Culvert Assessment Report

Findley Lake
Town of Mina

Chautauqua County, New York

Prepared for

Town of Mina

2883 North Road
P.O. Box 38
Findley Lake, NY 14736

April 2024

Barton&Loguidice

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2883 North Road
P.O. Box 38
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Prepared by:

Barton & Loguidice, DPC
11 Centre Park, Suite 203
Rochester, NY 14614

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List of Acronyms

CMP	Corrugated Metal Pipe
CWA	Clean Water Act
FEMA	Federal Emergency Management Agency
FIRM	Flood Rate Insurance Map
HSG	Hydrologic Soil Group
NYSDEC	New York State Department of Environmental Conservation
NYSDOT	New York State Department of Transportation
RCP	Reinforced Concrete Pipe
SHPO	State Historic Preservation Office
TMDL	Total Maximum Daily Load
USACE	United States Army Corps of Engineers
WOTUS	Waters of the United States

EXECUTIVE SUMMARY

The Town of Mina has received funding through the New York State Department of Environmental Conservation (NYSDEC) 2022 Non-Agricultural Nonpoint Source Planning and MS4 Mapping Grant, aimed at improving water quality within Findley Lake. Stormwater runoff events within the Findley Lake watershed contribute sediment and excess nutrients (e.g., phosphorus) to the Lake. Due to excessive nutrient and sediment loads, the Lake's environmental health is at risk. All concerned have the desire to provide water quality improvement to the Lake.

The purpose of this Culvert Assessment Report is to provide an overview of the existing condition of various culverts located within the contributing drainage area to Findley Lake (the Lake), a NYSDEC-designated impaired waterbody with a Total Maximum Daily Load (TMDL) for phosphorus. Further, this report aims to identify deficiencies associated with existing culverts which convey surface waters and stormwater flows to Findley Lake to determine if they are contributing to erosion and associated sediment and nutrient loads to the Lake. To achieve this, a structural assessment of all culverts was completed to determine if any culverts require routine maintenance and/or substantial repair or modification.

This Culvert Assessment Report provides an overview of the site investigation process and associated mitigation alternative recommendations. A total of 90 culverts were identified during the culvert assessment, 85 of which were accessible for inspection. The culvert assessment investigation revealed a total of 60 culverts requiring routine maintenance related to erosion protection, removal of vegetation, or accumulated sediment and debris. Additionally, two culverts (BD-3 and MR-3) were determined to be underperforming or inadequate and prioritized for additional analysis and mitigation alternatives were progressed to the conceptual level.

The recommended maintenance activities comprise a range of activities including erosion protection, culvert cleaning, vegetation removal, structural maintenance, grading activities, and/or stone armoring or inlet/outlet protection. Provided within is a map of existing culvert locations, their inspected condition, and their jurisdiction (i.e., local, county, or state). For prioritized culverts which were determined to require substantial repair or modification, additional analysis was completed including an existing conditions overview, justification for recommended culvert repair and replacement elements, and conceptual plans.

1.0 PROJECT OBJECTIVES

1.1 Project Background

Findley Lake (the Lake) serves as a prominent feature politically, economically, and socially for residents of Chautauqua County. The Lake serves as a major destination for recreationalists, tourists, and summer residents for its fishery, scenery, and water-related recreations, all of which are significant contributors to the local economy. However, due to ongoing contributions of sediment and nutrients (*i.e.*, phosphorus and nitrogen), the Lake is now classified as an impaired waterbody with a Total Maximum Daily Load (TMDL) for phosphorus. Excessive nutrient runoff and sedimentation causes problematic aquatic vegetation growth and the outbreak of algal blooms threatening the Lake's water quality, recreation value, and sustainability, and in turn, threatening the local economy and biodiversity. The runoff of nutrients and sediment from human activities in the watershed now exceeds the lake's natural capacity to dilute and purify.

Impairments to Findley Lake's water quality has highlighted the need for evaluation of nutrient and sediment loading to the Lake, including the source of these contaminants. Evaluation of existing drainage infrastructure can identify critical point sources of erosion and subsequent sedimentation. Deficiencies associated with existing drainage infrastructure can include undersized, misaligned, or non-functioning culverts, which may increase erosion rates and/or localized flooding within the vicinity of these structures. The primary focus area for the study includes the Findley Lake Watershed (Watershed Study Area). A topographic map showing the general location of the study area is provided as **Figure 1**. An aerial map showing the Watershed Study Area is included as **Figure 2**.

1.2 Project Goals

Deteriorating and damaged culverts can hinder water flow, increasing ponding and flooding potential in the surrounding areas. Additionally, culverts with inadequate protection can result in increased erosion and sedimentation potential, leading to increased loading of sediment and nutrients to the Lake. The primary goal of this Culvert Assessment Report is to provide an overview of the existing condition of various culverts located within the contributing drainage area to Findley Lake (the Lake), a New York State Department of Environmental Conservation (NYSDEC) designated impaired waterbody. Further, this report aims to identify deficiencies associated with any culverts conveying surface water and stormwater flows to Findley Lake and determine if they are contributing to erosion and associated sediment contamination within the Lake. To achieve this, a structural assessment of all culverts was completed to determine if any require replacements or re-sizing. Culverts are drainage structures which convey stormwater drainage and/or surface water flows underneath an otherwise obstructing feature such as roadways, driveways, etc. It should be noted that catch basins (otherwise known as drop inlets), which consist of surface collection points for subsurface storm drainage collection systems,

were not evaluated as part of this study. This study has been progressed under funds received through the NYSDEC Non-Agricultural Nonpoint Source Planning and MS4 Mapping Grant.

By inspecting culverts within the Findley Lake drainage basin, culvert functionality can be assessed. As culverts become misshapen or deteriorated, water flow can be obstructed. Culverts that are embedded with sediment or organic debris and/or have excessive vegetation growth also inhibit water flow, increasing the potential for localized ponding and flooding. Culverts with exposed soil pose a threat to the Lake's water quality as they can facilitate the transport of sediment. Therefore, stabilizing exposed soils around culverts will reduce sediment and pollutant loading into the Lake.

2.0 EXISTING CONDITIONS

2.1 Site Information

Findley Lake is a man-made lake which was formed when Alexander Findley dammed the outlets of two ponds to power his mill in 1815. Findley Lake has long been a popular spot for tourists and summer residents, thanks to its appealing fishery, picturesque scenery, and various water-related recreational activities, all of which are significant contributors to the local economy. However, due to extensive use over the years, the Lake is now classified as a NYSDEC impaired waterbody, with a documented history of high phosphorus concentrations and oxygen deficits (The CADMUS Group, 2008). Findley Lake's impaired designation is primarily a result of nonpoint source pollution (i.e., nitrogen, phosphorus, and sediment) from ditch and channel erosion, agricultural activity, and urban and residential development, leading to problematic growth of aquatic vegetation and the emergence of algal blooms. These issues pose a threat to the Lake's water quality, recreational value, and sustainability, and in turn, threaten the local economy and biodiversity. Culverts in varying conditions convey stormwater and tributary flows throughout the drainage basin, potentially contributing to water quality degradation.

2.2 Drainage Area Characteristics

The Findley Lake Watershed encompasses nearly 3,000 acres. Three main tributaries collectively drain over half of the Lake's watershed area. The most substantial inflow of water to the Lake originates from Buesink's Creek, situated on the northeastern shoreline. Water exits the Lake to the north, joining the West Branch of the French Creek, which meanders westward and then southward, eventually merging with French Creek at Wattsburg, Pennsylvania (The CADMUS Group, 2008).

The Lake's contributing drainage areas vary in geologic conditions (e.g., soil type, depth to bedrock, groundwater level, and slope). Soils are classified into hydrologic soil groups (HSG) to indicate the minimum rate of infiltration, or rate at which water enters the soil at soil surface, for bare soil after prolonged wetting. HSG's consist of Groups A, B, C, and D soils. Group A soils have the lowest runoff potential and highest infiltration rates, whereas Group D soils have the highest runoff potential and lowest infiltration rates. Soils which are assigned a dual hydrologic soil group exhibit the characteristics of the first letter designation in their drained condition, and the second letter designation (D) in their undrained condition. Higher runoff rates result in increased stormflow through stream channels and roadside ditches, which may result in scour and erosion within these conveyances and their receiving drainage structures. Additionally, variation in the erodibility of project area soils presents different likelihoods for erosion during periods of high velocity stormflows. Erodibility of soils is quantified using erosion factor K, which indicates the susceptibility of a soil to sheet and rill erosion by water. Values of factor K range from 0.02 low susceptibility to erosion to 0.69, with higher values indicating a higher susceptibility to erosion (USDA, 2016).

Soil properties and qualities are summarized for each drainage area in **Table 1-1**. A soils map is included as **Figure 3**, illustrating the variance in HSG between drainage areas. A majority of the study area (53%) consists of Group C/D soils, which exhibit higher runoff potential and lower infiltration rates.

Table 1-1: Soil Properties and Qualities

Soil Unit Symbol	Soil Unit Name	Acres in Study Area	Percent of Study Area	HSG	Erodibility Rating
Ad	Alden mucky silt loam	5.7	0.2%	C/D	0.28
AlA	Allard silt loam, 0 to 3 percent slopes	5.1	0.2%	B	0.37
AlB	Allard silt loam, 3 to 8 percent slopes	100.2	3.1%	B	0.37
As	Ashville silt loam	101.4	3.2%	C/D	0.28
BsA	Busti silt loam, 0 to 3 percent slopes	84.5	2.6%	C/D	0.32
BsB	Busti silt loam, 3 to 8 percent slopes	513.1	16.0%	C/D	0.32
BsC	Busti silt loam, 8 to 15 percent slopes	59.2	1.8%	C/D	0.32
Cb	Canandaigua silt loam, loamy substratum	15	0.5%	C/D	0.49
Cc	Canandaigua mucky silt loam	8.6	0.3%	C/D	0.49
Ce	Carlisle muck	3.9	0.1%	A/D	*N/A*
ChE	Chadakoin silt loam, 25 to 35 percent slopes	42.5	1.3%	B	0.32
CkB	Chautauqua silt loam, 3 to 8 percent slopes	182.5	5.7%	C/D	0.37
CkC	Chautauqua silt loam, 8 to 15 percent slopes	113.8	3.5%	C/D	0.37
CkD	Chautauqua silt loam, 15 to 25 percent slopes	49.1	1.5%	C/D	*N/A*
CnA	Chenango gravelly loam, 0 to 3 percent slopes	4.6	0.1%	A	0.15
CnB	Chenango gravelly loam, 3 to 8 percent slopes	250.2	7.8%	A	0.15
CnC	Chenango gravelly loam, 8 to 15 percent slopes	99.6	3.1%	A	0.15
CnD	Chenango gravelly loam, 15 to 25 percent slopes	7.7	0.2%	A	0.15
CoB	Chenango channery loam, fan, 3 to 8 percent slopes	29	0.9%	A	0.1
ErA	Erie silt loam, 0 to 3 percent slopes	5.9	0.2%	D	0.37
ErB	Erie silt loam, 3 to 8 percent slopes	98.6	3.1%	D	0.37
ErC	Erie silt loam, 8 to 15 percent slopes	10.4	0.3%	D	0.37

Table 1-1: Soil Properties and Qualities					
Soil Unit Symbol	**Soil Unit Name**	**Acres in Study Area**	**Percent of Study Area**	**HSG**	**Erodibility Rating**
Fe	Fluvaquents-Udifluvents complex, frequently flooded	7.1	0.2%	A/D	0.17
FmA	Fremont silt loam, 0 to 3 percent slopes	9.2	0.3%	D	0.32
FmB	Fremont silt loam, 3 to 8 percent slopes	179.9	5.6%	D	0.32
FmC	Fremont silt loam, 8 to 15 percent slopes	154.3	4.8%	D	0.32
FmD	Fremont silt loam, 15 to 25 percent slopes	13.9	0.4%	D	*N/A*
Ge	Getzville silt loam	18.2	0.6%	B/D	0.32
LnB	Langford silt loam, 3 to 8 percent slopes	152.1	4.7%	D	0.24
LnC	Langford silt loam, 8 to 15 percent slopes	66	2.1%	D	0.24
Pa	Palms muck	5.6	0.2%	B/D	*N/A*
Pg	Pits, gravel	5.4	0.2%	*N/A*	0.02
Po	Pompton silt loam	18.6	0.6%	A/D	0.32
RaB	Raynham silt loam, 3 to 8 percent slopes	8.7	0.3%	C/D	0.37
Rh	Red Hook silt loam	65.2	2.0%	B/D	0.32
ShB	Schuyler silt loam, 3 to 8 percent slopes	53.2	1.7%	C/D	0.32
ShC	Schuyler silt loam, 8 to 15 percent slopes	92.3	2.9%	C/D	0.32
ShD	Schuyler silt loam, 15 to 25 percent slopes	64	2.0%	C/D	*N/A*
SoA	Scio silt loam, 0 to 3 percent slopes	1.3	0.0%	B/D	0.37
Ud	Udorthents, landfill	4.7	0.1%	A	0.28
VaB	Valois gravelly silt loam, 3 to 8 percent slopes	46	1.4%	B	0.24
VaC	Valois gravelly silt loam, 8 to 15 percent slopes	135.1	4.2%	B	0.24
W	Water	311.7	9.7%	*N/A*	*N/A*
Wy	Wayland soils complex, 0 to 3 percent slopes, frequently flooded	11.9	0.4%	B/D	0.32

Each drainage area has a moderate slope directing stormwater from the outer extents of each subcatchment towards the Lake. In general, steeper slopes result in a shorter time of concentration, which produces a higher peak flow. Slopes within the Watershed Study Area are highly variable. A contour map showing the slope distribution within the Watershed Study Area is included as **Figure 4**.

Land cover is also important to the drainage hydrologic cycle, exerting considerable influence on the chemical, physical, and biological characteristics of waterbodies. Land cover classifies the vegetation (or lack thereof) covering the ground. Removing the natural vegetation due to human activities reduces the soil's ability to filter nutrients and sediments, resulting in increased amounts of runoff and pollution. Within the Watershed Study Area, land cover varies with population density, where more impervious cover types are generally located within closer proximity to the lakeshore and more pervious cover types (e.g., crops and forest) are generally located farther north from the lake. Land cover, as defined by the 2019 National Land Cover Database (Dewitz, 2021), is presented in **Figure 5**.

While land cover plays a critical role in the quantity of runoff generated over a drainage area, land use also has one of the greatest impacts on stormwater runoff quality due to activities associated with different land uses which vary in pollutant loading potential. Urbanized land use generally relates to more impervious covers, resulting in higher peak flows. Higher runoff peak flows promote transport of contaminants built up on the ground surface while also preventing attenuation and filtration of nutrients and sediments. More ruralized land usage generally relates to more pervious covers, resulting in lower peak flows and increased nutrient and sediment filtration. However, some ruralized land usage, such as farming and livestock operations, have higher than typical nutrient runoff loads. Within the Watershed Study Area, land use varies with population density, where more urbanized parcels are generally located within closer proximity to the lakeshore and ruralized parcels generally located farther north from the lake. Property classes, as defined by Chautauqua County parcel data, are presented in **Figure 6**.

Groundwater elevations vary greatly between various soil groups, land uses, and land covertypes. Areas with lower (deeper) groundwater elevations and high infiltration rates provide positive impacts to water quality by trapping sediments and capturing pollutants prior to discharging to the Lake. In some instances of HSG A soils and/or forested areas, high groundwater levels may contribute to runoff. Approximate groundwater levels, as defined by Soil Survey Database (USDA, 2016), are shown on **Figure 7**.

A floodplain, by definition, is a nearly flat plain near a waterbody that is naturally subject to flooding. Floodplains generally contribute to localized flooding, however, offer much needed nutrient filtration. Floodplains exist within the Watershed Study Area, originating mostly around the lake shore and streams entering the lake. The 100-year and 500-year floodplain, as defined by Federal Emergency Management Agency's (FEMA) digital floodplain data (FEMA, 2003), are provided on **Figure 8**.

3.0 PROJECT DESCRIPTION

3.1 Field Data Collection

A two-person B&L inspection team conducted inspections of all culverts within the study area in June 2023. Each culvert was evaluated for damage, sediment and organic debris deposits, erosion, and abnormal vegetation. Culvert characteristics, including size, shape, and material, were recorded on digital field data sheets. Photographs and a GPS coordinate were taken at each inspected culvert structure. Inspection reports generated from the in-person culvert assessment efforts are included as **Appendix A**. Existing culvert locations are presented in **Figures 9A and 9B**.

3.2 Results

A total of 90 culverts were identified during the culvert assessment. A total of 85 culverts were accessible for assessment and collection of GPS location data. Limited evaluation was conducted for the five remaining culverts due to a combination of accessibility limitations and/or an inability to locate either the inlet or outlet of the structure due to the structure being buried or embedded. Observations taken at accessible culvert structures resulted in an overall culvert characterization and, when necessary, assignment of improvement or repair recommendations. Typical deficiencies noted during the culvert assessment included damage, excessive vegetation or debris, and/or erosion related issues. Culverts determined to be in need of substantial repair or potential replacement were assigned priority over those requiring routine maintenance activities.

The culvert assessment investigation revealed a total of 60 culverts requiring routine maintenance related to erosion protection, removal of vegetation, or removal of accumulated sediment and debris. Additionally, two culverts (BD-3 and MR-3) were determined to be underperforming or inadequate and prioritized for additional analysis and mitigation alternatives were progressed to the conceptual level.

<u>Culverts Requiring Routine Maintenance</u>

Numerous culverts were identified as being impacted by excessive organic material buildup or excessive vegetative growth, however the most commonly identified deficiencies were erosion-related. Stabilization of exposed soils can reduce the amount of sediment being transported through the culverts and downstream conveyances, ultimately resulting in a reduction of sediment and nutrient loading to the Lake. In addition to protecting culvert end sections from scour and erosion, cleaning and maintenance of vegetation height and density near inlets and outlets culverts aids in reduction in obstruction potential, allowing water to flow freely through.

An overview of identified culverts requiring routine maintenance and their associated culvert deficiencies and jurisdictions are provided in **Table 3-1** below. Additionally, **Figures 9A and 9B** provide a summary of culvert jurisdictions and current condition ratings.

Table 3-1: Culverts Requiring Routine Maintenance							
Culvert ID	**Deficiency Type**				**Jurisdiction**		
	Damaged	**Clogged**	**Erosion**	**Excessive Vegetation**	**Town of Mina**	**Chautauqua County**	**New York State**
426-1			X				X
426-2			X				X
426-3			X				X
426-4			X				X
426-5	X		X				X
426-6		X					X
426-7			X				X
426-8			X				X
426-9		X		X			X
426-10		X		X			X
426-12				X			X
426-14		X		X			X
426-16				X			X
426-19	X		X	X			X
426-20		X		X			X
426-23				X			X
426-24				X			X
BD-1			X		X		
BD-2		X	X		X		
BD-3	X		X		X		
BD-4		X		X	X		
BD-5		X			X		
BH-1			X		X		
BH-2	X			X	X		
BH-5	X	X	X	X	X		
BH-7				X	X		
BH-8				X	X		
BH-9				X	X		
BH-12	X	X			X		
BH-13			X	X	X		
HH-1			X		X		
HH-2	X	X			X		
HH-6				X	X		
HH-7	X	X			X		
HH-8	X		X		X		
HH-10				X	X		
MR-1				X		X	
MR-4				X		X	
MR-5				X		X	
MR-6				X		X	
MR-7	X					X	

Table 3-1: Culverts Requiring Routine Maintenance							
Culvert ID	**Deficiency Type**				**Jurisdiction**		
	Damaged	**Clogged**	**Erosion**	**Excessive Vegetation**	**Town of Mina**	**Chautauqua County**	**New York State**
MR-8		X				X	
MR-9				X		X	
MR-10			X	X		X	
MR-12	X					X	
MR-13				X		X	
PR-2		X		X	X		
SS-2		X			X		
SS-5			X		X		
SS-6		X			X		
SS-8			X		X		
SS-10	X			X	X		
SS-11		X			X		
SS-12		X			X		
SS-13			X		X		
SS-14			X		X		
SS-15		X			X		
SS-16		X	X		X		
SS-19		X			X		
WMH-1	X		X		X		

Culverts Requiring Repair or Replacement

Two culverts assessed during the in-person field reconnaissance efforts were determined to require substantial repair or modification. The locations of these two prioritized culverts are identified on **Figure 10**. Additionally, existing conditions of these culverts and their tributary areas are provided as **Figures 11A and 11B**.

Due to their selection as high priority culverts, it is recommended that correction of associated deficiencies at these locations be addressed as soon as possible. A description of the current condition of these culverts, as well as proposed maintenance alternatives, are provided below. Conceptual plans detailing recommended mitigation alternatives are provided as **Figures 12A and 12B.**

Culvert HH-3 (Town of Mina jurisdiction)

Culvert HH-3 consists of a Town of Mina owned roadway cross culvert conveying roadside drainage from the south side of Harrington Hill Rd, as well as streamflow from an unnamed tributary of Findley Lake, beneath Harrington Hill Rd. In its existing condition, culvert HH-3 consists of a 24" corrugated metal pipe (CMP) which was generally deemed as being structurally sound and in working condition; however, the culvert was initially oriented to receive inflow from the tributary stream and was not initially designed to drain multiple inflow sources with

different geometries. The result of this faulty geometry is notable scouring and erosion along the culvert end section. Additionally, the roadside drainage draining to culvert HH-3 flows down a roadway embankment with a moderate grade, resulting in additional erosion potential.

Photograph of existing culvert HH-3 configuration

These deficiencies would be most effectively mitigated by re-grading a portion of the roadway embankment and tributary floodplain areas to allow for more effective drainage of both inputs, ultimately reducing the potential for scouring and erosion. Additionally, inflow controls at the confluence of these two hydrologic inputs would reduce peak discharge rates entering the culvert. Inflow controls would likely consist of a combination of stone armoring and creation of a plunge pool or alternative velocity-reducing mechanism. To provide further protection against future erosion, the existing roadside ditch may also be retrofitted into a stone-lined channel for increased stability.

Culvert MR-3 (Chautauqua County DOT jurisdiction)

Culvert MR-3 consists of a County-owned 18-inch reinforced concrete pipe (RCP) conveying an unnamed, unmapped tributary of Findley Lake beneath Mann Road. Currently, culvert MR-3 does not have sufficient length to support the surrounding roadway and embankment on either side of the culver, resulting in subsidence of the roadway above and surrounding embankment.

In addition to adequate end section length, the areas immediately upstream of the culvert exhibit little to no downgradient slope, resulting in frequent ponding within these upstream reaches due to a lack of positive drainage.

Photograph of existing conditions and lack of positive drainage upstream of culvert MR-3

To mitigate these existing deficiencies, it is recommended that the existing culvert pipe be extended on both the upstream and downstream ends of the culvert, and that additional fill or stone armoring be brought in to supplement the existing embankment and provide greater stability to the roadway surface, especially during periods of intense stormflows. In addition to culvert extension and embankment protection, it is recommended that the areas immediately upstream of the culvert be evaluated for grading modifications which may increase the slope of the contributing channel, promoting positive drainage while reducing the likelihood and frequency of localized flooding of the areas surrounding the channel, and also enhancing the structural integrity of the channel.

4.0 ANTICIPATED REGULATORY APPROVAL AND PERMITS

Both culverts selected for prioritization were evaluated to determine what, if any, approvals and permitting requirements may be needed to facilitate maintenance activities.

Anticipated permit requirements were identified for both recommended projects, which included evaluation of the following approvals:

- A United States Army Corps of Engineers (USACE) Clean Water Act (CWA) Section 404 permit is required for excavation or fill below the ordinary high-water elevation of Waters of the United States (WOTUS).
- A NYSDEC Clean Water Act Section 401 Water Quality Certification is required for projects that require any federal permit that may result in discharge to Waters of the United States.
- New York State Department of Transportation (NYSDOT) Highway Work Permit for Non-Utility Work (Perm33) is required for any work within a state route right of way.
- A floodplain development permit is typically required for any work conducted within FEMA designated floodplains or floodways. Floodplain permits are administered on the local level; therefore, municipal public works projects may be exempt from requiring approval.
- Any state, federal, and/or local approval may also require regulatory coordination to confirm projects will not result in adverse impacts to threatened or endangered species, as well as to cultural, archeological, or historic resources.

Table 4-1 summarizes anticipated permitting applicability for the prioritized culverts. As the scope of these repairs and/or replacements has yet to be fully defined, this list should be seen as a starting point for permitting considerations rather than an all-encompassing list of required approvals.

Table 4-1: Considerations for Permitting and Approvals

Culvert Location	USACE CWA Section 404	NYSDEC CWA Section 401 Water Quality Certification	Threatened and Endangered Species Coordination	Floodplain Development Permit	State Historic Preservation Office (SHPO) Cultural Resources Coordination	DOT / Highway Department Approval
HH-3	X	X	X	X	X	X
MR-3	X	X	X		X	X

5.0 SUMMARY, RECOMMENDATIONS & NEXT STEPS

The primary objective of this Culvert Assessment Report is to provide an overview of the existing condition of culverts located within Findley Lake's contributing drainage area in order to identify existing drainage deficiencies potentially contributing to nutrient and sediment contamination within the Lake. A field inspection effort identified 90 total culverts, 85 of which were accessible for evaluation. Of the 85 culverts inspected, 60 culverts were designated as requiring routine maintenance related to erosion, excessive vegetation, clogging, or structural damage. Additionally, two culverts (HH-3 and MR-3) were determined to require more significant repair or modification.

The drainage infrastructure improvements identified within this report could assist in alleviating the magnitude of nutrient and sediment loading to the Lake, providing direct water quality benefits. It is recommended that routine maintenance be conducted in accordance with the findings of this report as soon as resources permit. In addition to maintenance completed directly by Town of Mina staff, numerous culverts identified as in need of maintenance activities are jurisdictional to the Chautauqua County Highway Department or NYSDOT. Therefore, coordination is required with these entities to ensure that these jurisdictions are aware of the existing drainage infrastructure deficiencies and associated maintenance needs.

For the two culverts requiring more significant repair or modification, more detailed hydraulic analysis may be warranted during final design to confirm that modification of these culverts is sufficient, or if in-kind replacement, potentially with upsizing, would better address existing deficiencies. Local, State, and/or federal permits and approvals would likely need to be obtained to complete the recommended repairs in accordance with **Section 4.0**.

There are existing funding programs that can be pursued to assist with implementation funding. Funding programs are constantly changing, and additional opportunities may become available in the future. As applicable grant funding becomes available for implementation of these projects, it is the intent of this report to provide the framework for future funding acquisition, design, permitting, and implementation efforts.

6.0 RESOURCES

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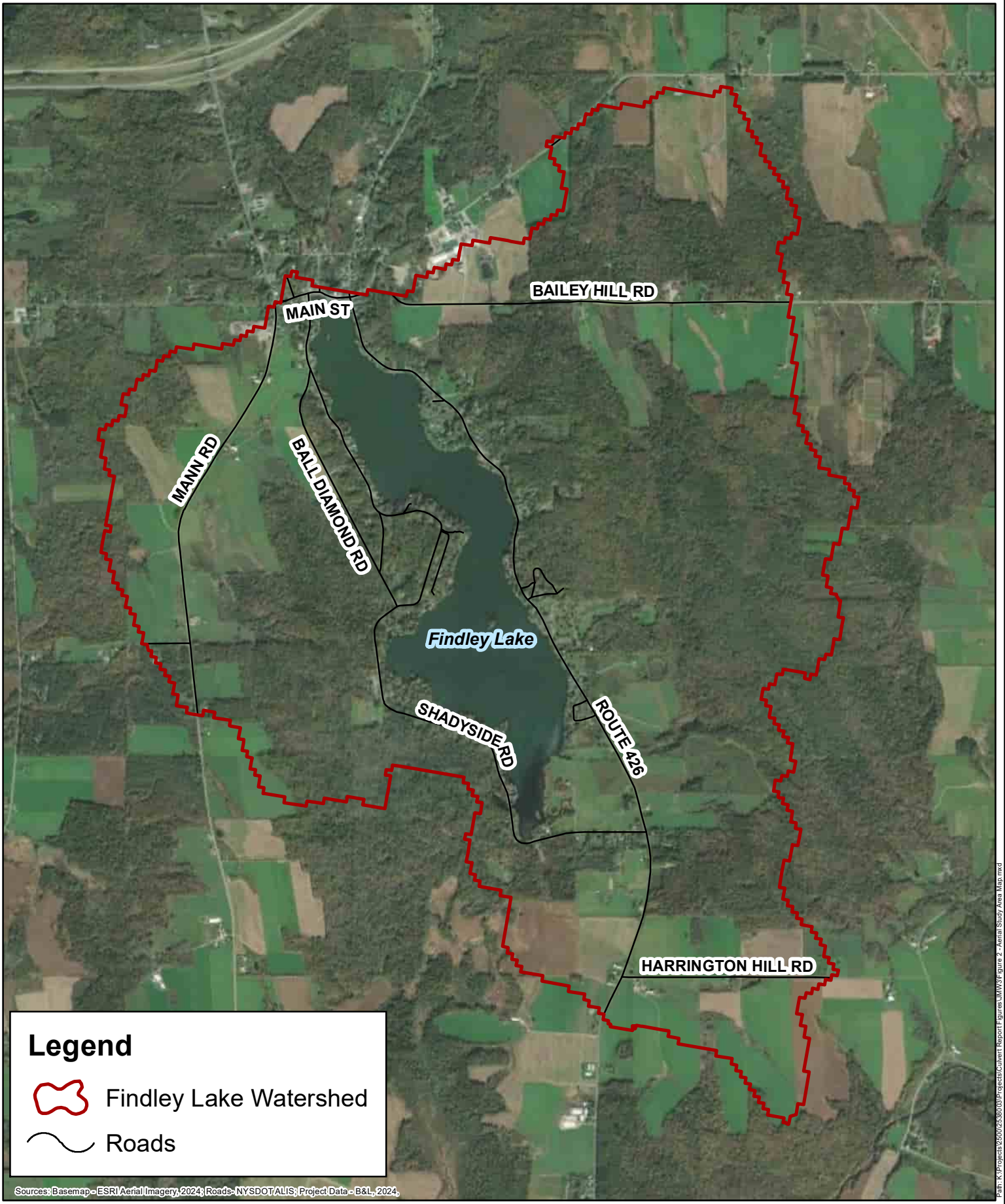
United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), 2016. Gridded Soil Survey Geographic (gSSURGO) Database for *New York*. Accessed May 2023. Available from: https://gdg.sc.egov.usda.gov/

FIGURE 2
Aerial Study Area Map



Barton & Loguidice

N W E S

1 inch = 3,000 feet

Findley Lake Culvert Assessment Report

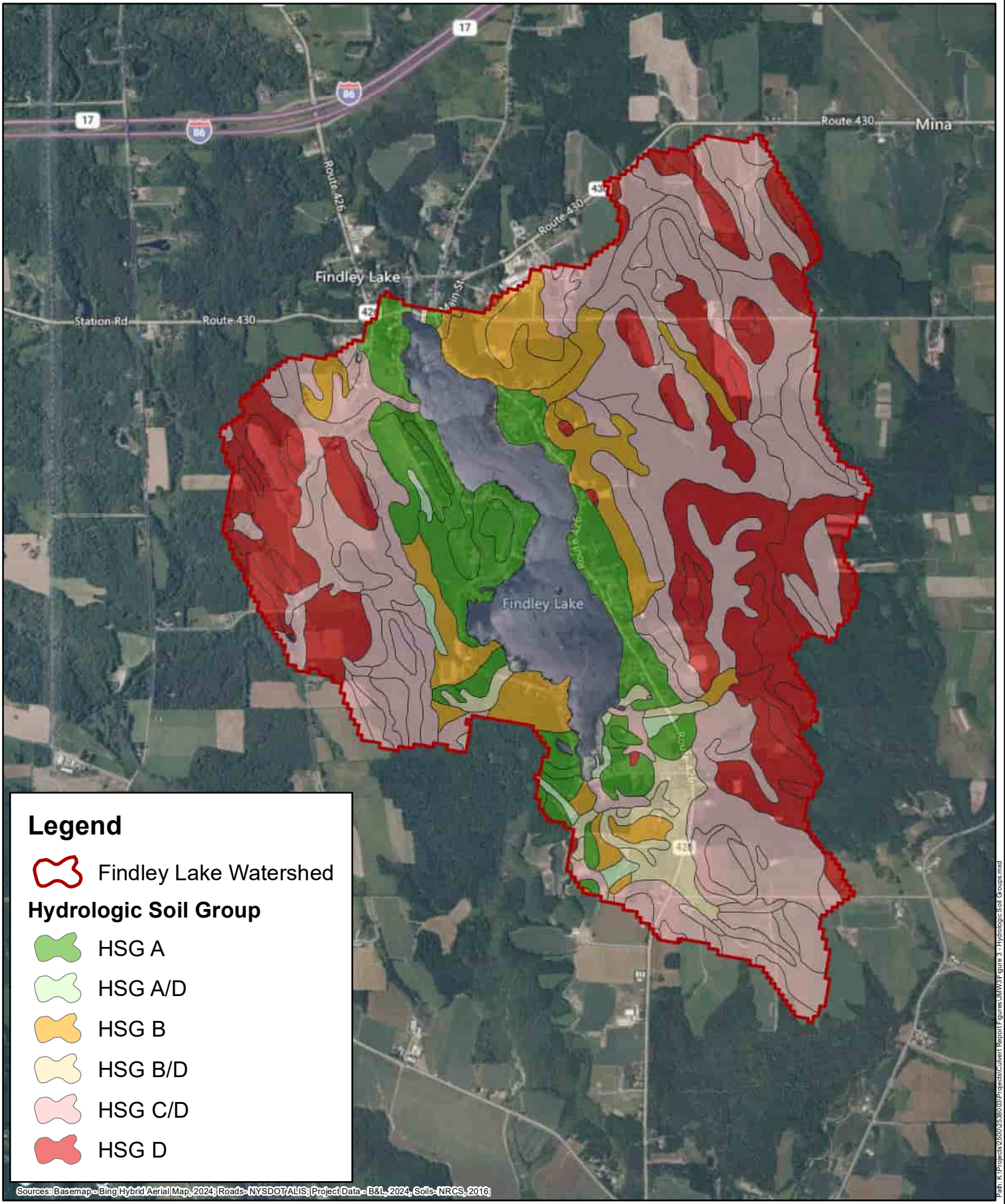
Aerial Study Area Map

Chautauqua County April 2024 New York

Figure 2

Project No. 2358.003

FIGURE 3
Hydrologic Soil Groups



Barton & Loguidice

1 inch = 3,500 feet

Findley Lake Culvert Assessment Report

Hydroloigic Soil Groups

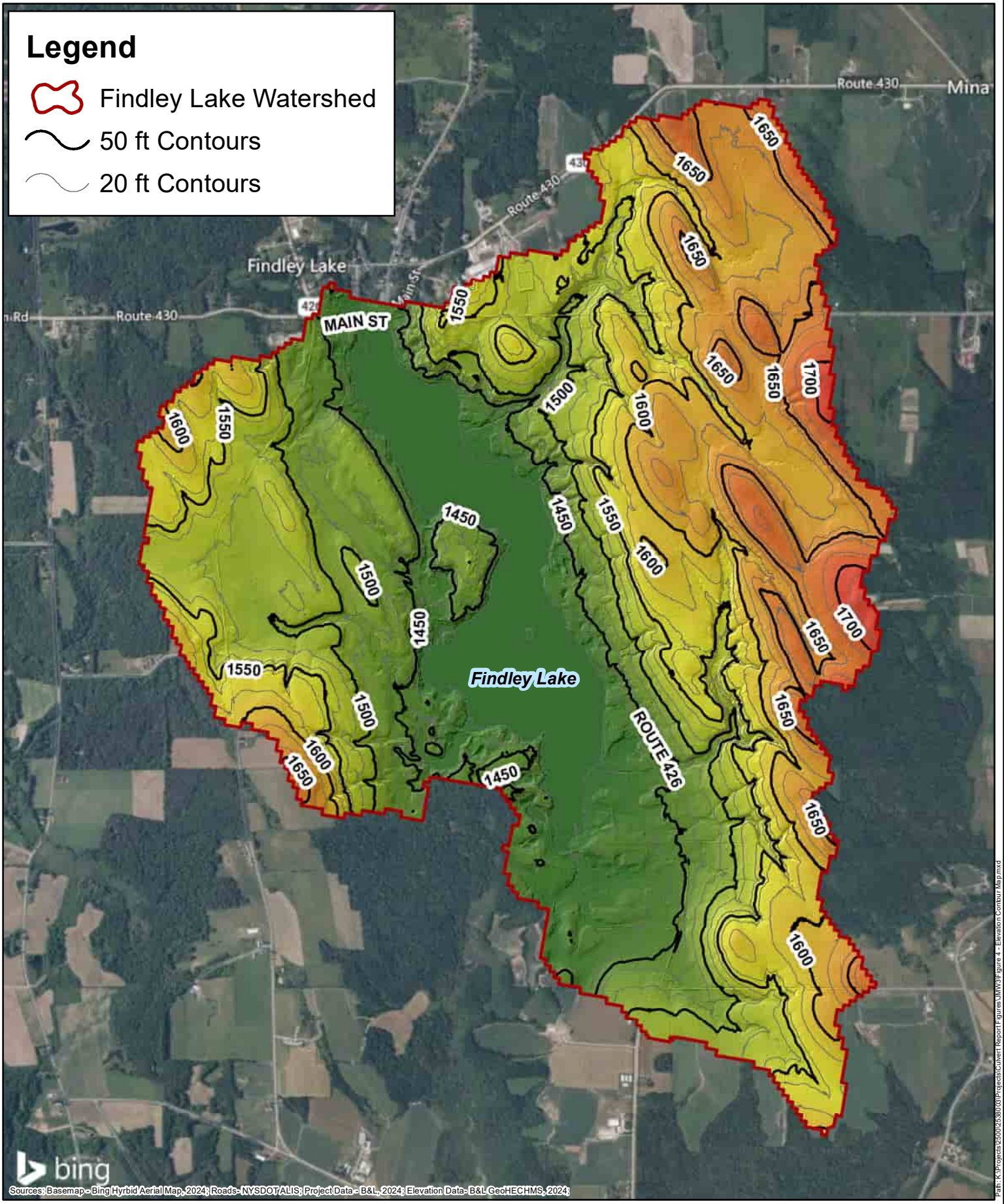
Chautauqua County April 2024 New York

Figure 3

Project No. 2358.003

Path: K:\Projects\2500\2538\03\Projects\Culvert Report Figures.MXD\Figure 3 - Hydrologic Soil Groups.mxd

FIGURE 4
Elevation Contour Map



Barton & Loguidice

N W E S

1 inch = 3,000 feet

Findley Lake Culvert Assessment Report

Elevation Contour Map

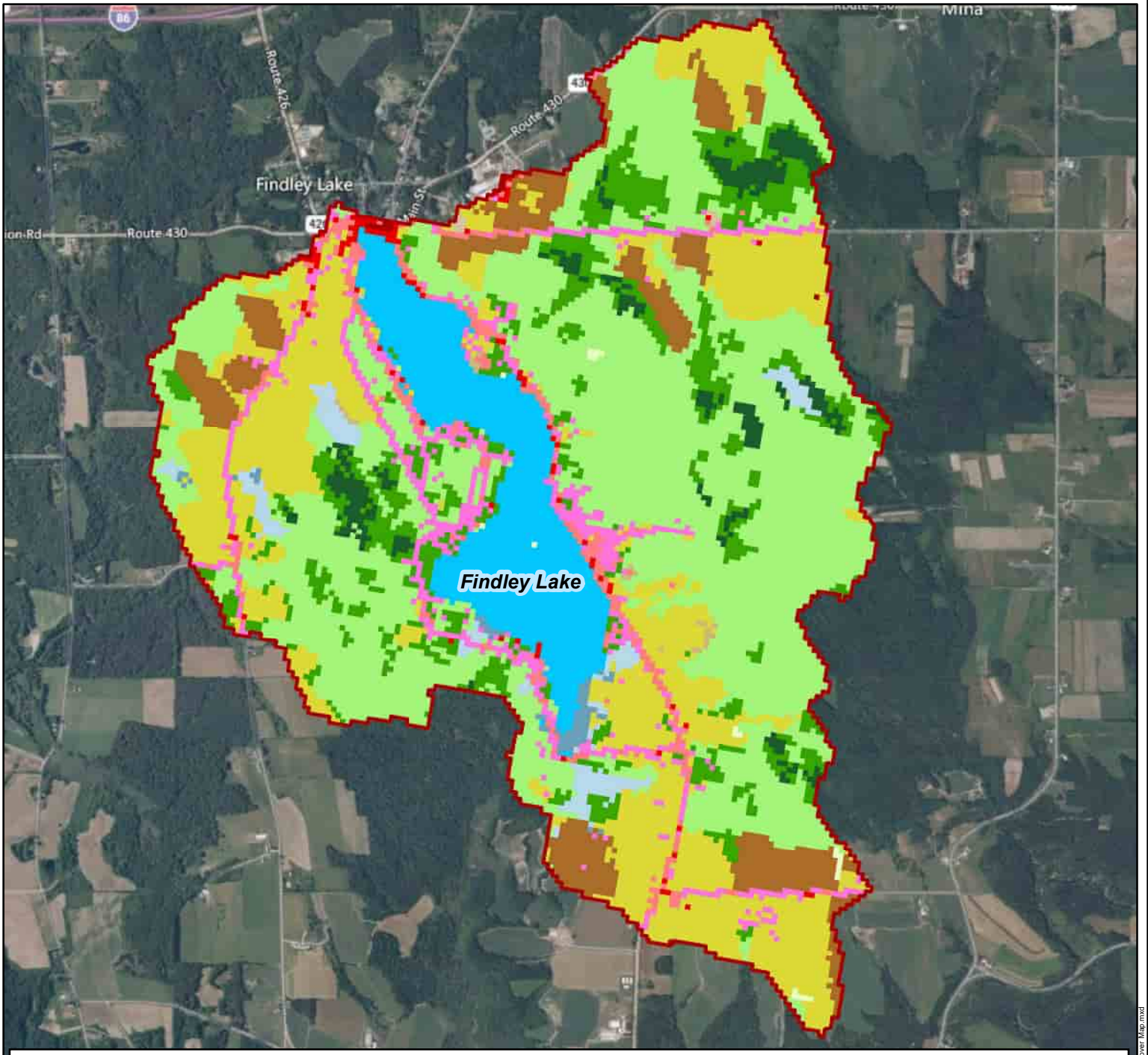
Chautauqua County April 2024 New York

Figure 4

Project No. 2358.003

Path: K:\Projects\2500\2538\03\Projects\Culvert Report Figures\MXDs\Figure 4 - Elevation Contour Map.mxd

FIGURE 5
Land Cover Map



Legend

- Findley Lake Watershed

Land Cover (NLCD)

- Developed, Open Space
- Developed, Medium Intensity
- Developed, Low Intensity
- Developed, High Intensity
- Woody Wetlands
- Shrub/Scrub
- Open Water
- Mixed Forest
- Evergreen Forest
- Deciduous Forest
- Herbaceous
- Hay/Pasture
- Emergent Herbaceous Wetlands
- Cultivated Crops
- Barren Land

Sources: Basemap - Bing Hybrid Aerial Map, 2024; Roads- NYSDOT ALIS; Project Data - B&L, 2024; Land Cover- MRLC NLCD, 2019;

Path: K:\Projects\2400\2583\03\Projects\Culvert Report Figures\MXD\Figure 5 - Land Cover Map.mxd

Barton & Loguidice

N W E S

1 inch = 3,500 feet

Findley Lake Culvert Assessment Report

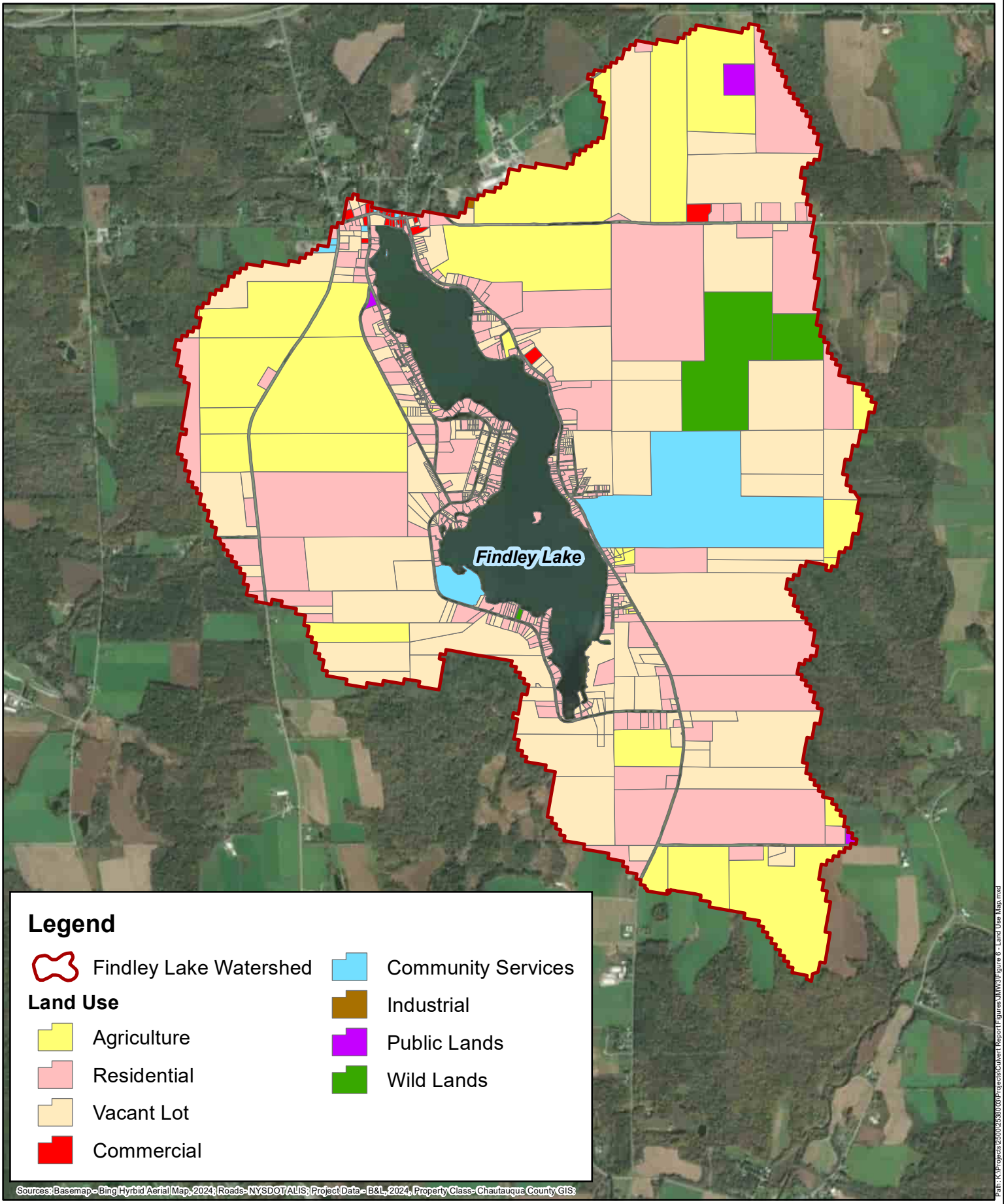
Land Cover Map

Chautauqua County April 2024 New York

Figure 5

Project No. 2358.003

FIGURE 6
Property Class Map



Barton & Loguidice

N W E S

1 inch = 3,250 feet

Findley Lake Culvert Assessment Report

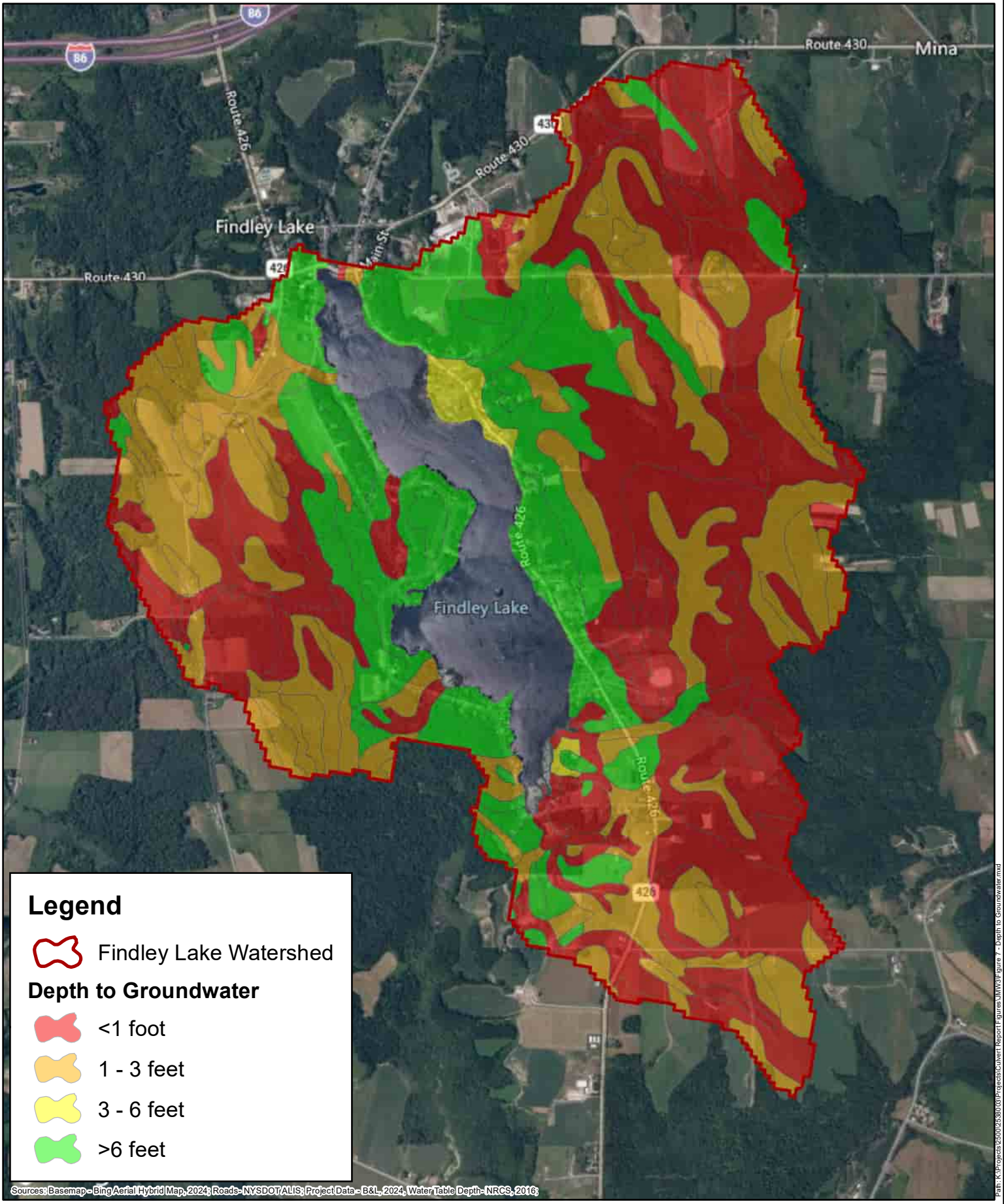
Property Class Map

Chautauqua County April 2024 New York

Figure 6

Project No. 2358.003

FIGURE 7
Water Table Map



Barton & Loguidice

N W E S

1 inch = 3,000 feet

Findley Lake Culvert Assessment Report

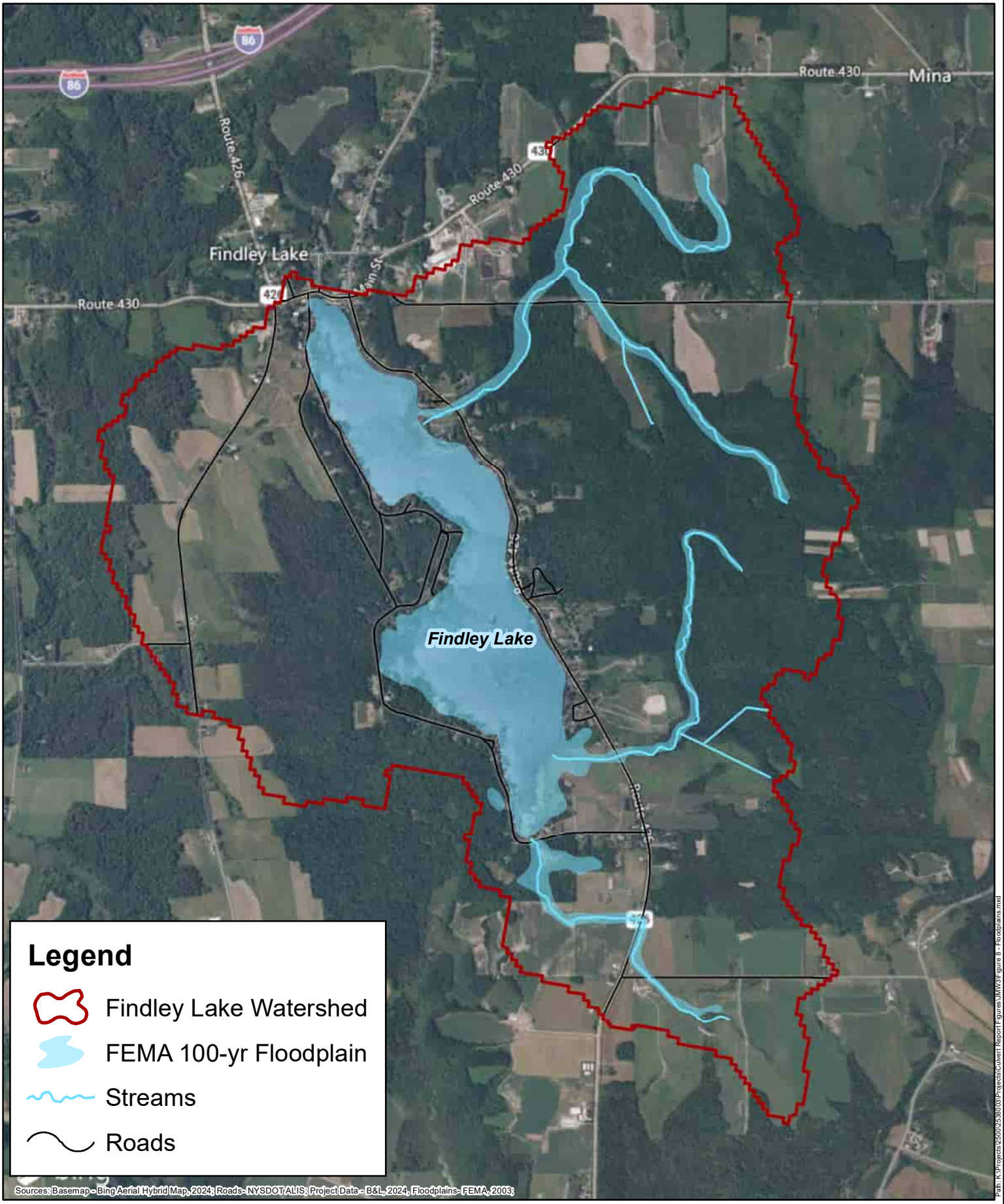
Depth to Groundwater

Chautauqua County April 2024 New York

Figure 7

Project No. 2358.003

FIGURE 8
Floodplain Map



Barton & Loguidice

N W E S

1 inch = 3,000 feet

Findley Lake Culvert Assessment Report

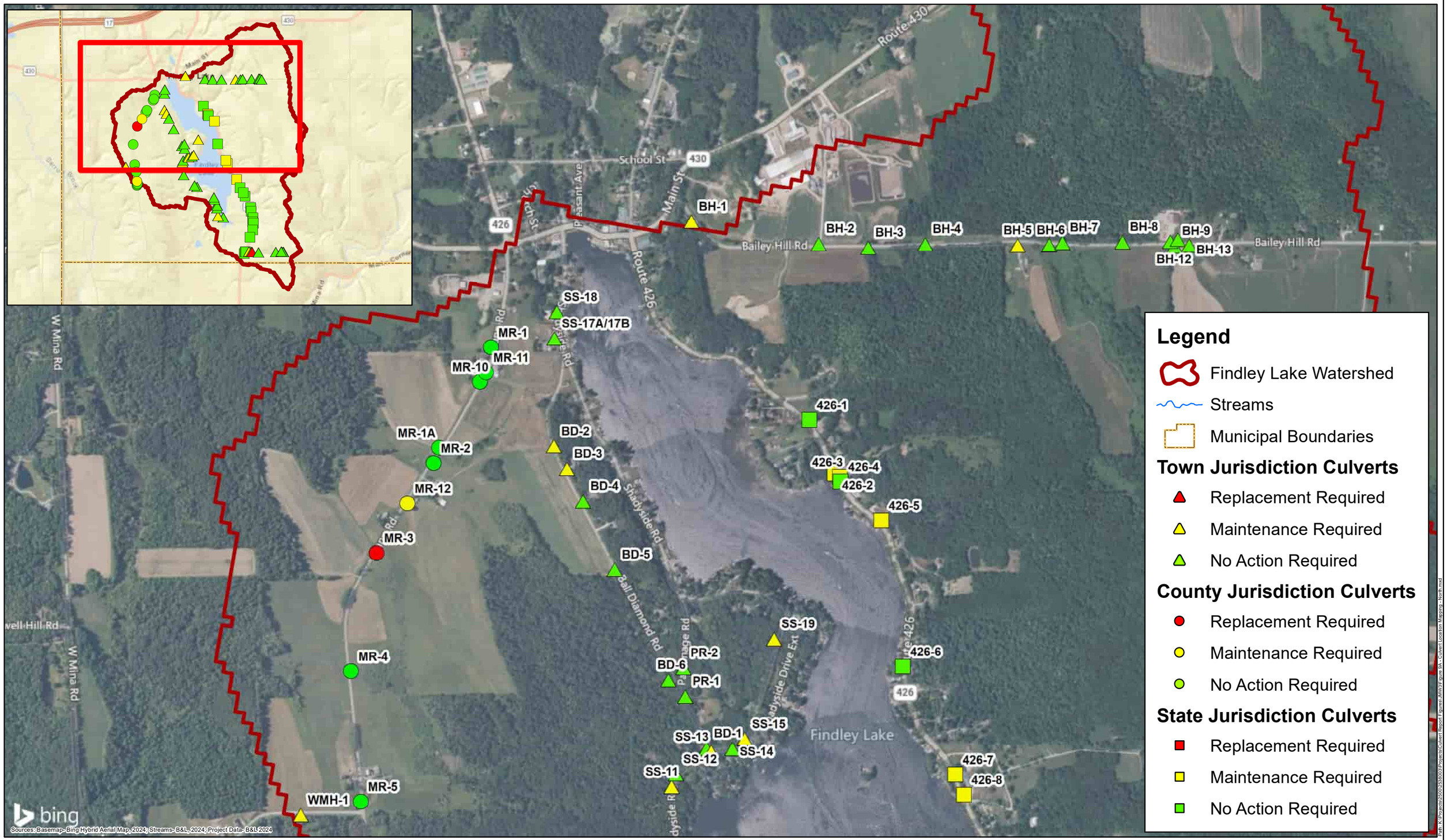
Floodplain Map

Chautauqua County April 2024 New York

Figure 8

Project No. 2358.003

FIGURE 9A – 9B
Culvert Mapping



Legend

- Findley Lake Watershed
- Streams
- Municipal Boundaries

Town Jurisdiction Culverts

- Replacement Required
- Maintenance Required
- No Action Required

County Jurisdiction Culverts

- Replacement Required
- Maintenance Required
- No Action Required

State Jurisdiction Culverts

- Replacement Required
- Maintenance Required
- No Action Required

Barton & Loguidice

N W E S

1 in = 1,250 feet

Findley Lake Culvert Assessment Report

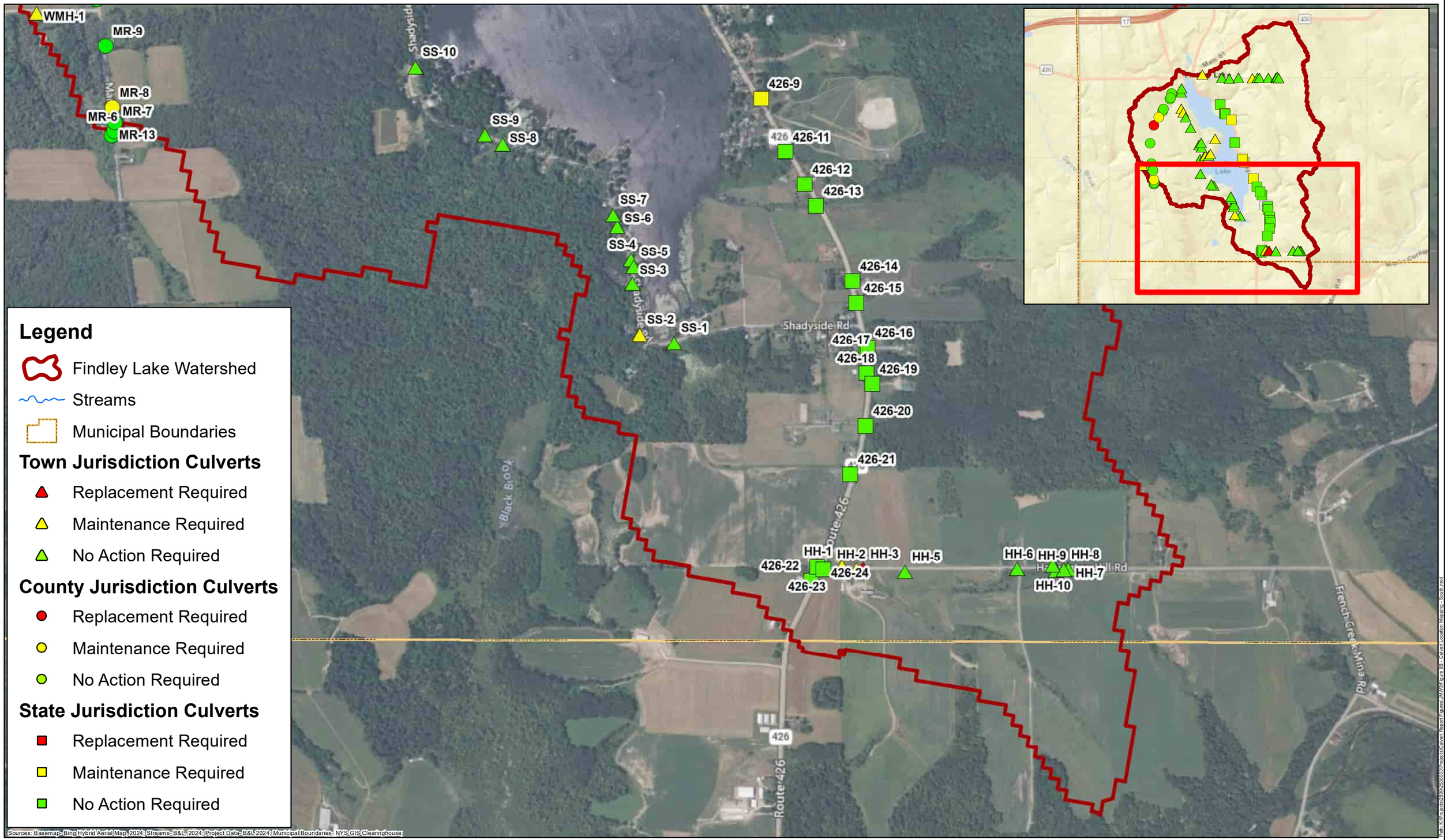
Culvert Location Map

Chautauqua County | April 2024 | New York

Figure 9A

Project No. 2358.003

Path: K:\Projects\2500\2358000\Projects\Culvert Report Figures\MXD\Figure 9A - Culvert Location Mapping - North.mxd



Barton & Loguidice

1 in = 1,250 feet

Findley Lake Culvert Assessment Report

Culvert Location Map

Chautauqua County | April 2024 | New York

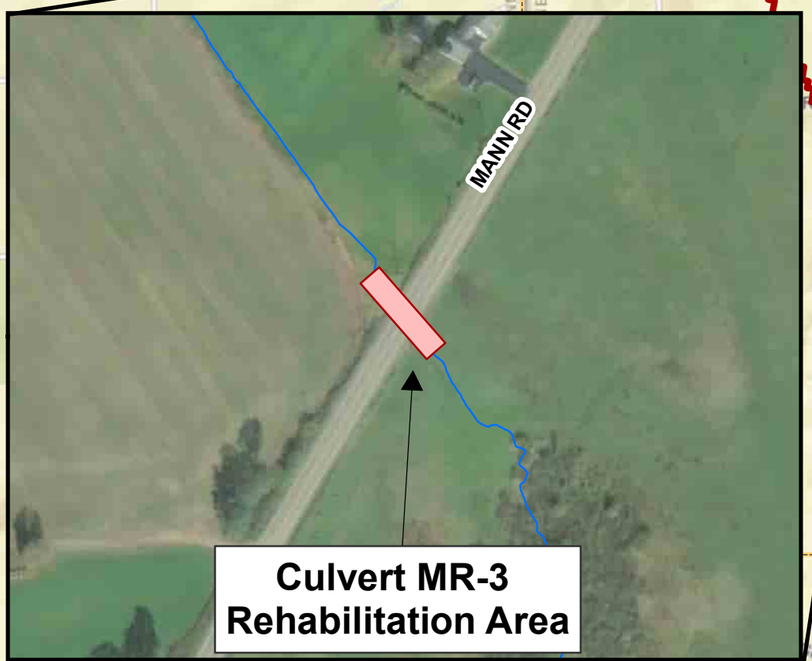
Figure 9B

Project No. 2358.003

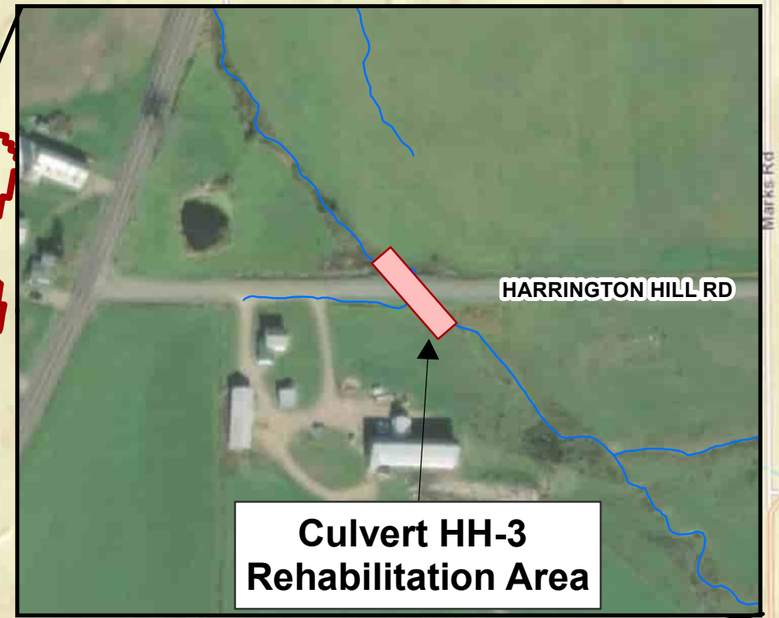
FIGURE 10
Prioritized Culvert Location Map

Legend

- Streams
- Findley Lake Watershed
- Municipal Boundaries



Culvert MR-3 Rehabilitation Area



Culvert HH-3 Rehabilitation Area

Sources: Topographic Basemap - ESRI 2023; Streams - NYSDEC 2015; Drainage Areas - B&L 2024; Municipal Bounds- NYS GIS Clearinghouse;

Barton & Loguidice

1 in = 3,000 feet

FIndley Lake Culvert Assessment Report

Prioritized Culvert Location Map

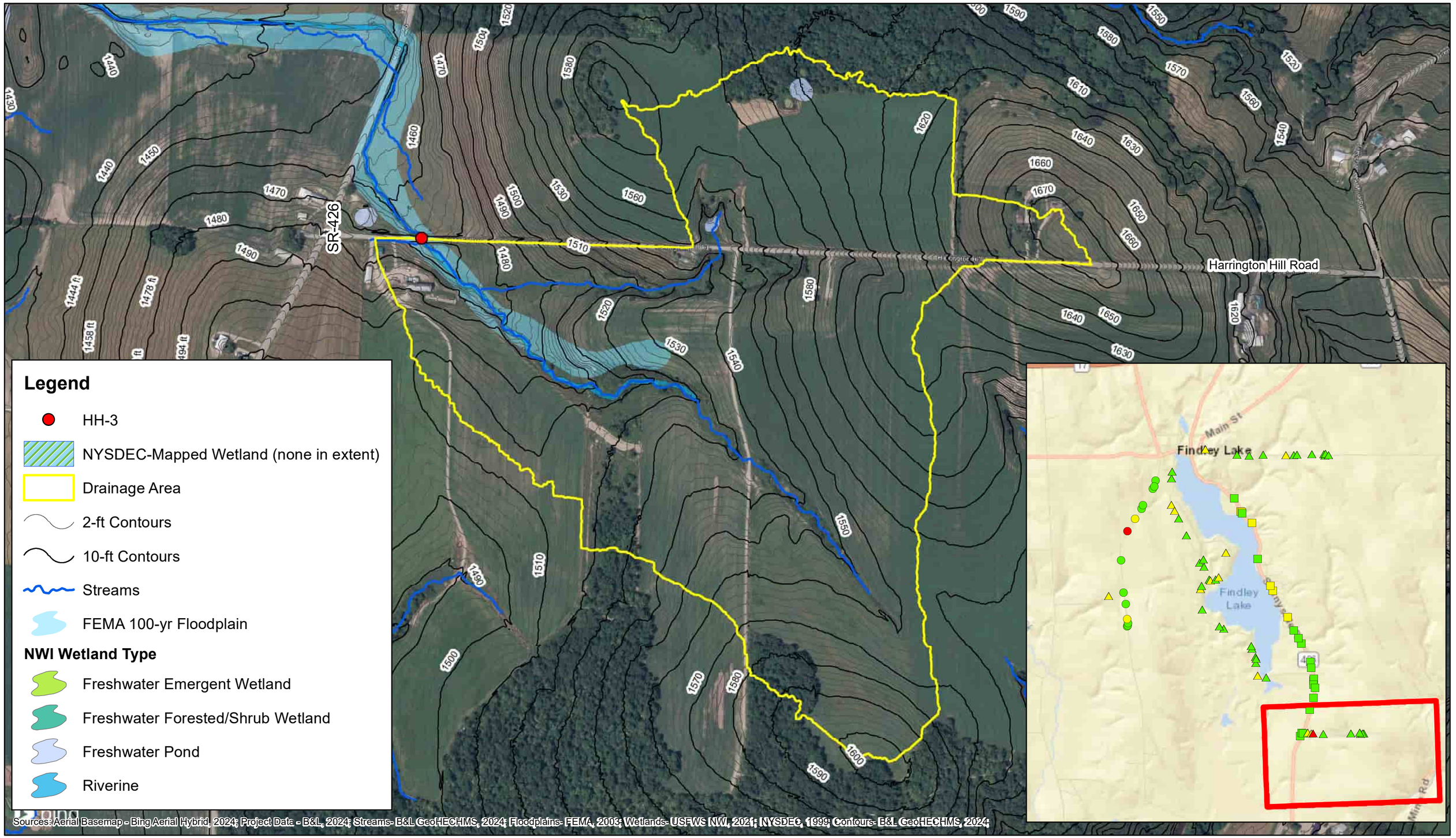
Chautauqua County | April 2024 | New York

Figure 10

Project No. 2358.003

Path: K:\Projects\2500\2358\003\Project\Culvert Report Figures\MXD\Figure 10 - Prioritized Culvert Location Map.mxd

FIGURE 11A – 11B
Existing Conditions Maps



Sources: Aerial Basemap - Bing Aerial Hybrid, 2024; Project Data - B&L, 2024; Streams- B&L GeoHECHMS, 2024; Floodplains- FEMA, 2003; Wetlands- USFWS NWI, 2021; NYSDEC, 1999; Contours- B&L GeoHECHMS, 2024

Barton & Loguidice

N W E S

1 inch = 450 feet

Town of Mina

Existing Conditions - HH-3

Chautauqua County March 2024 New York

Figure 5b

Project No. 2538.003

Path: K:\Projects\2500\2538003\Projects\Culvert Report Figures\JMW3\Figure 11A - HH-3 Existing Conditions.mxd

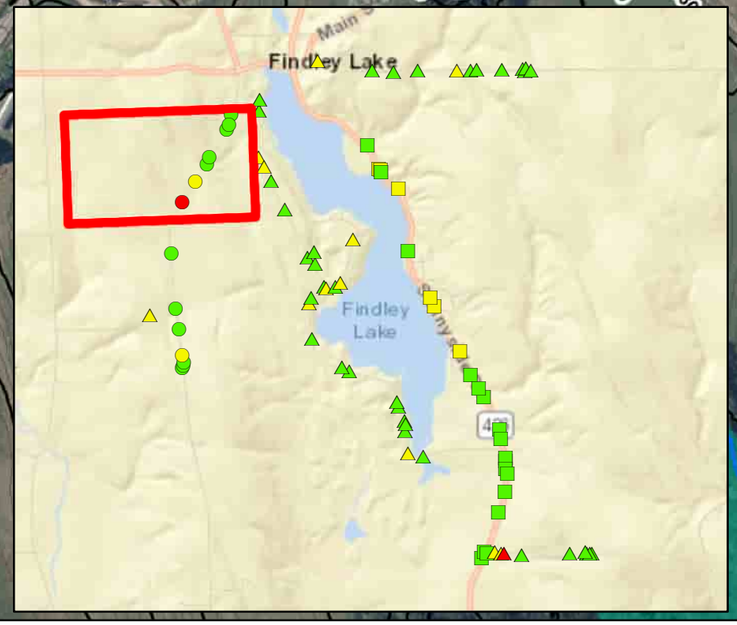
Unmapped Tributary of Findley Lake

Legend

- Existing 18" RCP Culvert (MR-3)
- Streams
- Drainage Area
- FEMA 100-yr Floodplain (None in Extent)
- Major Contours (10')
- Minor Contours (2')
- NYSDEC-Mapped Wetland

NWI-Mapped Wetland

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake



Sources: Aerial Basemap - Bing Aerial Hybrid, 2024; Project Data - B&L, 2024; Streams- B&L GeoHECHMS, 2024; Floodplains- FEMA, 2003; Wetlands- USFWS NWI, 2021; NYSDEC, 1999; Contours- B&L GeoHECHMS, 2024;

Barton & Loguidice

1 inch = 280 feet

Findley Lake Culvert Assessment Report

Existing Conditions - MR-3

Chautauqua County | April 2024 | New York

Figure 11B

Project No. 2538.003

Path: K:\Projects\2538003\E\Projects\Culvert Report Figures\MXD\Figure 11B - MR-3 Existing Conditions.mxd

FIGURE 12A – 12B
Conceptual Site Plans

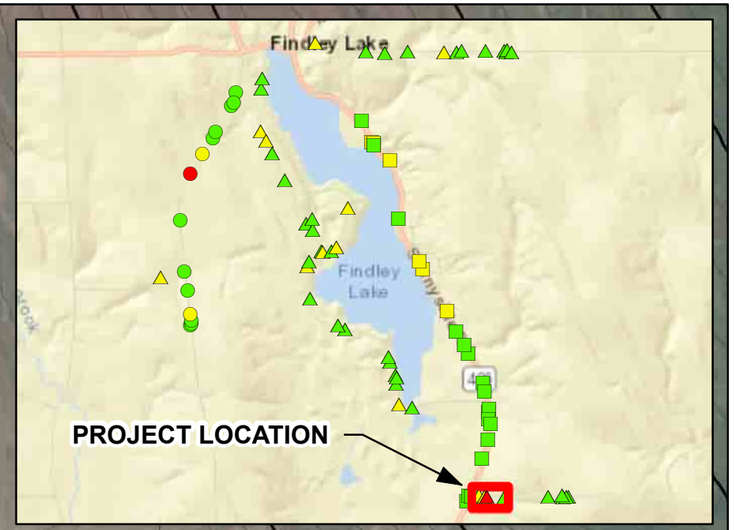
Legend

- Existing 36" CMP Culvert
- Inlet controls
- Re-Grading Area
- Streams
- Major Contours (10')
- Minor Contours (2')

Unnamed Tributary of Findley Lake (Waters Index No.: Pa 842-P 153.3)

Regrade to provide more appropriate ditch alignment and inflow angle

Install inlet controls to improve inflow angle and reduce scour



Harrington Hill Rd

1460 1470 1480 1490

Sources: Basemap - Bing Hybrid Aerial Map, 2024; Streams - B&L HECHMS, 2024; Project Data - B&L, 2024;

Barton & Loguidice

1 inch = 80 feet

Town of Mina Culvert Assessment Report

Conceptual Site Plan - HH-3

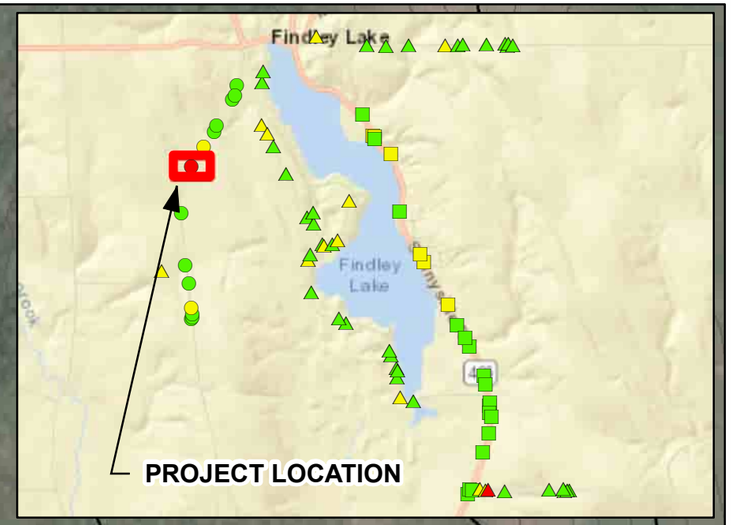
Chautauqua County April 2024 New York

Figure 6A

Project No. 2538.003

Legend

- Existing 18" RCP Culvert (MR-3)
- Pipe Extension
- Re-Grading Area
- Streams
- Major Contours (10')
- Minor Contours (2')



Unmapped Tributary of Findley Lake

MANN ROAD

1530

1520

Extend culvert pipe to enhance stabilization of roadway embankment and reduce scour

Re-grade to increase grade and promote inflow to culvert

Mann Rd

bing

Sources: Basemap- Bing Hybrid Aerial Map, 2024; Streams- B&L HECHMS, 2024; Project Data- B&L, 2024;

Barton & Loguidice

N W E S

1 inch = 80 feet

Town of Mina Culvert Assessment Report

Conceptual Site Plan - MR-3

Chautauqua County April 2024 New York

Figure 6B

Project No. 2538.003

APPENDIX A
Culvert Assessment Field Inspection Reports

Inspection Details

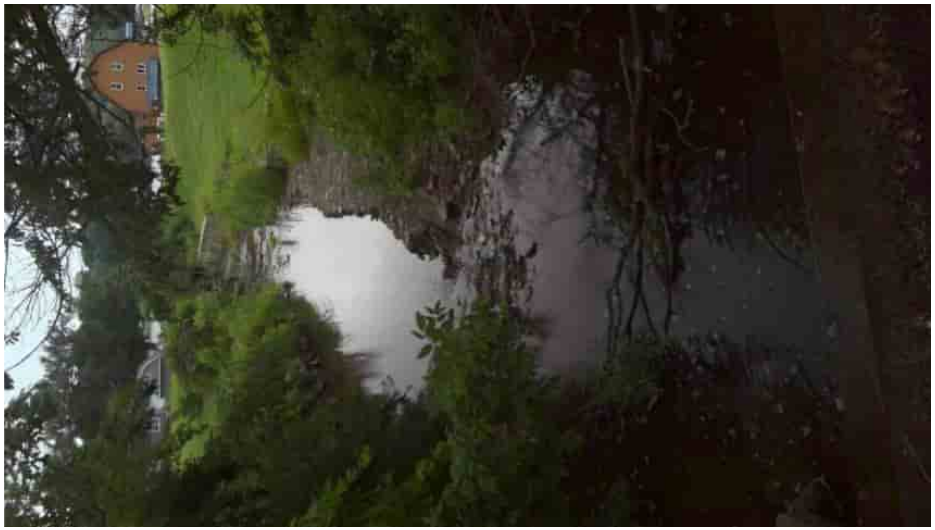
Inspection #: 99 **Date:** 7/13/2023
Culvert ID: 426-1 **Time:** 11:15:35 AM
Inspector: AC

Road:	NY-426	Corrugated?	☐	Vegetation:	Minor	Outlet Protection?	☐
Shape:	Box	Smooth Interior?	☐	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	168	Driveway?	☐	Embedded?	0-25%	Inlet Protection?	☑
Material:		Headwall?	☐	Headwall Condition:	1- Good/Fair	Inlet Protection Type:	Concrete
Erodibility Rating:	1- None	Culvert Protruding?	☐			Maintenance Recommended?	☐

Inspection Notes:	14'W x 5'H Concrete box culvert State ID 2588 Possible stream restoration bank erosion present downstream

Inspection Details

Inspection #: 99 **Date:** 7/13/2023
Culvert ID: 426-1 **Time:** 11:15:35 AM
Inspector: AC



Inspection Details

Inspection #: 15 **Date:** 7/13/2023
Culvert ID: 426-2 **Time:** 11:42:39 AM
Inspector: AC

Road:	NY-426	Corrugated?	☑	Vegetation:	None	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	12	Driveway?	☑	Embedded?	0-25%	Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	1- None	Culvert Protruding?	☑			Maintenance Recommended?	☐

Inspection Notes:	bare channel upstream of culvert, possibility of mulch washing in

Inspection Details

Inspection #: 16 **Date:** 7/13/2023
Culvert ID: 426-3 **Time:** 11:46:46 AM
Inspector: AC

Road:	NY-426	Corrugated?	☑	Vegetation:	None	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	12	Driveway?	☐	Embedded?	0-25%	Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	1- None	Culvert Protruding?	☑			Maintenance Recommended?	☐

Inspection Notes:	some potential erosion downstream of outlet

Inspection Details

Inspection #: 16 **Date:** 7/13/2023
Culvert ID: 426-3 **Time:** 11:46:46 AM
Inspector: AC

Inspection Details

Inspection #: 17 **Date:** 7/13/2023
Culvert ID: 426-4 **Time:** 11:50:20 AM
Inspector: AC

Road:	NY-426	Corrugated?	☐	Vegetation:	Minor	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	30	Driveway?	☐	Embedded?		Inlet Protection?	☐
Material:		Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☐			Maintenance Recommended?	☐

Inspection Notes:	orangeburg/clay material; some erosion upstream; one-inch pipe in culvert, possibly from household; erodibility dst unknown state ID 426.5201.1097

Inspection Details

Inspection #: 17 **Date:** 7/13/2023
Culvert ID: 426-4 **Time:** 11:50:20 AM
Inspector: AC

Inspection Details

Inspection #: 18 **Date:** 7/13/2023
Culvert ID: 426-5 **Time:** 12:00:04 PM
Inspector: AC

Road:	NY-426	Corrugated?	☑	Vegetation:	None	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☐	Condition:	2- Poor	Outlet Protection Type:	
Size:	31	Driveway?	☐	Embedded?		Inlet Protection?	☐
Material:	STEEL/Metal	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	3- Severe	Culvert Protruding?	☐			Maintenance Recommended?	☐

Inspection Notes:	weight/pressure of road is pushing down on pipe erosion directly upstream of pipe direct discharge to lake, cannot view outlet

Inspection Details

Inspection #: 18 **Date:** 7/13/2023
Culvert ID: 426-5 **Time:** 12:00:04 PM
Inspector: AC

Inspection Details

Inspection #: 19 **Date:** 7/13/2023
Culvert ID: 426-6 **Time:** 12:07:27 PM
Inspector: AC

Road:	NY-426	Corrugated?	☑	Vegetation:	Minor	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	18	Driveway?	☑	Embedded?	0-25%	Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☑	Headwall Condition:	1- Good/Fair	Inlet Protection Type:	
Erodibility Rating:	1- None	Culvert Protruding?	☑			Maintenance Recommended?	☐

Inspection Notes:	heavy vegetated downstream, outlet not visible one inch pipe going through

Inspection Details

Inspection #: 20 **Date:** 7/13/2023
Culvert ID: 426-7 **Time:** 12:20:37 PM
Inspector: AC

Road:	NY-426	Corrugated?	☑	Vegetation:	None	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	18	Driveway?	☐	Embedded?	0-25%	Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	1- None	Culvert Protruding?	☐			Maintenance Recommended?	☐

Inspection Notes:	Grass clippings entering culvert; erosion a few feet upstream of inlet; can't view outlet

Inspection Details

Inspection #: 100 **Date:** 7/13/2023
Culvert ID: 426-8 **Time:** 1:58:23 PM
Inspector: SCGM

Road:	NY-426	Corrugated?	☑	Vegetation:	None	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	24	Driveway?	☐	Embedded?	0-25%	Inlet Protection?	☑
Material:		Headwall?	☐	Headwall Condition:		Inlet Protection Type:	Other
Erodibility Rating:	1- None	Culvert Protruding?	☑			Maintenance Recommended?	☐

Inspection Notes:	south of camp entrance, direct discharge to lake

Inspection Details

Inspection #: 100 **Date:** 7/13/2023
Culvert ID: 426-8 **Time:** 1:58:23 PM
Inspector: SCGM

Inspection Details

Inspection #: 21 **Date:** 7/13/2023
Culvert ID: 426-9 **Time:** 2:05:17 PM
Inspector: AC

Road:	NY-426	Corrugated?	☑	Vegetation:	Excessive	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☐	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	16	Driveway?	☐	Embedded?	0-25%	Inlet Protection?	☐
Material:	STEEL/Metal	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	1- None	Culvert Protruding?	☐			Maintenance Recommended?	☐

Inspection Notes:	dense vegetation growth at inlet, erosion and deposition issues at outlet

Inspection Details

Inspection #: 21 **Date:** 7/13/2023
Culvert ID: 426-9 **Time:** 2:05:17 PM
Inspector: AC

Inspection Details

Inspection #: 101 **Date:** 7/13/2023
Culvert ID: 426-10 **Time:** 2:19:15 PM
Inspector: SCGM

Road:	NY-426	Corrugated?	☑	Vegetation:	Excessive	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	3- Severe	Outlet Protection Type:	
Size:	16	Driveway?	☑	Embedded?	0-25%	Inlet Protection?	☐
Material:		Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	1- None	Culvert Protruding?	☑			Maintenance Recommended?	☑

Inspection Notes:	No GPS coordinate, very heavily vegetated, clear some sediment and organic matter from culvert

Inspection Details

Inspection #: 22 **Date:** 7/13/2023
Culvert ID: 426-11 **Time:** 2:22:32 PM
Inspector: AC

Road:	NY-426	Corrugated?	☑	Vegetation:	Excessive	Outlet Protection?	☑
Shape:	Round	Smooth Interior?	☑	Condition:	2- Poor	Outlet Protection Type:	Concrete
Size:	24	Driveway?	☐	Embedded?	0-25%	Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☑			Maintenance Recommended?	☐

Inspection Notes:	very heavily vegetated, unable to locate inlet

Inspection Details

Inspection #: 22 **Date:** 7/13/2023
Culvert ID: 426-11 **Time:** 2:22:32 PM
Inspector: AC

Inspection Details

Inspection #: 23 **Date:** 7/13/2023
Culvert ID: 426-12 **Time:** 2:32:12 PM
Inspector: AC

Road:	NY-426	Corrugated?	☑	Vegetation:	Excessive	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	2- Poor	Outlet Protection Type:	
Size:	12	Driveway?	☑	Embedded?	0-25%	Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☑			Maintenance Recommended?	☐

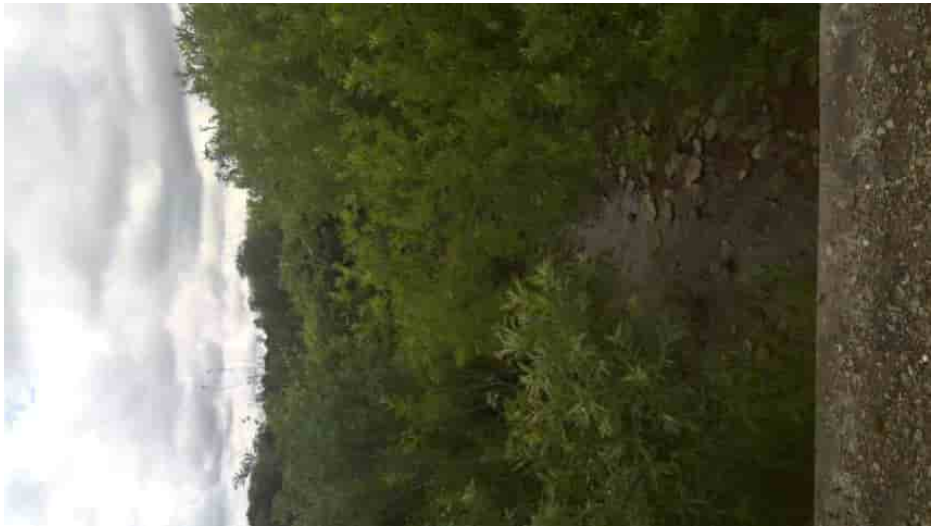
Inspection Notes:	outlet N of driveway, unable to find inlet

Inspection Details

Inspection #: 102 **Date:** 7/13/2023
Culvert ID: 426-13 **Time:** 2:25:21 PM
Inspector: AC

Road:	NY-426	Corrugated?	☐	Vegetation:	Excessive	Outlet Protection?	☑
Shape:	Box	Smooth Interior?	☐	Condition:	1- Good/Fair	Outlet Protection Type:	Concrete
Size:	0	Driveway?	☑	Embedded?	0-25%	Inlet Protection?	☑
Material:	RCP	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	Concrete
Erodibility Rating:	1- None	Culvert Protruding?	☐			Maintenance Recommended?	☐

Inspection Notes: LENGTH = 144 IN
DEPTH = 48 IN



Inspection Details

Inspection #: 24 **Date:** 7/13/2023
Culvert ID: 426-14 **Time:** 2:52:44 PM
Inspector: AC

Road:	NY-426	Corrugated?	☑	Vegetation:	Minor	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☐	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	18	Driveway?	☑	Embedded?	0-25%	Inlet Protection?	☐
Material:	STEEL/Metal	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	1- None	Culvert Protruding?	☐			Maintenance Recommended?	☐

Inspection Notes:	little to no erosion, collects road water

Inspection Details

Inspection #: 24 **Date:** 7/13/2023
Culvert ID: 426-14 **Time:** 2:52:44 PM
Inspector: AC

Inspection Details

Inspection #: 25 **Date:** 7/13/2023
Culvert ID: 426-15 **Time:** 2:58:18 PM
Inspector: AC

Road:	NY-426	Corrugated?	☑	Vegetation:	Minor	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☐	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	44	Driveway?	☐	Embedded?		Inlet Protection?	☑
Material:	STEEL/Metal	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	1- None	Culvert Protruding?	☐			Maintenance Recommended?	☐

Inspection Notes:	some slight erosion upstream

Inspection Details

Inspection #: 67 **Date:** 7/14/2023
Culvert ID: 426-16 **Time:** 9:35:14 AM
Inspector: OCC

Road:	NY-426	Corrugated?	☐	Vegetation:	Excessive	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	2- Poor	Outlet Protection Type:	
Size:	10	Driveway?	☑	Embedded?	0-25%	Inlet Protection?	☐
Material:	STEEL/Metal	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	1- None	Culvert Protruding?	☐			Maintenance Recommended?	☐

Inspection Notes:

☐

Inspection Details

Inspection #: 67 **Date:** 7/14/2023
Culvert ID: 426-16 **Time:** 9:35:14 AM
Inspector: OCC

Inspection Details

Inspection #: 68 **Date:** 7/14/2023
Culvert ID: 426-17 **Time:** 9:40:11 AM
Inspector: OCC

Road:	NY-426	Corrugated?	☑	Vegetation:	None	Outlet Protection?	☑
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	Concrete
Size:	36	Driveway?	☐	Embedded?	0-25%	Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	1- None	Culvert Protruding?	☐			Maintenance Recommended?	☐

Inspection Notes:

Inspection Details

Inspection #: 68 **Date:** 7/14/2023
Culvert ID: 426-17 **Time:** 9:40:11 AM
Inspector: OCC

Inspection Details

Inspection #: 69 **Date:** 7/14/2023
Culvert ID: 426-18 **Time:** 9:46:05 AM
Inspector: OCC

Road:	NY-426	Corrugated?	☑	Vegetation:	Minor	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☐	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	12	Driveway?	☐	Embedded?	0-25%	Inlet Protection?	☑
Material:	IDPE/PVC/Plastic	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	Other
Erodibility Rating:	2- Minor	Culvert Protruding?	☐			Maintenance Recommended?	☐

Inspection Notes:	inlet protection, angled culvert extrusion outlet embedded

Inspection Details

Inspection #: 70 **Date:** 7/14/2023
Culvert ID: 426-19 **Time:** 9:49:18 AM
Inspector: OCC

Road:	NY-426	Corrugated?	☑	Vegetation:	Minor	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☐	Condition:	2- Poor	Outlet Protection Type:	
Size:	12	Driveway?	☑	Embedded?	0-25%	Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	1- None	Culvert Protruding?	☐			Maintenance Recommended?	☑

Inspection Notes:	outlet mis-shaped

Inspection Details

Inspection #: 70 **Date:** 7/14/2023
Culvert ID: 426-19 **Time:** 9:49:18 AM
Inspector: OCC

Inspection Details

Inspection #: 71 **Date:** 7/14/2023
Culvert ID: 426-20 **Time:** 9:58:09 AM
Inspector: OCC

Road:	NY-426	Corrugated?	☐	Vegetation:	Excessive	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	3- Severe	Outlet Protection Type:	
Size:	8	Driveway?	☐	Embedded?	75-100%	Inlet Protection?	☐
Material:	STEEL/Metal	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	1- None	Culvert Protruding?	☐			Maintenance Recommended?	☐

Inspection Notes:	cannot find outlet

Inspection Details

Inspection #: 72 **Date:** 7/14/2023
Culvert ID: 426-21 **Time:** 10:03:10 AM
Inspector: OCC

Road:	NY-426	Corrugated?	☐	Vegetation:	Excessive	Outlet Protection?	☐
Shape:	Arch	Smooth Interior?	☐	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	126	Driveway?	☐	Embedded?	0-25%	Inlet Protection?	☐
Material:	RCP	Headwall?	☑	Headwall Condition:	2- Poor	Inlet Protection Type:	
Erodibility Rating:	1- None	Culvert Protruding?	☐			Maintenance Recommended?	☐

Inspection Notes:	4ft heightt /48 in 126 in diameter minor erosion at outlet

Inspection Details

Inspection #: 73 **Date:** 7/14/2023
Culvert ID: 426-22 **Time:** 10:09:55 AM
Inspector: OCC

Road:	NY-426	Corrugated?	☑	Vegetation:	Excessive	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	12	Driveway?	☑	Embedded?	0-25%	Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	1- None	Culvert Protruding?	☐			Maintenance Recommended?	☐

Inspection Notes:

Inspection Details

Inspection #: 74 **Date:** 7/14/2023
Culvert ID: 426-23 **Time:** 10:12:30 AM
Inspector: SCGM

Road:	NY-426	Corrugated?	☑	Vegetation:	Excessive	Outlet Protection?	☐
Shape:	Box	Smooth Interior?	☐	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	12	Driveway?	☑	Embedded?	0-25%	Inlet Protection?	☐
Material:	STEEL/Metal	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☐			Maintenance Recommended?	☑

Inspection Notes:	clear vegetation around culvert

Inspection Details

Inspection #: 75 **Date:** 7/14/2023
Culvert ID: 426-24 **Time:** 10:15:46 AM
Inspector: SCGM

Road:	NY-426	Corrugated?	☑	Vegetation:	Excessive	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	18	Driveway?	☐	Embedded?	0-25%	Inlet Protection?	☑
Material:	IDPE/PVC/Plastic	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	Other
Erodibility Rating:	1- None	Culvert Protruding?	☐			Maintenance Recommended?	☐

Inspection Notes:	inlet protection - metal outlet protection - concrete

Inspection Details

Inspection #: 38 **Date:** 7/13/2023
Culvert ID: BD-1 **Time:** 4:58:06 PM
Inspector: AC

Road:	Ball Diamond Rd.	Corrugated?	☑	Vegetation:	Minor	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	8	Driveway?	☐	Embedded?	0-25%	Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☑			Maintenance Recommended?	☐

Inspection Notes:	minor erosion at inlet

Inspection Details

Inspection #: 38 **Date:** 7/13/2023
Culvert ID: BD-1 **Time:** 4:58:06 PM
Inspector: AC

Inspection Details

Inspection #: 59 **Date:** 7/14/2023
Culvert ID: BD-2 **Time:** 8:42:45 AM
Inspector: OCC

Road:	Ball Diamond Rd.	Corrugated?	☑	Vegetation:	None	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	0	Driveway?	☐	Embedded?	0-25%	Inlet Protection?	☑
Material:	IDPE/PVC/Plastic	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	Other
Erodibility Rating:	2- Minor	Culvert Protruding?	☐			Maintenance Recommended?	☐

Inspection Notes:	pagravel and extruding part of the cluvert for the inlet protectin leaf debris in outlet

Inspection Details

Inspection #: 59 **Date:** 7/14/2023
Culvert ID: BD-2 **Time:** 8:42:45 AM
Inspector: OCC

Inspection Details

Inspection #: 60 **Date:** 7/14/2023
Culvert ID: BD-3 **Time:** 8:47:23 AM
Inspector: OCC

Road:	Ball Diamond Rd.	Corrugated?	☑	Vegetation:	Minor	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	12	Driveway?	☑	Embedded?	0-25%	Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☐			Maintenance Recommended?	☐

Inspection Notes:	inlet in bad shape, pipe crushed

Inspection Details

Inspection #: 61 **Date:** 7/14/2023
Culvert ID: BD-4 **Time:** 8:52:00 AM
Inspector: AC

Road:	Ball Diamond Rd.	Corrugated?	☑	Vegetation:	Minor	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:		Outlet Protection Type:	
Size:	12	Driveway?	☑	Embedded?	25-50%	Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	1- None	Culvert Protruding?	☑			Maintenance Recommended?	☐
Inspection Notes:	driveway culvert on Ball Diamond Road, vegetated						

Inspection Details

Inspection #: 62 **Date:** 7/14/2023
Culvert ID: BD-5 **Time:** 8:56:44 AM
Inspector: OCC

Road:	Ball Diamond Rd.	Corrugated?	☑	Vegetation:	Minor	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	2- Poor	Outlet Protection Type:	
Size:	14	Driveway?	☐	Embedded?	25-50%	Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	1- None	Culvert Protruding?	☐			Maintenance Recommended?	☐
Inspection Notes:	full of gravel						

Inspection Details

Inspection #: 63 **Date:** 7/14/2023
Culvert ID: BD-6 **Time:** 9:02:26 AM
Inspector: OCC

Road:	Ball Diamond Rd.	Corrugated?	☑	Vegetation:	Minor	Outlet Protection?	☑
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	24	Driveway?	☑	Embedded?	0-25%	Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☑	Headwall Condition:	1- Good/Fair	Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☐			Maintenance Recommended?	☐

Inspection Notes:	inlet has minor vegetation, minor erosion

Inspection Details

Inspection #: 63 **Date:** 7/14/2023
Culvert ID: BD-6 **Time:** 9:02:26 AM
Inspector: OCC

Inspection Details

Inspection #: 85 **Date:** 7/14/2023
Culvert ID: BH-1 **Time:** 11:12:23 AM
Inspector: AC

Road:	Bailey Hill Road	Corrugated?	☑	Vegetation:	None	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	12	Driveway?	☑	Embedded?	0-25%	Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	3- Severe	Culvert Protruding?	☑			Maintenance Recommended?	☐
Inspection Notes:	erosion						

Inspection Details

Inspection #: 86 **Date:** 7/14/2023
Culvert ID: BH-2 **Time:** 11:17:56 AM
Inspector: AC

Road:	Bailey Hill Road	Corrugated?	☑	Vegetation:	Excessive	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	18	Driveway?	☑	Embedded?	25-50%	Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☑			Maintenance Recommended?	☐
Inspection Notes:	bit flattened						

Inspection Details

Inspection #: 87 **Date:** 7/14/2023
Culvert ID: BH-3 **Time:** 11:20:51 AM
Inspector: AC

Road:	Bailey Hill Road	Corrugated?	☐	Vegetation:	Excessive	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☐	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	24	Driveway?	☐	Embedded?		Inlet Protection?	☐
Material:	RCP	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☐			Maintenance Recommended?	☐
Inspection Notes:	steep slope stream crossing unable to directly access						

Inspection Details

Inspection #: 88 **Date:** 7/14/2023
Culvert ID: BH-4 **Time:** 11:24:22 AM
Inspector: SCGM

Road:	Bailey Hill Road	Corrugated?	☐	Vegetation:		Outlet Protection?	☐
Shape:		Smooth Interior?	☐	Condition:		Outlet Protection Type:	
Size:	0	Driveway?	☐	Embedded?		Inlet Protection?	☐
Material:		Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:		Culvert Protruding?	☐			Maintenance Recommended?	☐

Inspection Notes: steep slopes, unable to access the stream which crosses under the road, heavily vegetated upstream and downstream, some erosion downstream

Inspection Details

Inspection #: 89 **Date:** 7/14/2023
Culvert ID: BH-5 **Time:** 11:26:40 AM
Inspector: OCC

Road:	Bailey Hill Road	Corrugated?	☐	Vegetation:	Excessive	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	2- Poor	Outlet Protection Type:	
Size:	12	Driveway?	☑	Embedded?	50-75%	Inlet Protection?	☐
Material:	RCP	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☐			Maintenance Recommended?	☑

Inspection Notes:	clear vegetation around inlet and outlet, clean out sediment in the pipe to allow more water flow, outlet is buried

Inspection Details

Inspection #: 89 **Date:** 7/14/2023
Culvert ID: BH-5 **Time:** 11:26:40 AM
Inspector: OCC

Inspection Details

Inspection #: 90 **Date:** 7/14/2023
Culvert ID: BH-6 **Time:** 11:30:59 AM
Inspector: AC

Road:	Bailey Hill Road	Corrugated?	☐	Vegetation:	Excessive	Outlet Protection?	☐
Shape:		Smooth Interior?	☐	Condition:		Outlet Protection Type:	
Size:	0	Driveway?	☐	Embedded?		Inlet Protection?	☐
Material:		Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☐			Maintenance Recommended?	☐

Inspection Notes: stream crossing under road, cannot view inlet/outlet, steep slopes

Inspection Details

Inspection #: 90
Culvert ID: BH-6
Inspector: AC
Date: 7/14/2023
Time: 11:30:59 AM

Inspection Details

Inspection #: 91 **Date:** 7/14/2023
Culvert ID: BH-7 **Time:** 11:34:34 AM
Inspector: AC

Road:	Bailey Hill Road	Corrugated?	☑	Vegetation:	Excessive	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	12	Driveway?	☐	Embedded?	No	Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☐			Maintenance Recommended?	☐
Inspection Notes:	some erosion at driveway						

Inspection Details

Inspection #: 91 **Date:** 7/14/2023
Culvert ID: BH-7 **Time:** 11:34:34 AM
Inspector: AC

Inspection Details

Inspection #: 92 **Date:** 7/14/2023
Culvert ID: BH-8 **Time:** 11:37:09 AM
Inspector: AC

Road:	Bailey Hill Road	Corrugated?	☑	Vegetation:	Excessive	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	18	Driveway?	☑	Embedded?	0-25%	Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	1- None	Culvert Protruding?	☑			Maintenance Recommended?	☐
Inspection Notes:	vegetated						

Inspection Details

Inspection #: 93 **Date:** 7/14/2023
Culvert ID: BH-9 **Time:** 11:41:39 AM
Inspector: OCC

Road:	Bailey Hill Road	Corrugated?	☑	Vegetation:	Minor	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	18	Driveway?	☑	Embedded?	0-25%	Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☑	Headwall Condition:	1- Good/Fair	Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☑			Maintenance Recommended?	☐
Inspection Notes:	vegetated						

Inspection Details

Inspection #: 94 **Date:** 7/14/2023
Culvert ID: BH-10 **Time:** 11:42:49 AM
Inspector: OCC

Road:	Bailey Hill Road	Corrugated?	☐	Vegetation:	Minor	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	2- Poor	Outlet Protection Type:	
Size:	8	Driveway?	☑	Embedded?	50-75%	Inlet Protection?	☐
Material:	STEEL/Metal	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☐			Maintenance Recommended?	☐
Inspection Notes:	pipe crushed						

Inspection Details

Inspection #: 95 **Date:** 7/14/2023
Culvert ID: BH-11 **Time:** 11:44:52 AM
Inspector: OCC

Road:	Bailey Hill Road	Corrugated?	☐	Vegetation:	Minor	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☐	Condition:	2- Poor	Outlet Protection Type:	
Size:	4	Driveway?	☑	Embedded?	0-25%	Inlet Protection?	☐
Material:	STEEL/Metal	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☐			Maintenance Recommended?	☐
Inspection Notes:	No GPS coordinate; directly upgradient of BH-10						

Inspection Details

Inspection #: 96 **Date:** 7/14/2023
Culvert ID: BH-12 **Time:** 11:46:38 AM
Inspector: OCC

Road:	Bailey Hill Road	Corrugated?	☑	Vegetation:	Minor	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☐	Condition:	3- Severe	Outlet Protection Type:	
Size:	12	Driveway?	☑	Embedded?	75-100%	Inlet Protection?	☐
Material:	STEEL/Metal	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☐			Maintenance Recommended?	☑
Inspection Notes:	flattened, full of sediment poor condition						

Inspection Details

Inspection #: 97 **Date:** 7/14/2023
Culvert ID: BH-13 **Time:** 11:48:08 AM
Inspector: AC

Road:	Bailey Hill Road	Corrugated?	☑	Vegetation:	Excessive	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	18	Driveway?	☑	Embedded?	0-25%	Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	3- Severe	Culvert Protruding?	☑			Maintenance Recommended?	☐

Inspection Notes: vegetation, eroded

Inspection Details

Inspection #: 98 **Date:** 7/14/2023

Culvert ID: BH-14 **Time:** 11:50:10 AM

Inspector: AC

Road:	Bailey Hill Road	Corrugated?	☐	Vegetation:	Excessive	Outlet Protection?	☐
Shape:		Smooth Interior?	☐	Condition:		Outlet Protection Type:	
Size:	0	Driveway?	☐	Embedded?		Inlet Protection?	☐
Material:		Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:		Culvert Protruding?	☐			Maintenance Recommended?	☐
Inspection Notes:							

Inspection Details

Inspection #: 76 **Date:** 7/14/2023
Culvert ID: HH-1 **Time:** 10:19:34 AM
Inspector: OCC

Road:	Harrington Hill Rd.	Corrugated?	☑	Vegetation:	Excessive	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	24	Driveway?	☐	Embedded?	0-25%	Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	3- Severe	Culvert Protruding?	☑			Maintenance Recommended?	☐

Inspection Notes:	erosion upstream of inlet drains into pond, but can't find out-let

Inspection Details

Inspection #: 77 **Date:** 7/14/2023
Culvert ID: HH-2 **Time:** 10:23:50 AM
Inspector: SCGM

Road:	Harrington Hill Rd.	Corrugated?	☑	Vegetation:	Minor	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☐	Condition:	2- Poor	Outlet Protection Type:	
Size:	12	Driveway?	☐	Embedded?	75-100%	Inlet Protection?	☐
Material:	STEEL/Metal	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☐			Maintenance Recommended?	☑

Inspection Notes:	can't locate inlet, clear out material around outlet, standing water at outlet w/ algae

Inspection Details

Inspection #: 78 **Date:** 7/14/2023
Culvert ID: HH-3 **Time:** 10:27:41 AM
Inspector: SCGM

Road:	Harrington Hill Rd.	Corrugated?	☑	Vegetation:	Excessive	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☐	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	36	Driveway?	☐	Embedded?	No	Inlet Protection?	☐
Material:	STEEL/Metal	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☑			Maintenance Recommended?	☑

Inspection Notes:	fix slope, can't locate outlet

Inspection Details

Inspection #: 79 **Date:** 7/14/2023
Culvert ID: HH-5 **Time:** 10:32:45 AM
Inspector: SCGM

Road:	Harrington Hill Rd.	Corrugated?	☑	Vegetation:	Excessive	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	12	Driveway?	☑	Embedded?	0-25%	Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☑			Maintenance Recommended?	☐
Inspection Notes:	vegetated						

Inspection Details

Inspection #: 80 **Date:** 7/14/2023
Culvert ID: HH-6 **Time:** 10:35:50 AM
Inspector: SCGM

Road:	Harrington Hill Rd.	Corrugated?	☐	Vegetation:	Excessive	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	36	Driveway?	☐	Embedded?		Inlet Protection?	☐
Material:		Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☑			Maintenance Recommended?	☐
Inspection Notes:	dry stream crossing Harrington Hill Road						

Inspection Details

Inspection #: 81 **Date:** 7/14/2023
Culvert ID: HH-7 **Time:** 10:38:40 AM
Inspector: AC

Road:	Harrington Hill Rd.	Corrugated?	☐	Vegetation:	Minor	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	2- Poor	Outlet Protection Type:	
Size:	12	Driveway?	☑	Embedded?	25-50%	Inlet Protection?	☐
Material:	RCP	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☐			Maintenance Recommended?	☐

Inspection Notes: orangeburg clay not concrete

Inspection Details

Inspection #: 82 **Date:** 7/14/2023
Culvert ID: HH-8 **Time:** 10:41:30 AM
Inspector: AC

Road:	Harrington Hill Rd.	Corrugated?	☐	Vegetation:	Minor	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☐	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	15	Driveway?	☐	Embedded?	0-25%	Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☑	Headwall Condition:	1- Good/Fair	Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☐			Maintenance Recommended?	☐
Inspection Notes:	outlet eroded, headwall damaged						

Inspection Details

Inspection #: 83 **Date:** 7/14/2023
Culvert ID: HH-9 **Time:** 10:43:39 AM
Inspector: AC

Road:	Harrington Hill Rd.	Corrugated?	☑	Vegetation:	Minor	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	2- Poor	Outlet Protection Type:	
Size:	15	Driveway?	☑	Embedded?	0-25%	Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☑	Headwall Condition:	3- Severe	Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☐			Maintenance Recommended?	☑

Inspection Notes:

Inspection Details

Inspection #: 84 **Date:** 7/14/2023
Culvert ID: HH-10 **Time:** 10:47:08 AM
Inspector: OCC

Road:	Harrington Hill Rd.	Corrugated?	☑	Vegetation:	Excessive	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	2- Poor	Outlet Protection Type:	
Size:	24	Driveway?	☑	Embedded?	0-25%	Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☑			Maintenance Recommended?	☐

Inspection Notes: excessive thorny vegetation

Inspection Details

Inspection #: 46 **Date:** 7/13/2023
Culvert ID: MR-1 **Time:** 5:44:29 PM
Inspector: SCGM

Road:	Mann Road	Corrugated?	☐	Vegetation:	Excessive	Outlet Protection?	☐
Shape:	Box	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	0	Driveway?	☐	Embedded?		Inlet Protection?	☐
Material:	RCP	Headwall?	☑	Headwall Condition:	1- Good/Fair	Inlet Protection Type:	
Erodibility Rating:	1- None	Culvert Protruding?	☐			Maintenance Recommended?	☐
Inspection Notes:	19"H x 41"W snails						

Inspection Details

Inspection #: 46
Culvert ID: MR-1
Inspector: SCGM
Date: 7/13/2023
Time: 5:44:29 PM

Inspection Details

Inspection #: 47 **Date:** 7/13/2023
Culvert ID: MR-3 **Time:** 5:53:35 PM
Inspector: SCGM

Road:	Mann Road	Corrugated?	☐	Vegetation:	Minor	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	2- Poor	Outlet Protection Type:	
Size:	18	Driveway?	☐	Embedded?	0-25%	Inlet Protection?	☐
Material:	RCP	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☐			Maintenance Recommended?	☐

Inspection Notes:

Inspection Details

Inspection #: 47 **Date:** 7/13/2023
Culvert ID: MR-3 **Time:** 5:53:35 PM
Inspector: SCGM

Inspection Details

Inspection #: 48 **Date:** 7/13/2023
Culvert ID: MR-4 **Time:** 6:04:21 PM
Inspector: SCGM

Road:	Mann Road	Corrugated?	☑	Vegetation:	Excessive	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	24	Driveway?	☐	Embedded?	0-25%	Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☑	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☑			Maintenance Recommended?	☐

Inspection Notes:	unable to access culvert, on private property standing water on both sides

Inspection Details

Inspection #: 48
Culvert ID: MR-4
Inspector: SCGM
Date: 7/13/2023
Time: 6:04:21 PM

Inspection Details

Inspection #: 49 **Date:** 7/13/2023
Culvert ID: MR-5 **Time:** 6:19:54 PM
Inspector: OCC

Road:	Mann Road	Corrugated?	☐	Vegetation:	Excessive	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	poor	Outlet Protection Type:	
Size:	28	Driveway?	☐	Embedded?	0-25%	Inlet Protection?	☐
Material:	RCP	Headwall?	☐	Headwall Condition:	poor	Inlet Protection Type:	
Erodibility Rating:	none	Culvert Protruding?	☑			Maintenance Recommended?	☐

Inspection Notes: brown foam excessively vegetated, couldn't access outlet

Inspection Details

Inspection #: 52 **Date:** 7/14/2023
Culvert ID: MR-6 **Time:** 7:47:59 AM
Inspector: AC

Road:	Mann Road	Corrugated?	☑	Vegetation:	Excessive	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☐	Condition:	2- Poor	Outlet Protection Type:	
Size:	12	Driveway?	☑	Embedded?	0-25%	Inlet Protection?	☐
Material:	STEEL/Metal	Headwall?	☑	Headwall Condition:	1- Good/Fair	Inlet Protection Type:	
Erodibility Rating:	1- None	Culvert Protruding?	☐			Maintenance Recommended?	☐
Inspection Notes:	driveway culvert on Mann Road						

Inspection Details

Inspection #: 52 **Date:** 7/14/2023
Culvert ID: MR-6 **Time:** 7:47:59 AM
Inspector: AC

Inspection Details

Inspection #: 53 **Date:** 7/14/2023
Culvert ID: MR-7 **Time:** 7:51:39 AM
Inspector: AC

Road:	Mann Road	Corrugated?	☑	Vegetation:	Minor	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	15	Driveway?	☑	Embedded?	0-25%	Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☑	Headwall Condition:	1- Good/Fair	Inlet Protection Type:	
Erodibility Rating:	1- None	Culvert Protruding?	☐			Maintenance Recommended?	☐

Inspection Notes:	headwall crushing pipe a bit

Inspection Details

Inspection #: 54 **Date:** 7/14/2023
Culvert ID: MR-8 **Time:** 7:53:58 AM
Inspector: AC

Road:	Mann Road	Corrugated?	☐	Vegetation:	Minor	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☐	Condition:	3- Severe	Outlet Protection Type:	
Size:	12	Driveway?	☐	Embedded?	75-100%	Inlet Protection?	☐
Material:	RCP	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	1- None	Culvert Protruding?	☐			Maintenance Recommended?	☑

Inspection Notes: outlet fully buried, inlet orangeburg clay not rcp

Inspection Details

Inspection #: 55 **Date:** 7/14/2023
Culvert ID: MR-9 **Time:** 8:05:26 AM
Inspector: OCC

Road:		Corrugated?	☐	Vegetation:	Excessive	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	good	Outlet Protection Type:	
Size:	18	Driveway?	☐	Embedded?	0-25%	Inlet Protection?	☐
Material:	RCP	Headwall?	☐	Headwall Condition:	1- Good/Fair	Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☐			Maintenance Recommended?	☐

Inspection Notes: cannot locate outlet

Inspection Details

Inspection #: 56 **Date:** 7/14/2023
Culvert ID: MR-10 **Time:** 8:18:11 AM
Inspector: OCC

Road:	Mann Road	Corrugated?	☑	Vegetation:	Excessive	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☐	Condition:	3- Severe	Outlet Protection Type:	
Size:	12	Driveway?	☑	Embedded?		Inlet Protection?	☐
Material:	STEEL/Metal	Headwall?	☑	Headwall Condition:	3- Severe	Inlet Protection Type:	
Erodibility Rating:		Culvert Protruding?	☐			Maintenance Recommended?	☐

Inspection Notes:	extreme erosion at outlet

Inspection Details

Inspection #: 56 **Date:** 7/14/2023
Culvert ID: MR-10 **Time:** 8:18:11 AM
Inspector: OCC

Inspection Details

Inspection #: 57 **Date:** 7/14/2023
Culvert ID: MR-11 **Time:** 8:22:32 AM
Inspector: AC

Road:	Mann Road	Corrugated?	☐	Vegetation:	Minor	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☐	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	24	Driveway?	☐	Embedded?	0-25%	Inlet Protection?	☑
Material:	RCP	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	Rip Rap
Erodibility Rating:	2- Minor	Culvert Protruding?	☐			Maintenance Recommended?	☑

Inspection Notes:	outlet on private property, crossing Mann Road

Inspection Details

Inspection #: 58 **Date:** 7/14/2023
Culvert ID: MR-12 **Time:** 8:29:57 AM
Inspector: OCC

Road:	Mann Road	Corrugated?	☑	Vegetation:	Minor	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☐	Condition:	3- Severe	Outlet Protection Type:	
Size:	18	Driveway?	☑	Embedded?	75-100%	Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☑	Headwall Condition:	1- Good/Fair	Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☐			Maintenance Recommended?	☑
Inspection Notes:	outlet buried						

Inspection Details

Inspection #: 51 **Date:** 7/14/2023
Culvert ID: MR-13 **Time:** 7:44:02 AM
Inspector: AC

Road:	Mann Road	Corrugated?	☑	Vegetation:	Excessive	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	2- Poor	Outlet Protection Type:	
Size:	12	Driveway?	☑	Embedded?	0-25%	Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	1- None	Culvert Protruding?	☐			Maintenance Recommended?	☑

Inspection Notes:	driveway culvert, excessive grass

Inspection Details

Inspection #: 51 **Date:** 7/14/2023
Culvert ID: MR-13 **Time:** 7:44:02 AM
Inspector: AC

Inspection Details

Inspection #: 64 **Date:** 7/14/2023
Culvert ID: PR-1 **Time:** 9:07:18 AM
Inspector: OCC

Road:	Parsonage Road	Corrugated?	☐	Vegetation:	None	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	24	Driveway?	☐	Embedded?	0-25%	Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☑	Headwall Condition:	1- Good/Fair	Inlet Protection Type:	
Erodibility Rating:	1- None	Culvert Protruding?	☐			Maintenance Recommended?	☐

Inspection Notes:	inlet on ball diamond rd, excessive veg, minor erosion, inlet is metal, inlet is protruding

Inspection Details

Inspection #: 65 **Date:** 7/14/2023
Culvert ID: PR-2 **Time:** 9:14:20 AM
Inspector: SCGM

Road:	Parsonage Road	Corrugated?	☐	Vegetation:	Excessive	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	3- Severe	Outlet Protection Type:	
Size:	0	Driveway?	☑	Embedded?	75-100%	Inlet Protection?	☐
Material:	STEEL/Metal	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☐			Maintenance Recommended?	☑

Inspection Notes:	clean out, outlet unable to locate

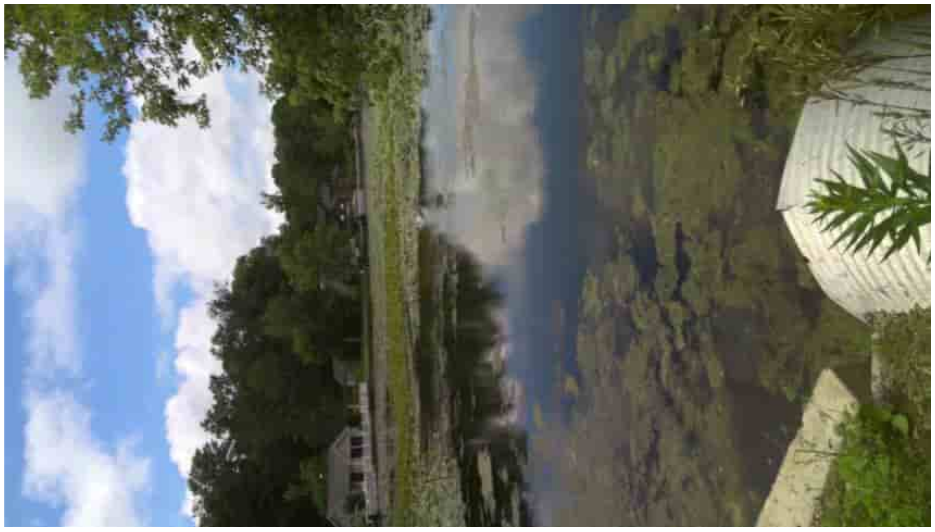
Inspection Details

Inspection #: 26 **Date:** 7/13/2023
Culvert ID: SS-1 **Time:** 3:09:12 PM
Inspector: AC

Road:	Shadyside Road	Corrugated?	☑	Vegetation:	Excessive	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☐	Condition:	2- Poor	Outlet Protection Type:	
Size:	0	Driveway?	☐	Embedded?		Inlet Protection?	☐
Material:	STEEL/Metal	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	1- None	Culvert Protruding?	☑			Maintenance Recommended?	☐
Inspection Notes:	drai s wetland/detention area into lake diameter = 57 in						

Inspection Details

Inspection #: 26
Culvert ID: SS-1
Inspector: AC
Date: 7/13/2023
Time: 3:09:12 PM



Inspection Details

Inspection #: 27 **Date:** 7/13/2023
Culvert ID: SS-2 **Time:** 3:18:16 PM
Inspector: AC

Road:	Shadyside Road	Corrugated?	☑	Vegetation:	Minor	Outlet Protection?	☐
Shape:	Box	Smooth Interior?	☐	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	0	Driveway?	☑	Embedded?	50-75%	Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	1- None	Culvert Protruding?	☐			Maintenance Recommended?	☑

Inspection Notes:	leaf litter debris clogging inlet, clean inlet 50-75 embedded outlet

Inspection Details

Inspection #: 27
Culvert ID: SS-2
Inspector: AC
Date: 7/13/2023
Time: 3:18:16 PM

Inspection Details

Inspection #: 28 **Date:** 7/13/2023
Culvert ID: SS-3 **Time:** 3:27:29 PM
Inspector: AC

Road:	Shadyside Road	Corrugated?	☑	Vegetation:	Excessive	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	48	Driveway?	☐	Embedded?	0-25%	Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	1- None	Culvert Protruding?	☑			Maintenance Recommended?	☐

Inspection Notes:	drains wetland/detention area into lake riprap/hravel in area draining from road

Inspection Details

Inspection #: 29 **Date:** 7/13/2023
Culvert ID: SS-4 **Time:** 3:36:38 PM
Inspector: AC

Road:	Shadyside Road	Corrugated?	☑	Vegetation:	Minor	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	12	Driveway?	☑	Embedded?	0-25%	Inlet Protection?	☐
Material:	STEEL/Metal	Headwall?	☐	Headwall Condition:	1- Good/Fair	Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☐			Maintenance Recommended?	☐

Inspection Notes:	some erosion pptential from the road

Inspection Details

Inspection #: 29
Culvert ID: SS-4
Inspector: AC
Date: 7/13/2023
Time: 3:36:38 PM

Inspection Details

Inspection #: 30 **Date:** 7/13/2023
Culvert ID: SS-5 **Time:** 3:43:29 PM
Inspector: AC

Road:	Shadyside Road	Corrugated?	☑	Vegetation:	Minor	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☐	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	15	Driveway?	☑	Embedded?		Inlet Protection?	☐
Material:	STEEL/Metal	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	1- None	Culvert Protruding?	☐			Maintenance Recommended?	☐
Inspection Notes:	metal inlet, plastic outlet						

Inspection Details

Inspection #: 31 **Date:** 7/13/2023
Culvert ID: SS-6 **Time:** 3:54:06 PM
Inspector: AC

Road:	Shadyside Road	Corrugated?	☑	Vegetation:	None	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☐	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	4	Driveway?	☑	Embedded?		Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☐			Maintenance Recommended?	☐

Inspection Notes: series of 3 pipes, two clogged

Inspection Details

Inspection #: 31
Culvert ID: SS-6
Inspector: AC
Date: 7/13/2023
Time: 3:54:06 PM

Inspection Details

Inspection #: 32 **Date:** 7/13/2023
Culvert ID: SS-7 **Time:** 3:57:30 PM
Inspector: AC

Road:	Shadyside Road	Corrugated?	☑	Vegetation:	Minor	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	8	Driveway?	☑	Embedded?		Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☐			Maintenance Recommended?	☐
Inspection Notes:	gravel accumulation at outlet						

Inspection Details

Inspection #: 32
Culvert ID: SS-7
Inspector: AC

Date: 7/13/2023
Time: 3:57:30 PM

Inspection Details

Inspection #: 33 **Date:** 7/13/2023
Culvert ID: SS-8 **Time:** 4:09:18 PM
Inspector: AC

Road:	Shadyside Road	Corrugated?	☑	Vegetation:	Minor	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	0	Driveway?	☐	Embedded?	0-25%	Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☑			Maintenance Recommended?	☐

Inspection Notes:	deposition at outlet, stagnant water

Inspection Details

Inspection #: 33
Culvert ID: SS-8
Inspector: AC
Date: 7/13/2023
Time: 4:09:18 PM

Inspection Details

Inspection #: 34 **Date:** 7/13/2023
Culvert ID: SS-9 **Time:** 4:17:52 PM
Inspector: AC

Road:	Shadyside Road	Corrugated?	☑	Vegetation:	Excessive	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:		Outlet Protection Type:	
Size:	36	Driveway?	☐	Embedded?		Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☑	Headwall Condition:	2- Poor	Inlet Protection Type:	
Erodibility Rating:	1- None	Culvert Protruding?	☐			Maintenance Recommended?	☐

Inspection Notes:	private pond upstream, headwall at outlet

Inspection Details

Inspection #: 34
Culvert ID: SS-9
Inspector: AC
Date: 7/13/2023
Time: 4:17:52 PM

Inspection Details

Inspection #: 35 **Date:** 7/13/2023
Culvert ID: SS-10 **Time:** 4:27:37 PM
Inspector: AC

Road:	Shadyside Road	Corrugated?	☐	Vegetation:	Excessive	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	21	Driveway?	☐	Embedded?	0-25%	Inlet Protection?	☐
Material:	RCP	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	1- None	Culvert Protruding?	☑			Maintenance Recommended?	☐

Inspection Notes:	Minor debris accumulation at inlet; lots of vegetation; outlet pipe snapped off but still functioning

Inspection Details

Inspection #: 35 **Date:** 7/13/2023
Culvert ID: SS-10 **Time:** 4:27:37 PM
Inspector: AC

Inspection Details

Inspection #: 36 **Date:** 7/13/2023
Culvert ID: SS-11 **Time:** 4:35:07 PM
Inspector: AC

Road:	Shadyside Road	Corrugated?	☑	Vegetation:	Minor	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	18	Driveway?	☑	Embedded?		Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☐			Maintenance Recommended?	☐

Inspection Notes:	sediment and debris accumulation

Inspection Details

Inspection #: 36 **Date:** 7/13/2023
Culvert ID: SS-11 **Time:** 4:35:07 PM
Inspector: AC

Inspection Details

Inspection #: 37 **Date:** 7/13/2023
Culvert ID: SS-12 **Time:** 4:40:57 PM
Inspector: AC

Road:	Shadyside Road	Corrugated?	☑	Vegetation:	Minor	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	8	Driveway?	☐	Embedded?		Inlet Protection?	☑
Material:	IDPE/PVC/Plastic	Headwall?	☑	Headwall Condition:	1- Good/Fair	Inlet Protection Type:	Concrete
Erodibility Rating:	2- Minor	Culvert Protruding?	☑			Maintenance Recommended?	☐

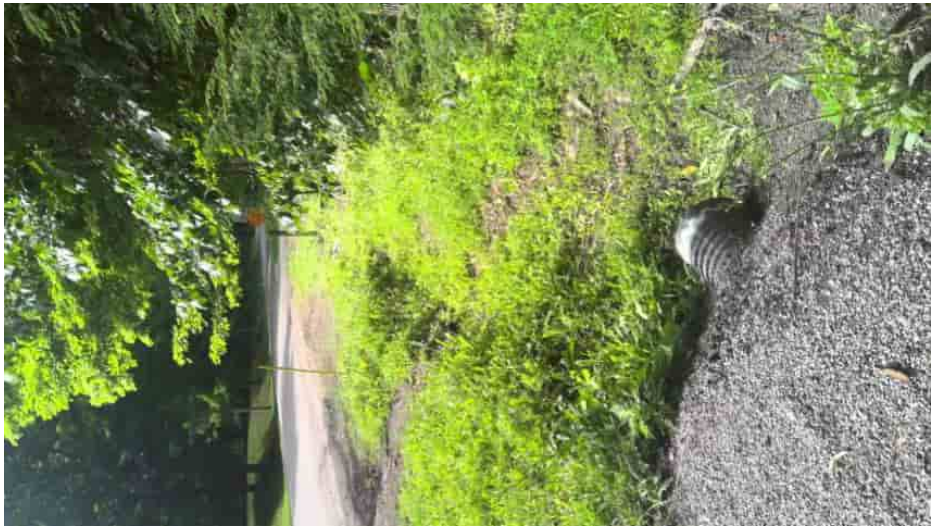
Inspection Notes:	discharge to property across street, but can't find outlet. Riprap channel to direct flow to lake

Inspection Details

Inspection #: 39 **Date:** 7/13/2023
Culvert ID: SS-13 **Time:** 5:00:33 PM
Inspector: AC

Road:	Shadyside Road	Corrugated?	☑	Vegetation:	Minor	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	13	Driveway?	☐	Embedded?	0-25%	Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☑			Maintenance Recommended?	☐

Inspection Notes:	direct discharge to lake



Inspection Details

Inspection #: 40 **Date:** 7/13/2023
Culvert ID: SS-14 **Time:** 5:04:23 PM
Inspector: AC

Road:	Shadyside Road	Corrugated?	☑	Vegetation:	Minor	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	12	Driveway?	☑	Embedded?		Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☑			Maintenance Recommended?	☐

Inspection Notes: erosion on outlet side

Inspection Details

Inspection #: 40 **Date:** 7/13/2023
Culvert ID: SS-14 **Time:** 5:04:23 PM
Inspector: AC

Inspection Details

Inspection #: 41 **Date:** 7/13/2023
Culvert ID: SS-15 **Time:** 5:07:33 PM
Inspector: SCGM

Road:	Shadyside Road	Corrugated?	☐	Vegetation:	Minor	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	8	Driveway?	☑	Embedded?	25-50%	Inlet Protection?	☐
Material:	RCP	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☐			Maintenance Recommended?	☐

Inspection Notes:	2 catch basins inlet to rcp pipe

Inspection Details

Inspection #: 42 **Date:** 7/13/2023
Culvert ID: SS-16 **Time:** 5:14:28 PM
Inspector: SCGM

Road:	Shadyside Road	Corrugated?	☑	Vegetation:	None	Outlet Protection?	☑
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	Rip Rap
Size:	12	Driveway?	☑	Embedded?	0-25%	Inlet Protection?	☑
Material:	IDPE/PVC/Plastic	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	Rip Rap
Erodibility Rating:	1- None	Culvert Protruding?	☐			Maintenance Recommended?	☐

Inspection Notes: No GPS coordinate

Inspection Details

Inspection #: 43 **Date:** 7/13/2023
Culvert ID: SS-17a **Time:** 5:28:07 PM
Inspector: SCGM

Road:	Shadyside Road	Corrugated?	☐	Vegetation:	Minor	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	2- Poor	Outlet Protection Type:	
Size:	30	Driveway?	☐	Embedded?	0-25%	Inlet Protection?	☑
Material:	RCP	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	Rip Rap
Erodibility Rating:	2- Minor	Culvert Protruding?	☑			Maintenance Recommended?	☐

Inspection Notes:	minor sed, plastic under riprap

Inspection Details

Inspection #: 44 **Date:** 7/13/2023
Culvert ID: SS-17b **Time:** 5:31:42 PM
Inspector: SCGM

Road:	Shadyside Road	Corrugated?	☑	Vegetation:	Minor	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	12	Driveway?	☐	Embedded?		Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☑			Maintenance Recommended?	☐
Inspection Notes:	next to 17a, possible outlet for roadside drainage? Unable to find outlet to lake						

Inspection Details

Inspection #: 45 **Date:** 7/13/2023
Culvert ID: SS-18 **Time:** 5:37:22 PM
Inspector: SCGM

Road:	Shadyside Road	Corrugated?	☑	Vegetation:	None	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☐	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	12	Driveway?	☑	Embedded?	0-25%	Inlet Protection?	☑
Material:	IDPE/PVC/Plastic	Headwall?	☐	Headwall Condition:		Inlet Protection Type:	Concrete
Erodibility Rating:	1- None	Culvert Protruding?	☐			Maintenance Recommended?	☐

Inspection Notes: two 4 inch pipes coming from household

Inspection Details

Inspection #: 45 **Date:** 7/13/2023
Culvert ID: SS-18 **Time:** 5:37:22 PM
Inspector: SCGM

Inspection Details

Inspection #: 66 **Date:** 7/14/2023
Culvert ID: SS-19 **Time:** 9:20:59 AM
Inspector: OCC

Road:	Shadyside Road	Corrugated?	☐	Vegetation:	None	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	1- Good/Fair	Outlet Protection Type:	
Size:	12	Driveway?	☑	Embedded?	0-25%	Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☑	Headwall Condition:	1- Good/Fair	Inlet Protection Type:	
Erodibility Rating:	medium/high	Culvert Protruding?	☐			Maintenance Recommended?	☐
Inspection Notes:	erosion at outlet						

Inspection Details

Inspection #: 66 **Date:** 7/14/2023
Culvert ID: SS-19 **Time:** 9:20:59 AM
Inspector: OCC

Inspection Details

Inspection #: 50 **Date:** 7/14/2023
Culvert ID: WMH-1 **Time:** 7:36:31 AM
Inspector: SCGM

Road:	West Mina Hill Rd	Corrugated?	☑	Vegetation:	None	Outlet Protection?	☐
Shape:	Round	Smooth Interior?	☑	Condition:	2- Poor	Outlet Protection Type:	
Size:	12	Driveway?	☑	Embedded?	25-50%	Inlet Protection?	☐
Material:	IDPE/PVC/Plastic	Headwall?	☑	Headwall Condition:	2- Poor	Inlet Protection Type:	
Erodibility Rating:	2- Minor	Culvert Protruding?	☐			Maintenance Recommended?	☑

Inspection Notes: metal inlet, plastic outlet

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