pond to flow into detention pond once full where outflow is controlled via outlet control device.
3. **OUTLET CONTROL DEVICE**
4. **UNDERGROUND OUTLET TO STREAM**
5. **FLOW DIVERSION**
6. **FOREBAY**
7. **SPILLWAY**
8. **GABION BAFFLE**
   Gabion baffle to direct flow into detention area.
9. **EMERGENCY SPILLWAY**
   Emergency spillway designed for flood release during 100-year storms or greater.
10. **REDUCE PEAK STORM FLOWS**
    Provide off-line water quantity storage to reduce flooding in downstream areas including the school athletic fields by preventing localized flooding from a 1-year storm.
11. **RELOCATED DOCK**
    Relocate dock to allow proper flow of the stormwater into the detention area.

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Project No. 2 – NW Corner School Fields

Village of Sherman

Stormwater Infrastructure Preliminary Engineering Report

Project No. 2: Concept Plan

January 2020

Green Infrastructure Retrofit Practices

1. **Isolation Diversion Structure** – First flush of stormwater runoff directed to offline bio-retention area via isolation diversion structure by modifying the existing catch basin. Higher flows would bypass the offline bio-retention area to stable downstream underground storm drainage to prevent localized flooding.
2. **Bio-Retention Area** – Minor regrading surrounding area to act as a site low point, for a total coverage of 4,000 SF.
3. **Stone Diaphragm** – Stone drop (pea gravel diaphragm) provided down-gradient of parking lot for initial treatment of parking lot sheet flow.
4. **Grass Filter Strip** – Grass filter strip provided down-gradient of stone diaphragm for further pretreatment and to convey flow to the bio-retention area.
5. **Culvert/Land Bridge** – Culvert underneath land bridge connecting bio-retention areas to allow pedestrian travel to athletic fields from the adjacent parking lot.
6. **Overflow/Outlet** – Overflow/outlet control device that connects to existing underground stormwater infrastructure.
7. **Improve Water Quality** – Bio-retention vegetation and soils will uptake and filtrate water.
8. **Provide Educational & Aesthetic Value** – Interpretive panels along a wooden pedestrian bridge providing information about the bio-retention area, ecology, and its associated watershed would be located along the bio-retention area to simulate educational opportunities.

New Underdrain/curtain Drain Pipe

Project No. 3 – East Edge School Fields

Village of Sherman

Stormwater Infrastructure Preliminary Engineering Report

Project No. 3: Concept Plan

January 2020

Green Infrastructure Retrofit Practices

1. **Riparian Buffer**
   Riparian buffer ranging from 25'-50' Perpendicular to stream that filters athletic field runoff. Riparian vegetation would aid in lowering groundwater table via water uptake.
2. **Habitat**
   Riparian vegetation shading the stream to optimize light and temperature conditions for aquatic animals.
3. **Flood Reduction**
   Riparian vegetation slows upstream sheet flow reducing downstream flooding via infiltration and energy dissipation.
4. **Aesthetic Value**
   Diverse vegetation provides scenic value to nearby recreational fields, and provide a physical barrier from the stream.
5. **Shared-Use Path**
   10-foot wide stone dust path for pedestrians and park maintenance vehicles.

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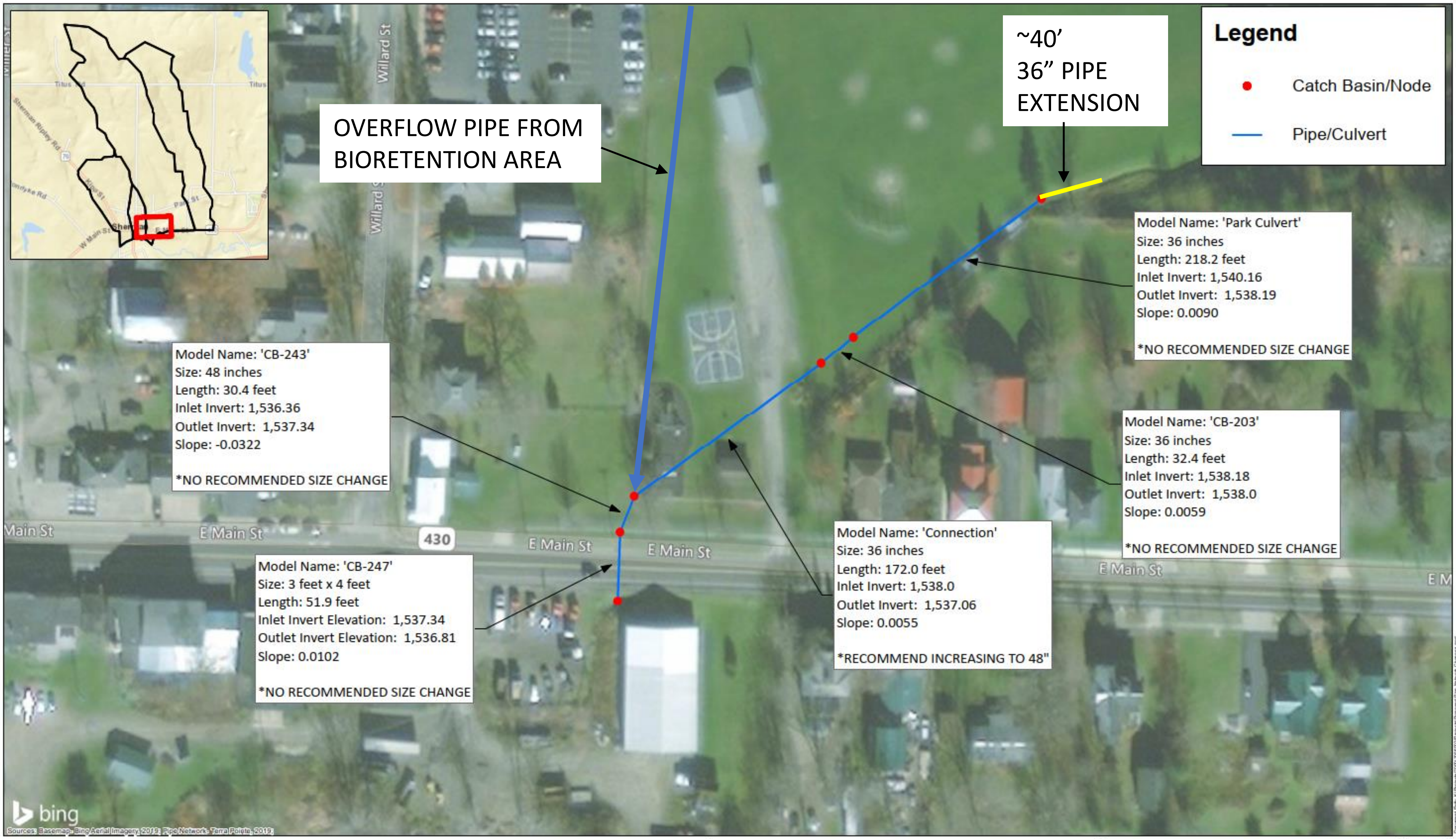

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1 inch = 75 feet

Village of Sherman

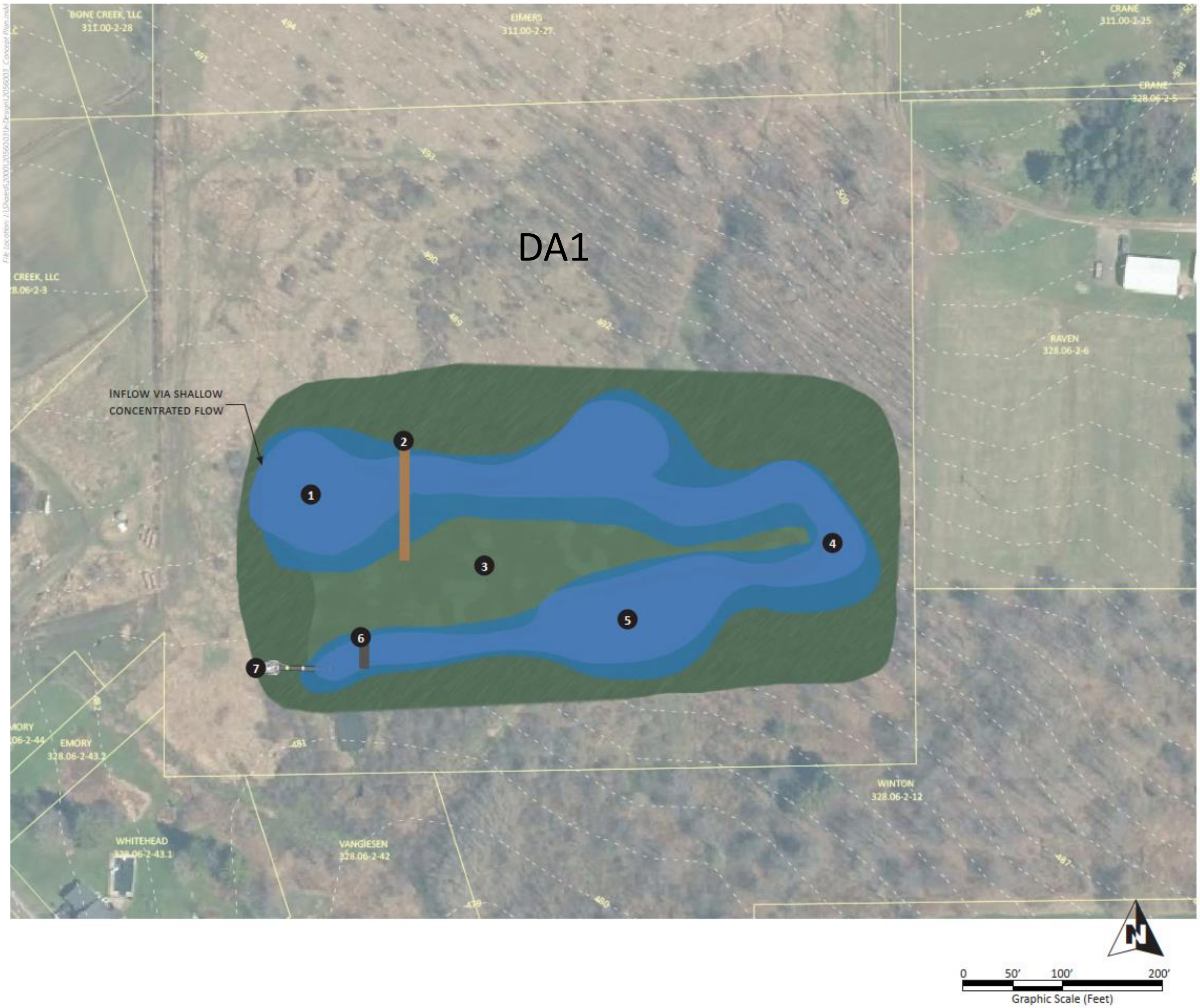
Proposed Pipe Network Changes

Chautauqua County February 2020 New York

Figure -

Project No. 2056.003

Project No. 5 – Stormwater Detention



Village of Sherman

Stormwater Infrastructure Preliminary Engineering Report

Project No. 5: Concept Plan

January 2020

STORMWATER DETENTION

1. **FOREBAY**
   Pretreatment approximately 4' to 6' deep and stores approximately 10% of the water quality volume to protect the flow pipe from clogging and prevent sediment resuspension.
2. **FOREBAY SPILLWAY**
   Overflow designed to allow water from forebay to flow into high marsh bordered by vegetated berm where water infiltrates.
3. **HIGH MARSH**
   Internal berm to provide a minimum flow path of 2:1 (length to relative width) heavily vegetated with a variety of native plants. During large storm events, the high berm is inundated and approximately 0.5' deep.
4. **LOW MARSH**
   Provides a low flow channel and is typically inundated (approximately 1.5' deep).
5. **MICRO-POOL**
   A smaller permanent pool to avoid resuspension or settling of particles, provide habitat for aquatic plants and animals, and is approximately 7' deep).
6. **EMERGENCY SPILLWAY**
   Emergency spillway at 1570.0' designed for flow release during 10-year storms or greater.
7. **OUTFALL**
   Outlet to existing shallow concentrated flow path.
8. **REDUCE PEAK STORM FLOWS**
   Provide water quantity storage and detention to reduce flooding in downstream areas including the lots between Miller St. and Columbia St. by preventing localized flooding from a 1-year storm.
9. **HABITAT DIVERSITY**
   Provide habitat for waterfowl and other wetland species through selection of native wetland plantings.
10. **ENHANCE WATER QUALITY**
    Provide off-line water quality treatment storage from the contributing drainage area via pollutant settling and biological uptake.

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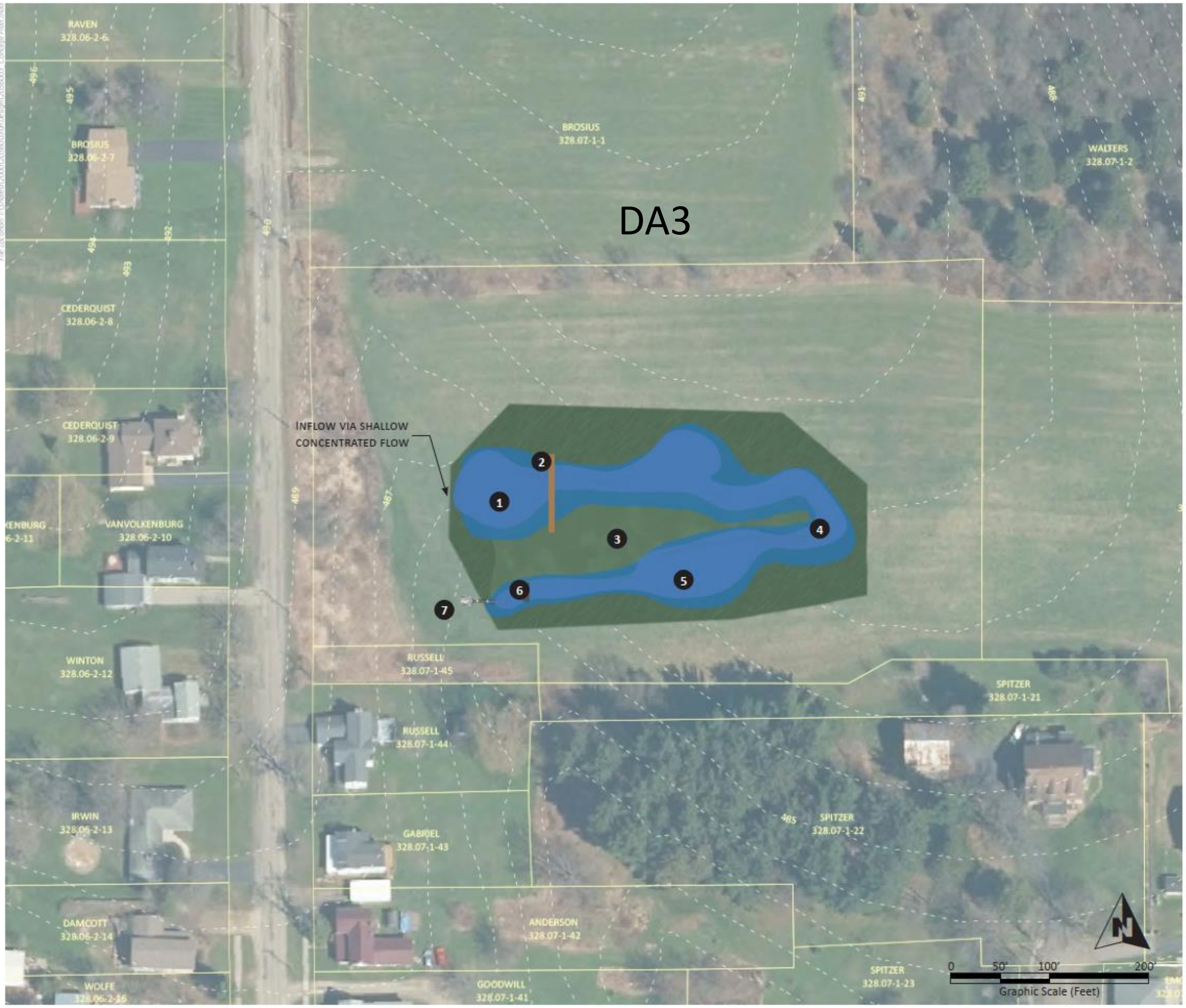
Project No. 6 – Stormwater Detention



Village of Sherman

Stormwater Infrastructure Preliminary Engineering Report

Project No. 6: Concept Plan

January 2020

STORMWATER DETENTION

1. **FOREBAY**
Pretreatment approximately 4' to 6' deep and stores approximately 10% of the water quality volume to protect the flow pipe from clogging and prevent sediment resuspension.

2. **FOREBAY SPILLWAY**
Overflow designed to allow water from forebay to flow into high marsh bordered by vegetated berm where water infiltrates.

3. **HIGH MARSH**
Internal berm to provide a minimum flow path of 2:1 (length to relative width) heavily vegetated with a variety of native plants. During large storm events, the high berm is inundated and approximately 0.5' deep.

4. **LOW MARSH**
Provides a low flow channel and is typically inundated (approximately 1.5' deep).

5. **MICRO-POOL**
A smaller permanent pool to avoid resuspension or settling of particles, provide habitat for aquatic plants and animals, and is approximately 7' deep).

6. **EMERGENCY SPILLWAY**
Emergency spillway at 1570.0' designed for flow release during 10-year storms or greater.

7. **OUTFALL**
Outlet to existing shallow concentrated flow path.

8. **REDUCE PEAK STORM FLOWS**
Provide water quantity storage and detention to reduce flooding in downstream areas including the lots between Miller St. and Columbia St. by preventing localized flooding from a 1-year storm.

9. **HABITAT DIVERSITY**
Provide habitat for waterfowl and other wetland species through selection of native wetland plantings.

10. **ENHANCE WATER QUALITY**
Provide off-line water quality treatment storage from the contributing drainage area via pollutant settling and biological uptake.

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Projected Runoff Rate Reductions

Impacts of Projects 4, 5, and 6 Detention ponds

Table 4-1. Peak Discharges to French Creek: Existing vs. Proposed Conditions

Drainage Area	1-Year Storm Event		1.5-Year Storm Event		2-Year Storm Event		10-Year Storm Event	
	Existing Condition (cfs)	Proposed Condition (cfs)	Existing Condition (cfs)	Proposed Condition (cfs)	Existing Condition (cfs)	Proposed Condition (cfs)	Existing Condition (cfs)	Proposed Condition (cfs)
DA-1	59	16	59	19	60	22	71	44
DA-2	10	10	13	13	15	15	33	33
DA-3	65	41	67	49	68	57	82	61
DA-4	3	3	3	3	3	3	3	3

Drainage Area	25-Year Storm Event		50-Year Storm Event		100-Year Storm Event		500-Year Storm Event	
	Existing Condition (cfs)	Proposed Condition (cfs)	Existing Condition (cfs)	Proposed Condition (cfs)	Existing Condition (cfs)	Proposed Condition (cfs)	Existing Condition (cfs)	Proposed Condition (cfs)
DA-1	78	62	85	77	94	93	123	123
DA-2	49	49	63	63	81	81	138	138
DA-3	89	68	89	81	88	87	88	87
DA-4	3	3	3	3	3	3	3	3

Table 4-3. Cost Estimate and Benefit-Cost Analysis				
Project	Total Cost Estimate ($)	Water Quantity Benefit	Water Quality Benefit	Other Benefit
Green Infrastructure Retrofit Practices along Main St.	$1,142,421	Volumetric reduction to closed drainage system and reduction of localized flooding at Main St.	Reduction of sediment, phosphorus, and nitrogen loads	Infrastructure improvements Educational opportunities Pedestrian safety Aesthetic value
Bioretention Area south of Sherman High School adjacent to athletic fields	$350,640	Volumetric reduction to closed drainage system	Reduction of sediment, phosphorus, and nitrogen loads	Infrastructure improvements Educational opportunities Aesthetic value
Riparian Buffer along creek bank south of athletic fields	$131,472	Reduction of localized flooding downstream via decelerated delivery of overland flow	Decreased sediment erosion downstream	Enhancement of habitat and diversity Aesthetic value Property loss reduction
Stormwater Detention Retrofit at the Sherman Community Nature Center	$511,782	Reduction of localized flooding downstream	Decreased sediment erosion downstream via reduced peak flows Water quality treatment via pollutant settling and biological uptake	Enhancement of habitat and diversity Mitigates need for downstream capacity improvements
Pond Retrofit north of Park Street and east of Sherman-Ripley Rd.	$544,742	Reduction of localized flooding downstream	Decreased sediment erosion downstream via reduced peak flows Water quality treatment via pollutant settling and biological uptake	Enhancement of habitat and diversity Mitigates need for downstream capacity improvements
Pond Retrofit upgradient of Sherman High School	$582,769	Reduction of localized flooding downstream	Decreased sediment erosion downstream via reduced peak flows Water quality treatment via pollutant settling and biological uptake	Enhancement of habitat and diversity Mitigates need for downstream capacity improvements

Funding Strategies

Table 4-5: Potential Funding and Assistance Opportunities			
Selected Alternatives	NYSDEC WQIP Program	EFC GIGP Program	HCR CDBG
Green Infrastructure Retrofit Practices along Main St.	✓	✓	✓
Bioretention Area south of Sherman High School adjacent to athletic fields	✓	✓	
Riparian Buffer along creek bank south of athletic fields	✓		
Stormwater Detention Retrofit at the Sherman Community Nature Center	✓		
Pond Retrofit north of Park Street and east of Sherman-Ripley Road	✓		✓
Pond Retrofit upgradient of Sherman High School	✓		✓

CDBG Public Infrastructure (PI)

Project Type: Sanitary Sewer, Drinking Water, and Stormwater Implementation Funding
Grant: Up to $750,000 or $1,000,000 with co-funding
How to Apply: Consolidated Funding Application (CFA) Process, Engineering Report
Key Deadlines: Late July
Eligibility: CDBG Eligible Communities, 51% of people benefiting from project must qualify as low-moderate income LMI areas

Target Funding Programs

Green Innovation Grant Program (GIGP)

Project Type:	Green Infrastructure and Stormwater Implementation Funding
Grant:	40% – 90% of Project Costs
How to Apply:	Consolidated Funding Application (CFA) Process
Key Deadlines:	Late July

Climate Smart Communities (CSC)

Project Type:	Planning and Implementation of Green Initiatives (comprehensive plans, active transportation projects, flood risk reduction, GI projects)
Grant:	Planning: Up to $100,000 (50% match) Implementation: Up to $2,000,000 (50% match)
How to Apply:	Consolidated Funding Application (CFA) Process
Key Deadlines:	Late July

Water Quality Improvement Project (WQIP)

Project Type:	Implementation funding for projects that benefit water quality (WWTP disinfection/improvements, collection, stormwater, salt storage)
Grant:	40% -75% grant depending on the project
How to Apply:	Consolidated Funding Application (CFA) Process
Key Deadlines:	Late July

Next Steps

Wow, we’ve got a busy few years ahead of us……

Parallel Projects

Water System CIP

- Congratulations, you're funded!
- Bond resolution
- Engineering Agreement
- DWSRF Short-term Loan closing
- Design – High Priority Mains
- 2020 Construction – HP Mains
- Design/Bid – Wells, tank, mains
- 2021 Construction

Stormwater CIP

- Finalize Engineering Report
- Submit to Village/HCR
- Address comments
- 2020 CFA Applications – GIGP, WQIP, CDBG
- Dec. 2020 – CFA award notice
- 2021-22 – Design/Bid/Constr.

The experience to **listen**
The power to **solve**℠

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