Garrett County Water and Sewerage Master Plan 2014 Revision

Adopted December 9, 2014

Draft Amendment 2023

Revision Table

Amendment	County Adoption	Resolution	MDE Approval	Revision Notes	Pages
	December 9, 2014	2014-15	March 9, 2015	Original Plan	
	June 6, 2016	2016-7		See Exhibit 1, Text & map 4-4	Exhibit 1
1	November 22, 2016	2016-2	March27, 2017	Map updates: Deep Creek Sewer Service Area, Thayerville Water Service Area, Deer Park Water Service, Mt Lake Park/LochLynn Water Service Area	Jump to page
2	February, 21 2017	2017-1	May, 26 2017	Exhibit 1: EMR Revisions February 2016: Planned & recommended Improvements Text. Table 3-4 Table 3-6	Jump to page
3	August 22, 2017	2017-5		Map update Deep Creek Lake Water Service Area	Jump to page
3	April 2, 2021	2021-2		Rosedale Sewer Service Area Map	Jump to page
3	April 20, 2021	2021-3		Paradise Heights Water Expansion Glendale Road Sewer Service Expansion Pysell Road Sewer Service Expansion Map Mountainside Sewer Service Expansion Map Maple Street Friendsville Sewer Service Map Madison Street Water Service Map	Jump to page
3	Feb 2023	2023-		Grantsville Water Service text and map	Amendment 3-1-25

THE BOARD OF GARRETT COUNTY COMMISSIONERS

203 South Fourth Street - Courthouse - Room 207, Oakland, Maryland 21550
www.garrettcounty.org • countycommissioners@garrettcounty.org
301-334-8970 301-895-3188 FAX 301-334-5000

Board of Commissioners
Paul C. Edwards
James C. Hinebaugh, Jr.
S. Larry Tichnell

County Administrator
Kevin G. Null

County Attorney
Gorman E. Getty III

RESOLUTION NO. 2016 – 7

A RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS OF GARRETT COUNTY, MARYLAND, A BODY POLITIC AND CORPORATE AND A POLITICAL SUBDIVISION OF THE STATE OF MARYLAND (THE "COUNTY"), APPROVING THE PROPOSED CHANGE OF THE 2014 GARRETT COUNTY WATER AND SEWERAGE PLAN (THE "PLAN") PURSUANT TO THE REQUIREMENTS OF THE CODE OF MARYLAND REGULATIONS ("COMAR"), TITLE 26 SUBTITLE 03, WATER SUPPLY, SEWERAGE, SOLID WASTE , AND POLLUTION CONTROL PLANNING AND FUNDING AND TITLE 9 SUBTITLE 5 OF THE ENVIRONMENT ARTICLE OF THE ANNOTATED CODE OF MARYLAND, WATER AND SEWERAGE PLANS (THE "STATE CODE').

Explanation

The 2014 Garrett County Water and Sewerage Plan (the "Plan") was prepared to support the continued development of water supply and sewerage systems in Garrett County, Maryland. The Plan was prepared pursuant to the requirements of COMAR Title 26 Subtitle 03, Water Supply, Sewerage, Solid Waste, and Pollution Control Planning and Funding and pursuant to the provisions of Title 9, Subtitle5, of the State Code, County Water and Sewerage Plans.

Section 9-503 of the State Code of Maryland requires that the Board of County Commissioners as governing body of the County, adopt and submit to the Department of the Environment (the "Department") an amendment of the Plan if the County considers amendment necessary. Before the County may adopt any amendment to the Plan, the County must give notice of the time and place of a public hearing on the proposed amendment, together with a summary of the amendment in accordance with the provisions of Section 9-503(d) of the State Code. The County has proposed amendments to the Plan, specifically to the Chestnut Ridge Sewer Collection System. The proposed amendment and shall replace pages 4-5 to 4-14 and Figure 4-4 on page 4-34 of the Plan.

The Board of County Commissioners of Garrett County (the "Board") held a Public Hearing on November 22, 2016, in Room 209 of the Courthouse, in Oakland, Maryland to consider the proposed amendments to the Plan, after notice of the public hearing having been published on November 3, 2016 and November 10, 2016, in The Republican, a newspaper of general circulation in the County in accordance with the provisions of the State Code.

NOW, THEREFORE, BE IT RESOLVED, by the Board of County Commissioners of Garrett County, Maryland, as follows:

1. The Explanation set forth above is incorporated as a substantive provision of this Resolution.

2. The County hereby adopts the proposed amendments to the Plan, a copy of which are attached hereto, incorporated herein and marked as Exhibit 1 and 2.

3. The Chairman of the Board of County Commissioners of Garrett County, Maryland, be and is hereby authorized to execute any and all documents as may be necessary or required in conjunction with the Plan.

4. This Resolution shall be effective upon its passage. The adopted amendments to the Plan shall become effective upon acceptance and approval by Maryland Department of the Environment.

ADOPTED this 22nd day of NOVEMBER, 2016, by the Board of County Commissioners of Garrett County, Maryland, by its Chairman, Paul C. Edwards, and attested by Kevin G. Null, County Administrator.

BOARD OF COUNTY COMMISSIONERS
OF GARRETT COUNTY, MARYLAND

By _____ (SEAL).
Paul C. Edwards
Chairman

ATTEST:

_____
Kevin G. Null
County Administrator

EXHIBIT 1

The Western Wastewater Treatment Plant (WWTP) was first built in 1989. An addition was made in 1995 to accommodate flow from the Chestnut Ridge and the Jennings collection systems. The plant uses the rotating biological contactor (RBC) variant of the biological nutrient removal (BNR) process including primary clarifiers, submerged rotating biological contactors, final clarifiers, UV disinfection and cascade post aeration. Sludge from the WWTP is treated in two aerobic digesters and the stabilized liquid sludge is land-applicated or transported to the Deep Creek Lake WWTP for processing.

Discharge from the WWTP is to the Casselman River, a designated Use IV water which is protected for holding or supporting adult trout for put-and-take fishing. The WWTP has current discharge permit effluent limitations based on an average daily flow of up to 600,000 gpd. Average daily flow in 2012 was approximately 78,200 gpd.

Goodwill Mennonite Home

The Goodwill Mennonite Home was annexed into the Town in 2006, though the Town began treating wastewater from the home in the 1990s. Garrett County owns and maintains the collection system (approximately 5,000 linear feet) and an associated pump station located at 810 Dorsey Hotel Road and with a pumping capacity of 76 gpm. The system currently serves approximately 90 ERUs (Table 4-1).

Chestnut Ridge Collection System

Garrett County owns and operates the Chestnut Ridge Collection System which conveys wastewater to the Grantsville WWTP. The system has approximately 15,000 to 20,000 linear feet of sewer line and currently serves approximately 144 ERUs (Table 4-1).

The Chestnut Ridge area, north and south of the I-68 - US 219 interchange, is a designated growth area, employment area, and a PFA. The collection system was completed in 1996 replacing on-site septic systems and individual treatment plants for several businesses including an approximately 100-room Comfort Inn hotel (formerly Holiday Inn) and the Penn Alps Restaurant and Artisan Village.[5] The Chestnut Ridge system consists of the following components:

- Gravity sewer lines extending: i) from the Casselman River to Hill Top (near the intersection of US 40 and US 219; ii) north of US 40 along US 219; iii) south of US 40 to I-68 and along I-68 to US 219 (Chestnut Ridge Road); and iv) south of I-68 to and along Ellis Drive.
- Sewage pump station on the south side of US 40, south of the Penn Alps development at 10538 National Pike. The pumping capacity is 475 gpm.

A master meter records sewerage flow from Chestnut Ridge and the Garrett County Sanitary District pays the Town of Grantsville for treatment based on flow.

Jennings Collection System

Jennings is a small, mostly residential community located along MD 495 about four miles south of Grantsville. The area had failing septic systems, and a 1997 study recommended a small diameter,

[5] Based on an area wide facility plan, completed in 1987.

variable-grade, gravity collection system to convey effluent to the Grantsville WWTP for treatment[6]. The Jennings service area was created in 1998 and the County completed project construction in 2000. The system comprises:

- Septic tanks at each connection.
- Approximately 40,660 linear feet of 6-inch, and 22,400 linear feet of 4-inch variable grade sewer line.
- A mainline pump station was installed in 2013 north of the MD 495/Jennings Road intersection to enhance flows to the Grantsville WWTP.

Garrett County owns and operates the Jennings Collection System. The system currently serves approximately 82 ERUs including Clayburn, Inc., a refractory plant, as well as some homes between Jennings and Grantsville along Maple Grove Road (Table 4-1).

Service Areas

Figure 4-3 shows the existing Grantsville sewerage service area. Figure 4-4 shows the Chestnut Ridge service area, and Figure 4-6 shows the Jennings service area. Service area expansions for the upcoming three-to-ten year period (S-3) include the current unserved area east of the existing US 219 (Chestnut Ridge Road), between approximately Old Salisbury Road and I-68; an area at the southeast corner of where New Germany Road crosses I-68, and a parcel south of I-68,east of the Chestnut Ridge Road. Several areas are shown as being served beyond 10 years (S-FPS), including: north of Old Salisbury Road along US 219 (Chestnut Ridge Road); along Chestnut Ridge Road north of Meadow Lake Drive; along the Casselman River and River Road; south of Meadowview Drive to I-68; west of Springs Road (MD 669); north along Springs Road to the Pennsylvania line; east of Dorsey Hotel Road; and along MD 495 (Bittinger Road) near Durst Road. These service areas are consistent with growth areas indicated in the Garrett County Comprehensive Plan.

No additional future service area expansions (beyond 10 years) are currently planned.

Problem Areas and Future Needs

The Town's sewer lines and WWTP date from the 1980s and are becoming dated. The ultraviolet disinfection system at the Grantsville WWTP has two racks. One is approximately 15 years old and needs to be replaced; the other one is four years old.

Planned and Recommended Improvements

Replace the ultraviolet disinfection system rack at the Grantsville WWTP.

4.1.3.1 Finzel

Finzel is an unincorporated community straddling the Casselman and Savage River watersheds with an estimated population of approximately 550 (US Census American Fact Finder). Finzel does not have sewerage service. Some homes have marginal or failing septic systems that the Garrett County Health Department Environmental Health Services addresses on an ongoing basis.

Deep Creek Watershed

4.1.3.1 Deep Creek Lake

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[6] Jennings Community Sewage Disposal Study, April 4, 1997.

Deep Creek Lake is the County's center for growth and development. The lake and surrounding area have become the County's most important economic engine as a result of tourism and year-round and seasonal housing. As of 2005 the watershed contained approximately 5,560 housing units, the largest number in the County. Many of these units are seasonal.

Existing system

Planning for sewer service in the Deep Creek Lake area dates back to the 1970s. The Garrett County Sanitary District published its evaluations of alternatives for sewer service and its recommendations in 1975. The first part of the Deep Creek Lake sewerage system became operational in November 1984 with several phases added since. The system includes over 75 miles of sewer line.

The Deep Creek Lake sewer service area now extends around most of the west, north and east sides of the Lake. The irregular shape of the Lake and the need to convey sewerage to a single WWTP on the west side of the Lake away from the shoreline make the Deep Creek Lake service area unusual compared to a conventional gravity sewerage system. The system has topographic and environmental demands requiring alternative means of wastewater handling. A key feature of the system is that much of it is composed of small diameter-pressure sewers connected to individual grinder pump installations.

The interceptor sewer system begins on the west shore of Deep Creek Lake along Marsh Hill Road, proceeds north to McHenry and then south along Deep Creek Drive intercepting sewer lines from Mosser Road, Gravelly Run Road and Rock Lodge Road. It further proceeds under Deep Creek Lake at the Deep Creek Bridge to a main line pump station (#2-2) at the intersection of Lake Shore Drive and US 219.

Wastewater from the southeast (Glendale-Zeddock Miller Road, Deep Creek Lake State Park, Paradise Point, Harvey's and Beckman's peninsulas, and Thousand Acres) is conveyed along Glendale Road to a main line pump station (#3-2) at the intersection of Glendale Road and US 219.

Wastewater from the south (Sand Flat Road) is conveyed north along US 219 to pump station #3-2. Wastewater from pump station #3-2 is conveyed north along US 219 to pump station #2-2). Wastewater from pump station #2-2 is conveyed west along Lake Shore Drive and Mayhew Inn Road to the WWTP.

The following is a list of pump stations and locations:

Pump Station ID #	Location	Pumping Capacity(gpm)
1-1	Mayhew Inn Road	1,370
2-1	Lake Shore Drive	1,288
2-2	Intersection of Lake Shore Drive & US 219 (Garrett Highway)	1,240
3-1	US 219	19
3-2	Intersection of US 219 and Glendale Road	500
5-1	Glendale Road	470
6-1	Deep Creek Drive	517
6-2	Deep Creek Drive	470
7-1	Rock Lodge Road	79
7-2	Rock Lodge Road	31
8-1	Marsh Hill Road	85
8-2	Marsh Hill Road	290

8-3	Marsh Hill Road	50
8-4	Marsh Hill Road	34
11-1	Paradise Heights Road	35
11-2	Moonrise Drive (Harvey's Peninsula)	66
11-3	Glenlake Road (Beckman's Peninsula)	730
Thousand Acres TA 1	End of Shoreline Drive	297
Thousand Acres TA 2	Across from 185 Shoreline Drive	244
Thousand Acres TA 3	Crows Point Road.	43
Thousand Acres TA 4	Crows Point Road.	108
North Camp	Extreme Way	87
Holy Cross	Reserve Drive.	40

The system includes two 900,000-gallon sewage storage tanks, one on Glendale Road near the intersection with US 219 and another in McHenry on Town Center Drive. Both tanks are equipped with aeration and odor control. Each tank can hold the flow of 1,000 ERUs for a three-day period and also provide emergency storage in the event of a line rupture or major pump station failure.

The Deep Creek Lake WWTP is located at 762 Mayhew Inn Road near the Deep Creek Lake Dam. Treated wastewater is discharged to Deep Creek Stream at a point approximately one mile east of its confluence with the Youghiogheny River. In the mid-1980s the design capacity of the Deep Creek Lake sewerage system was 600,000 gpd (approximately 1,800 ERUs). The design did provide for 500 additional ERUs but this surplus capacity was used up by development that occurred after the system was completed and a temporary moratorium had to be imposed.

Upgrades and expansions of the plant from 0.6 MGD to 2.2 MGD were undertaken in stages with the upgrade completed in 2006.[7] The treatment plant process units include tine screening (rotary belt), grit removal, extended aeration activated sludge via oxidation ditch technology (biological treatment), secondary clarification with chemical addition for phosphorus removal, UV disinfection, and cascade post aeration. The solids handling facilities include gravity sludge thickening, aerobic digestion, and centrifuge dewatering. The solids facilities are designed to produce Class B biosolids suitable for land application.

The WWTP has current discharge permit effluent limitations based on an average daily flow of up to 2,200,000 gpd (2.2 mgd). Average daily flow in 2012 was approximately 334,700 gpd.[8] The Deep Creek Lake WWTP was laid out tbr a potential mirrored (duplicate) expansion on the

Deer Park collection system

The County created the Deer Park Sanitary District in 1993. Prior to this the Town had no sewerage collection or treatment facilities. The option to connect to the Trout Run WWTP was deemed preferable to building a separate treatment Facility, and interconnection was completed in 1997.

The collection system consists of septic tanks and small diameter gravity sewers at the house connections. Two pump stations collect the sewage and pump it into a three main conveying the flow

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[7] The March 2011 Discharge Permit states The permittee shall notify the Compliance Program of the Water Management Administration when the facility expansion to 2.2 mgd design capacity is completed".

[8] With a permitted discharge of over 0.5 mgd the Deep Creek Lake WWTP is a "major" WWTP. However, it is not on the State's list of approximately 66 major facilities because it does not discharge to a Chesapeake Bay tributary.

along MD 135 to a manhole in The Shady Acres area. Deer Park pump station 1 is located across from 389 Hotel Road and has a pumping capacity of 200 gpm. Deer Park pump station 2 is located across from across from 2588 Boiling Spring Road and has a pumping capacity of 70 gpm. The entire system has approximately 10 miles of sewer line.

Approximately 210 accounts are on the system.

Shady Acres – collection system

Shady Acres refers to the area adjacent to the cast of Mountain Lake Park north and south of MD 135 including the Southern Garrett County Industrial Park and the Southern Garrett Business and Technology Park. In 1989, in association with improvements at the Trout Run WWTP, the County installed approximately 10,500 linear feet of collection and interceptor sewers in the Shady Acres Sanitary District and constructed an approximately 2,500 foot long sewer interceptor to connect to the Mountain Lake Park interceptor system. Approximately 60 accounts are on the system.

Weber Road - collection system

The Weber Road collection system collects sewerage from a Maryland State Highway Administration maintenance Facility on Weber Road South as well as Yough Glades elementary school, and a few private businesses and dwellings and conveys it to the Mountain Lake Park collection system. The system has approximately 15 accounts.

Service Areas

Figure 4-8, 4-9, and 4-10 show the existing Trout Run sewerage service area.

No service area expansions are planned within 10 years. Future service areas (FPS, beyond 10 years) are proposed for several areas:

- Approximately 830-acre area mostly north of MD 135 between Mountain Lake Park and Deer Park.
- Three areas northeast, southeast and southwest of Deer Park.
- Two areas south and east of Loch Lynn Heights.
- Small infill area southwest of Mountain Lake Park (SIIA Drive).

These areas are consistent with the Garrett County Comprehensive Plan which included a careful study of the growth areas for the four towns in the Little Youghiogheny watershed. The projected

4.1.7 Savage River Watershed

There are no community sewerage systems in the Savage River Watershed.

The MES operates a septic tank and sand filter wastewater treatment plant at New Germany State Park with a permitted discharge basis of 6,000 gpd. Sludge from the WWTP is disposed of by hauling to the Garrett County Landfill.

Problem Areas and Future Needs

Finzel is an unincorporated community straddling the Savage River and Casselman watersheds with an estimated population of approximately 550 (US Census American Fact Finder). Some homes have

marginal or failing septic systems that the Garrett County Health Department Environmental Health Services addresses on an ongoing basis.

Swanton is an unincorporated community with an estimated population of approximately 60 (US Census American Fact Finder). A number of homes are located on a narrow level bank close to Crab Tree Creek stream and effluent from septic systems flows quickly into stream. It does not appear that the septic systems are failing; rather the concerns are the discharge into the stream and the close proximity of septic systems and wells). A sanitary survey should be undertaken to investigate the situation and recommend potential solutions.

4.1.8 Youghiogheny River Watershed

4.1.8.1 Crellin and Hutton

Existing System

Garrett County developed a sewerage system for Crellin in 1990. The system now also serves the community of Hutton approximately one mile northwest of Crellin. The combined system serves approximately 150 ERUs.

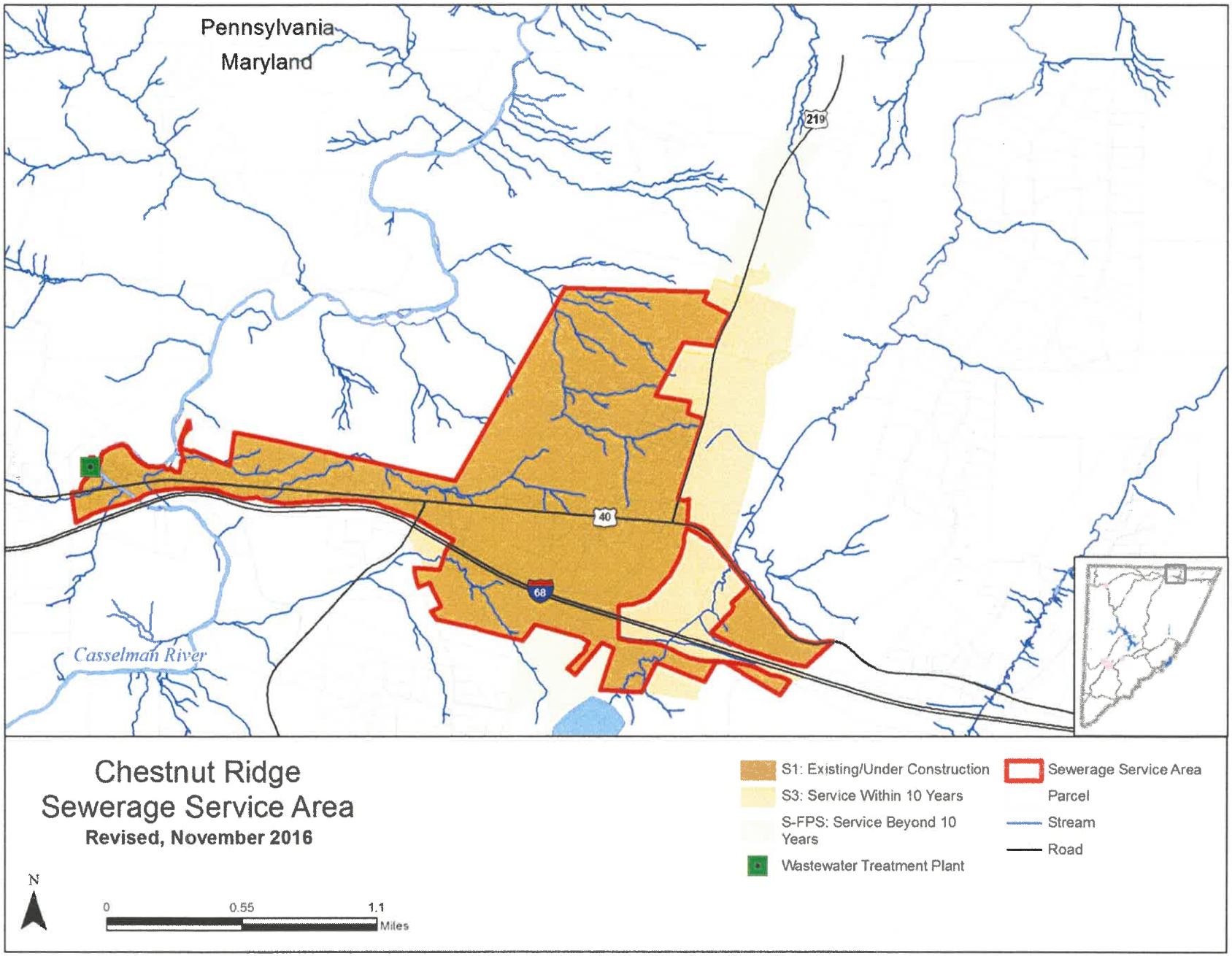
The collection systems consist of septic tanks located at each connection and gravity sewers. The Hutton system has two main line pump stations that convey effluent to the WWTP. Hutton pump station 1 is at 44 Parks Road and Hutton pump station 2 is at 950 Hutton Road. Each station has a pumping capacity of 76 gpm. The WWTP is located at 237 West Ashby- Ellis Road in Crellin. Wastewater is treated with a recirculation tank, open air sand filters, UV disinfection and post step aeration.

The combined system has approximately 30,000 linear feet of sewer lines.

The WWTP has current discharge permit effluent limitations based on an average daily flow of up to 27,000 gpd. Average daily flow in 2012 was approximately 13,400 gpd.

Effluent from the WWTP is discharged into the Youghiogheny River at Hutton Road (MD 39) near the bridge over the Youghiogheny River. Discharge from the Crellin WWTP is subject to temperature and dissolved oxygen water quality criteria because the Youghiogheny River is a designated as Use III-P water. Sludge from the septic tanks is transported to the Deep Creek Lake WWTP for treatment.

Figure 4-4 Chestnut Ridge



THE BOARD OF GARRETT COUNTY COMMISSIONERS

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Board of Commissioners
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County Administrator
Kevin G. Null

County Attorney
Gorman E. Getty III

RESOLUTION NO. 2016 – 2

A RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS OF GARRETT COUNTY, MARYLAND, PURSUANT TO THE PROVISIONS OF § 9-648 OF THE ENVIRONMENT ARTICLE OF THE ANNOTATED CODE OF MARYLAND (THE "ACT"), APPROVING THE PROPOSED CHANGES IN THE SERVICE AREAS IN GARRETT COUNTY DESIGNATED AS DEEP CREEK LAKE SEWER SERVICE AREA, THAYERVILLE WATER SERVICE AREA, DEER PARK SEWER SERVICE AREA, DEER PARK WATER SERVICE AREA, MOUNTAIN LAKE PARK/LOCH LYNN HEIGHTS SEWER SERVICE AREA, AND MOUNTAIN LAKE PARK/LOCH LYNN HEIGHTS WATER SERVICE AREA, (THE "DISTRICTS"), AND MAKING CERTAIN LEGISLATIVE FINDINGS IN CONNECTION THEREWITH.

Explanation

The Board of County Commissioners of Garrett County, Maryland (the "County"), the governing body of the Garrett County Sanitary District, Inc., has passed and adopted a Resolution proposing to change the boundaries of the service areas in Garrett County designated as the Deep Creek Lake Sewer Service Area, the Thayerville Water Service Area, the Deer Park Sewer Service Area, the Deer Park Water Service Area, the Mountain Lake Park/Loch Lynn Heights Sewer Service Area, and the Mountain Lake Park/Loch Lynn Heights Water Service Area (the "Districts"), as shown on the plats attached hereto and incorporated by reference herein (the "Plats").

Pursuant to the provisions of § 9-647 and § 9-648 of the Environment Article of the Annotated Code of Maryland (the "Act"), the governing body of the County in which the service areas are located is required to hold a public hearing to consider a change in the service areas and the County may change the service areas if it finds that the change is necessary for the existing and future health, safety, and welfare of the residents of the service areas and is feasible financially and from an engineering standpoint.

The Board of County Commissioners of Garrett County (the "Board"), as the governing body of the County, held a Public Hearing on the 6th day of June, 2016, at 4:00 P.M. in the Garrett College – Continuing Education Building – Room 205, to consider the proposed changes in the Districts, notice of the public hearing having been published in The Republican on the 26th day of May and 2nd day of June 2016, a newspaper having general circulation in the County.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF GARRETT COUNTY, MARYLAND:

1. The Explanation set forth above is hereby incorporated as a substantive provision of this Resolution.
2. The Board of County Commissioners of Garrett County finds that the change in the boundaries of the Districts is necessary for the existing and future health, safety, and welfare of the residents of that service areas and is feasible financially and from an engineering standpoint.
3. Based upon the legislative findings set forth of this Resolution and after considering the views expressed at the public hearing held on the 6th day of June 2016, the Board of County Commissioners of Garrett County approves the changes in the boundaries of the Districts as reflected in the Plats.
4. This Resolution shall be effective upon its adoption and the County Administrator shall immediately file an executed copy of this Resolution with the Clerk of the Circuit Court for Garrett County.

ADOPTED and certified this 6TH day of JUNE, 2016.

BOARD OF COUNTY COMMISSIONERS
OF GARRETT COUNTY, MARYLAND

PAUL C. EDWARDS
Chairperson

JAMES C. HINEBAUGH
Commissioner

S. LARRY TICHNELL
Commissioner

ATTEST:

KEVIN G. NULL
County Administrator

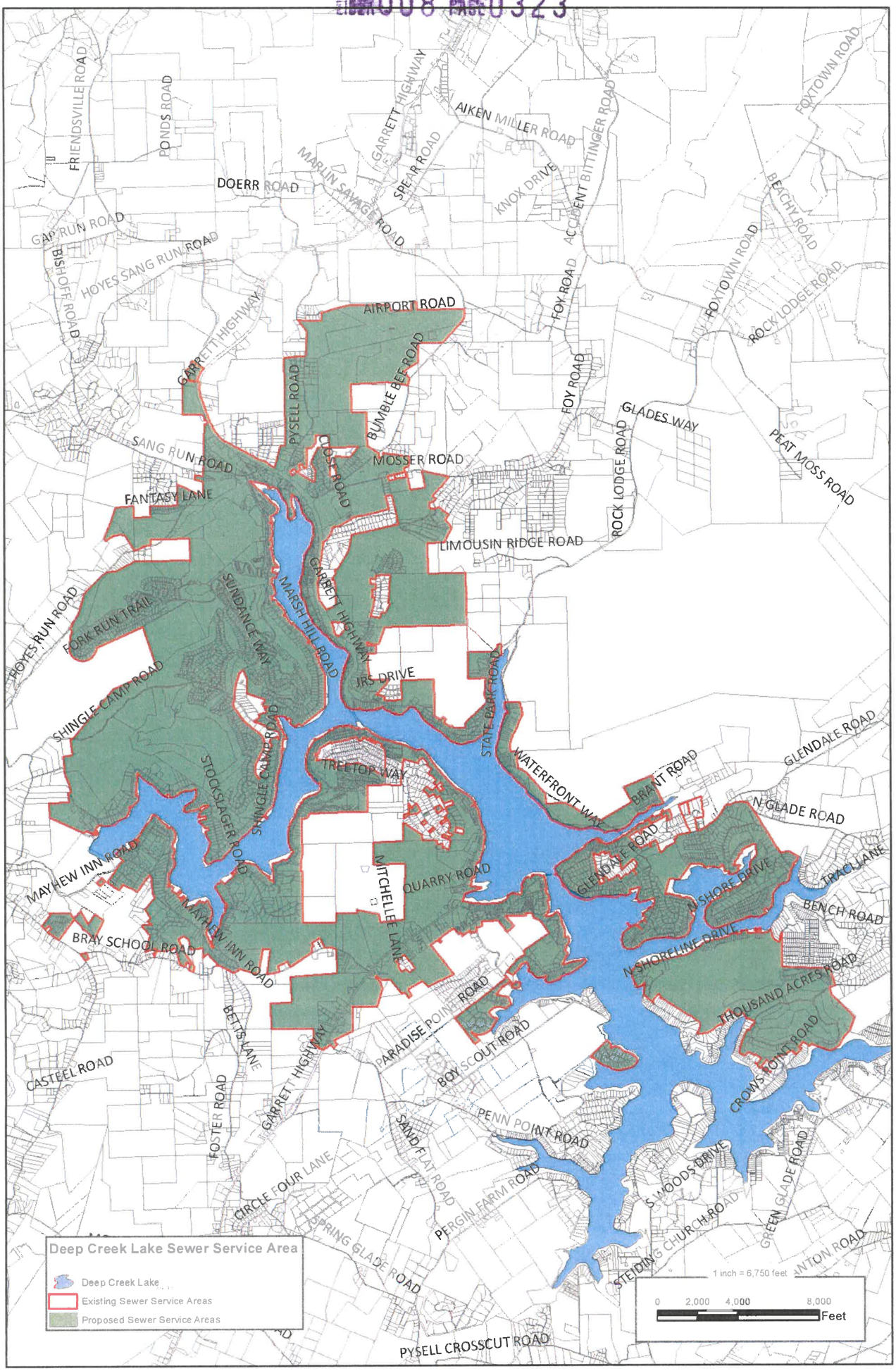
CERTIFICATE

I, KEVIN G. NULL, the duly appointed, qualified, and acting County Administrator to the Board of County Commissioners of Garrett County, do hereby certify that (i) the foregoing Resolution adopted by the Board of County Commissioners of Garrett County, after a public hearing held on June 6, 2016, is true, correct and complete; (ii) a copy of said Resolution has been filed with the Clerk of the Circuit Court for Garrett County.

IN WITNESS WHEREOF, I have hereunto set my hand and seal of the Board of County Commissioners of Garrett County, Maryland this 6TH day of JUNE, 2016.

[SEAL]

KEVIN G. NULL
County Administrator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SPEAR ROAD
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Deep Creek Lake Sewer Service Area
Deep Creek Lake
Existing Sewer Service Areas
Proposed Sewer Service Areas
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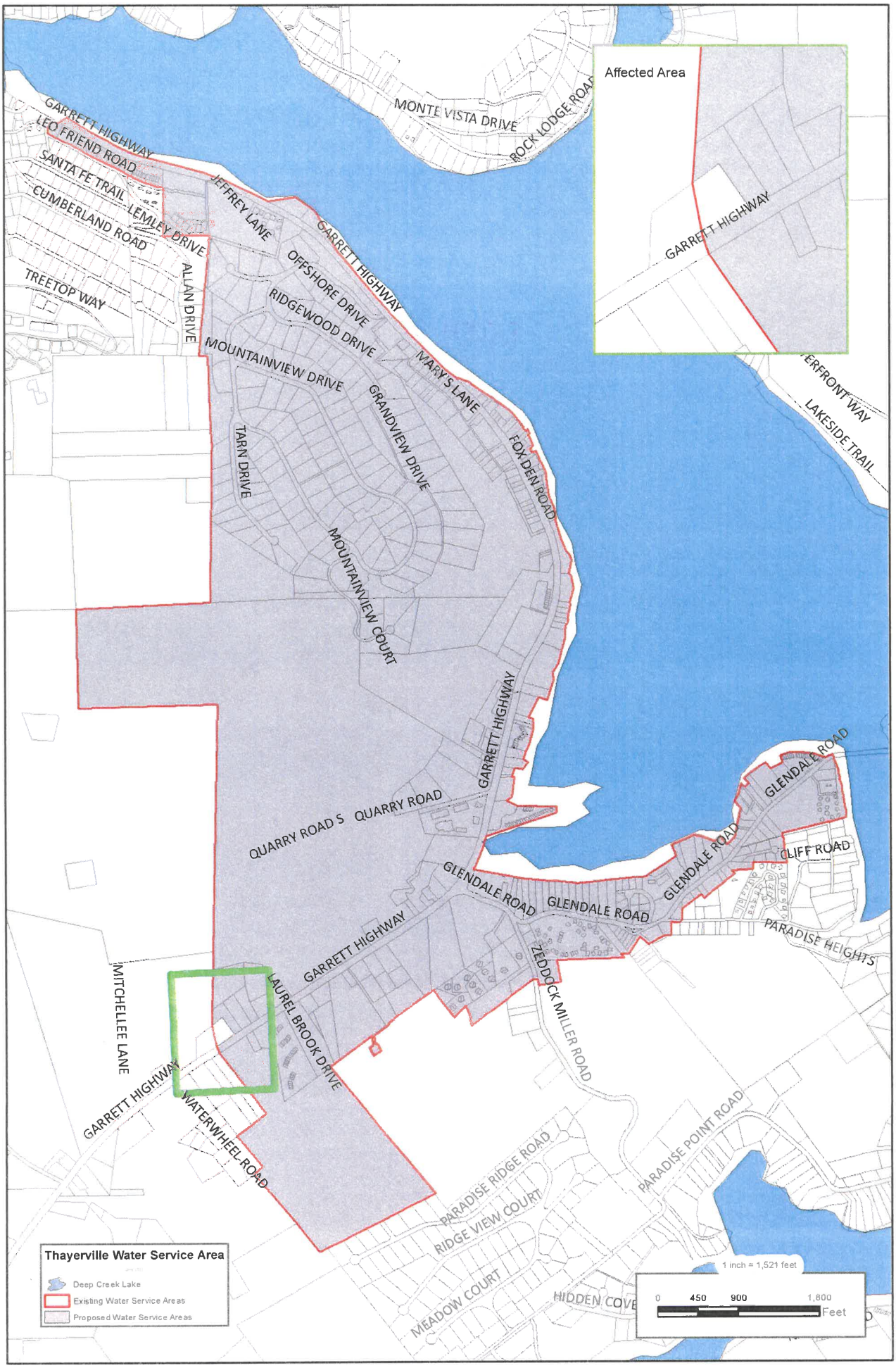
Feet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MONTE VISTA DRIVE
ROCK LODGE ROAD
GARRETT HIGHWAY
LEO FRIEND ROAD
SANTA FE TRAIL
LEMLEY DRIVE
CUMBERLAND ROAD
TREETOP WAY
ALLAN DRIVE
JEFFREY LANE
GARRETT HIGHWAY
OFFSHORE DRIVE
RIDGEWOOD DRIVE
MOUNTAINVIEW DRIVE
MARY'S LANE
GRANDVIEW DRIVE
TARN DRIVE
FOX DEN ROAD
MOUNTAINVIEW COURT
LAKESIDE TRAIL
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ZEDDOCK MILLER ROAD
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WATERWHEEL ROAD
PARADISE RIDGE ROAD
RIDGE VIEW COURT
PARADISE POINT ROAD
MEADOW COURT
HIDDEN COVE
Thayerville Water Service Area
Deep Creek Lake
Existing Water Service Areas
Proposed Water Service Areas
1 inch = 1,521 feet
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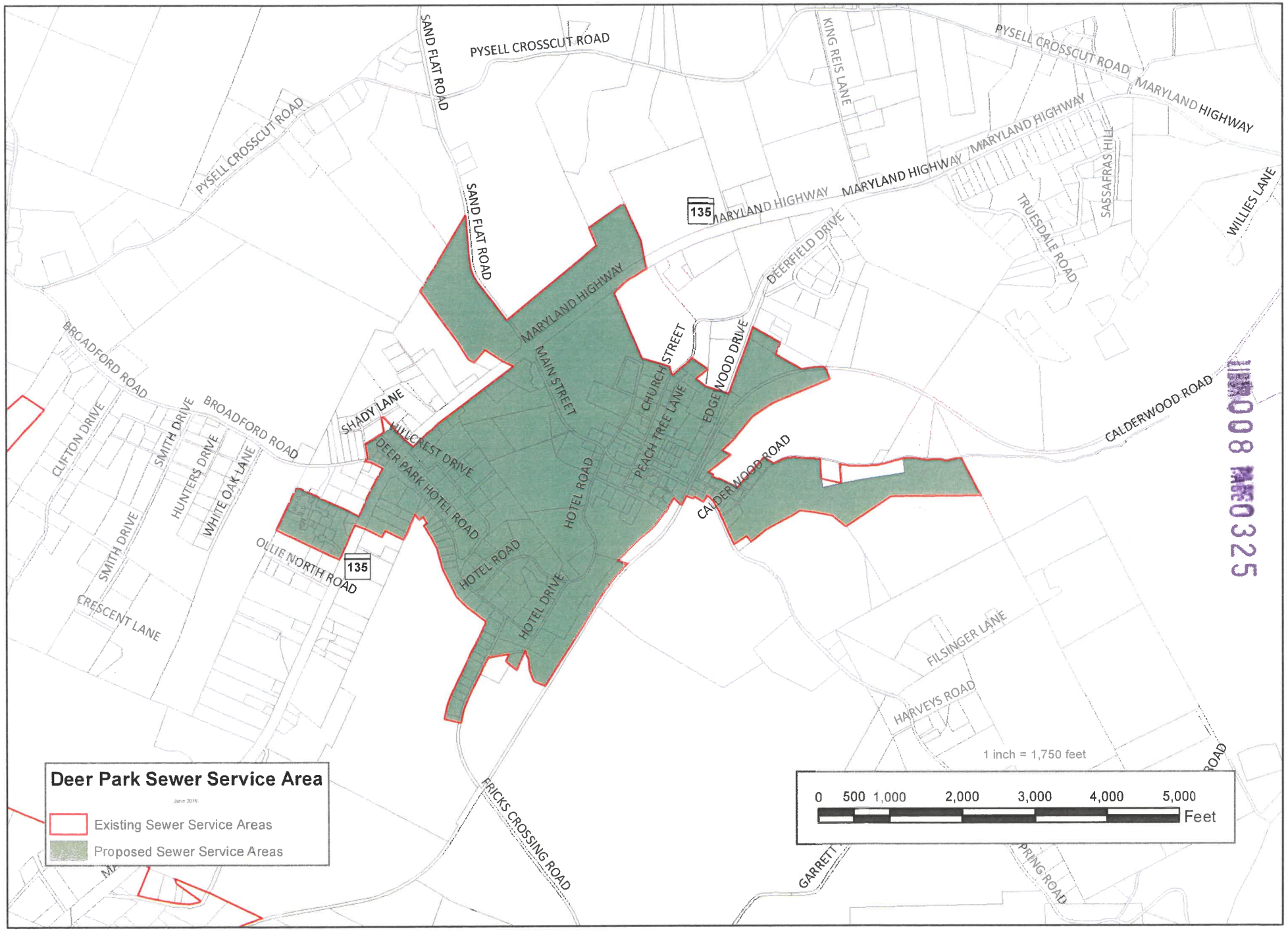
Deer Park Sewer Service Area
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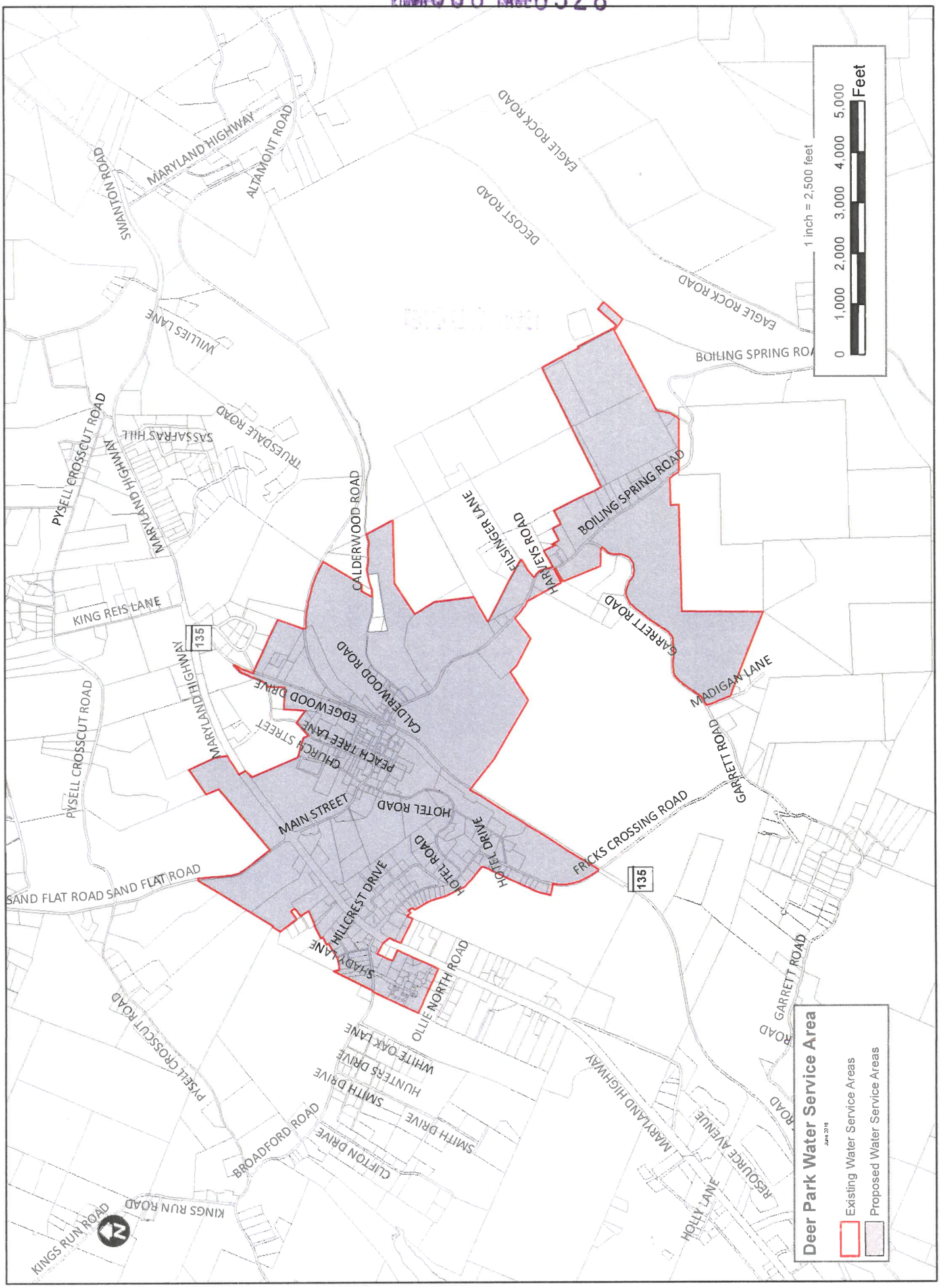
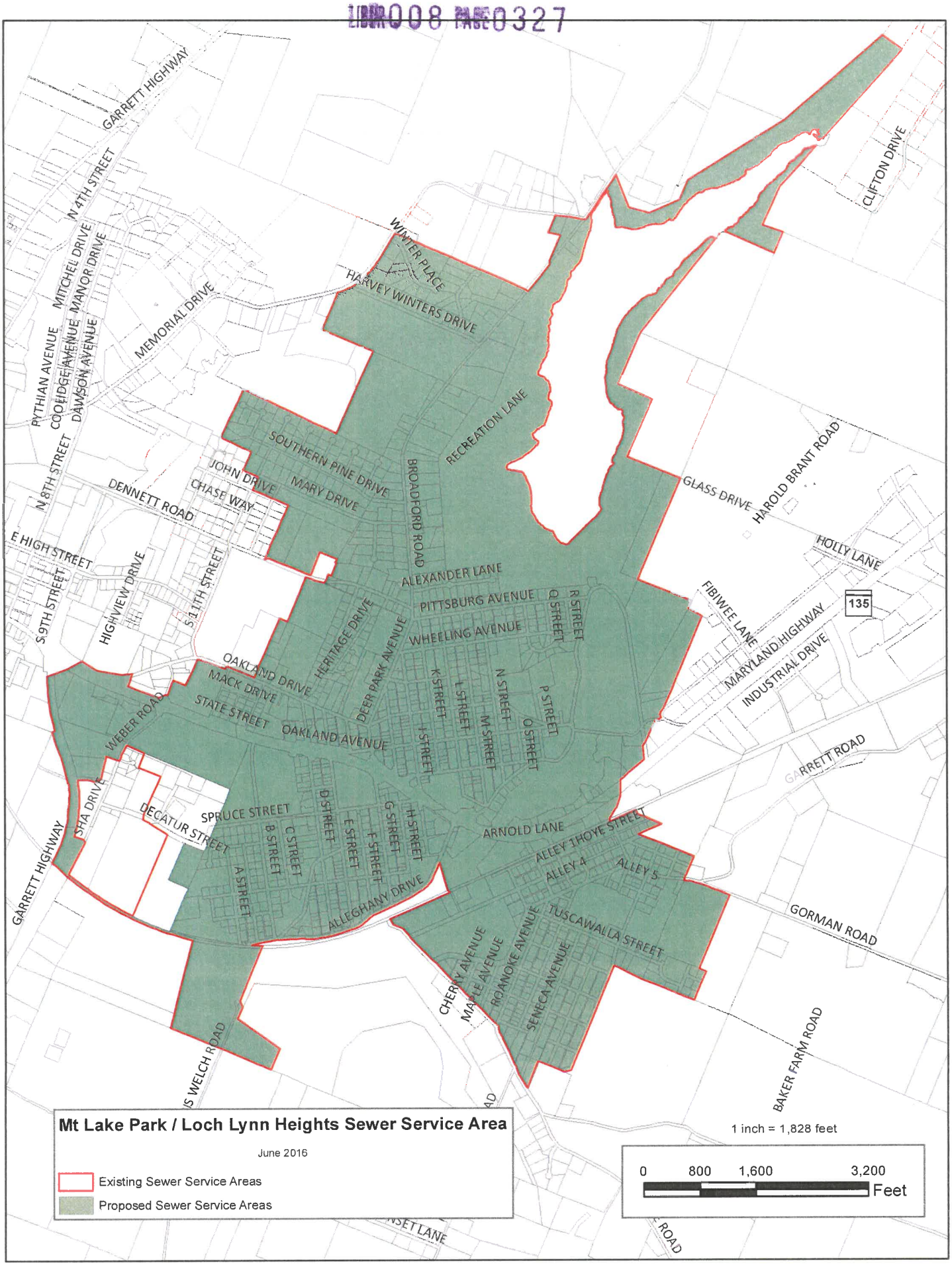
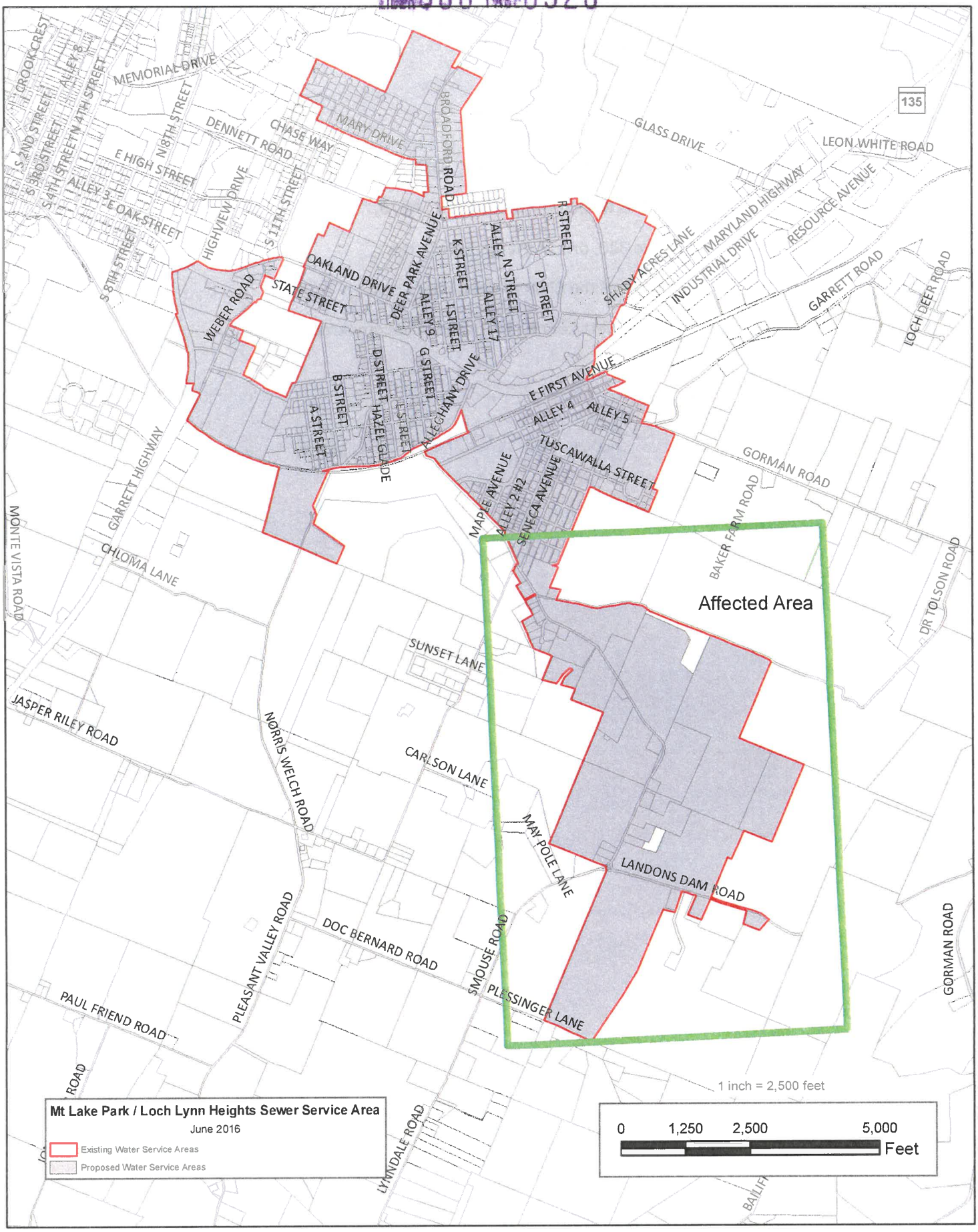
SHADY LANE
BROADFORD ROAD
CLIFTON DRIVE
SMITH DRIVE
HUNTERS DRIVE
WHITE OAK LANE
CRESCENT LANE
OLLIE NORTH ROAD
CALDERWOOD ROAD
FILSINGER LANE
HARVEYS ROAD
FRICKS CROSSING ROAD
GARRETT
PRING ROAD


Deer Park Water Service Area
June 2016
Existing Water Service Areas
Proposed Water Service Areas
1 inch = 2,500 feet
0 1,000 2,000 3,000 4,000 5,000 Feet
MARYLAND HIGHWAY
SWANTON ROAD
ALTAMONT ROAD
EAGLE ROCK ROAD
DECOST ROAD
WILLIES LANE
BOILING SPRING ROAD
PYSELL CROSSCUT ROAD
SASSAFRAS HILL
TRUESDALE ROAD
CALDERWOOD ROAD
FILSINGER LANE
HARVEYS ROAD
GARRETT ROAD
MADIGAN LANE
KING REIS LANE
135
EDGEWOOD DRIVE
PEACH TREE LANE
CHURCH STREET
MAIN STREET
HOTEL ROAD
HOTEL DRIVE
FRICKS CROSSING ROAD
SAND FLAT ROAD
HILLCREST DRIVE
SHADY LANE
OLLIE NORTH ROAD
WHITE OAK LANE
HUNTERS DRIVE
SMITH DRIVE
CLIFTON DRIVE
BROADFORD ROAD
KINGS RUN ROAD
RESOURCE AVENUE
HOLLY LANE


GARRETT HIGHWAY
N 4TH STREET
MITCHELL DRIVE
MANOR DRIVE
DAWSON AVENUE
COOLIDGE AVENUE
PYTHIAN AVENUE
MEMORIAL DRIVE
WINTER PLACE
HARVEY WINTERS DRIVE
CLIFTON DRIVE
RECREATION LANE
SOUTHERN PINE DRIVE
MARY DRIVE
JOHN DRIVE
CHASE WAY
BROADFORD ROAD
N 8TH STREET
DENNETT ROAD
GLASS DRIVE
HAROLD BRANT ROAD
HOLLY LANE
E HIGH STREET
S 9TH STREET
HIGHVIEW DRIVE
S 11TH STREET
ALEXANDER LANE
PITTSBURG AVENUE
Q STREET
R STREET
FIBIWEE LANE
135
MARYLAND HIGHWAY
INDUSTRIAL DRIVE
HERITAGE DRIVE
DEER PARK AVENUE
WHEELING AVENUE
OAKLAND DRIVE
MACK DRIVE
K STREET
L STREET
N STREET
P STREET
WEBER ROAD
STATE STREET
OAKLAND AVENUE
I STREET
M STREET
O STREET
GARRETT ROAD
SHA DRIVE
DECATUR STREET
SPRUCE STREET
D STREET
G STREET
H STREET
ARNOLD LANE
ALLEY 1
HOYE STREET
B STREET
C STREET
E STREET
F STREET
ALLEY 4
ALLEY 5
GARRETT HIGHWAY
A STREET
ALLEGHANY DRIVE
GORMAN ROAD
CHERRY AVENUE
MAPLE AVENUE
ROANOKE AVENUE
TUSCAWALLA STREET
SENECA AVENUE
S WELCH ROAD
BAKER FARM ROAD
Mt Lake Park / Loch Lynn Heights Sewer Service Area
June 2016
Existing Sewer Service Areas
Proposed Sewer Service Areas
1 inch = 1,828 feet
0
800
1,600
3,200
Feet



THE BOARD OF GARRETT COUNTY COMMISSIONERS

203 South Fourth Street - Courthouse - Room 207, Oakland, Maryland 21550
www.garrettcounty.org • countycommissioners@garrettcounty.org
301-334-8970 301-895-3188 FAX 301-334-5000

RESOLUTION NO. 2017 – 1 – REVISED

A RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS OF GARRETT COUNTY, MARYLAND, A BODY POLITIC AND CORPORATE AND A POLITICAL SUBDIVISION OF THE STATE OF MARYLAND (THE "COUNTY"), APPROVING THE PROPOSED CHANGE OF THE 2014 GARRETT COUNTY WATER AND SEWERAGE PLAN (THE "PLAN") PURSUANT TO THE REQUIREMENTS OF THE CODE OF MARYLAND REGULATIONS ("COMAR"), TITLE 26 SUBTITLE 03, WATER SUPPLY, SEWERAGE, SOLID WASTE, AND POLLUTION CONTROL PLANNING AND FUNDING AND TITLE 9 SUBTITLE 5 OF THE ENVIRONMENT ARTICLE OF THE ANNOTATED CODE OF MARYLAND, WATER AND SEWERAGE PLANS (THE "STATE CODE").

Explanation

The 2014 Garrett County Water and Sewerage Plan (the "Plan") was prepared to support the continued development of water supply and sewerage systems in Garrett County, Maryland. The Plan was prepared pursuant to the requirements of COMAR Title 26 Subtitle 03, Water Supply, Sewerage, Solid Waste, and Pollution Control Planning and Funding and pursuant to the provisions of Title 9, Subtitle5, of the State Code, County Water and Sewerage Plans.

Sections 9-503 of the Environment Article of the Annotated code of Maryland provides that the governing body of the County may propose and adopt amendments to an established Plan, and that such consideration shall occur at a public hearing with sufficient notice to the public. The proposed amendments pertain to the Deep Creek Lake Sewerage Service Area, Trout Run Sewerage Service Area, and Bloomington Water Service Area, and shall replace/add text to pages 4-11, 4-14, and 3-23, Table 3-4 on page 3-39 and Table 3-6 on page 3-41 of the Plan, respectively.

The Board of County Commissioners of Garrett County (the "Board") held a public hearing on February 21, 2017, in Room 209 of the Courthouse, in Oakland, Maryland to consider the proposed amendments to the Plan, notice of the public hearing having been published on February 2, 2017 and February 9, 2017, in The Republican, a newspaper of general circulation in the County.

NOW, THEREFORE, BE IT RESOLVED, by the Board of County Commissioners of Garrett County, Maryland, as follows:

1. The Explanation set forth above is incorporated as a substantive provision of this Resolution.

2. The County hereby adopts the proposed amendments to the Plan, a copy of which are attached hereto, incorporated herein, and marked as Exhibit 1 and 2.

3. The Chairman of the Board of County Commissioners of Garrett County, Maryland, be and is hereby authorized to execute any and all documents as may be necessary or required in conjunction with the Plan.

4. This Resolution shall be effective upon its passage. The adopted amendments to the Plan shall become effective upon acceptance and approval by Maryland Department of the Environment.

ADOPTED this 21st day of February 2017, by the Board of County Commissioners of Garrett County, Maryland, by its Chairman, Paul C. Edwards, and attested by Kevin G. Null, County Administrator.

BOARD OF COUNTY COMMISSIONERS
OF GARRETT COUNTY, MARYLAND

(SEAL)

By _____
PAUL C. EDWARDS
Chairman

ATTEST:

_____
KEVIN G. NULL
County Administrator

EXHIBIT 1

Garrett County Water and Sewerage Master Plan

2014 Revision

Adopted December 9, 2014

Approved with Modifications by the Maryland Department of the Environment, March 19, 2015

ERM Recommended Revisions February 2016

4. Sewerage Systems

4.1 Sewerage Systems

4.1.1 Bear Creek Watershed

4.1.2 Casselman River Watershed

4.1.3 Deep Creek Watershed

4.1.3.1 Deep Creek Lake

…

Existing system

…

Service Areas

…

Problem Areas and Future Needs

…

Planned and Recommended Improvements

Construction of the Western Conveyance system is expected to begin in 2014 and to take one to two years. The project includes construction of a new pump station (8-2A) on Marsh Hill Road and installation of approximately 35,000 L.F. of 16-inch pressure sewer line from the new pump station to the Shingle Camp Terrace, Sandy Beach Road and Stockslager Road areas.

The proposed route then proceeds adjacent to a present power line right-of-way around the dam to the terminus at the Deep Creek Lake WWTP. An alternative route under Deep Creek Lake to the WWTP is under consideration. The new conveyance system will provide public sewerage service to residents in the area and allow existing flows currently pumped from areas north of Deep Creek Bridge to pump station 2-2 to be redirected through the Western Conveyance thus relieving pressure on pump station 2-2 and the conveyance system along Lake Shore Drive and Mayhew Inn Road.

As described above (see Section 2.2 and Footnote 8 in Section 4.1.3), the Deep Creek Lake WWTP does not discharge into the Chesapeake Bay drainage basin; therefore the State has not required ENR treatment to be installed. That status notwithstanding, ENR would facilitate the County's efforts to meet National Pollution Discharge Elimination System (NPDES) permit requirements, particularly in future years. As a result, the County intends to eventually pursue ENR upgrades at the Deep Creek Lake WWTP. No target date for completion of those upgrades has been determined.

4.1.4 Georges Creek Watershed

4.1.5 Little Youghiogheny River Watershed

4.1.5.1 Trout Run

Existing system

…

Service Areas

…

Problem Areas and Future Needs

Trout Run WWTP

As noted above, discharge from Trout Run WWTP is subject to temperature and dissolved oxygen water quality criteria because the Little Youghiogheny River is a designated as Use III-P waters.[1] When the County cannot discharge it must store the effluent and the storage capacity has sometimes been inadequate to hold the accumulated sewage flows without discharging. Inflow and infiltration from the collection systems increases the flow volume to the plant and exacerbates the storage problem.

The County intends to develop a Preliminary Engineering Report to evaluate the current wastewater treatment plant process and performance and to provide economical and reasonable alternatives for improvements in order to meet the conditions and requirements of the WWTP discharge permit. The Preliminary Engineering Report will be prepared in accordance with U.S. Department of Agriculture, Rural Utilities Service, Bulletin 1780-3, Preliminary Engineering Report – Wastewater Facilities.

As described above under Existing System and in Section 2.2, the Trout Run WWTP eventually discharges to the Ohio-Mississippi River basin (via the Little Youghiogheny and Youghiogheny Rivers), and does not discharge into the Chesapeake Bay drainage basin. As a result, the State has not required installation of ENR treatment. That status notwithstanding, Biological Nutrient Removal (BNR) and eventual ENR would likely facilitate efforts to meet the water quality criteria described in this section, as well as County efforts to meet NPDES permit requirements, particularly in future years. As a result, the County intends to eventually pursue BNR and ENR upgrades at the Plant. No target date for completion of those upgrades has been determined.

In addition, the County has begun consultation with the Town of Oakland regarding the possibility of future regionalization of wastewater treatment facilities. Regionalization—routing all wastewater flows from the Town and the Trout Run system to a single WWTP and discharge point—could offer operational and environmental benefits, and could further help both jurisdictions meet NPDES permit requirements. The County will continue to evaluate (cooperatively with Oakland) the costs, benefits, and requirements associated with regionalization. No target date for regionalization has been determined.

[1] Discharge Permit for Trout Run Wastewater Treatment Plant State Discharge Permit 08-DP-1 046.

population of approximately 2,10019. The Town of Westemport's water source is the Savage River Reservoir in Garrett County. The Allegany County Water and Sewerage Plan includes a project to extend water to the Town of Luke, immediately east of Bloomington. Garrett County's project would be to extend this line west to provide finished water to Bloomington.

To address Bloomington's water treatment plant's deficiencies, Garrett County currently views interconnection with Westemport as a better solution compared to replacing the existing Bloomington water treatment plant. However, the two water storage tanks on Bloomington's existing WTP site will still need to be replaced in the near future.

In January 2013 Garrett County submitted a capital project financial assistance application to MDE i) to replace the existing Bloomington water storage tanks with a new 150,000 gallon concrete storage tank and ii) for a line extension to connect to the Westemport water supply system (see Table 3-6). The project would consist of boring under the Savage River and then running approximately 6,000 feet of 6" water line along Rt. 135 and connecting into the Westemport water supply. The Town of Westemport submitted its own financial assistance application in January 2013 that included extension to Luke and inter-connection with Bloomington.

3.2.6.2 Gorman

Existing System

Gorman is a small, unincorporated community along the North Branch Potomac River, at the intersection of MD 560 and US 50. The community developed as a component of three mining communities that were settled along the Western Maryland Railroad (the other two communities were in West Virginia). The 2008 Comprehensive Plan designates Gorman as a rural village.

The Gorman water system was originally built in 1982 to serve approximately 55 homes and businesses. The water source for the system was in West Virginia, but in 1996-97 the Sanitary District developed its own well water supply for the system. The service area included the community of Gorman and properties along US 50 westward from the river to the Wilson-Corona Road intersection.

In 2003 a water line was extended along Wilson Corona Road (to approximately 35 customers) due to problems with private water supplies.

In 2007 a water line was extended along Table Rock Road and a portion of Fairview Church Road to serve approximately 26 residences in the area that experienced a reduction and/or loss of water supply due to deep mining activity. The extension consisted of approximately 25,000 linear feet of 6-inch water line with fire protection. Sizing of the extension also allows for future connections along Table Rock Road and Fairview Church Road and further expansion of the system to serve the remaining portion of Fairview Church and Wilson Corona Roads to the

[19] Allegany County Water and Sewerage Plan, November 2012.

	A	B	C	D	E
1	Table 3-4 (COMAR Table No. 7)				
2	Inventory of Water Problem Areas				EXHIBIT 2
3	Service Area	Location (lat /long)	ERUs Served	Nature of Problem	Planned Correction Date (if known)
4	Public Water Systems				
5	Accident		#REF!	Town has two wells. One of the town's two wells (Accident Bittinger Road) had high arsenic levels.	A replacement well was drilled and tested in Spring 2013 and as of Fall 2013 is awaiting Certificate of Potability for the new well.
6	Bloomington		#REF!	The water system was constructed in 1982. MDE completed a comprehensive performance evaluation in 2012 and found that components in the treatment plant and the two water storage tanks need to be replaced due to deterioration.	Options are being explored including possible connection to Westemport in Allegany County. See Table 3-6, proposed project. The water storage tanks will be replaced with one 150,000 gallon concrete tank.
7	Deer Park		#REF!	Due to acidic soils, copper service lateral lines have deteriorated causing pin hole leaks. Water losses are estimated at 35%.	CTS plastic pipe is being used to replace the bad lines on case by case. Covered under operations and maintenance.
8	Friendsville		#REF!	System leaks are difficult to locate due to river rock in local soils.	On going investigations.
9	Gorman		#REF!	Aging water transmission line along US 50.	2-5 years, see Table 3-6, proposed project
10	Grantsville - Green Supply		#REF!	The existing production well has developed a crack in the casing allowing high iron content water to seep into the supply. There is currently no back-up supply for the system. Therefore, development of a new well field is being pursued near Puzzley Run on DNR owned land.	Immediate/ 2-5 years, see Table 3-6, proposed project
11	Mountain Lake Park/Loch Lynn Heights		#REF!	1. Aging pipes. The system loss is approximately 40%. 2. Water treatment cost at Deer Park are four times more expensive than in Mountain Lake Park. Systems could be connected to reduce water treament costs. 3. Low water pressure along Lothian Street (MD 560)	Ongoing. County is replacing distribution lines as leaks are located
12	Kitzmiller/Shallmar		#REF!	Wolf Den Run impoundment is subject to siltation and cannot be used as a reliable water supply. A back up water supply well is needed.	One additional well is planned to back up the existing well, see Table 3-6, proposed project.
13	Oakland, Town		#REF!	1. Low water pressure, the system needs a water storage tank to increase pressure. 2. Oakland Intake Facility and Broadford and Oakland water plants do not have backup power sources in the event of a power failure. 3. There is no system wide mapping of the water distribution system. 4. Aging system requires replacement of old lines (plastic and pit cast, some dating back to 1909) and upgrades to the water plants. 5. The average daily withdrawal from Broadford Lake (416,000) is approaching the current appropriation limit (420,000)	0 to 10 years see Table 8, proposed projects
14	Puzzley Run (Keysers Ridge)			Water storage tank for Keysers Ridge for flow and pressure equalization and to enhance fire flow	Immediate. Design of the water storage tank is 80% complete. Construction will commence in the Spring of 2014
15	Non-Public Areas				
16	Sky Valley, Loch Glade Rd			Fecal contamination in groundwater. This area has existing homes and unbuilt lots. Residents are using UV light. Individual treatment plant with UV, chlorination, and 1 micron filtration would provide better protection. At a minimum, UV lights should have automatic water shut-off	Potential future public service area. Sky Valley is S-3. Loch Glade Rd is FPS
17	Northglade Hills/ Northglade Cove,	Hines Drive, Clark Lohr Rd		Fecal contamination in groundwater. These areas have existing homes and unbuilt lots. Residents are using UV light. Individual treatment piant with UV, chlorination, and 1 micron filtration would provide better protection. At a minimum, UV lights should have automatic water shut-off	Potential future public service area. S-3
18	Paradise Point	Paradise Ridge Rd		Fecal contamination in groundwater. This area has existing homes and unbuilt lots. Residents are using UV light. Individual treatment plant with UV, chlorination, and 1 micron filtration would provide better protection. At a minimum, UV lights should have automatic water shut-off	Potential future public service area.
19	Rosedale and Shaffer Hill Road west side of Oakland			High iron content in water; low income property owners may not be able to pay for public service.	Potential future public service area, by extending service from Oakland. See future service area maps.
20	Chestnut Ridge			Possible salt contamination from SHA salt storage. High iron in water	SHA will make corrective actions if warranted. Possible connection to Grantsville system
21	Appalachian Village, Keysers Ridae Estates			Area west of 1-68 interchange. Possible salt contamination from SHA salt storage.	SHA will make corrective actions if warranted. Possible connection to Keysers Ridge distribution system

	A	B	C	D	E	G
1	Table 3-6 (COMAR Table No. 8)					
2	Immediate, 5 and 10 Year Priorities for Water Development					EXHIBIT 2
3	System	Description	Priority (years) Immediate, 2 to 5, S to 10	Estimated Cost (2013$)	Funding	Notes
4	Accident	Complete installation of new well and WTP	Immediate	$ 303.000	Community Development Block Grant (CDBG)/Town	The new well is anticipted to be operational in November 2013
5	Bloomington	Interconnection to Town of Westemport's finished water supply. Garrett County's project would be to extend a line that Westemport proposes to extend to the Town of Luke to Bloomington.	2 to 5	S 1,275,000	Funding request submitted to MDE Jan 2013	Interconnection is currently seen as better solution versus replacing the existing water treatment plant
6	Bloomington	Replace the two existing water storage tanks with a 150,000 gallon storage facility	Immediate	$ 180,000	To be determined	
7	Deep Creek Lake / McHenry	Expand McHenry Water System to the Shingle Camp Road, Sandy Beach, and Stockslager Road areas	Immediate	$ 2,800,000	Local funding	Project covers same areas as covered in Western Conveyance wastewater project. Approximately 164 water customers (154 sewer customers)
8	Friendsville	Investigate system leaks	Immediate		Local funding	
9	Friendsville	Complete repairs on the two water filtration units (bottoms of the units are leaking due to deterioration).	Immediate		Local funding	
10	Friendsville	Investigate replacement of the insulation on the water line on the Maple Street bridge.	2 to 5		Local funding	
11	Gorman	Replace water transmission line from Gorman west along US 50	2 to 5	To be determined	Anticipate submitting funding request to MDE in 2014	
12	Grantsville - Green Supply (Keysers Ridge Distribution System)	Water storage tank for Keysets Ridge for flow and pressure equalization and to enhance fire flow	Immediate	$ 688,000	Maryland Department of Business & Economic Development and Local Funding	Design is approximately 80% complete. Construction is anticipated to commence in the spring of 2014
13	Grantsville - Green Supply (Puzzley Run Water Supply Keysers Ridge Distribution System/new service area)	Develop new well source (Puzzley Run Water Supply) and treatment facility to supply the Keysers Ridge Water Distribution System. Project includes well development, water treatment plant and piping.	2 to 5	S 1,442,000	Maryland Department of Business & Economic Development and Local Funding	MDE is reviewing application for water appropriation permit for well sites on Puzzley Run. Permanent access to site has been requested from the property owner (MD DNR).
14	Herrington Manor State Park	Upgrade exiting aging water facilities	2 to 5	To be determined, by MES		
15	Kitzmiiler/ Shallmar/ Pee Wee Hill	Second well to back up the existing well in conjunction with a water line extension to the Pee Wee Hill area completed in 2012	2 to 5	S 76,500	1. Abandoned mine program $22,950 2. Local funding $53,550.	
16	Mountain Lake Park / Deer Park	Interconnect these two currently separate systems by extending water east from Mountain Lake Park to Deer Park.	5 to 10	To be determined	To be determined	Will create redundancy in the systems and cost savings (production cost at Mtn Lake Park is four times less expensive than in Deer Park, due to less required treatment
17	Mountain Lake Park/Loch Lynn Heights	Rehabilitation of aging distribution lines.	5 to 10	To be determined	To be determined	DPW is assessing the system to identify and prioritize rehabilitation needs
18	Mountain Lake Park/Loch Lynn Heights	Comprehensive mapping of the distribution system to improve system planning and maintenance.	Immediate	To be determined	To be determined	
19	Mountain Lake Park/Loch Lynn Heights	Water storage tank above Loch Lynn Heights to address low water pressure along Lothian Street.	5 to 10	To be determined	To be determined	
20	Oakland	Provide a water storage tank to increase water pressure to the Oakland Water System.	Immediate	$ 350,000	Funding request submitted to MDE Jan 2013	Previous funding request to MDE was denied. MDE currently funding study for tank siting
21	Oakland	Purchase and install backup generators to the Oakland Intake Facility and the Broadford and Oakland water plants	2 to 5	$ 180,000	Funding request submitted to MDE Jan 2013	Previous funding request to MDE was denied.
22	Oakland	Secure system wide mapping of the Oakland water distribution system	2 to 5	S 100,000	Funding request submitted to MDE Jan 2013	
23	Oakland	Water system rehabilitation project to include replacement of old lines (some dating back to 1909) and various upgrades to the water plants. Pressurc/volume service upgrades to 5 areas: 1. Frazee Estates; Isolate existing low pressure areas and install new booster pumps. 2. Winter's Development/Highland Estates; Isolate existing low pressure areas and install new booster pumps. 3. South Third Street; Replace existing 4" line with new 8" line, including the Youghiogheny crossing. 4. Country Club Acres; Isolate existing higher elevations and install new booster pump. 5. Second Street; Replace existing original 8" cast iron water line in Second Street from Pennington Street to Water Street.	2 to 5	$ 790,000	Anticipate funding request to MDE 1/14	
24	Swallow Falls State Park	Upgrade existing aging water facilities	2 to 5	To be determined, by MES		

THE BOARD OF GARRETT COUNTY COMMISSIONERS

203 South Fourth Street - Courthouse - Room 207, Oakland, Maryland 21550
www.garrettcounty.org • countycommissioners@garrettcounty.org
301-334-8970 301-895-3188 FAX 301-334-5000

Board of Commissioners
Paul C. Edwards
James C. Hinebaugh, Jr.
S. Larry Tichnell

County Administrator
Kevin G. Null

County Attorney
Gorman E. Getty III

RESOLUTION NO. 2017 - 5

A RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS OF GARRETT COUNTY, MARYLAND, PURSUANT TO THE PROVISIONS OF § 9-648 OF THE ENVIRONMENT ARTICLE OF THE ANNOTATED CODE OF MARYLAND (THE "ACT"), APPROVING THE PROPOSED CHANGES IN THE SERVICE AREAS IN GARRETT COUNTY DESIGNATED AS MCHENRY WATER SERVICE AREA ("MCHENRY"), THAYERVILLE WATER SERVICE AREA ("THAYERVILLE"), AND COMBINING THE SERVICE AREAS INTO A SINGLE NEW SERVICE AREA IN GARRETT COUNTY DESIGNATED AS THE DEEP CREEK LAKE WATER SERVICE AREA (THE "SERVICE AREA"), AND MAKING CERTAIN LEGISLATIVE FINDINGS IN CONNECTION THEREWITH.

Explanation

The Board of County Commissioners of Garrett County, Maryland (the "County"), the governing body of the Garrett County Sanitary District, Inc., has passed and adopted a Resolution proposing to change the boundaries of the service areas in Garrett County designated as the McHenry Water Service Area ("McHenry") and the Thayerville Water Service Area ("Thayerville"), and combining McHenry and Thayerville, with an additional area along Deep Creek Drive between Gravelly Run Road and the US 219 Bridge over Deep Creek Lake into a single new water service area to be known as the Deep Creek Lake Water Service Area (the "Service Area"), as shown on the plat attached hereto and incorporated by reference herein (the "Plat").

Pursuant to the provisions of § 9-647 and § 9-648 of the Environment Article of the Annotated Code of Maryland (the "Act"), the governing body of the County in which the service areas are located is required to hold a public hearing to consider a change in the service areas and the County may change the service areas if it finds that the change is necessary for the existing and future health, safety, and welfare of the residents of the service areas and is feasible financially and from an engineering standpoint.

The Board of County Commissioners of Garrett County (the "Board"), as the governing body of the County, held a Public Hearing on the 7th day of August, 2017, at 4:15 P.M. in the Garrett County Commissioners' meeting room located at the Courthouse in Oakland, Maryland, to consider the proposed changes in the Districts, notice of the public hearing having been published in The Republican on the 27th day of July and 3rd day of August 2017, a newspaper having general circulation in the County.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF GARRETT COUNTY, MARYLAND:

1. The Explanation set forth above is hereby incorporated as a substantive provision of this Resolution.
2. The Board of County Commissioners of Garrett County finds that the change in the boundaries of the Districts is necessary for the existing and future health, safety, and welfare of the residents of those service areas and is feasible financially and from an engineering standpoint.
3. Based upon the legislative findings set forth in Section 2 of this Resolution and after considering the views expressed at the public hearing held on the 7th day of August 2017, the Board of County Commissioners of Garrett County approves the changes in the boundaries of McHenry, Thayerville, and the Service Area as reflected in the Plat.
4. This Resolution shall be effective upon its adoption and the County Administrator shall immediately file an executed copy of this Resolution with the Clerk of the Circuit Court for Garrett County.

ADOPTED and certified this 22nd day of August, 2017.

BOARD OF COUNTY COMMISSIONERS OF GARRETT COUNTY, MARYLAND

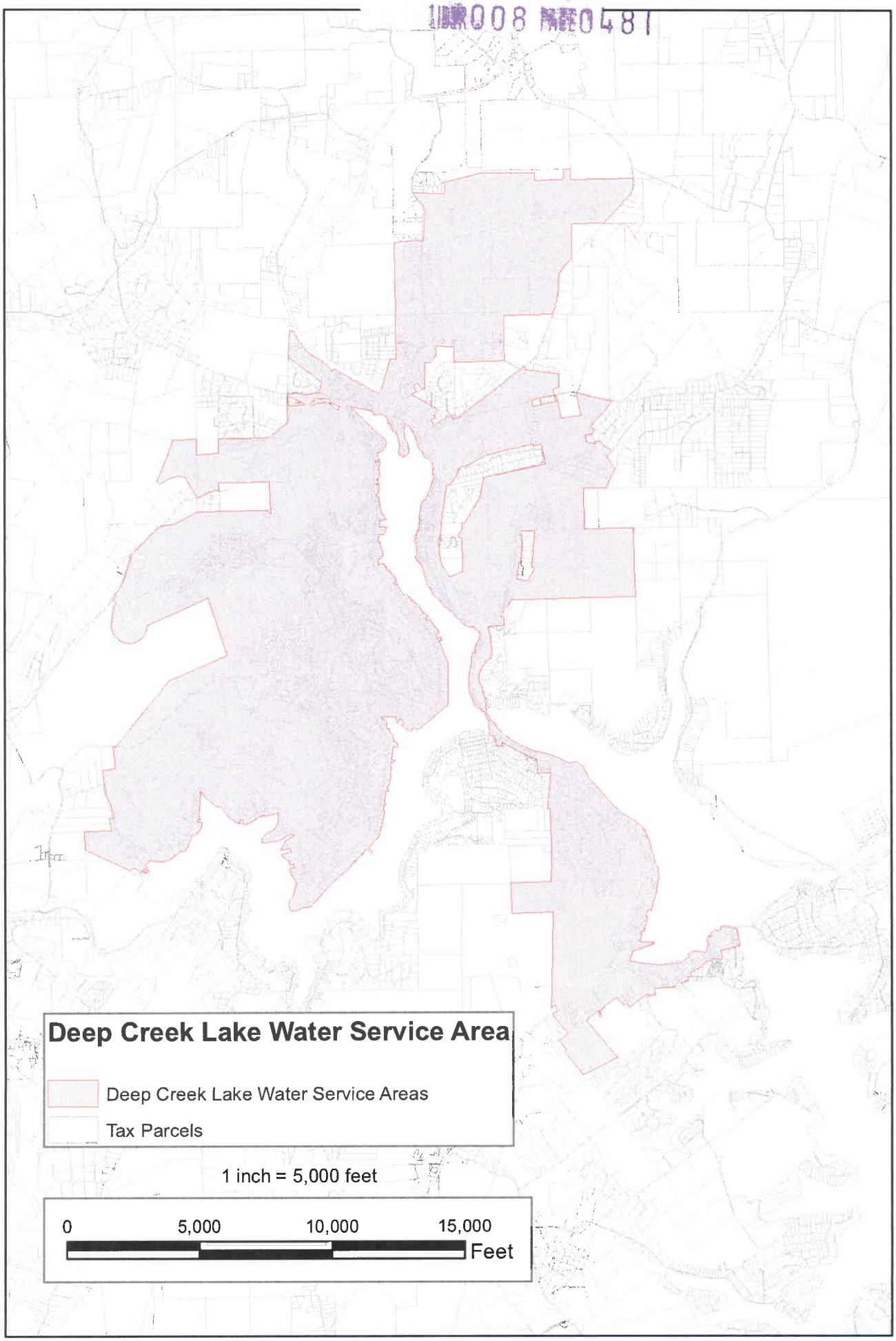
PAUL C. EDWARDS
Chairperson

JAMES C. HINEBAUGH
Commissioner

S. LARRY TICHNELLL
Commissioner

ATTEST:

KEVIN G. NULL
County Administrator



LIBER 008 PAGE 0482

CERTIFICATE

I, KEVIN G. NULL, the duly appointed, qualified, and acting County Administrator to the Board of County Commissioners of Garrett County, do hereby certify that (i) the foregoing Resolution adopted by the Board of County Commissioners of Garrett County, after a public hearing held on August 7, 2017, is true, correct and complete; (ii) a copy of said Resolution has been filed with the Clerk of the Circuit Court for Garrett County.

IN WITNESS WHEREOF, I have hereunto set my hand and seal of the Board of County Commissioners of Garrett County, Maryland this 22ND day of AUGUST, 2017.

[SEAL]

KEVIN G. NULL
County Administrator

THE BOARD OF GARRETT COUNTY COMMISSIONERS

203 South Fourth Street – Courthouse –Room 207, Oakland, Maryland 21550
www.garrettcounty.org • countycommissioners@garrettcounty.org
301-334-8970 301-895-3188 FAX 301-334-5000

Board of Commissioners
Paul C. Edwards
James C. Hinebaugh, Jr
S. Larry Tichnell

County Administrator
Kevin G. Null
County Attorney
Gorman E. Getty III

RESOLUTION 2021 – 2

RESOLUTION of the Board of County Commissioners of Garrett County, Maryland, pursuant to Section 9-648 of the Environment Article of the Annotated Code of Maryland, approving creation of the Rosedale Sewer Service Area and making certain legislative findings in connection therewith.

RECITALS

1. The Garrett County Department of Public Utilities has recommended that The Board of County Commissioners of Garrett County, Maryland, (the "Board"), the governing body of the Garrett County Sanitary District, Inc., consider creation of the Rosedale Sewer Service Area (the "Service Area") as depicted on a plat attached hereto and incorporated herein.

2. Section 9-648 of the Environment Article of the Annotated Code of Maryland provides that the governing body of the County hold a public hearing to consider creation of the proposed Service Area.

3. The Board held a public hearing on April 5, 2021 in Room 209 of the Courthouse in Oakland, Maryland, to consider creation of the proposed Service Area, notice of the public hearing having been published on March 11, and March 18, 2021 in The Republican, a newspaper of general circulation in Garrett County, Maryland.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF GARRETT COUNTY, MARYLAND:

1. The Board of County Commissioners of Garrett County, Maryland, finds that the creation of the Rosedale Sewer Service Area is necessary for the existing and future health, safety, and welfare of the public in general, and is feasible financially and from an engineering standpoint. Therefore, the Board

concurs with the recommendation of the Garrett County Department of Public Utilities to create the Rosedale Sewer Service Area.

2. Based upon legislative findings set forth in this Resolution and after considering the views expressed at the public hearing held on April 5, 2021 and comments received as part of the hearing record, the Board approves the creation of the Rosedale Sewer Service Area as depicted on the attached map.

3. This Resolution shall be effective upon its adoption and the County Administrator shall immediately file an executed copy of this Resolution and Plat with the Clerk of Circuit Court for Garrett County, Maryland, and shall cause the title of this Resolution, which constitutes a fair summary thereof, to be recorded among the Land Records of Garrett County, Maryland.

Adopted and certified this 20th day of April, 2021.

Board of County Commissioners of Garrett County, Maryland

(SEAL)

Paul C. Edwards
Chairman

James C. Hinebaugh
Commissioner

S. Larry Tichnell
Commissioner

ATTEST:

Kevin G. Null
County Administrator

CERTIFICATE

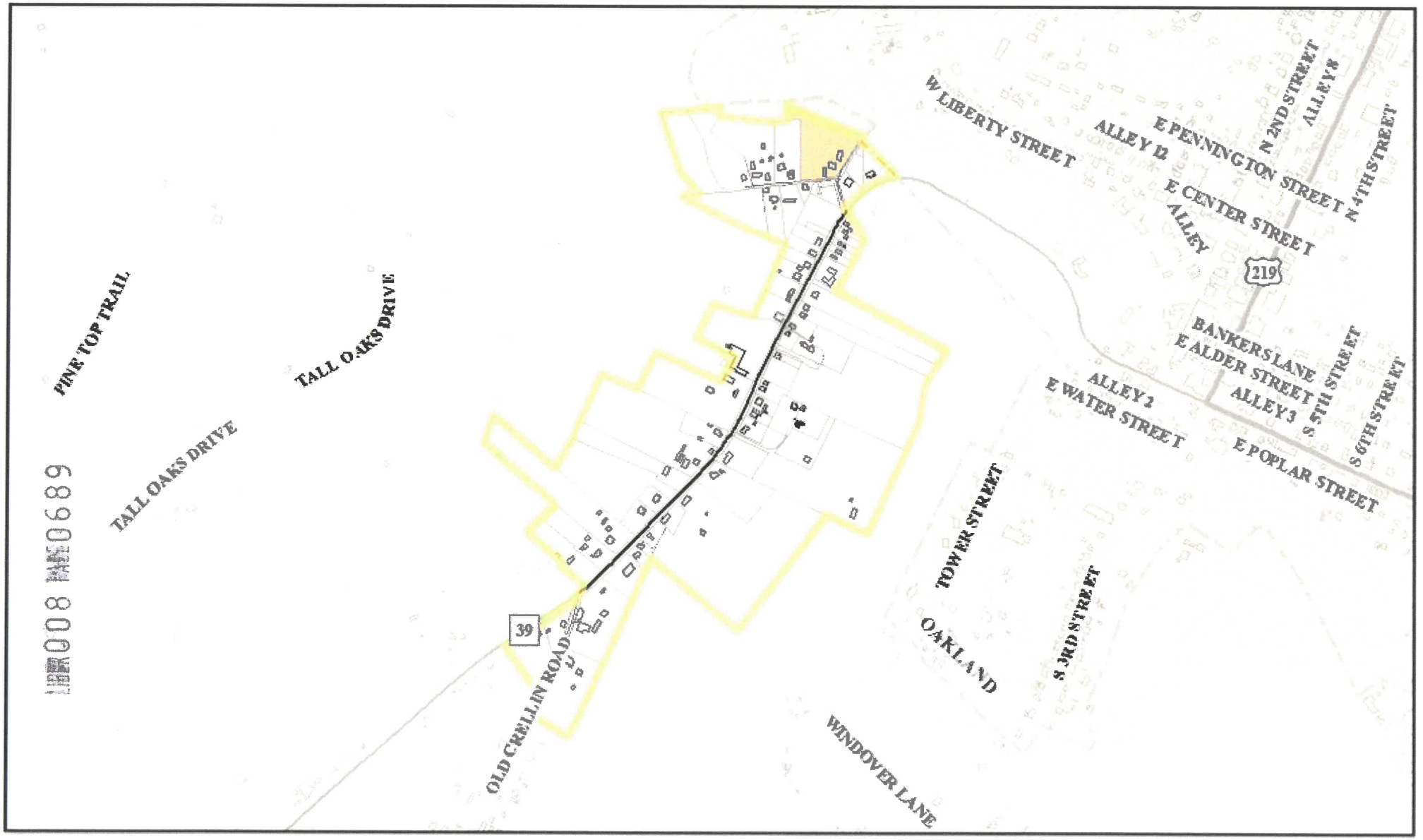
I, Kevin G. Null, the duly appointed, qualified and acting County Administrator of Garrett County, Maryland, do hereby certify that, (i) the foregoing Resolution adopted by the Board of County Commissioners of Garrett County, Maryland, after a public hearing held on April 5, 2021, is true, correct and complete, (ii) a copy of said Resolution has been filed with the Clerk of the Circuit Court for Garrett County, Maryland, and (iii) said Resolution has not been amended, modified or repealed and remains in full force and effect as of the date hereof.

IN WITNESS WHEREOF, I have hereunto set my hand and seal of the Board of County Commissioners of Garrett County, Maryland, this 20TH day of APRIL. 2021.

(SEAL)

Kevin G. Null
County Administrator

Rosedale Sewer Service Area



THE BOARD OF GARRETT COUNTY COMMISSIONERS

203 South Fourth Street – Courthouse –Room 207, Oakland, Maryland 21550
www.garrettcounty.org • countycommissioners@garrettcounty.org
301-334-8970 301-895-3188 FAX 301-334-5000

Board of Commissioners
Paul C. Edwards
James C. Hinebaugh, Jr
S. Larry Tichnell

County Administrator
Kevin G. Null
County Attorney
Gorman E. Getty III

RESOLUTION 2021 - 3

RESOLUTION of the Board of County Commissioners of Garrett County, Maryland, pursuant to Section 9-648 of the Environment Article of the Annotated Code of Maryland, approving a proposed change to the boundaries of the Water and Sewer Service Areas and making certain legislative findings in connection therewith.

RECITALS

1. The Garrett County Department of Public Utilities has recommended that The Board of County Commissioners of Garrett County, Maryland, (the "Board"), the governing body of the Garrett County Sanitary District, Inc., consider a proposed change to the boundaries of the Deep Creek Lake Water Service Area (the "Service Area") to include the following area and as also depicted on maps attached hereto and incorporated herein:

Paradise Heights Road

2. The Garrett County Department of Public Utilities has recommended that The Board of County Commissioners of Garrett County, Maryland, (the "Board"), the governing body of the Garrett County Sanitary District, Inc., consider a proposed change to the boundaries of the Deep Creek Lake Sewer Service Area (the "Service Area") to include the following areas and as also depicted on maps attached hereto and incorporated herein:

Pysell Road

2661 Glendale Road

869 Mountainview Drive

3. The Garrett County Department of Public Utilities has recommended that The Board of County Commissioners of Garrett County, Maryland, (the "Board"), the governing body of the Garrett County Sanitary District, Inc., consider a proposed change to the boundaries of the Friendsville Sewer Service Area (the "Service Area") to include the following area and as also depicted on maps attached hereto and incorporated herein:

Maple Street

4. The Garrett County Department of Public Utilities has recommended that The Board of County Commissioners of Garrett County, Maryland, (the "Board"), the governing body of the Garrett County Sanitary District, Inc., consider a proposed change to the boundaries of the Gorman Water Service Area (the "Service Area") to include the following area and as also depicted on maps attached hereto and incorporated herein:

398 Fairview Church Road

5. The Garrett County Department of Public Utilities has recommended that The Board of County Commissioners of Garrett County, Maryland, (the "Board"), the governing body of the Garrett County Sanitary District, Inc., consider a proposed change to the boundaries of the Mountain Lake Park Water Service Area (the "Service Area") to include the following area and as also depicted on maps attached hereto and incorporated herein:

1019 Madison Street

6. Section 9-648 of the Environment Article of the Annotated Code of Maryland provides that the governing body of the County hold a public hearing to consider the proposed boundary changes.

7. The Board held a public hearing on April 5, 2021 in Room 209 of the Courthouse in Oakland, Maryland, to consider the proposed boundary change, notice of the public hearing having been published on March 11, 2021 and March 18, 2021 in The Republican, a newspaper of general circulation in Garrett County, Maryland.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF GARRETT COUNTY, MARYLAND:

1. The Board of County Commissioners of Garrett County, Maryland, finds that the changes in the boundaries of the Service Areas is necessary for the existing and future health, safety, and welfare of the public in general, and is feasible financially and from an engineering standpoint. Therefore, the Board concurs with the recommendation of the Garrett County Department of Public Utilities to change the boundaries of the above mentioned Service Areas.

2. Based upon legislative findings set forth in this Resolution and after considering the views expressed at the public hearing held on April 5, 2021 and comments received as part of the hearing record, the Board approves the changes in the boundaries of these Service Areas to include the aforementioned areas and as depicted on the attached maps.

3. This Resolution shall be effective upon its adoption and the County Administrator shall immediately file an executed copy of this Resolution and Maps with the Clerk of Circuit Court for Garrett

County, Maryland, and shall cause the title of this Resolution, which constitutes a fair summary thereof, to be recorded among the Land Records of Garrett County, Maryland.

Adopted and certified this 20th day of April, 2021.

Board of County Commissioners of Garrett County, Maryland

(SEAL)

Paul C. Edwards
Chairman

James C. Hinebaugh
Commissioner

S. Larry Tichnell
Commissioner

ATTEST:

Kevin G. Null
County Administrator

CERTIFICATE

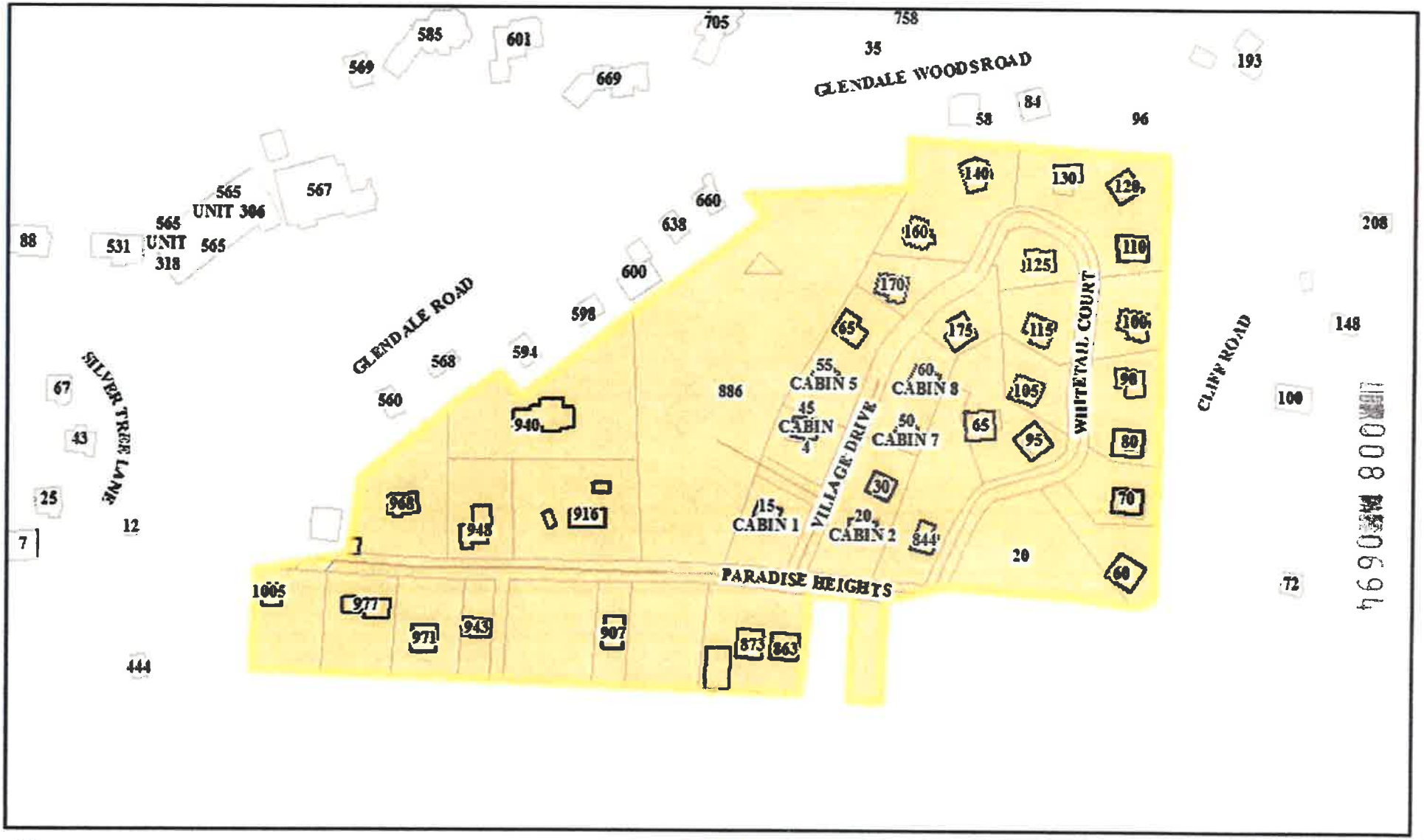
I, Kevin G. Null, the duly appointed, qualified and acting County Administrator of Garrett County, Maryland, do hereby certify that, (i) the foregoing Resolution adopted by the Board of County Commissioners of Garrett County, Maryland, after a public hearing held on April 5, 2021, is true, correct and complete, (ii) a copy of said Resolution has been filed with the Clerk of the Circuit Court for Garrett County, Maryland, and (iii) said Resolution has not been amended, modified or repealed and remains in full force and effect as of the date hereof.

IN WITNESS WHEREOF, I have hereunto set my hand and seal of the Board of County Commissioners of Garrett County, Maryland, this 20th day of April, 2021.

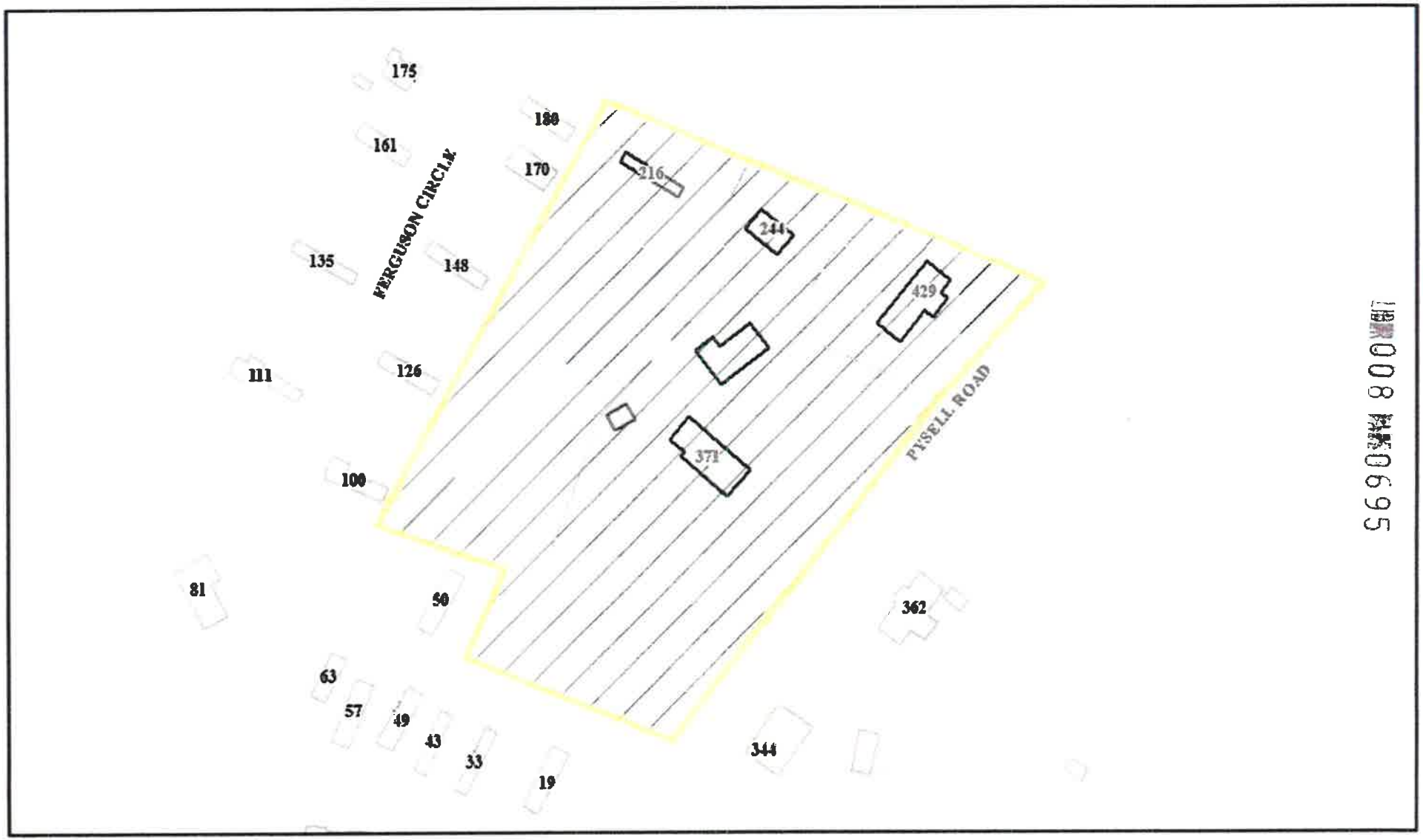
(SEAL)

Kevin G. Null
County Administrator

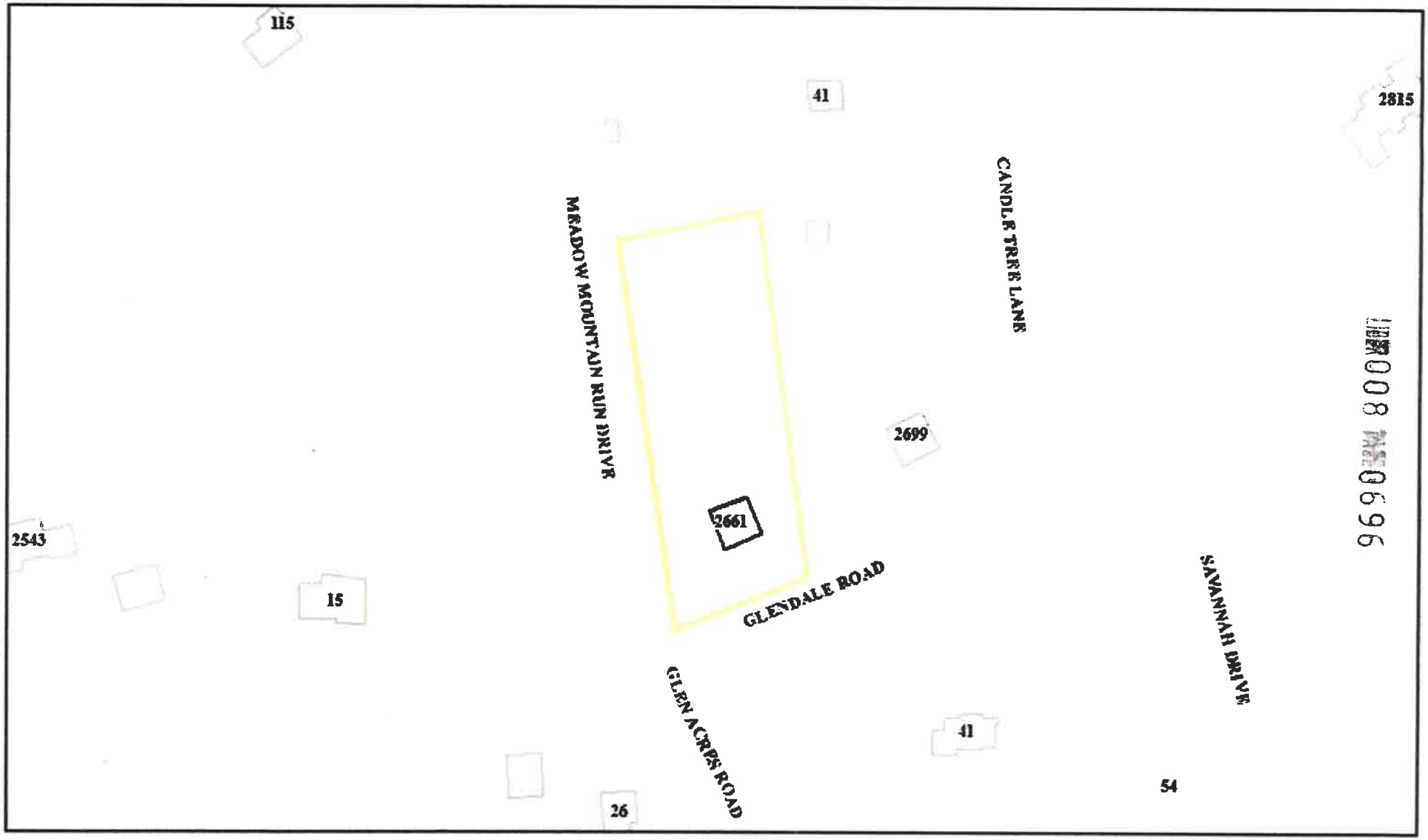
Paradise Heights Road Water Service Area Expansion



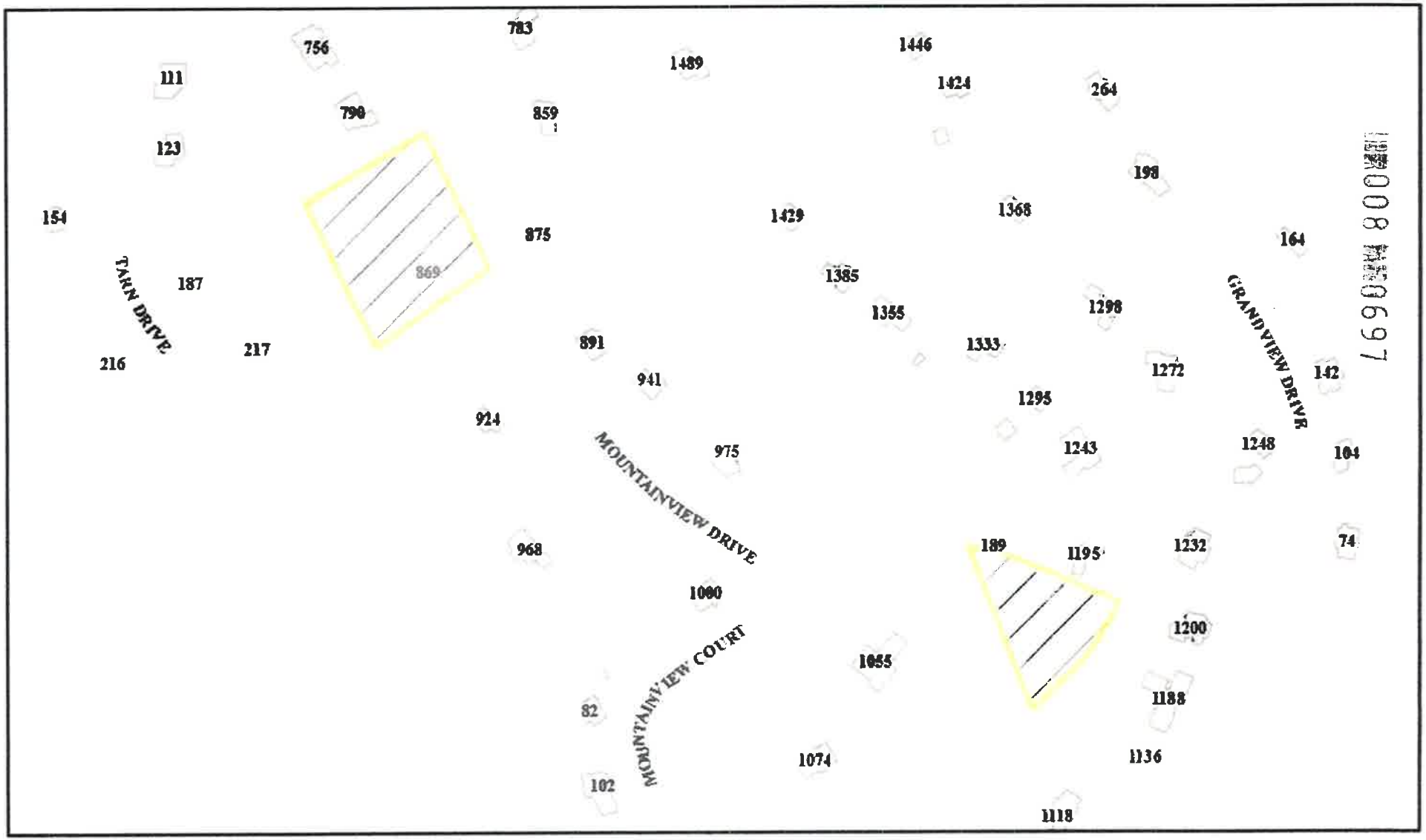
Pysell Road Sewer Service Area Expansion



2661 Glendale Road Sewer Service Expansion



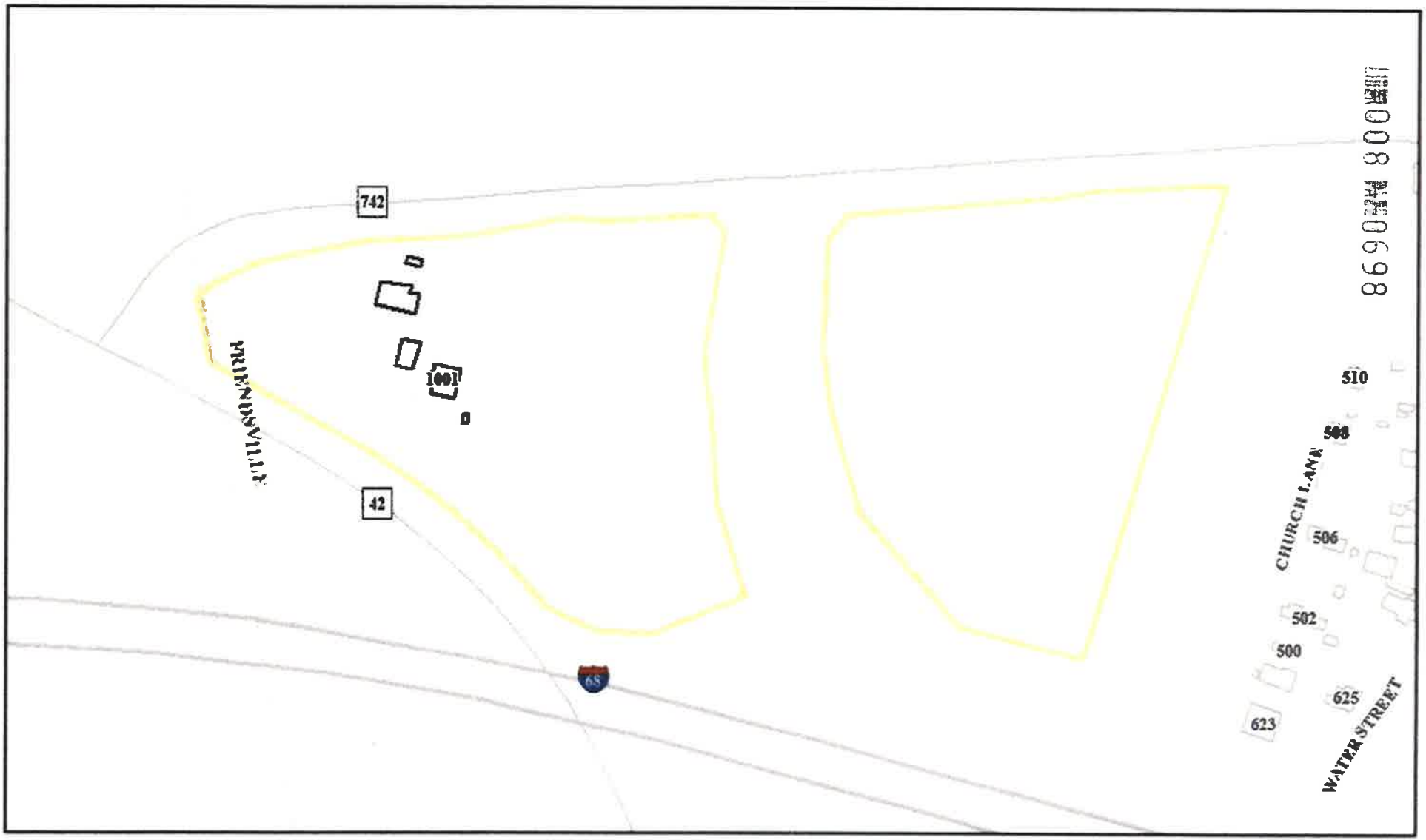
Mountainside Lots 0118 & 0086 Sewer Service Expansion



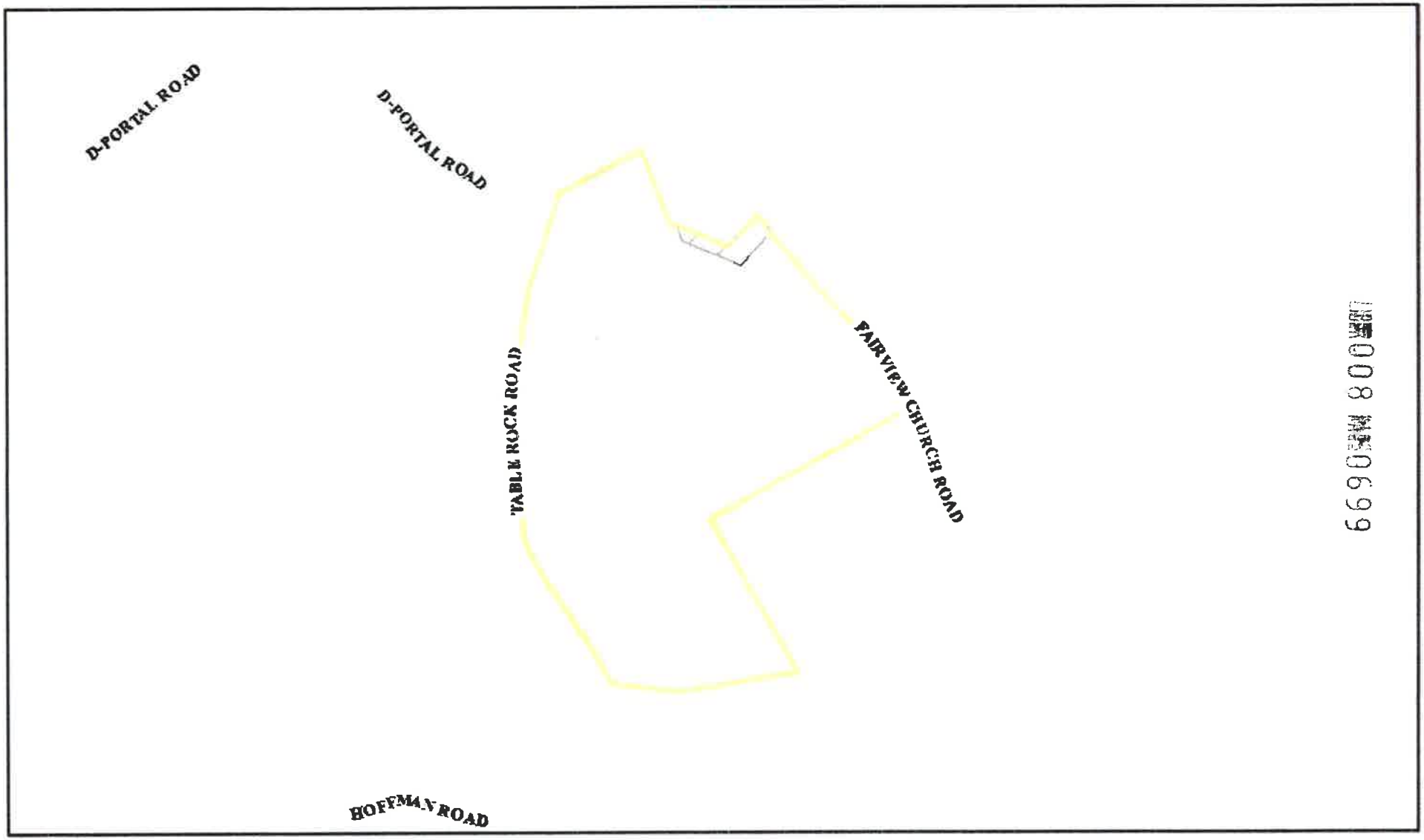
0 100 200 400 600 800 1,000 Feet

Proposed Expansion
Municipal Boundary
Parcel Boundary
Building
Existing Water Service
Existing Sewer Service
Road Centerline

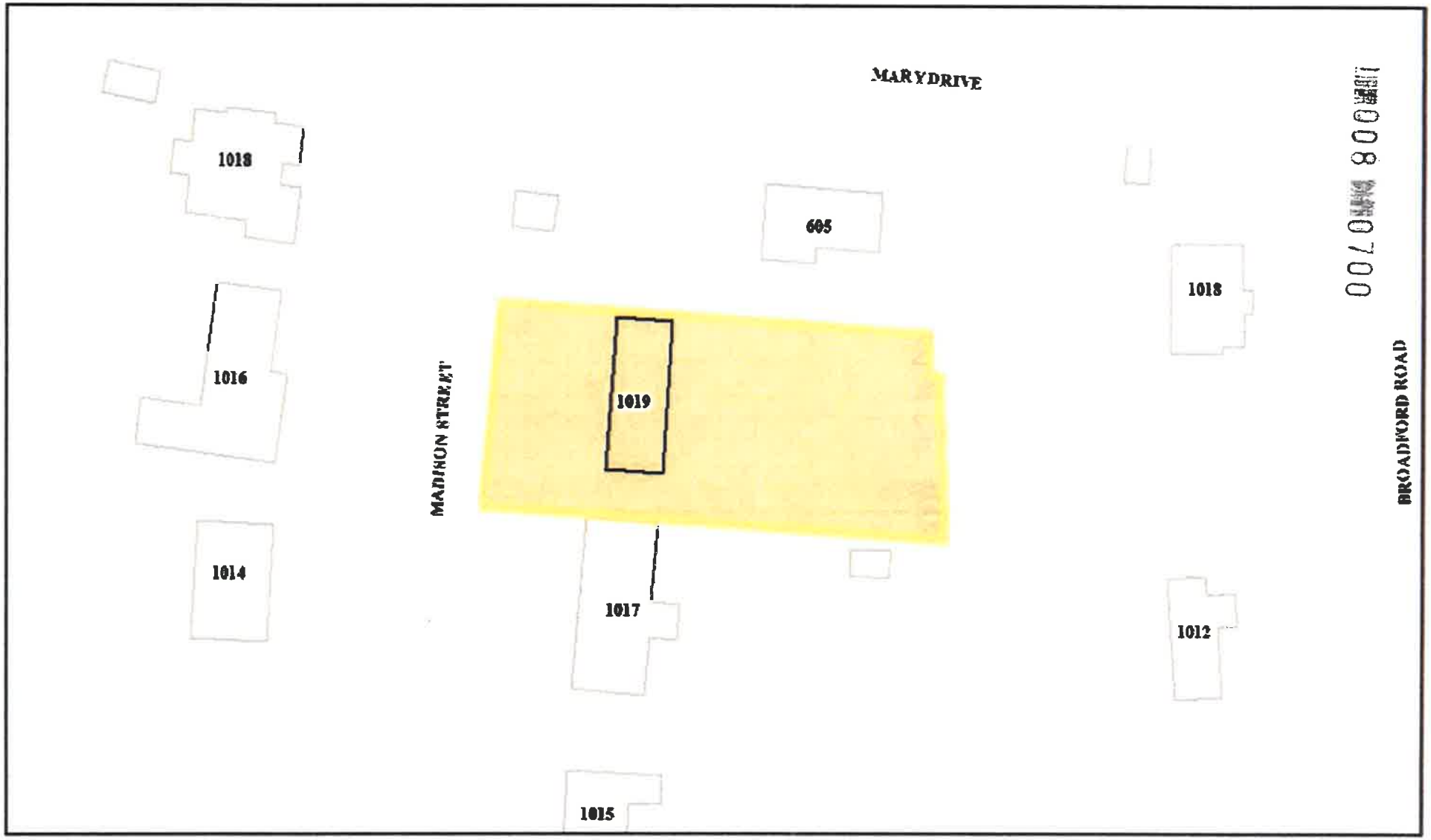
Maple Street Sewer Service Area Expansion



398 Fairview Church Road Water Service Expansion



1019 Madison Street Water Service Expansion



3. Water

3.1 Water Resources and Demand

Garrett County has an abundance of water resources, including rivers, streams, and groundwater, which, with proper management and protection, will meet the needs of County residents, businesses and visitors far into the future. This chapter describes the current uses of these water resources and presents a phased plan for extension and improvement of water systems owned by the County and the incorporated towns.

All proposed water system improvements are consistent with the 2008 Comprehensive Plan's land use and infrastructure policies and with the policies in Chapter 1 of this Water and Sewerage Master Plan (the Plan). The public water systems described in this chapter are in areas the County has designated as growth areas to receive the infrastructure investment necessary to support economic development and to absorb the County's projected population and housing unit growth.

Data tables describing the County's water systems and maps depicting those systems are included at the end of this Chapter. [1]

Overview of Water Usage

The County has 13 municipal water systems.[2] These systems, owned and operated by the County (through the Sanitary District) or by the towns of Accident, Oakland, and Grantsville, serve approximately 5,300 dwelling units (28 percent of the County total), commercial users, and all of the county's major business and industrial parks (Table 3-1, Figure 3-1).

In addition to the municipal water systems, approximately 60 water systems in Garrett County have permits from the Maryland Department of the Environment (MDE) and maintain their own water treatment facilities (Table 3-1). These systems are owned by private or other non-County entities, and serve users such as residential developments, businesses, industrial uses, campgrounds, parks facilities, and schools. An additional approximately 17 privately owned water systems are scheduled to become part of the Thayerville municipal water system.

All other water users in the County obtain their water from individual private wells that are approved by the Garrett County Health Department, Environmental Health Services.

Groundwater

Most municipal water systems in Garrett County use groundwater from wells as the sole or primary water source. Four of the systems use surface water for all or part of their needs (see Table 3-1 and system descriptions below). Private groundwater wells or springs are used by residents and businesses not connected to one of the municipal systems (see Table 3-2). These wells draw their water from a variety of water-bearing formations in the County, with no single formation being prevalent. Section 2.1.4 provides an overview of the geologic sources of groundwater in Garrett County. Although water quality from wells and springs is generally good, these systems may be vulnerable to pollution from septic systems and other sources. This is especially

[1] Note, to assist the State in its review, this Plan numbers the tables in order, but the table titles at the end of the chapter also gives the Table numbers as prescribed in COMAR.

[2] As of March 2013, the Thayerville system was under construction, and was expected to become operational in summer 2013. Thayerville is included in this document as a "current" system, reflecting its status at the anticipated time of Plan adoption. The Green System is listed as a separate system from Grantsville because the systems are ~~not~~ cross-connected and County owns some of the distribution lines.

true in cases where wells and/or septic systems predate current health regulations related to parcel size and system design.

Historically the County's groundwater resources, combined with surface water sources, have been adequate to meet demand by the municipal systems. In drought conditions some residential well supplies may experience stress. The MDE's Water Supply Program uses four indicators of drought: precipitation levels; stream flows; ground water levels; and reservoir storage, and a severity scale ranging from normal to watch to warning to emergency. 2012 was a dry year in Western MD. In April, May, and September Western MD was on watch or warning for stream flow. The last emergency status was issued in March 2009.

Detailed information on the capacity of the County's groundwater resources is outdated. The last full study of the County's groundwater resources was a 1980 U.S. Geological Survey (USGS) groundwater study.[3] Since then, the number of residents and seasonal housing units in the County has increased substantially (housing units grew by 4,735 between 1990 and 2010, according to the US Census). To improve available data on groundwater availability, Garrett County is assisting in a *Fractured-Rock Water Supply Study* covering the area of the State north and west of I-95. The Study was initiated in 2009 http://md.water.usgs.gov/wss/. Future updates to the Water and Sewerage Master Plan should incorporate this planned regional study into decisions about expanded use of groundwater for public water systems, particularly if the study reveals limitations on groundwater capacity.

Based on MDE's water balance methodology (described in the Appendix to the 2008 Garrett County Comprehensive Plan, Water Resources Element), the water-bearing formations that serve Garrett County recharge at the rate of more than 200 million gallons per day.[4] At the broad scale, and lacking specific data to the contrary, this volume is adequate to serve projected growth in Garrett County through 2033. However, the caveats to this finding are important. Garrett County's water-bearing formations serve areas beyond the County. In addition, geological and seasonal variations mean that groundwater resources may not be uniformly available in every location in the County.

New development and its wells have the potential to impact existing wells serving individual homes and businesses. The Garrett County Health Department, Environmental Health Services, is not aware of situations in Garrett County where water use at a subdivision on individual wells is impacting other users. However, this situation could potentially arise in cases where the existing well is older and shallower. In such a situation, new wells could reduce flows to existing wells in the immediate vicinity, forcing existing well owners to drill new, deeper wells.

Compared to deeper commercial or public supply wells, older, shallower wells are often more vulnerable to direct transmission of septic effluent and contamination from the surface, via means such as underground storage tanks, landfill leachate, mining, construction, petroleum and pesticide spills, and nutrients and bacteria from feedlots. Salt runoff from highway deicing and salt storage facilities in the County have affected some homeowners,[5] although this appears to be less of a problem than in the past (see Table 3-3). New wells drawing over 5,000 gpd require a groundwater appropriation and use permit from MDE's Water Management

[3] 1980. USGS. *Basic Data Report 11, Garrett County Water-Well Records, Chemical-Quality Data, Ground-Water Use, Coal Test-Hole Data, and Surface Water Data.*

[4] Source: *Models and Guidelines 26*, the official state guidance for preparing the Water Resources element (see http://www.mdp.state.md.us/mgs/pdf/mg26.pdf). See also the Water Resources section of the Comprehensive Plan Appendix. This calculation reflects only the nearest water-bearing formation. In most locations, two or more water-bearing formations could reasonably be tapped.

[5] Source: DNR, Comments on 2008 Comprehensive Plan.

Administration that may include consideration of impacts on nearby wells[6]. Wells for individual businesses using less than 5,000 gpd are generally exempt from obtaining an appropriation permit, as are individual homes, and are approved through the Garrett County Health Department, Environmental Health Services.

Surface Water

3.2 Water Systems Water Systems

This section of the Plan describes municipal (including County) and other public water systems in Garrett County. The section is organized alphabetically by major watershed. Table 3-3 summarizes supply, demand and capacity in the municipal systems.

Other publicly owned systems such as at state parks and camps, and private systems are listed in Table 3-1.

3.2.1 Bear Creek Watershed

3.2.2 Casselman River Watershed

3.2.2.1 Town of Grantsville

Existing System

Grantsville is an incorporated town in northern Garrett County with 2010 population of 766. The Town is located north of the interchange of I-68 with MD 495. The 2008 Comprehensive Plan designates areas around Grantsville for Town Residential and commercial use, designations that are consistent with public water and sewerage service. Several areas are shown for potential future annexation by the Town.

The Town of Grantsville and surrounding areas are served by two public water systems, the Grantsville system and the Green system. The Town owns and operates the water sources and the two water treatment plants. The County owns the Keysers Ridge portion of the Green system distribution lines. The systems are not currently interconnected.

The two systems combined currently serve approximately 720 ERUs. The current appropriation permits from MDE allow an average daily withdrawal of 111,000 gpd for the Grantsville system and 112,000 gpd for the Green system. Average daily water use in 2012 was approximately 70,000 gpd for the Grantsville system and 50,000 gpd for the Green system (Table 3-3).

Grantsville System

The Grantsville system is the original system built to serve the Town and consists of:

- Five wells and four natural springs in Savage River State Forest (east side of Negro Mountain) approximately 1.5 miles west of Grantsville;
- A well in the Shade Hollow area approximately 0.5 miles west of town (this well is not in active use due to high iron content);
- A treatment plant on Alt Route 40, three miles west of Town south of Zehner Road, which includes filters for iron and manganese removal and treatment of high pH, and has a design capacity of 100,000 gpd;
- Two water storage tanks on the water treatment plant site: 100,000 gallons of raw water storage and 100,000 gallons of treated water storage;

[6] Source: http://www.mde.state.md.us/Permits/WaterManagementPermits/index.asp. Typically, new wells drawing more than 5,000 gpd and residential subdivisions with more than ten lots require a MDE permit.

- An 8-inch supply line conveying water from the storage facility to town, and a 12-inch line in the Springs Road area for fire protection. The water distribution system is composed of approximately 25,200 LF of 4- and 6-inch lines.

Green System

The Green System was originally planned to provide water and fire flow protection to the Northern Garrett Industrial Park (NGIP), a 66 acre industrial park within Grantsville's corporate boundaries south of the MD 495/I-68 interchange. The system comprises of:

- One production well located at 5112 National Pike on the Arthur Green property (near Amish Road)
- A six-inch pipe from the well to the treatment plant.
- A water treatment plant (chlorination) with sequestering agent for iron and manganese (near 6226 National Pike).
- 400,000 gallon concrete ground storage tank located beside the WTP.
- Distribution system consisting of approximately 11,350 LF of 8- and 12-inch lines.

Since being placed in service in 2001, the Green system has been extended several times:

- 2002: west on Alt. Route 40 to provide service to the Keysers Ridge area to resolve problems with salt contamination, low yield and high iron content;
- 2004: south along US 219 to serve residential properties and the SHA's Overlook Rest Area, which also experienced salt contamination and poor water quality;
- 2005: to the Northern Middle and High School complex, to address high arsenic levels.

Service Areas

Figure 3-4 shows the existing service area and planned future service area of the Town of Grantsville water service area. In 2012 an addition to the service area was made for the Goodwill Retirement Community[13] which is a continuing care retirement community including an independent living retirement village, assisted living apartments and a nursing home. The property was annexed into the Town in 2006 and the facility is connected to the Green water system.

No service area expansions are planned within three years (W-2). Within 10 years (W-3). Grantsville is considering the following future service area expansions:

- An area along Route 669 north of Grantsville to Pea Vine Road and Dorsey Hotel Road, which includes the Grantsville Volunteer Fire Department, single-family residences and assisted living residences. Private water supplies in this area are susceptible to salt contamination.
- Approximately 100- acre area, west of the current Town boundary, north of I-68.
- Extension of water service along Route 40 east of Grantsville to the Chestnut Ridge area. This would also address salt contamination issues for residences and businesses (see Section 3.3 below).

No additional future service area expansions are currently planned.

Extensions of the Green System are discussed below under the Youghiogheny River Watershed.

[13] Sometimes referred to as Goodwill Mennonite Home.

Problem Areas and Future Needs

Grantsville System

As shown in Table 3-3, the Grantsville system currently has approximately 5,000 gpd of available capacity (75,000 gpd treatment plant production capacity minus 70,000 gpd average daily flow). Projected change in water demand through 2023 is approximately 92,400 gpd and through 2033 is approximately 100,000 gpd. Total demand through 2023 would be approximately 162,400 gpd (current use of 70,000 gpd plus 92,400 gpd), exceeding the permitted withdrawal limit (111,000 gpd), and the production capacity of the Town's treatment plant (75,000 gpd). The added demand through 2033 would be close to 100,000 gpd for a total demand close to 170,000 gpd[14], well above the current withdrawal limit. An additional concern is use of water from state lands. Savage River State Forest is owned and managed by the Maryland Department of Natural Resources. Use of water resources is subject to Departmental management policies especially regarding use of water from State lands to support growth.

Serving these future demands on Grantsville's water system would necessitate an expanded treatment plant and/or withdrawal permit, or another solution.

The Grantsville's water distribution system is cross-connected with the Green System by way of bypass valves located at the Grantsville Water Treatment Plant, Miller Street, Springs Road, and Grants Street at Pennsylvania Avenue. These valves were once cross-connected but the pressure difference between the two systems caused a water main to fail on Main Street in front of Heys Pizza due to the pressure difference. The Grantsville Distribution System consists of transite lines and PVC lines, and the valves are in poor condition. Sections of the system were originally installed without bedding, causing the lines to settle and experience crackingfailures. The valves on the Grantsville system are in poor condition and pose a safety issue. The GrantsvilleWater Storage Tank does not have sufficient capacity for fire protection for the system's current customers.

Water is supplied to the Grantsville water system by four springs and four drilled wells located on the east slope of Negro Mountain north of alternative Route 40. During dry spells, the production from the springs is nearly immeasurable. The springs and Wells 1 and 2 are potentially susceptible to water quality degradation over time from surface influences such as de-icing salts or coliforms (due to shallow casing setting depths). Reliance on a water supply from intermittent sources, such as the springs, reduces the overall system reliability.

The Grantsville water treatment plant utilizes a pressure filter featuring iron and manganese removal by chlorine oxidation with lime addition for pH adjustment. The WTP building roof is experiencing leaks, corrosion of the overhang fascia is evident, and the exterior siding is experiencing paint chalking. Considering the age of the WTP (i.e., ~ 31 years), most of the equipment is in good working condition. However, the Town should anticipate increased maintenance costs to operate the WTP as equipment further ages

Green System

~~To resolve water quality and to meet the future water demand described above, the Town would need to replace the existing well and construct a new back-up supply well.~~

While the Green system has approximately 62,000 gpd of unused appropriation (Table 3-3) system capacity is limited by the treatment plant production capacity (45,000 gpd) such that the system currently has no available capacity.

The well on the Green property experienced increased iron and manganese levels. In 2009 a crack in the well casing was discovered which allowed high iron content to enter the well. A temporary repair was made with insertion of an inflatable packer to seal off the affected area. Because the Green system operates on a single

[14] 70,000 gpd current average daily flow plus 99,966 gpd (Table 3-3)

well, there is no back-up water supply for the schools, homes, businesses and industries served by this system, should the water production be interrupted[15].

The existing treatment facility, controls, and tank are in good operating condition. The existing chorine scales have been replaced with one (1) scale as the facility only uses 2-lb of Chlorine a day. The chlorine ejectors and chlorine flow meters have been replaced. Minor corrosion of process piping has occurred within the treatment facility. Considering the facility is around 20-years old, the Town may experience increased maintenance costs within the next 5-10 years

Planned and Recommended Improvements

~~As part of a tentative agreement[12] to develop a well field in the Savage River State Forest (Puzzley Run – west side of Negro Mountain), the Town of Grantsville would decommission three of the five wells in the Town system (that are currently located in Savage River State Forest).~~

~~The County and the Town of Grantsville are working with State agencies to reconcile Grantsville's needs with State policies. Depending on the results, the town may need to identify another water supply – in addition to supply from Savage River Forest.~~

The County is planning to serve the Keysers Ridge area from new water supply (Puzzley Run – west side of Negro Mountain).- This would reduce demand from the Green supply by approximately 12,000 gpd. See the discussion of Keysers Ridge below under the Youghiogheny River Watershed for more detail.

The Town is proposing a project to consolidate the Green and Grantsville water systems and treatment plants into a single updated system located at the Green WTP site, conduct a hydraulic study of the two systems and replace aging lines within the systems, and install a SCADA system to monitor the tank levels. Specifically, the project will consist of the following:

- Water Treatment Plant Consolidation
    - Demo Grantsville WTP
    - Install line from Grantsville WTP tank to the Green WTP and pump water through line from Shade Hollow Well 5 to Green WTP
    - Build 2nd tank (420,000-gallon) at the Green System 2 WTP site
    - Expand treatment capacity at the Green System 2 WTP (combine Green System 2 WTP 111,000 gpd and Grantsvillle Town WTP 112,000 gpd for toal of 223,000 gpd) and upgrade treatment to treat iron and manganese
    - Utilize other well at Green System 2 WTP without casing failure (Alternative 2B)
    - Abandon 8" line on Grantsville System 1 with bedding issues

  The alternative assumes that current raw water sources for the Grantsville System WTP would be pumped from the Grantsville System WTP site to the Green WTP. Since the Green System WTP does not currently have the capability of removing Fe and Mn, a new packaged water treatment plant capable of removing Fe and Mn would be required. The WTP upgrades include the following:
    - Prefabricated Insulated Steel Building
    - Packaged Filter System

[15] When the Green system was first developed, two wells were drilled. Water quality testing of the second well indicated high iron content. In addition, drawdown from well number 1 affected the supply and recharge of well number 2. Therefore well number 2 is not approved for alternate use for the Green system.

- Similar to a Filtronics or US Filter Systems quoted for the alternative.
- Chemical Feed Room
- Operator Shower/Restroom
- Security Fencing
- Demolition of Grantsville System 1 WTP

- Distribution System Improvements
  - Hydraulic Study to analyze the feasibility of connecting the systems to allow the impact of each system on each other to be studied, potentially reducing the amount of water lines that need to be replaced
  - Replace all old 2", 4", 6" and 8" pipe
  - Install 3 PRVs throughout system
  - Replace all meters in existing system
  - Purchase meter reading device
- SCADA System to monitor and control the levels at the tanks in the system

3.2.2.2 Other Systems

There are no other municipal or other publicly owned systems in the Casselman River watershed. Table 3-1 lists the private water systems (transient non-community and non- transient non-community).

3.2.3 Deep Creek Watershed

3.2.4 Georges Creek Watershed

3.2.5 Little Youghiogheny River Watershed

3.2.5.1 Deer Park

Existing System

Deer Park, located three miles east of Mountain Lake Park along MD 135, is an incorporated town with a 2010 population of 399. Deer Park is a historic community built in the late 1800s as a summer resort town. The 2008 Garrett County Comprehensive Plan identifies the MD Route 135 corridor between Mountain Lake Park and Deer Park as a growth area, with a potential mix of commercial and employment land use, as well as "town residential" development (density between four and eight dwellings per acre if public water and sewer is available). Provision of public water service in this corridor is consistent with the Comprehensive Plan.

The County Sanitary District constructed the Town's water system in 2004 using federal and state grants and local funds, and currently operates the system for the Town. Prior to 2004, residents used individual wells.

The system currently serves approximately 200 ERUs. The system's water appropriation permit allows withdrawal of up to 47,000 gpd. Average daily demand in 2012 was approximately 35,000 gpd (Table 3-3).

The Deer Park water system consists of:

- Two wells at depths of 302 and 442 feet in the Greenbrier formation on Decost Road near the foot of Backbone Mountain;
- A treatment plant (chlorination and iron removal) with design capacity of 115,000 gpd and production capacity of 96,000 gpd, located at 520 Decost Road;
- A 200,000 gallon concrete storage tank on the WTP site;

- Approximately 58,245 LF of water lines.

Service Areas

Figure 3-8 shows the existing service area and planned future extensions of the Deer Park water service area. The current service area includes most of the land within the incorporated town boundary south of MD 135, as well as some areas immediately adjacent to the Town such as along Calderwood Road and Boiling Springs Road.

In the upcoming 1 to 3 year period the County plans to expand the Deer Park water system to several "infill" areas within the Town as well as some immediately adjacent areas (Figure 3-8)

In the upcoming 3 to 10 year period the County plans to expand the system to the north east part of Town between Edgewood Drive and MD 135.

Future service areas (beyond 10 years) include a large area southwest of the Town from Broadford Road, along MD Route 135 to the Shady Acres area.

Problem Areas and Future Needs

Deer Park loses approximately 35 percent of its treated water through pinhole leaks in copper service lines. The highly acidic soils surrounding the water service lines are the causes of this deterioration, and the DPW is replacing the copper distribution system with PVC pipes on a case-by-case basis.

With an average daily flow of approximately 35,000 gpd the Deer Park system has a current unused appropriation of approximately 12,000 gpd (Table 3-3). Projected increased demand through 2023 from the expanded service areas is approximately 19,200 gpd (Table 3-3 cell N7) therefore an increased appropriation may be needed However, the need cannot be guaranteed; see next section.

Planned and Recommended Improvements

Due to high iron levels, water treatment costs at Deer Park are four times more expensive than in Mountain Lake Park. The County is interested in interconnecting the Deer Park and the Mountain Lake Park/Loch Lynn Heights water systems through an extension of Mountain Lake Park/Loch Lynn Heights' water service. Joining these systems would also create redundancy, and could create substantial cost savings. The Mountain Lake Park/Loch Lynn Heights system is projected to have excess water capacity through 2033 (see Table 3-3).

3.2.5.2 Mountain Lake Park/ Loch Lynn Heights

Existing System

Mountain Lake Park and Loch Lynn Heights are incorporated towns with 2010 populations of 2,092 and 552, respectively. The towns are primarily residential. Along with Oakland and Deer Park, the towns form a corridor along MD Route 135 with nearly continuous public water and sewer service. The Sanitary District owns and operates the unified public water system for Mountain Lake Park and Loch Lynn Heights.

Improvements to the system were completed in 2010 including replacement of some of the spring sources that were determined to be groundwater under the direct influence of surface water (GWUDI) with 4 new production wells, a water treatment plant and a new 500,000 gallon concrete storage tank.

The system currently serves approximately 1,200 ERUs. The system's water appropriation permit allows average annual withdrawal of 250,000 gpd. Average daily flow in 2012 was approximately 201,000 gpd (Table 3-3).

The water system, with the improvements completed in 2010, consists of:

- Four wells in the Hampshire, Rockwell, and Mauch Chunk formations (# 1, 2, 5 & 6A);

- Two springs (# 1 & 2);
- A water treatment plant (chlorination) with design and production capacity of 238,000 gpd (located at 451 Landon's Dam Road;
- A 500,000 gallon concrete storage tank on the WTP site. A second 360,000 gallon concrete storage tank is located at 1204 Pittsburgh Avenue in Mountain Lake Park.

A connection to the Oakland water system is located at the Pittsburgh Avenue tank site. This allows the County to purchase water from Oakland's system during low flow periods or emergency situations.

Service Areas

Figure 3-9 shows the existing service area of the Mountain Lake Park/Loch Lynn Heights water service area. The service area covers the entire incorporated area of the two towns plus a few areas outside the incorporated areas. Service is available to properties along the main water transmission line on Smouse Road south of Loch Lynn Heights.

No service area expansions are proposed in the 1 to 3 year period (W-2). In the upcoming 3 to 10 year period (W-3) the County plans to expand the system east of the Towns along MD Route 135 to the County office complex located at 2008 Maryland Highway. Two infill areas could also be served and are shown as W-3; along Weber Road south of MD 135, and along Madison Street south of Mary Drive.

In the future (W-FPS) the County plans to serve most of the remaining unserved area between Mountain Lake Park and Deer Park.

Problem Areas and Future Needs

With an average daily flow of approximately 201,000 gpd the Mountain Lake Park/Loch Lynn Heights system has a current unused production capacity of approximately 37,000 gpd (Table 3-3). Projected increase in demand through 2023 is approximately 15,200 gpd, therefore no increase in capacity will be needed. Supply needs can be addressed further by reducing water losses due to aging distribution lines; the Mountain Lake Park / Loch Lynn Heights water system currently loses approximately 40 percent of its treated water due to aging distribution infrastructure.

The County plans to interconnect of the Mountain Lake Park/Loch Lynn Heights and Deer Park water systems (see Deer Park, above); this extension would likely include provision of water service to the unserved portion of MD Route 135 corridor between the two towns.

The Town of Loch Lynn Heights notes the following issues:

- Water leaks at the intersections of: Bonnie Boulevard and Tallahassee Street; Lothian Street (MD 560) and Hoye Street; Alderson and Wyandott Streets; and Lothian and Loch Lynn Streets. These leaks can freeze in winter and create driving hazards.
- Low water pressure along Lothian Street (MD 560) requiring some residents to install booster pumps[21].
- Need for accurate mapping of water lines.

The Town of Mountain Lake Park notes an issue of low water pressure in the Southern Pines neighborhood (the Southern Pines Drive). After the new 500,000 gallon tank was placed at the water treatment plant in 2010, the issue seems to have been resolved.

[21] DPW states that low water pressure is not uncommon throughout the county. In areas where homes are located at a higher elevation in relation to the County's tanks, customers may need to purchase booster pumps if they desire additional pressure.

Planned and Recommended Improvements

Efforts are ongoing to rehabilitate the system's water distribution lines to reduce system water loss. In October 2013, the County awarded a construction contract to replace four main water service lines (1,674 linear feet). DPW also repairs/replaces leaking distribution lines as they are located, and updates mapping of lines as part of each project.

Consider a water storage tank placed at the top of the hill above Loch Lynn Heights to address low water pressure along Lothian Street.

DPW has investigated the origin of the water leaking at intersections in Loch Lynn Heights and its source is uncertain. Further investigation is likely warranted.

3.2.5.3 Oakland (Town)

Existing System

Oakland is the County seat, with approximately 2,000 residents in 2010 and the largest commercial area in the county. The town has had a public water system since the early 1900s and continues to own and operate it. Oakland historically withdrew all of its water from the Youghiogheny River, but began shifting its withdrawals to Broadford Lake in 1973, when a 1.5 MGD treatment plant was completed. Today, Oakland withdraws most of its water from Broadford Lake.

The system currently serves approximately 2,200 ERUs. Oakland's water appropriation permits allows average annual withdrawals of 420,000 gpd from Broadford Lake and 170,000 gpd from the Youghiogheny River, for a total allowable average withdrawal of 590,000 gpd. The system's average daily demand in 2012 was approximately 474,000 gpd (Table 3-3).

The Oakland water system consists of:

- An intake on the Youghiogheny River immediately upstream from the Little Youghiogheny confluence;
- An intake and pumping station on the southeastern shore of Broadford Lake;
- Two treatment plants on Water Plant Road (the Oakland Plant) and on Glass Drive with a combined design capacity of 2 MGD and a production capacity of 1.765 MGD. The plants provide chemical treatment for pH, taste and odor control, coagulation, flocculation, fluoridation, and chlorination disinfection;
- An 8-inch pressure main connection from the Broadford Lake pumping station to the treatment plant; and a 10-inch pressure main from the Youghiogheny River pump station to the Oakland Plant, which withdraws from the Youghiogheny River;
- One storage tank on Crooks Crest Road with storage capacity of 800,000 gallons. A small second storage tank (20,000 gallons) for backwash use only is at the WTP site at 301 Water Plant Road.

MDE prepared a Source Water Assessment for the Town of Oakland in 2004. A Source Water Assessment is a process for evaluating the vulnerability to contamination of the source of a public drinking water supply.

Service Areas

The Oakland water system serves the Town and several areas that are outside the Town's corporate boundaries. Figure 3-10 shows Oakland's existing service area and planned future expansions.

The existing service area includes:

- Most land within the Town's boundary.
- The area around Broadford Lake, including Broad Ford elementary school and Southern Middle School

- Southern Garrett Industrial Park and the Shady Acres area
- Southern Garrett Business and Technology Park.
- The Simon Pearce facility (formerly Bausch & Lomb).

The Town has an interconnection with Mountain Lake Park that allows the County to purchase water from Oakland's system during low flow periods or emergency situations (see above under Mountain Lake Park/ Loch Lynn Heights)

In the upcoming 3 to 10 year period the Town plans to expand the system to:

- An area between Dennett Road and East High Street,
- A small area near Southern Garrett High school,
- Area east of Broadford Lake,
- Area south west of the town boundary in the MD 39/Rosedale area. Residents have asked for Town services, and the Town will seek funding to provide service to these areas and to the Shaffer Hill area. Service to portions of this area would require an amendment to the County Comprehensive Plan as the area west of MD 39 is currently designated as Rural**.**
- Two areas west and one area east of US 219 north of Merrill Lane/ North 4th Street.

Future planned service areas, beyond 10 years, include:

- Approximately 700- acre area west of US 219 between the town boundary by N. 2nd Street, Oakland Sang Run Road, and the Lowes Store,
- Scattered "infill" areas north and south of Memorial Drive,
- Area south and east of South Third Street, to include the current Sears property and Pleasant Hills Estates area, connecting to U.S. 219 South. Service to this area would require an amendment to the County Comprehensive Plan as it is currently designated as Rural**.**

Problem Areas and Future Needs

With an average daily flow of approximately 473,000 gpd the Oakland system overall has a current unused appropriation of approximately 116,000 gpd (Table 3-3). Projected demand through 2033 is approximately 90,000 gpd therefore no increase in capacity will be needed.

While no capacity increase appears to be necessary, the average daily withdrawal from Broadford Lake (416,000 gpd) is approaching the current appropriation limit (420,000 gpd), and the Town may want or need to seek an increase to the current appropriation for the Broadford Lake water withdrawal permit.

Oakland has identified the following problem areas

1. Low water pressure. As the Oakland water system has expanded some parts of the system experienced insufficient water pressure. The system needs a second water storage tank to increase pressure.
2. The Oakland Intake Facility and Broadford and Oakland water plants do not have backup power sources in the event of a power failure.
3. The Town's aging system requires replacement of old lines (plastic and pit cast, some dating back to 1909) and upgrades to the water plants
4. The Town does not have system wide mapping of its water distribution system.

In addition to the water system rehabilitation needs identified above, the County has also identified water quality issues in two areas southwest of Oakland's corporate boundaries; the Rosedale and Shaffer Hill Road areas have high iron content in individual wells, and would benefit from connecting to public water service. Only a portion of these areas is currently in the Town Comprehensive Plan's future growth area. These areas are shown as W-3 service areas on Figure 3-10.

Planned and Recommended Improvements

This Plan recommends four projects for the Town of Oakland's water system (see also Table 3-8).

- A study to determine the best location and size for a new water storage tank, and subsequent construction of that tank, to address the water pressure issues described above.
- Purchase and installation of backup generators for the Broadford and Oakland (Youghiogheny) Water Plants and the Oakland (Youghiogheny) Intake Facility. The project is vital to ensure uninterrupted water service during power outages.
- Digital mapping of the water distribution system. This project will enable the Town to operate and especially maintain and repair its system much more efficiently.
- The Town continues to pursue system-wide repairs and rehabilitation. This includes, but is not limited to, replacement of old water lines (some of which are 50-75 years old or are galvanized), upgrades at the water plants, including replacement of valves, pumps, and motors (some of which are over 100 years old). These changes will improve the quality of the water, help reduce system water loss, and improve system energy consumption.

3.2.5.4 Other Systems

There are no other municipal or other publicly owned systems in the Little Youghiogheny River watershed. Table 3-1 lists the private water systems (transient non-community and non- transient non-community).

3.2.6 North Branch Potomac River Watershed

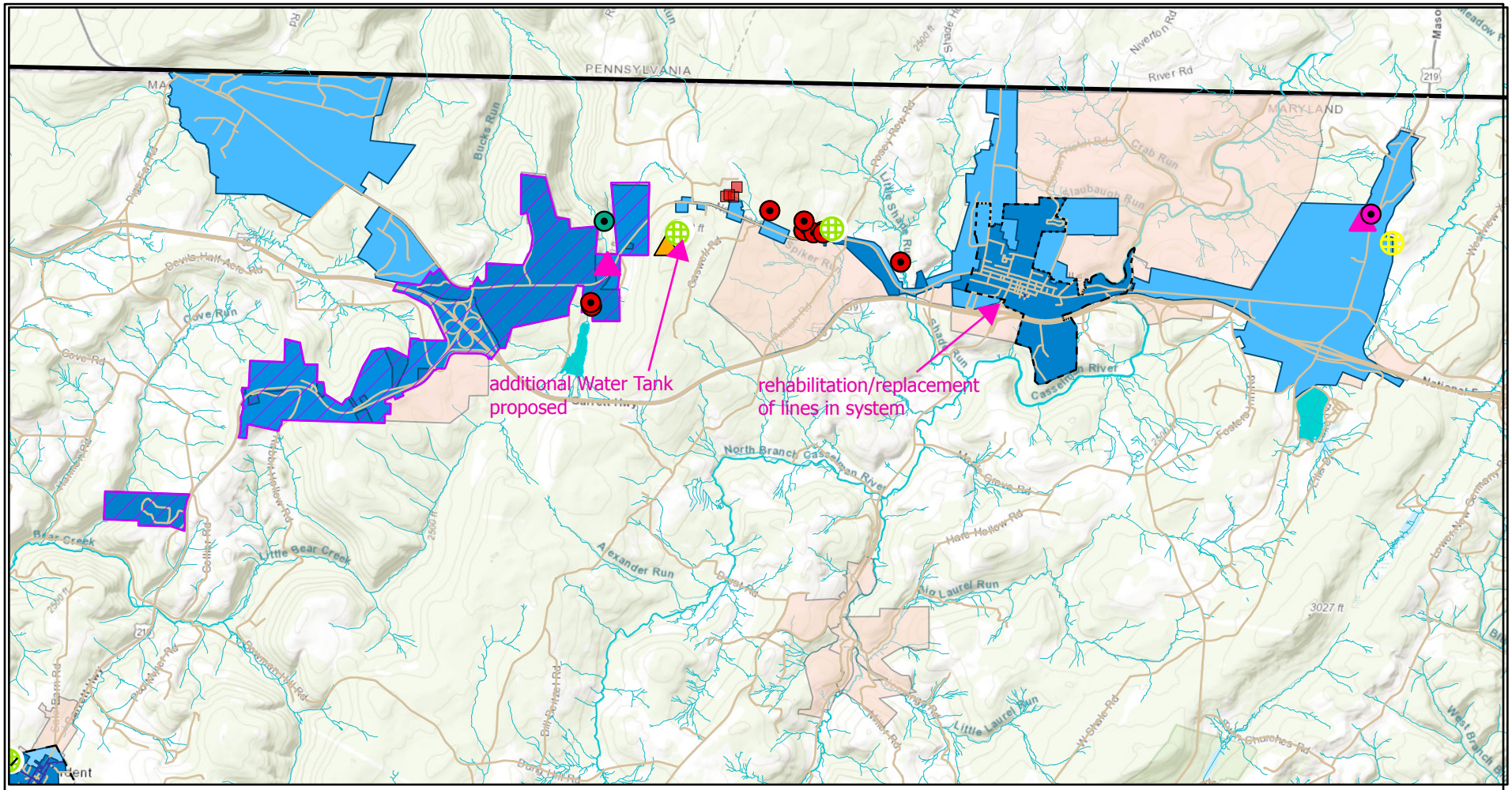
3.2.7 Savage River Watershed

3.2.8 Youghiogheny River Watershed

3.3 Existing Sources of Pollution or Contamination

Figure 3-4 (Delete)

Merged Thayerville & McHenry Water Service Areas into Deep Creek Lake Water Service Area.



Water Service Area

- Proposed WTP
- Spring
- Test Well
- WTP
- Water Intake
- Water Tank
- Water Well
- WTP Upgrade
- WTP to Pump Station
- Propsed Well
- Raw Water Tank
- Water Service Areas
- Water Change History

Water Service Staus

- W1: Existing/ Under Construction
- W2: Service Within 3 Years
- W3: : Service Within 10 Years
- FPS
- Growth Areas 2021
- Streams
- Town Boundary
- Roads
- Water Lines

N

0 0.5 1 2 3 4 Miles

Figure 3-5 – Deep Creek Lake Water Service Area (formerly Thayerville Water Service Area)

1. Merge Thayerville & McHenry Water Service areas – as per Resolution 2017-5
2. W-2 > W1 in McHenry SW- connected service
3. Expand FWS to match 2008 Compressive Plan Growth Area NW
4. FPS > W1 – PARADISE Heights expansion - connected service

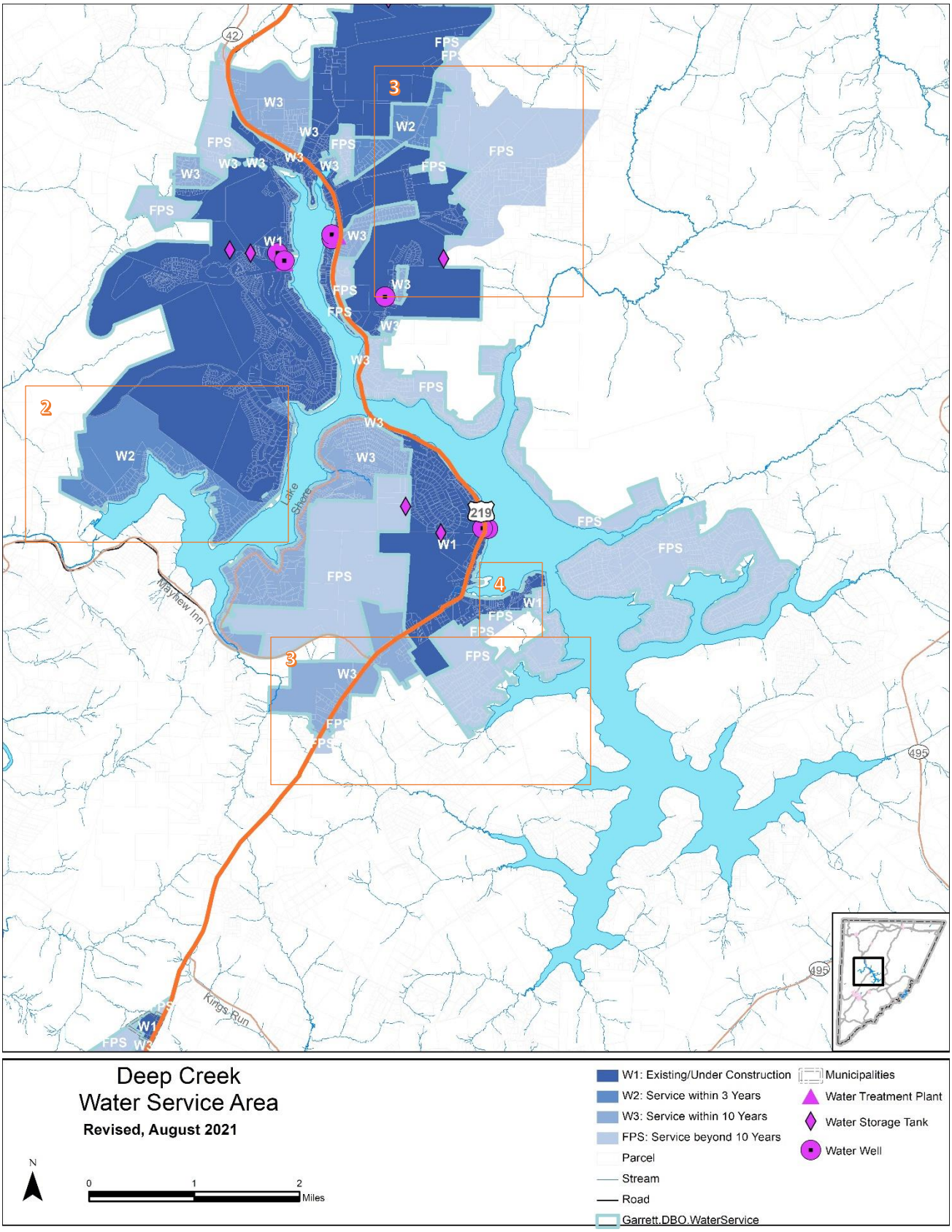
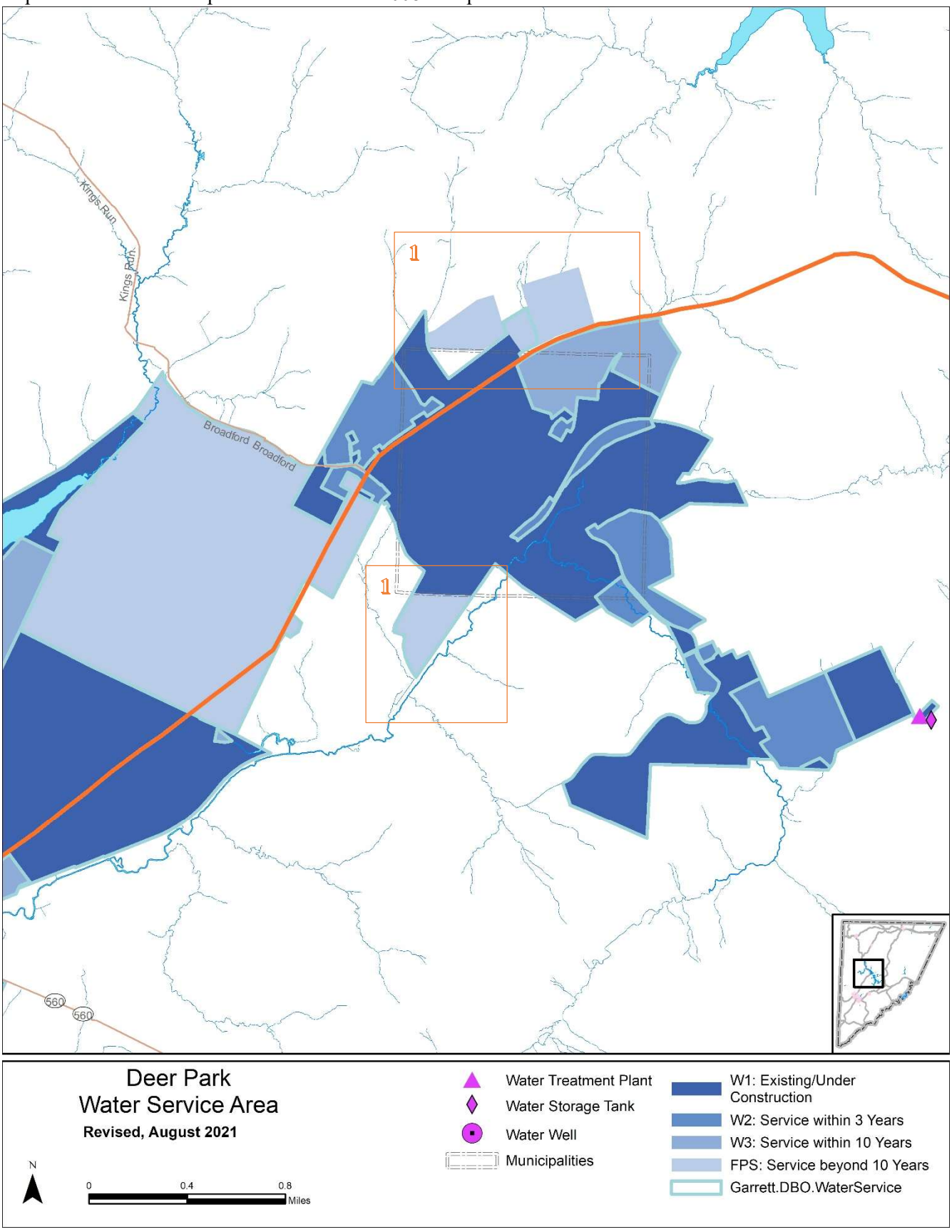


Figure 3-8 Deer Park Water Service Area

1. Expand FPS to cover Expand FWS to match 2008 Compressive Plan Growth Area NW & SE

2.



4. Sewerage Systems

This chapter provides information the County will use to plan, operate, and maintain safe and adequate community and multi-use sewerage systems and protect the County's environmental resources.

All proposed sewerage system improvements are consistent with the 2008 Comprehensive Plan's land use and infrastructure policies and with the policies in Chapter 1 of this Water and Sewerage Master Plan (the Plan). The public sewerage systems described in this chapter are in areas the County has designated as growth areas to receive the infrastructure investment necessary to support economic development and to absorb the County's projected population and housing unit growth.

Data tables describing the County's sewerage systems and maps depicting those systems are included at the end of this Chapter. [26]

4.1 Sewerage Systems

4.1.1 Bear Creek Watershed

4.1.2 Casselman River Watershed

4.1.3 Deep Creek Watershed

4.1.4 Georges Creek Watershed

4.1.5 Little Youghiogheny River Watershed

4.1.5.1 Trout Run

Existing system

Garrett County operates the Trout Run WWTP located on Norris Welch Road just south of the Town of Mountain Lake Park, at the confluence of Trout Run and the Little Youghiogheny River. Five collection systems convey sewerage to the plant: Deer Park, Shady Acres, Weber Road, Mountain Lake Park, and Loch Lynn Heights. Garrett County owns and operates the Deer Park, Shady Acres, and Weber Road collection systems (see Figures 4-8, 4-9, 4-10, and 4-11).

Discharge from the Trout WWTP is to the Little Youghiogheny River 3.84 miles upstream of its confluence with the Youghiogheny River. The last major upgrade of the WWTP was completed in 1989. Components include:

- debris baskets
- aerated lagoon
- intermediate pumps for pumping of the facultative/storage lagoon effluent to the
- influent lift pumps
- facultative/storage lagoon
- three intermittent sand filters

[26] Note, to assist the State in its review, this Plan numbers the tables in order, but the table titles at the end of the chapter also gives the Table numbers as prescribed in COMAR.

spray distribution system onto the intermittent sand filters

- a hydrographic control release (HCR) system consisting of an automatic control valve, ultrasonic level sensors and a microprocessor based controller
- cascade post-aeration
- ultraviolet light disinfection

The WWTP has current discharge permit effluent limitations based on an average daily flow of up to 900,000 gpd. Average daily flow in 2012 was approximately 245,800 gpd (Table 4-1). Maximum average daily peak flow was 834,583 gpd (Table 4-2). Because the Trout Run WWTP has storage lagoons Garrett County also tracks influent flows. The maximum average daily influent flow in 2012 was 1.3 mgd.

Both the Little Youghiogheny River and the Youghiogheny River rivers are designated as Use III-P natural trout and public water supply waters. The Little Youghiogheny River is on the 303(d) list as impaired waters for total suspended solids, nitrogenous and carbonaceous BOD, fecal coliform, and combination benthic/fish's bio-assessments (see Chapter 2). The State protects such streams using more stringent temperature and dissolved oxygen water quality criteria than are used in less sensitive streams.

The Plant does not discharge into the Chesapeake Bay drainage basin; therefore the State has not required Enhanced Nutrient Removal (ENR) treatment to be installed. A Total Maximum Daily Load (TMDL) approved by the Environmental Protection Agency (EPA) on January 29, 2001, allocated nitrogenous and carbonaceous BOD waste loads to the Plant. A TMDL approved by EPA on February 7, 2007, allocated a sediment load of 89.7 Tons/year, and on December 3, 2009 an EPA approved TMDL allocated an E. coli fecal bacterial load of 1,567 Billion MPN/year to the facility. Due to the facility having the reasonable potential to exceed the receiving stream's copper water quality criteria, copper limitations contained in the current State issued Discharge Permit will become effective October 1, 2014.

The Little Youghiogheny River has low flow typically in the summer months between June 1 and October 31. The effect of the protection criteria is to limit the volume of treated wastewater the County can discharge from the WWTP especially in the summer when low oxygen levels or oxygen depletion caused by the discharge has the greatest adverse impact on the aquatic life.

A stream gage with a weir and Parshall flume is used to measure stream flow. During the low flow period, the WWTP is operated in the hydrographic release mode using the hydrographic controlled release equipment. Stream flow measurements from the gage are used to determine the allowable wastewater release and BOD_5 (dissolved oxygen) and TKN (nitrogen) loading rates that may be released. However, because of inadequate storage capacity there have been violations of the State's water quality protection criteria (see below under Problem Areas).

<u>Mountain Lake Park - collection system</u>

The Mountain Lake Park collection system is the largest of the five collection systems conveying sewerage to the Trout Run WWTP. The system handles approximately 870 accounts. The Town owns and operates the system.

A five-phase project has been underway since 2003 to upgrade and rehabilitate the Mountain Lake Park collection system including installation of approximately 38,700 linear feet of PVC sanitary sewers, 219

manholes, and other incidental work. Phases 3 and 3A were completed in 2009/2010 and the next phase (Phase 4) has been designed but needs funding (see below under Problem Areas).

Loch Lynn Heights - collection system

The Loch Lynn Heights - collection system serves approximately 230 accounts Rehabilitation of the Loch Lynn Heights collection system began in 2005 and was completed in 2012. The system includes approximately 34,700 linear feet of gravity pipe, 126 manholes, 22 mainline clean outs and 146 customer clean outs.

The Town owns and operates its system. The Town notes it now has excellent mapping of its system including locations of manholes and cleanouts on drawings and in GIS.

Deer Park collection system

The County created the Deer Park Sanitary District in 1993. Prior to this the Town had no sewerage collection or treatment facilities. The option to connect to the Trout Run WWTP was deemed preferable to building a separate treatment facility, and interconnection was completed in 1997.

The collection system consists of septic tanks and small diameter gravity sewers at the house connections. Two pump stations collect the sewage and pump it into a force main conveying the flow along MD 135 to a manhole in the Shady Acres area. The system has approximately 10 miles of sewer line.

Approximately 210 accounts are on the system.

Shady Acres - collection system

Shady Acres refers to the area adjacent to the east of Mountain Lake Park north and south of MD 135 including the Southern Garrett County Industrial Park and the Southern Garrett Business and Technology Park. In 1989, in association with improvements at the Trout Run WWTP, the County installed approximately 10,500 linear feet of collection and interceptor sewers in the Shady Acres Sanitary District and constructed an approximately 2,500 foot long sewer interceptor to connect to the Mountain Lake Park interceptor system. Approximately 60 accounts are on the system.

Weber Road - collection system

The Weber Road collection system collects sewerage from a Maryland State Highway Administration maintenance facility on Weber Road South as well as Yough Glades elementary school, and a few private businesses and dwellings and conveys it to the Mountain Lake Park collection system. The system has approximately 15 accounts.

Service Areas

Figure 4-8, 4-9, and 4-10 show the existing Trout Run sewerage service area.

No service area expansions are planned within 10 years. Future service areas (FPS, beyond 10 years) are proposed for several areas:

Approximately 830-acre area mostly north of MD 135 between Mountain Lake Park and Deer Park.

Three areas northeast, southeast and southwest of Deer Park.

Two areas south and east of Loch Lynn Heights.

Small infill area southwest of Mountain Lake Park (SHA Drive).

These areas are consistent with the Garrett County Comprehensive Plan which included a careful study of the growth areas for the four towns in the Little Youghiogheny watershed. The projected change in ERUs through 2033 is approximately 280 and this increase would not exceed the WWTP capacity.

Problem Areas and Future Needs

Trout Run WWTP

As noted above, discharge from Trout Run WWTP is subject to temperature and dissolved oxygen water quality criteria because the Little Youghiogheny River is a designated as Use III-P waters[37]. When the County cannot discharge it must store the effluent and the storage capacity has sometimes been inadequate to hold the accumulated sewage flows without discharging. Inflow and infiltration from the collection systems increases the flow volume to the plant and exacerbates the storage problem.

~~The County intends to develop a Preliminary Engineering Report to evaluate the current wastewater treatment plant process and performance and to provide economical and reasonable alternatives for improvements in order to meet the conditions and requirements of the WWTP discharge permit. The Preliminary Engineering Report will be prepared in accordance with U.S. Department of Agriculture, Rural Utilities Service, Bulletin 1780-3, Preliminary Engineering Report – Wastewater Facilities.~~

As described above under Existing System and in Section2.2, the Trout Run WWTP eventually discharges to the Ohio-Mississippi River basin (via the Little Youghiogheny and Youghiogheny Rivers) and does not discharge into the Chesapeake Bay drainage basin. As a result, the State has not required installation of ENR treatment. That status notwithstanding, Biological Nutrient Removal (BNR) and eventual ENR would likely facilitate efforts to meet the water quality criteria described in this section, as well as County efforts to meet NPDES permit requirements, particularly in future years. As a result, the County intends to eventually pursue BNR and ENR upgrades at the Plant. No target date for completion of those upgrades has been determined.

In addition, the County has begun consultation with the Town of Oakland regarding the possibility of future regionalization of wastewater treatment facilities. Regionalization - Routing all wastewater flows from the Town and the Trout Run system to a single WWTP and discharge point—could offer operational and environmental benefits, and could further help both jurisdictions meet NPDES permit requirements. The County will continue to evaluate (cooperatively with Oakland) the costs, benefits, and requirements associated with regionalization. No target date for regionalization has been determined.

The County had a study completed in 2016 to develop plant upgrade alternatives that would achieve ENR requirements. The study recommended alternative for the combined Trout Run/Oakland WWTP ENR Upgrade is to construct an SBR system followed by denitrification filters for the process alternative and conveyance for transferring flow from Trout Run to the combined facility. Although conveyance is not the least expensive option, yet it provides a social economic benefit of serving the Rosedale and Shaffer Hill Road, west of MD-39, that are experiencing septic system failures.

The County contracted services for 90% designs of a WWTP. The following summarizes the Oakland-TroutRun Project:

- Construct a 1.8 mgd (ADF) / 6.75 mgd (Peak) Wastewater Treatment Plant
  - 2,000 gpm influent pump station
  - Modifications to one of the lagoons to act as flow equalization
  - Screen and Grit Removal
  - Sequencing Batch Reactor Biological Treatment
  - Denitrification Filters

[37] Discharge Permit for Trout Run Wastewater Treatment Plant State Discharge Permit 08-DP-1 046.

- Chemical Addition
- UV Disinfection
- Aerobic Digesters
- Solids Handling
- 4,700 gpm effluent pump station
- 3,800 LF of new outfall

- Conveyance System
  - 2,000 gpm Pump Station located at Trout Run WWTP
  - 11,500 LF of new sewer force main
  - 5,500 LF of new gravity sewer

Loch Lynn Heights

Installation of clean outs and monitoring points on lateral sewer lines is needed for locations that were not addressed during the rehabilitation project completed in 2012.

Mountain Lake Park

The Town needs to complete the next phase (Phase 4) of the upgrade and rehabilitation of the Mountain Lake Park collection system. Phase 4, "Town of Mountain Lake Park Phase 4- Sewer and System (I & I) Improvements and Upgrades", is to replace approximately 4,750 LF of 8-inch sewer pipe, 450 linear feet of 2-inch pressure sewer, 35 manholes, and a sewage lift station[38]. Design is complete, but the phase is awaiting funding. The Town applied to MDE for funding in 2013 but the project was not funded.

4.1.5.2 Town of Oakland

Existing system

The Town of Oakland owns and operates the Oakland Wastewater Treatment Plant located at 27 Oakland-Rosedale Road on the Little Youghiogheny River, in Oakland. The wastewater plant was built in the late 1980s. As noted above under Trout Run, the Little Youghiogheny River has limited assimilative capacity. Effluent from the Oakland Wastewater Treatment Plant (WWTP) is conveyed via a discharge line running approximately 1.0 mile north of the WWTP, and is discharged to the Youghiogheny River at the confluence with the Little Youghiogheny River. The Youghiogheny River, like the Little Youghiogheny is designated as a Use III-P waters and is subject to temperature and dissolved oxygen water quality criteria.

The Oakland WWTP has current discharge permit effluent limitations based on an average daily flow of up to 900,000 gpd. The average daily flow at the plant in 2012 was approximately 400,000 gpd. Wastewater treatment includes combination grit chamber/solids removal followed by a series of four aerated lagoons: Lagoon 1 has submersible course aeration; Lagoons 2 and 3 have biolac fine-bubble aeration; and Lagoon 4 has an up-draft nitrification chamber for TKN & ammonia removal. The effluent discharge is treated by UV disinfection.

Improvements have been made to the treatment plant since it was built, as much of the equipment reached and/or exceeded its useful life. One-half of the UV equipment and panels have been replaced or upgraded, some of the blowers and pumps have been replaced, much of the aeration system/equipment has been replaced, and improvements have also been made to the pump stations. After 20 years of treatment plant operations, it was necessary to remove sludge from the lagoon system. Over 200 tons of sludge have been removed. It is anticipated that this will be necessary in another 10 to 20 years in order to keep the plant operating at optimal conditions.

[38] The project is called Phase 4 but it will technically be the 5th phase of rehabilitation. There was a phase 3 and phase 3A so it will technically be the 5th phase of rehabilitation projects.

In the late 1980s, at the same time the WWTP was built, the Town did extensive work to its collector system. The system includes a siphoning chamber located behind the South Eighth Street/Agway area. As a result, the entire system relied on gravity flow to one of two pump stations; to the Main Pump Station along Route 39 or to the Bradley Run Pump Station near Liberty Street.

Since the 1980s improvements and extensions have been added to the collector system. Three additional pump stations have been added, including one on North Fourth Street, one along Memorial Drive and one to serve the Lowes/North Oakland area. Additional sewer lines were added, including one mile of pressure system for the Lowes/North Oakland area. The Oakland Collector system now includes approximately 26 miles of wastewater collector lines.

Service Areas

Figure 4-11 shows the existing and proposed Town of Oakland sewerage service areas. No service area expansions are planned for the upcoming three year period (S-2). Within 10 years (S3) the Town anticipates providing service to the following areas:

- An area between Dennett Road and East High Street,
- A small area near Southern Garrett High school,
- Some unserved properties on the south and east sides of Town, near the intersection of Weber Road and Oakland Drive, near Hamill Street, and properties near Dennett Road.
- Area south west of the town boundary in the MD 39/Rosedale area. Residents have asked for Town services, and the Town will seek funding to provide service to these areas and to the Shaffer Hill area. Service to portions of this area would require an amendment to the County Comprehensive Plan as the area west of MD 39 is currently designated as a planned growth area.

Several areas are shown as future planned service areas (beyond 10 years) including:

- Approximately 700-acre area west of US 219 between the town boundary by N. 2nd Street, Oakland Sang Run Road, and the Lowes Store, including North Bradley Lane.
- Two areas east of US 219 corridor on the north side of Town.
- Infill areas in the central part of and northeast sides of Town, including Windy Lane.
- Area south and east of South Third Street, to include the current Sears property and Pleasant Hills Estates area, connecting to U.S. 219 South. Service to this area would require an amendment to the County Comprehensive Plan as it is currently designated as Rural.

Except as noted, these areas are consistent with the future growth areas indicated in the Garrett County Comprehensive Plan. Oakland has the treatment plant capacity to add these areas to its wastewater system, but lacks the funding to cover the cost of installing new mains.

Problem Areas and Future Needs

As the WWTP components continue to reach normal use expectancy, the Town replaces them in order to remain in compliance of discharge limitations. The Town anticipates needing future replacements due to normal wear and tear and the need for upgrades.

Like many collector systems, Oakland has some problems with infiltration and is interested in doing a study to identify major problem areas for upgrade and replacement of failing lines. In addition, there are concerns with the Main Pump Station as well as the Bradley Run Pump Stations, with regard to a need for re-designing these pump stations to include a bar screen for safer and more efficient operations. Operators of the system have also identified a possible need for an algae control system to improve treatment plant operations.

Oakland has also identified a need for system wide- digital mapping of its wastewater collector system.

Other systems

White Oak Mobile Home Park on Upper White Oak Road has approximately 20 homes. The septic systems are marginal or failing, and a new drainfield location has been identified.

4.1.6 North Branch Potomac River Watershed

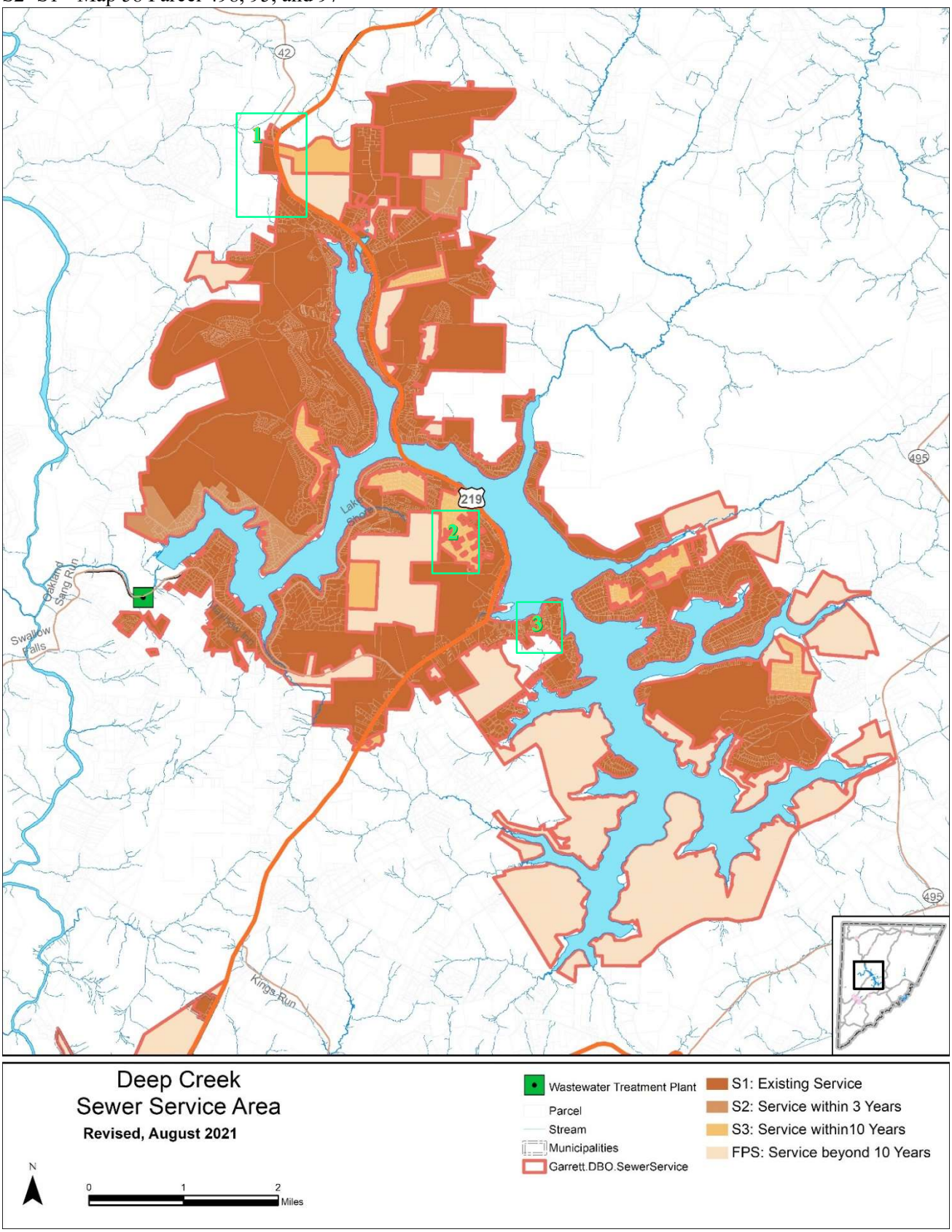
4.1.7 Savage River Watershed

4.1.8 Youghiogheny River Watershed

Tables

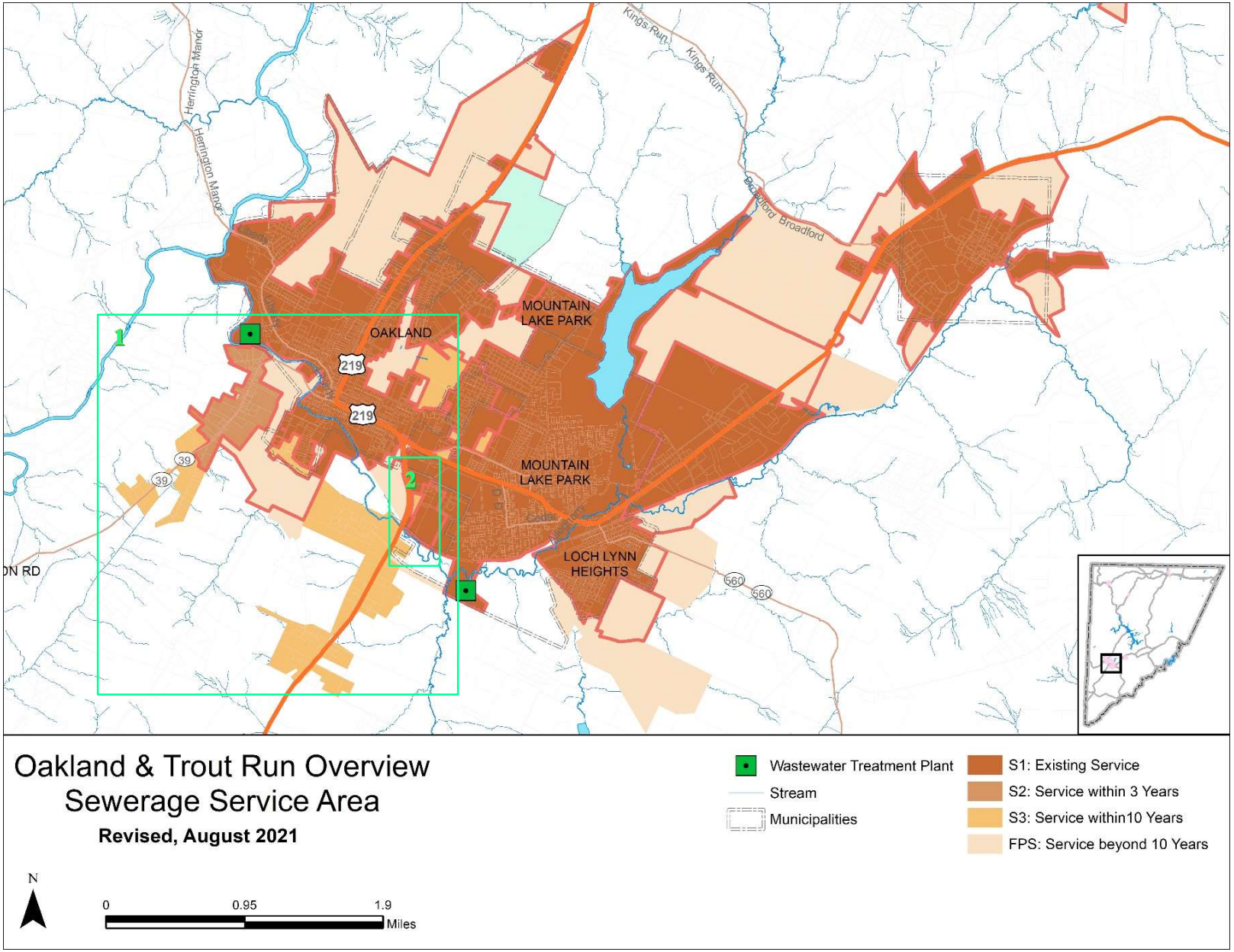
Figure 4-7 Deep Creek Lake Sewer Service Area

1. S2 > S1 in North
2. Map 58 Parcel 669 Lots 86 & 118 1 S2 > S1
3. S2>S1 - Map 58 Parcel 498, 95, and 97

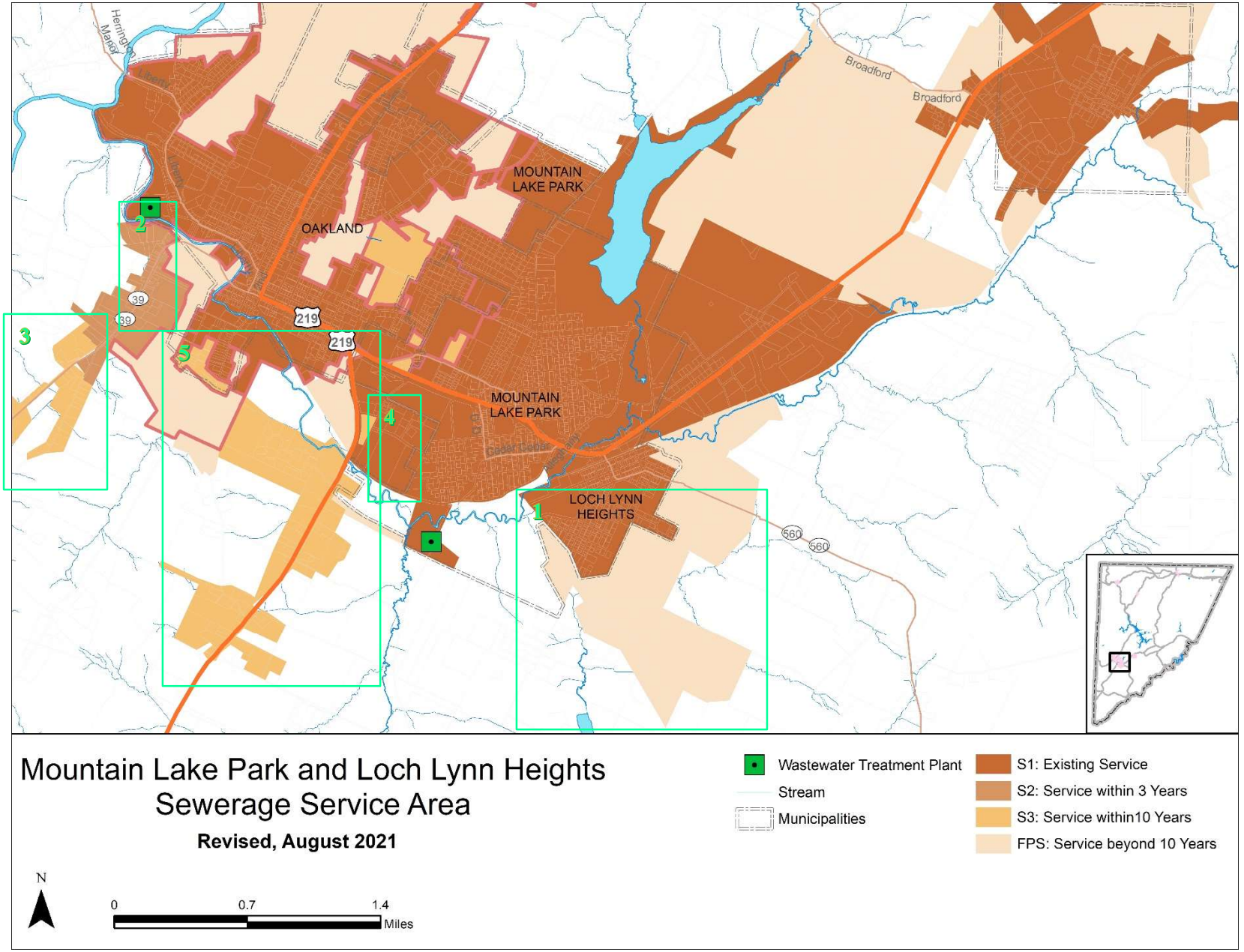


4-8 Oakland Trout Run Overview Sewer Service Area

1. S2 > S1
2. Extend S2, S3, & FPS to Rosedale & Trout Run



4-9 Mountain Lake Park and Loch Lynn Heights Sewer Service Area



1. Expand FPS – to growth areas
2. FSP > S2 Portion of Rosedale
3. Expand Area on MD 39
4. Update S3 > S1 areas now served
5. Expand S3 area along US 219

4-11 Oakland Sewer Service Area

1. FPS > S2 Portion of Rosedale
2. Expand Area on MD 39
3. Update S3 > S1 areas now served
4. Expand S3 area along US 219