

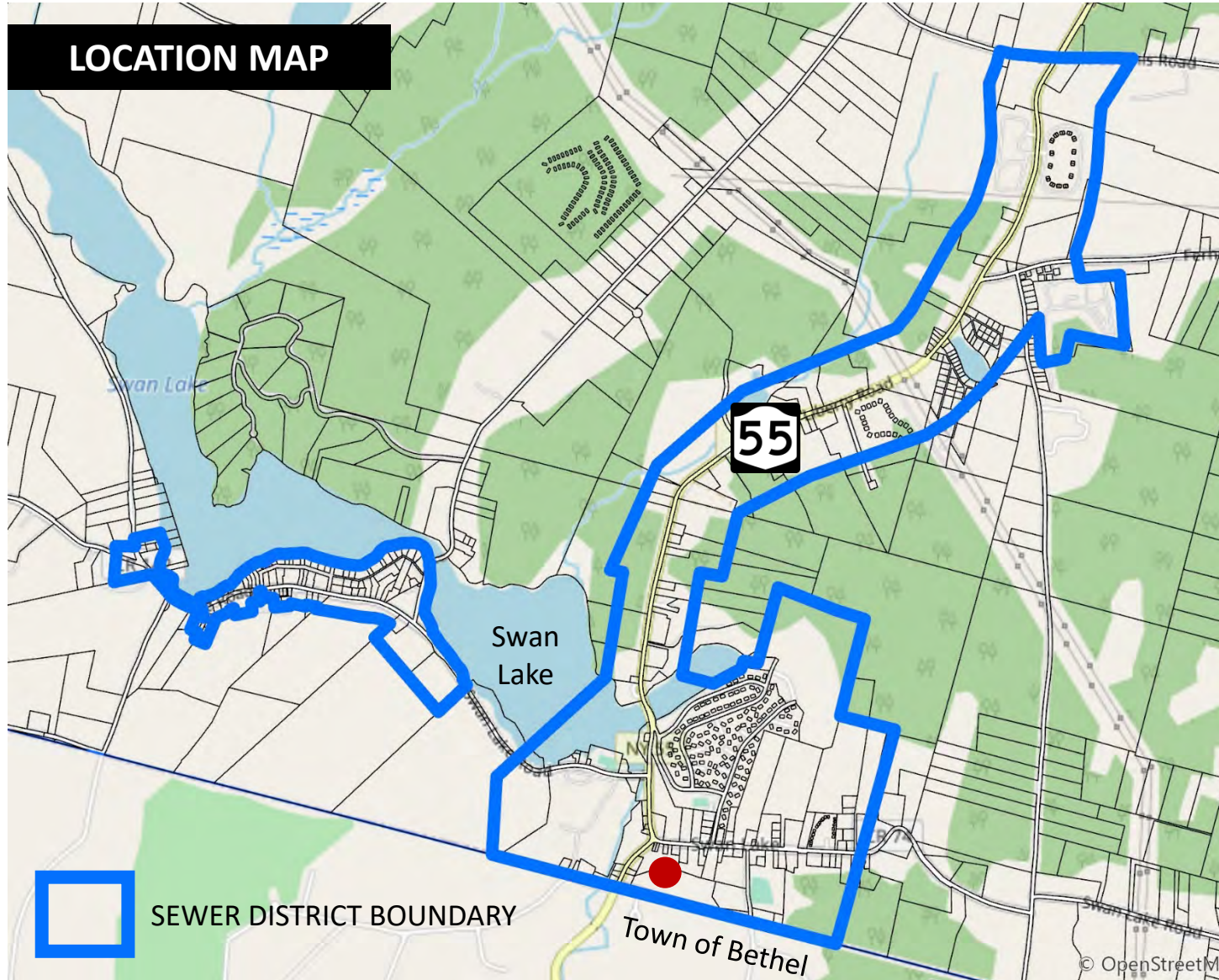


TOWN OF LIBERTY
SWAN LAKE SEWER UPGRADE

PUBLIC HEARING
Monday, August 31, 2020



DELAWARE
ENGINEERING, D.P.C.



QUICK FACTS

District area: 1.15 square miles

Service connections: 371

Population served: approx. 1,500

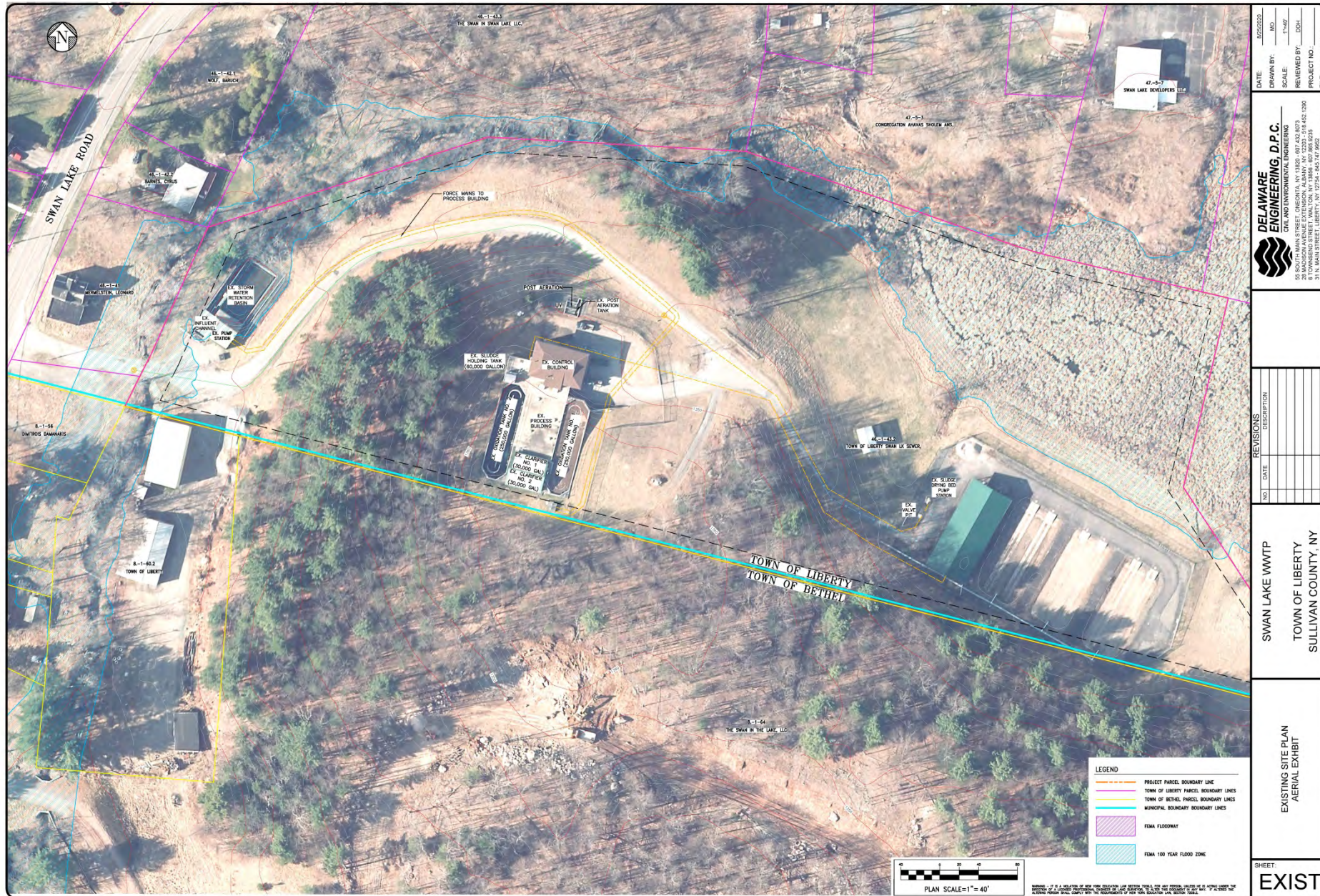
Capacity: 425,000 gallons per day

Year Built: 1986

A public hearing is required by law in accordance with **New York State Town Law 202b** whenever a town resolves to undertake a project to improve or reconstruct existing facilities on behalf of a sewer district.



**DELAWARE
ENGINEERING, D.P.C.**



DATE: 05/20/2020
DRAWN BY: MD
SCALE: 1"=40'
REVIEWED BY: DOH
PROJECT NO.:
FILE: LIBERTY SW.WTP

DELAWARE ENGINEERING, D.P.C.
CIVIL AND ENVIRONMENTAL ENGINEERING
55 SOUTH MAIN STREET, ONEONTA, NY 13820 - 607.432.8073
31 N. MAIN STREET, LIBERTY, NY 12754 - 662.27.9565
87 DOWNING STREET, WALTON, NY 13890 - 607.505.5235
15 SOUTH STREET, FREDRICKS, MD, 21701 - 301.445.1200

NO.	DATE	REVISIONS	DESCRIPTION

WHY UPGRADE NOW?

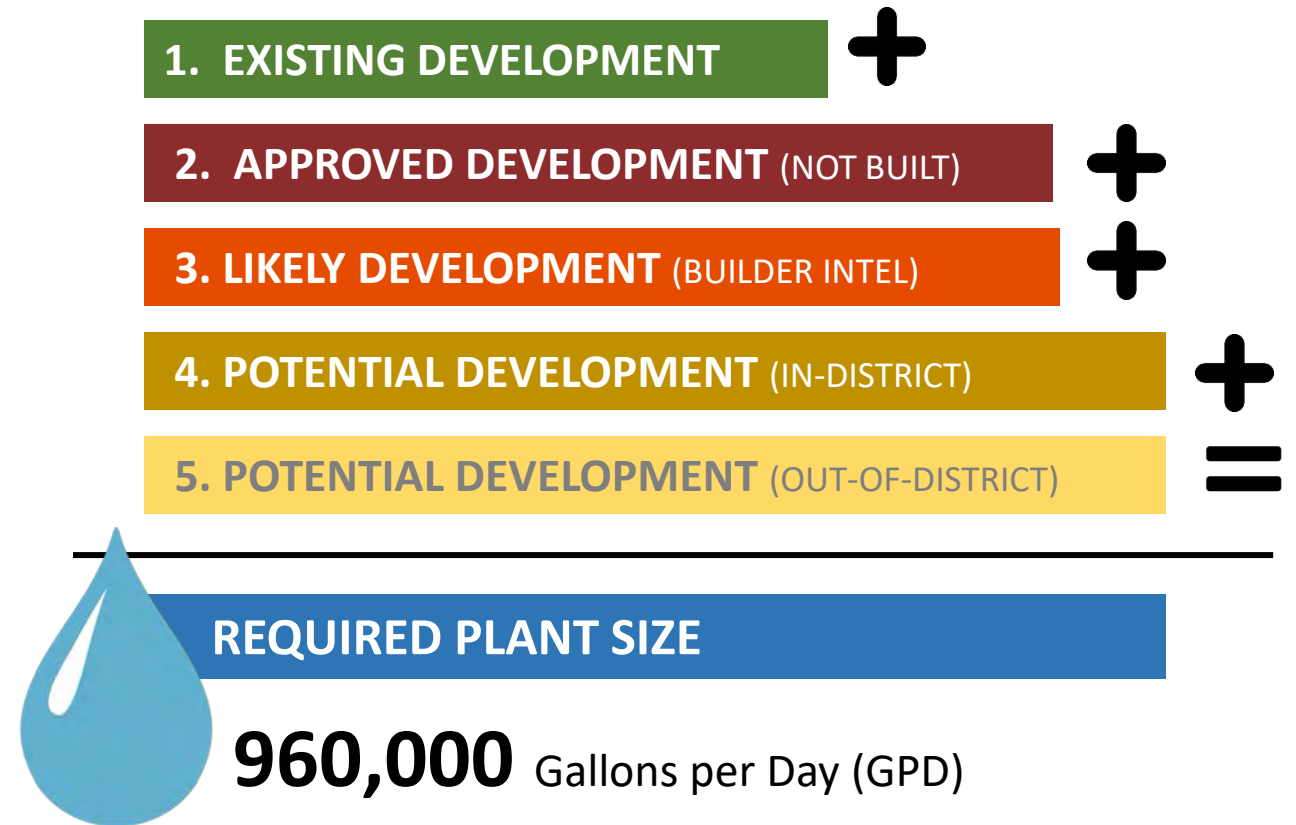
- The existing plant is 34 years old and is approaching the **end of its life expectancy** (typically 35-40 years)
- The town needs to address several **operations & maintenance (O&M)** and **regulatory compliance** issues including:
 - *Excessive rags that impact equipment and performance*
 - *Call-outs to fix emergency problems resulting in staff overtime costs*
 - *Biological process limitations*
 - *Biosolids (sludge) processing limitations*
- Liberty has a short window of time to take advantage of a **0% financing** offer from New York State.
- **DEC regulatory permit limits** can change in the future as more growth happens in the region.

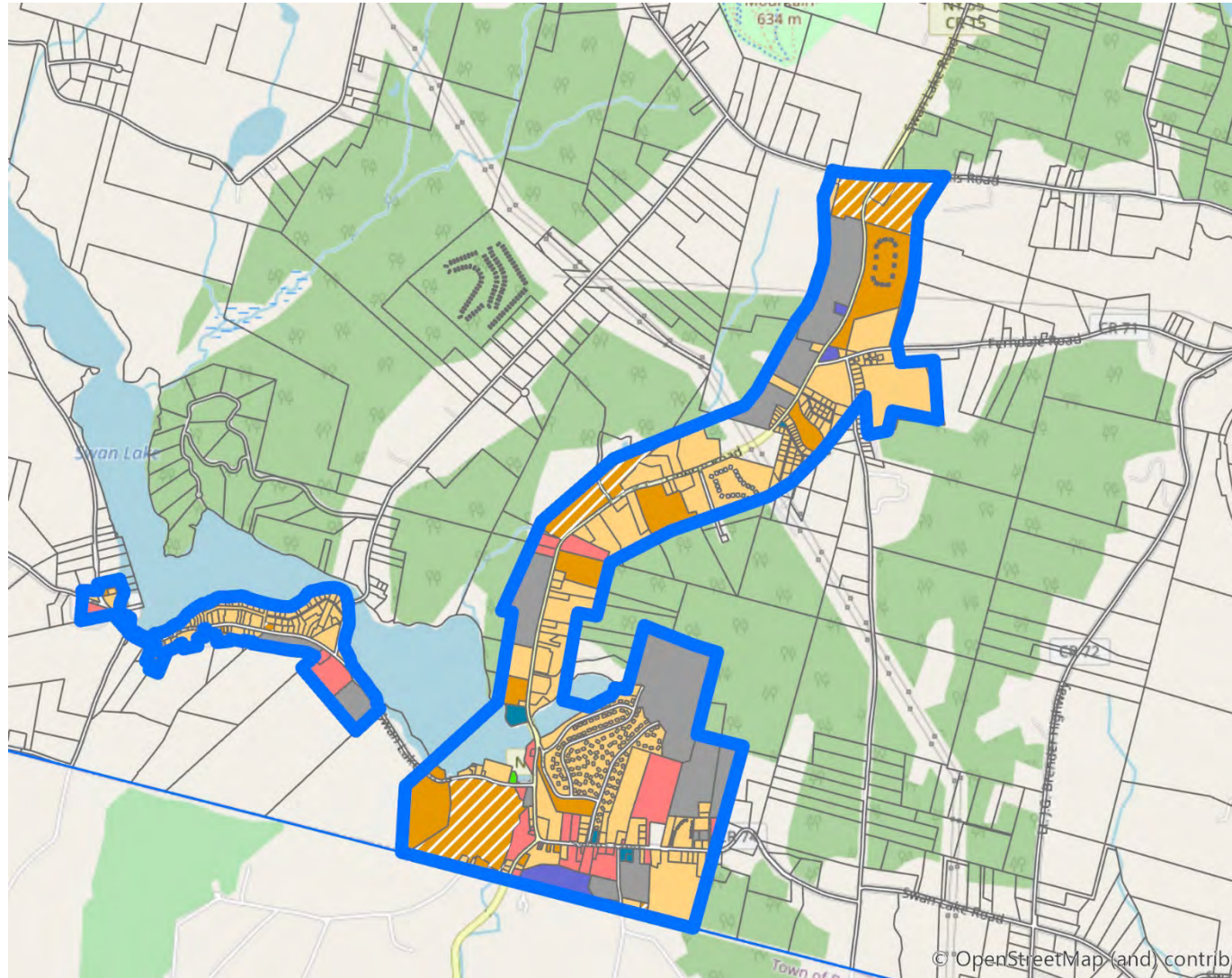


WHY EXPAND CAPACITY?

- The plant is operating below its design capacity for most of the year, but **the plant is at capacity during the summer months.**
- The Planning Board has already **approved developments that can't be built** because of limited capacity.
- **There is no room to accommodate future growth** and development over the next 20 to 30 years, and future growth helps spread the cost of maintaining and operating the sewer system among more users.

The size of the sewer plant is determined by how much flow is generated from existing and future development. Larger plants have to meet stricter effluent limits.



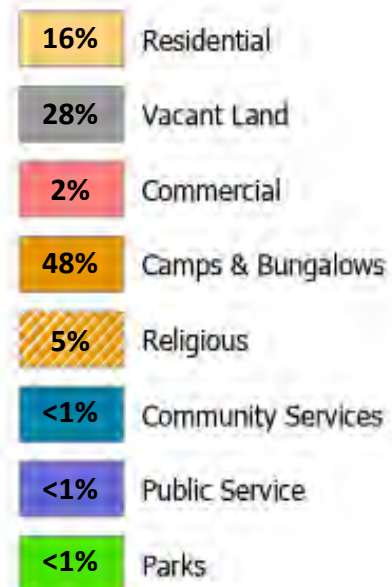


1. EXISTING USERS

365,000 GPD*

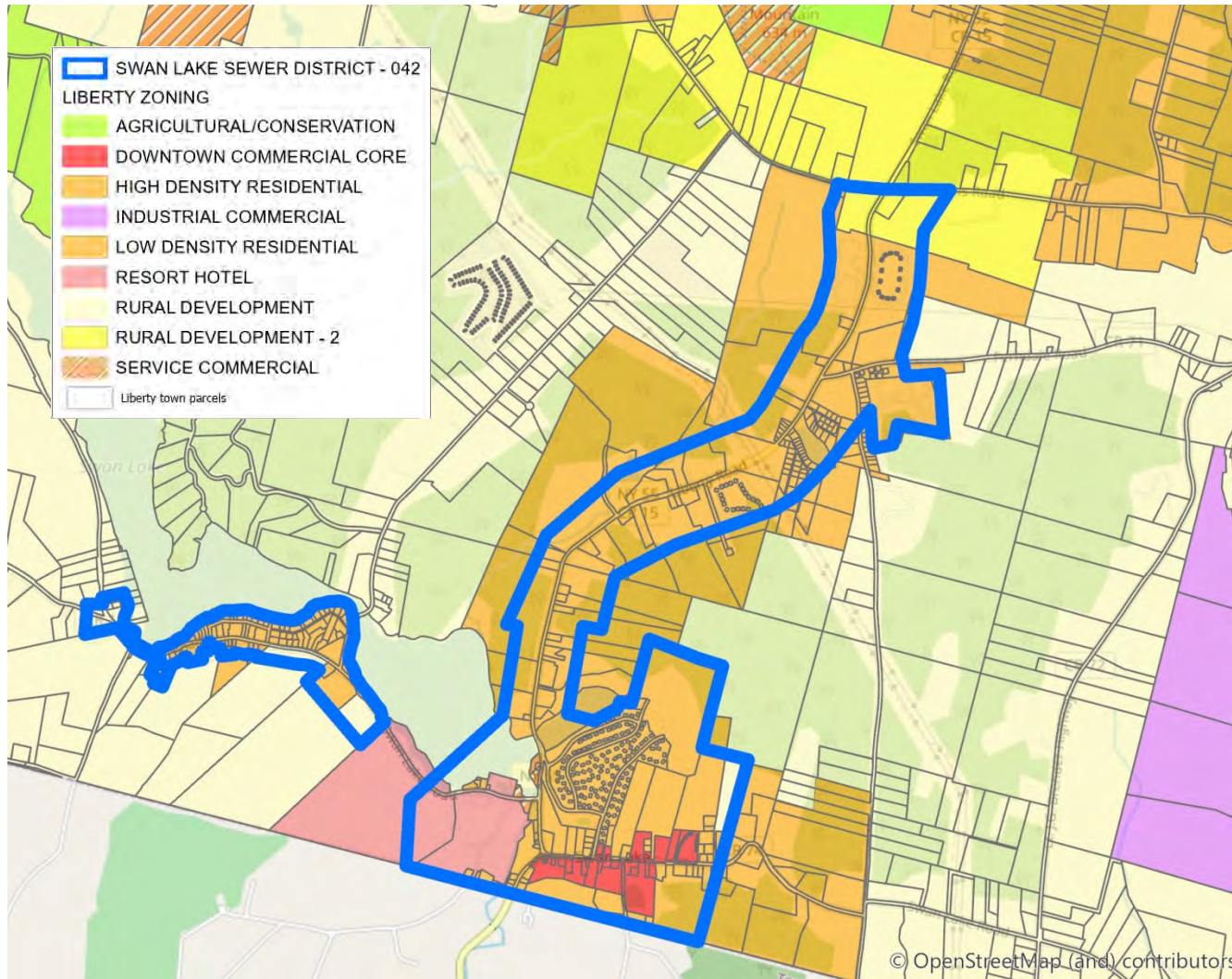
Existing Land Use

Based on Real Property Tax Codes

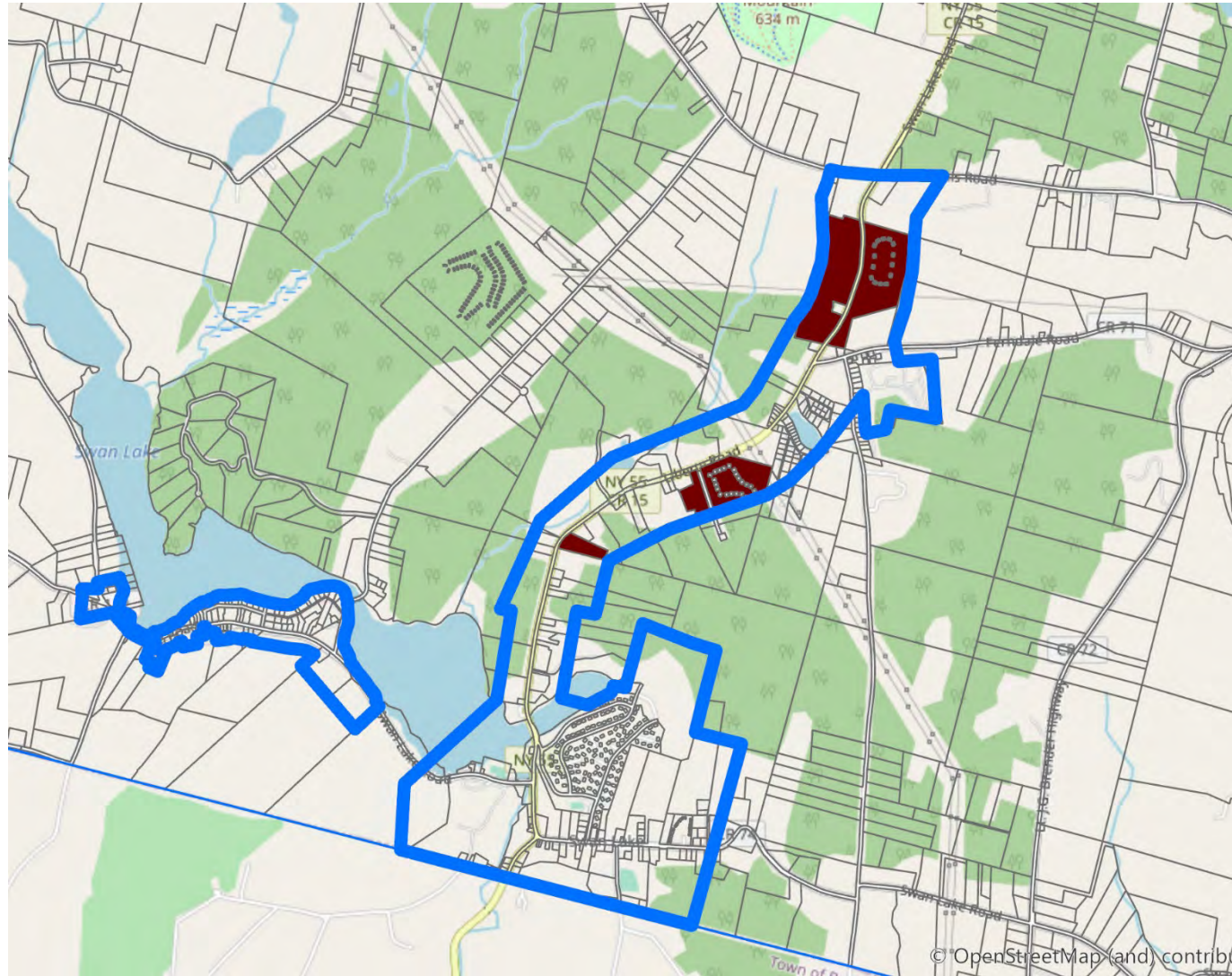


* Average daily flow during peak month

FUTURE DEVELOPMENT IS DETERMINED BY ZONING



- The vast majority of the Swan Lake Sewer district is zoned **low density residential (R-1)**
- The purpose of the R-1 district is to provide areas adjacent to the village with neighborhoods of single-family and two-family dwellings of low to moderate density.
- Parcels with access to public water & sewer can have up to 4 residential units per acre.
- Single-family and two-family dwellings are principal permitted uses “as of right”



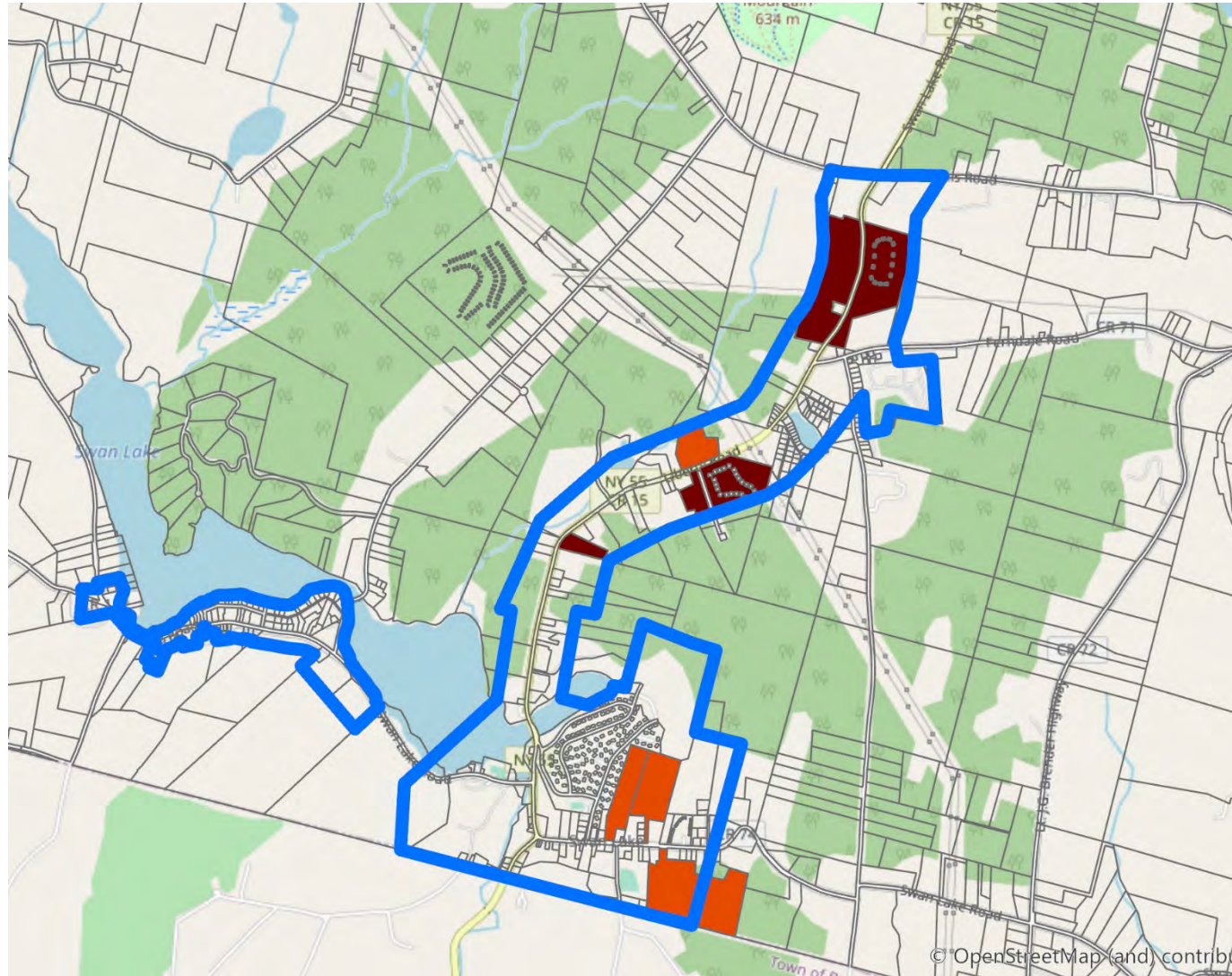
1. EXISTING USERS

365,000 GPD*

2. APPROVED DEVELOPMENT (NOT BUILT)

+ 103,000 GPD

* Average daily flow during peak month



1. EXISTING USERS

365,000 GPD

2. APPROVED DEVELOPMENT (NOT BUILT)

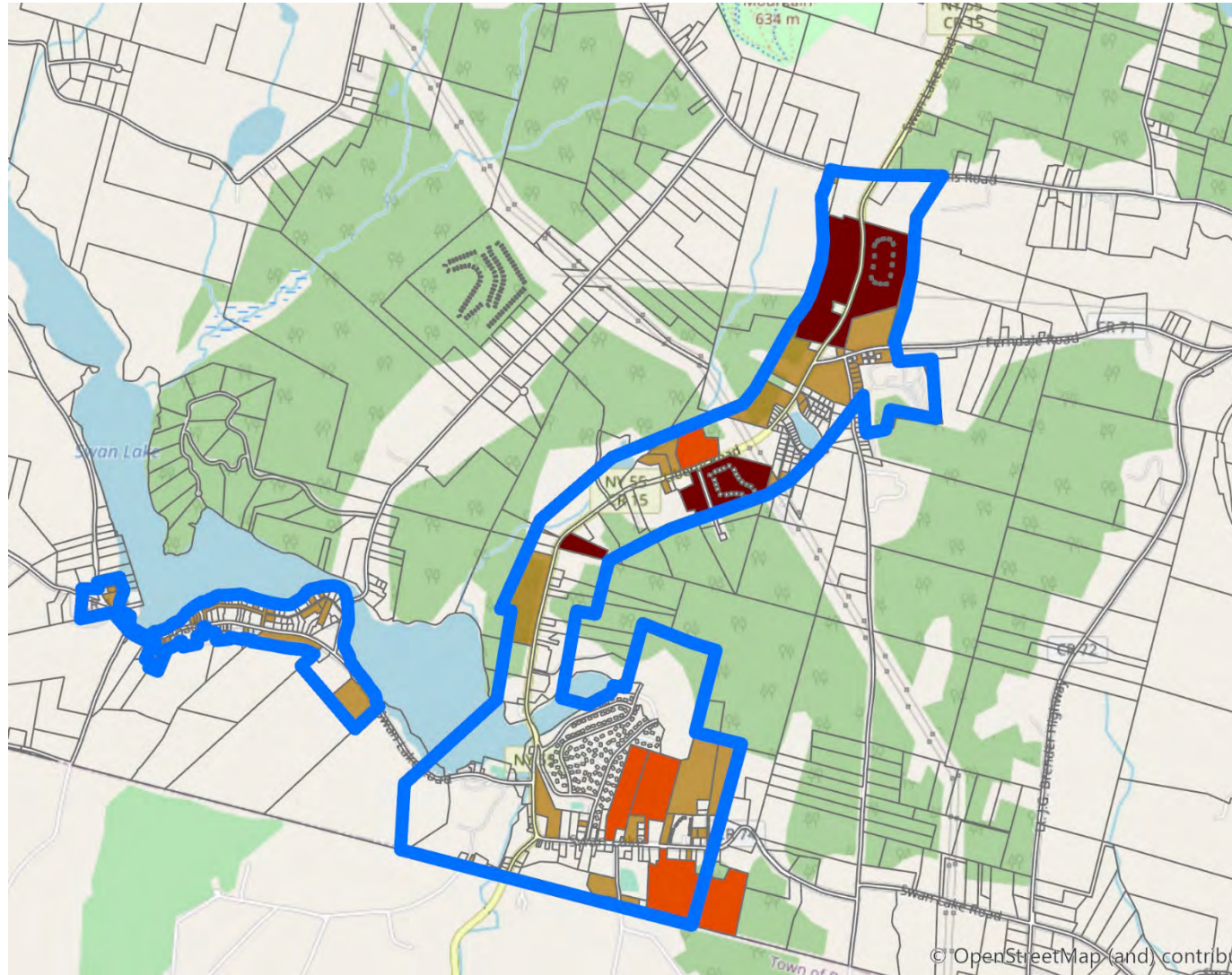
+ 103,000 GPD

3. LIKELY DEVELOPMENT (BUILDER INTEL)

+ 186,000 GPD

Swan Lake Treatment Plant Upgrade

ESTIMATED FLOW CONTRIBUTION



1. EXISTING USERS

365,000 GPD

2. APPROVED DEVELOPMENT (NOT BUILT)

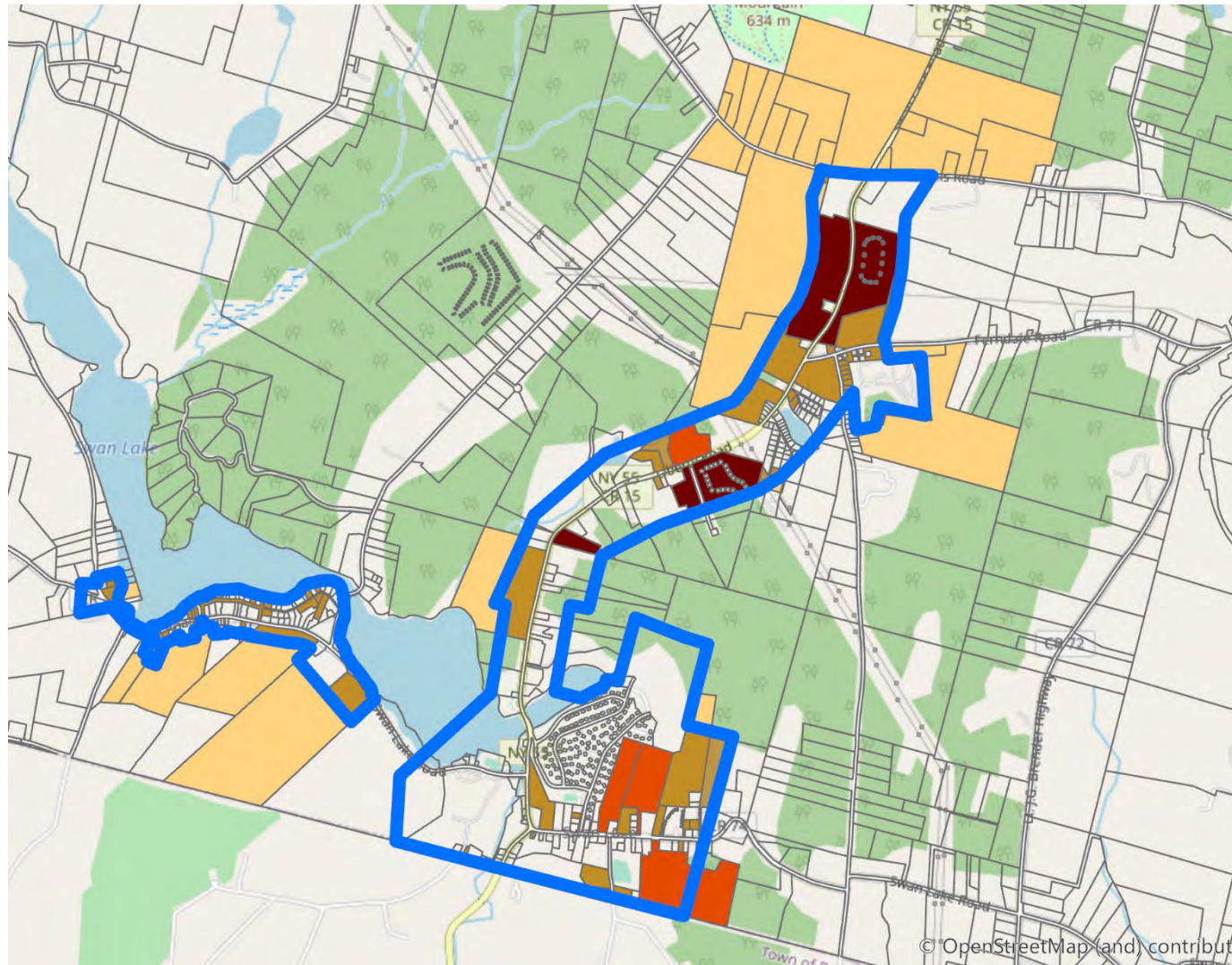
+ 103,000 GPD

3. LIKELY DEVELOPMENT (BUILDER INTEL)

+ 186,000 GPD

4. POTENTIAL DEVELOPMENT (IN-DISTRICT)

+ 66,000 GPD



1. EXISTING USERS

365,000 GPD

2. APPROVED DEVELOPMENT (NOT BUILT)

+ 103,000 GPD

3. LIKELY DEVELOPMENT (BUILDER INTEL)

+ 186,000 GPD

4. POTENTIAL DEVELOPMENT (IN-DISTRICT)

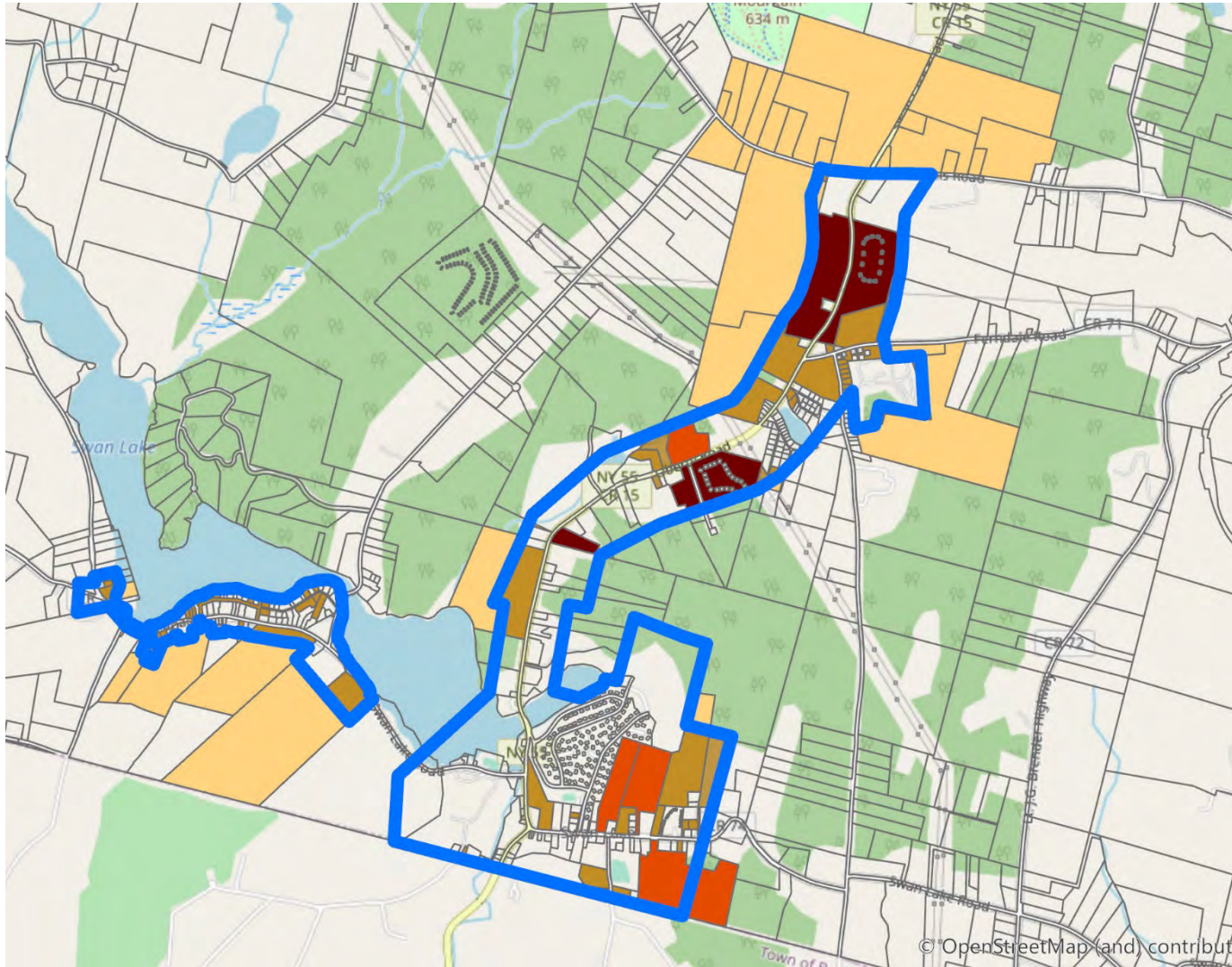
+ 66,000 GPD

5. POTENTIAL DEVELOPMENT (OUT-OF-DISTRICT)

+ 190,000 GPD

Swan Lake Treatment Plant Upgrade

ESTIMATED FLOW CONTRIBUTION



1. EXISTING USERS

365,000 GPD*

2. APPROVED DEVELOPMENT (NOT BUILT)

+ 103,000 GPD

3. LIKELY DEVELOPMENT (BUILDER INTEL)

+ 186,000 GPD

4. POTENTIAL DEVELOPMENT (IN-DISTRICT)

+ 66,000 GPD

5. POTENTIAL DEVELOPMENT (OUT-OF-DISTRICT)

+ 190,000 GPD

= 910,000 GPD MAX DESIGN FLOW
+ 5%*

= 960,000 GPD PLANT CAPACITY

* 5% buffer needed to avoid NYSDEC Flow Management Plan

HOW MUCH IS THIS GOING TO COST?

Several alternatives were considered with associated costs ranging from \$10M to \$23M.

Just fixing the existing plant using the same treatment technology (no increase in capacity) would cost a minimum of \$10M.

Recommended alternative (\$20M):

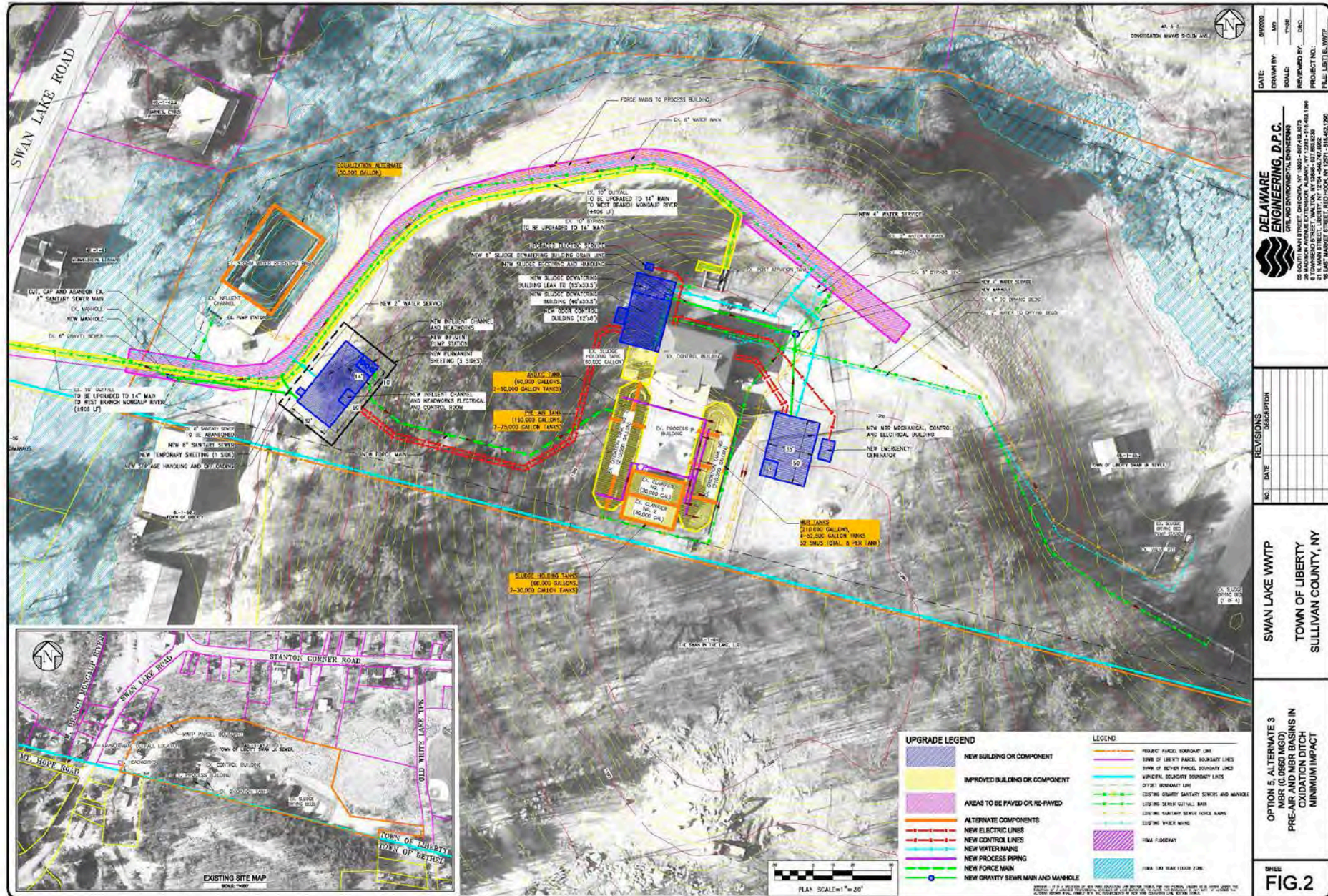
- Fix existing problems
- Increase capacity from 425,000 to 960,000 MGD
- Utilize a different treatment technology (MBR) to meet stricter effluent limits

DID YOU KNOW?

*The original sewer plant was built in 1986 for around \$6M.
That is equivalent to about \$14M today.*

RECOMMENDED UPGRADES

- New headworks building (rags & grit)
- New influent pump station
- New force main
- Convert oxidation ditches to new MBR process & tankage
- New MBR Building
- Convert secondary clarifiers to sludge storage
- New UV disinfection
- New Outfall
- New sludge dewatering facilities
- New liquid sludge /septage offload
- New generator & data control system
- General building upgrades
- Site work & restoration



DATE:	BY:	SCALE:	PROJECT NO.:
FORM BY:	NO.:	THRU:	FILE: LIBTY 06.WWP
DELAWARE ENGINEERING, D.P.C. CIVIL AND ENVIRONMENTAL ENGINEERING 88 SOUTH MAIN STREET, CHESTER, NY 13025-1007 (518) 381-1144 9 TOWNSEND STREET, WALKTON, NY 13906-1017 (607) 885-8239 30 EAST MARKET STREET, HUDYOCK, NY 13781-3101 (518) 452-2290			
NO.:	DATE:	REVISIONS:	DESCRIPTION:
SWAN LAKE WWTP TOWN OF LIBERTY SULLIVAN COUNTY, NY			
OPTION E, ALTERNATE 3 NEW 10' X 10' OUTFALL PRE-AIR AND NER BASINS IN OXIDATION DITCH MINIMUM IMPACT			
FIG. 2			

HOW MUCH IS THIS GOING TO COST?

This sewer upgrade is a large capital expense that is planned to be financed over a 30-year period, resulting in a larger annual expense for debt service. With new equipment and a larger plant, it is expected that annual operation & maintenance costs will also go up.

TOTAL
PROJECT COST
\$20 Million

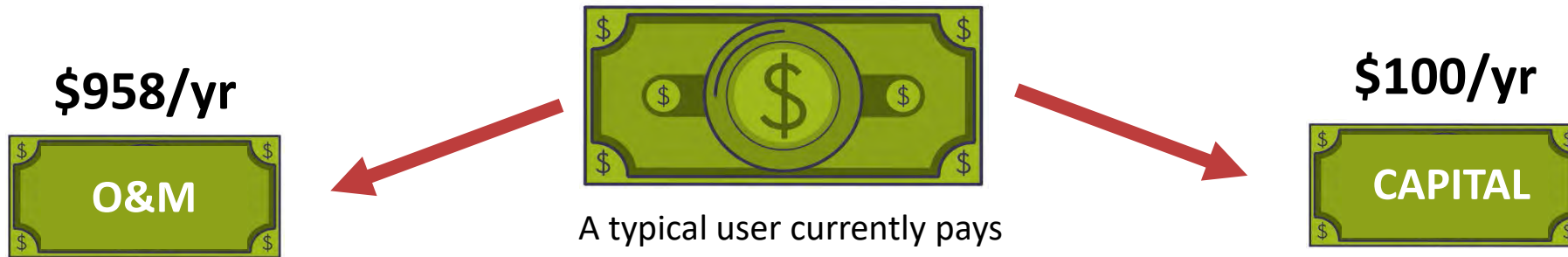
INTEREST RATE*
0%

POTENTIAL GRANT*
\$5 Million

O&M	CAPITAL
CURRENT \$522,000/yr	CURRENT \$125,000/yr
PROJECTED \$715,000/yr	PROJECTED* \$666,660 0% financing \$499,999 w/\$5M grant

* The Town of Liberty is eligible for 0% financing and a grant of up to \$5M from the NYS Environmental Facilities Corporation (EFC).

HOW WILL SEWER RATES BE IMPACTED?



A typical user currently pays

\$1,058

annually for sewer service

Typical User =

1 O&M unit + 1 Capital unit

Only properties connected to the sewer system pay for O&M.

O&M units are based on water use

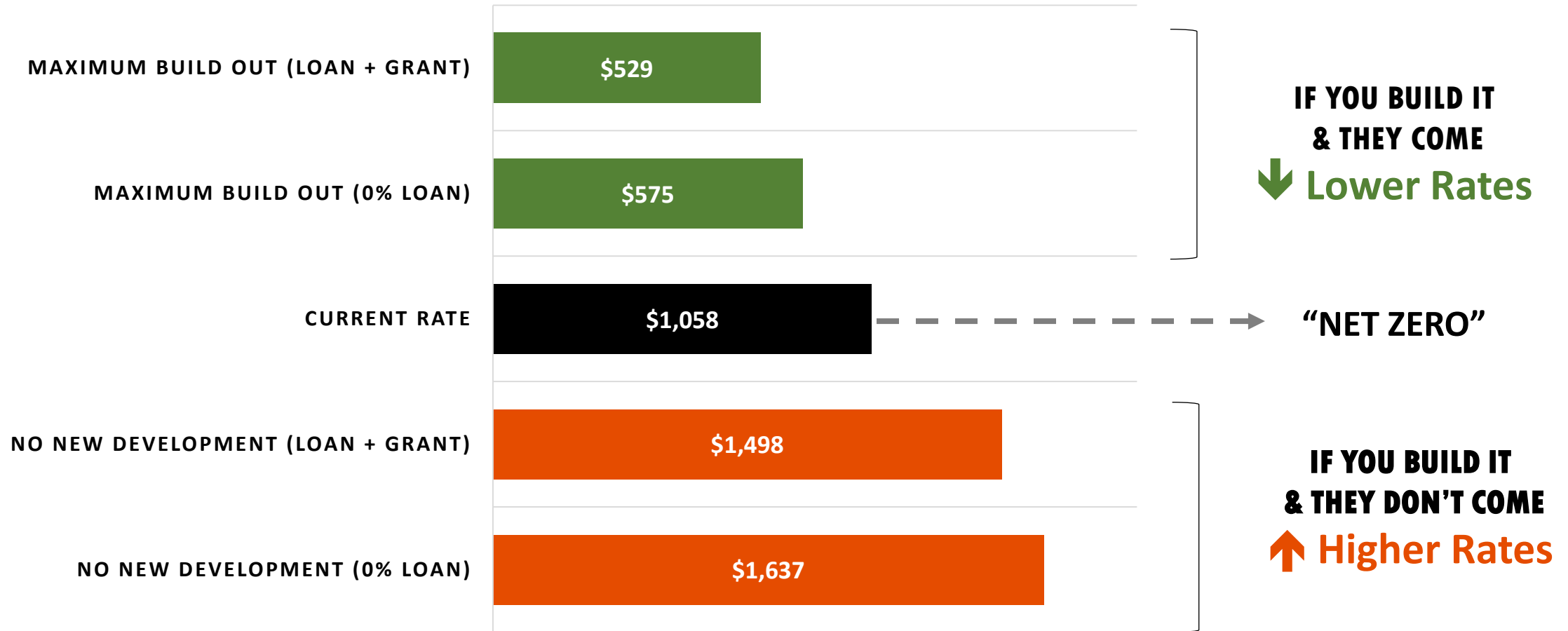
Every property in the district (even vacant land) pays a share of the capital cost.

Capital units are based on property improvements and road frontage

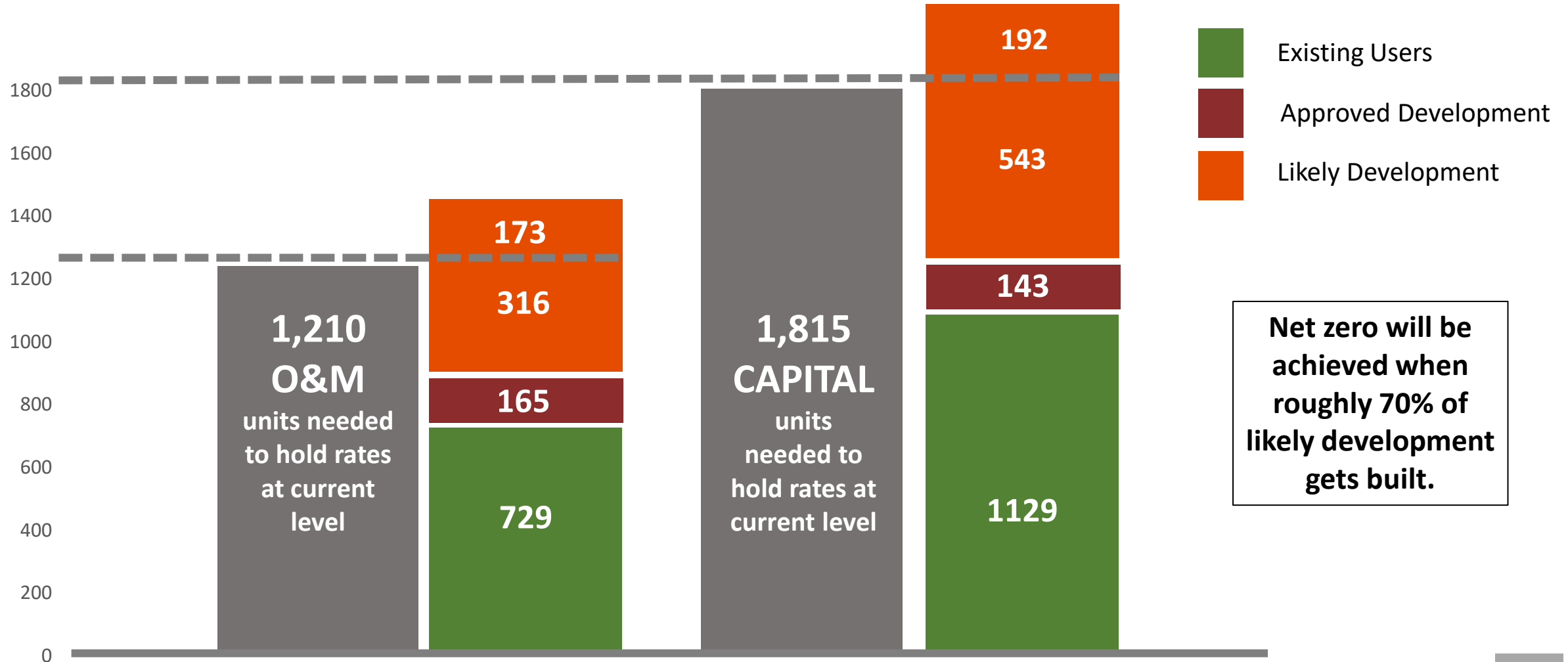
O&M Units and Capital Units are simply measurements used to split the total costs equitably among sewer customers.

They are not the same as housing units!

HOW WILL SEWER RATES BE IMPACTED?



NEW UNITS NEEDED TO ACHIEVE "NET ZERO"



Net zero will be achieved when roughly 70% of likely development gets built.

PROJECTED BENEFIT TO THE DISTRICT TAX BASE

	Taxable Assessed Value ¹	Est. Annual Revenue ²
Existing Development (Current)	43,159,936	457,481
Approved Development	9,642,857	102,211
Likely Development	21,271,440	225,470
Potential Development (In-District)	18,427,500	195,325
Potential Development (Out-of-District)	44,886,750	475,784
Subtotal:	<u>\$94,228,547</u>	<u>\$998,790</u>
TOTAL:	\$137,388,483	\$1,456,271

1. Assumes that a typical new development would have an average assessed value of \$60,000 per unit. This was calculated based on the average assessed value per unit of several housing projects recently constructed in the district.
2. Estimated annual tax revenue is based on the current tax rate for the Town to Highway Fund (\$7.086/\$1,000); the Highway No. 1 Fund (\$3.454/\$1,000) and the General Fund (\$0.597/\$1,000)

The sewer plant needs to be upgraded sooner rather than later.

If the town waits any longer, it will lose the 0% hardship financing from EFC and will have to pay a higher interest rate on a future loan.

A \$10M market-rate loan in the future to make minimal repairs with no added capacity would increase the cost for a typical user by about **\$314 per year.**

A \$20M zero-interest loan now to build a higher capacity plant would increase the cost by about **\$576 per year***
(\$444/yr with a 25% grant)
**assuming no new development*

KEY TAKEAWAYS



As more development occurs over the long term, the capital and O&M costs associated with upgrading the sewer plant will be spread out among more users, and rates could actually go down.

But more development cannot occur without additional plant capacity.

Future development will bring ratables and tax revenue to the town.

There is a demand for new housing in the district. The approved development alone will increase taxable assessed value by **\$9.6 million.**

At full build-out, the total taxable assessed value in the district could more than triple.

At full build-out the town could realize almost **\$1 million** in additional property tax revenue.

Note: The Stevensville Water Project currently under construction in Swan Lake is expected to result in an additional cost to the average water user of \$67.50 per year.

DRAFT SCHEDULE	
August 2020	Environmental Review & Public Hearing
September 2020	EFC deadline for 0% financing application items & Bond Resolution
December 2020	Confirm 0% financing
2021	Grant application, engineering design, permitting & bidding
2022-2023	Construction

QUESTIONS?



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