

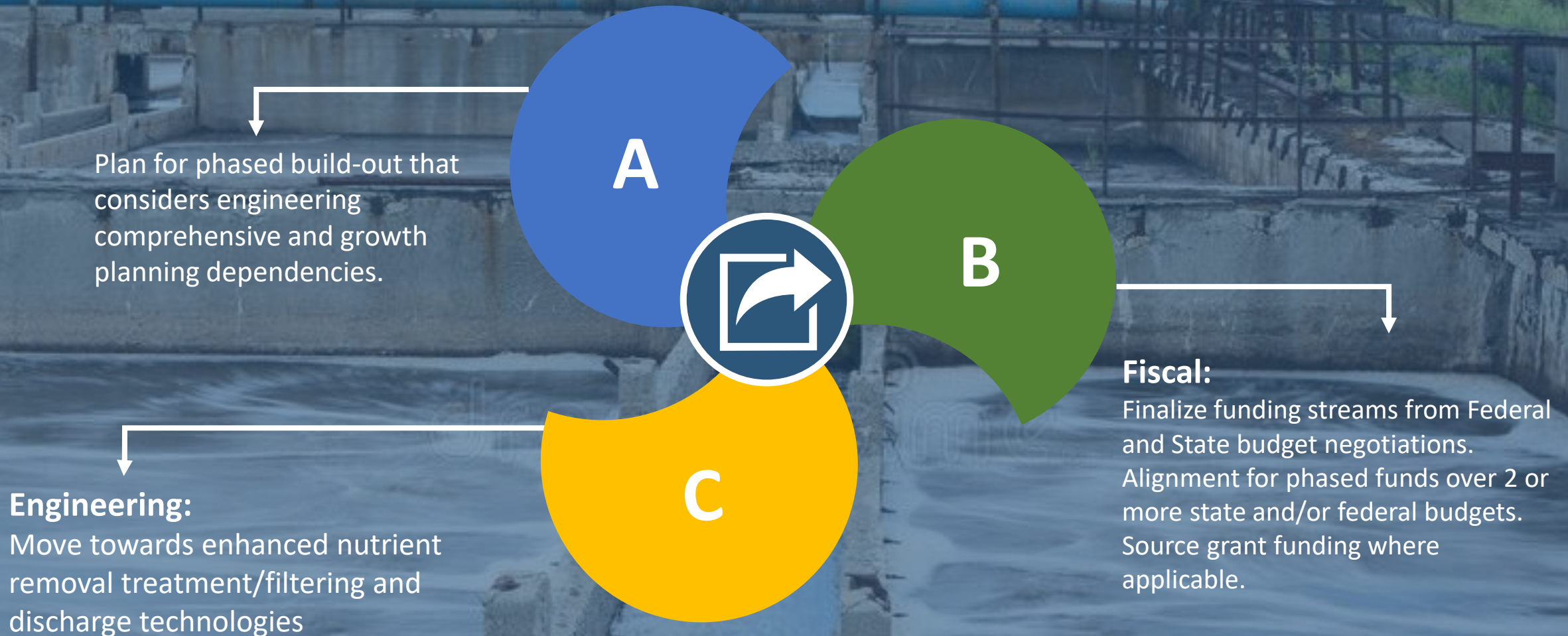


TOWN OF CENTREVILLE WASTEWATER TREATMENT PLANT

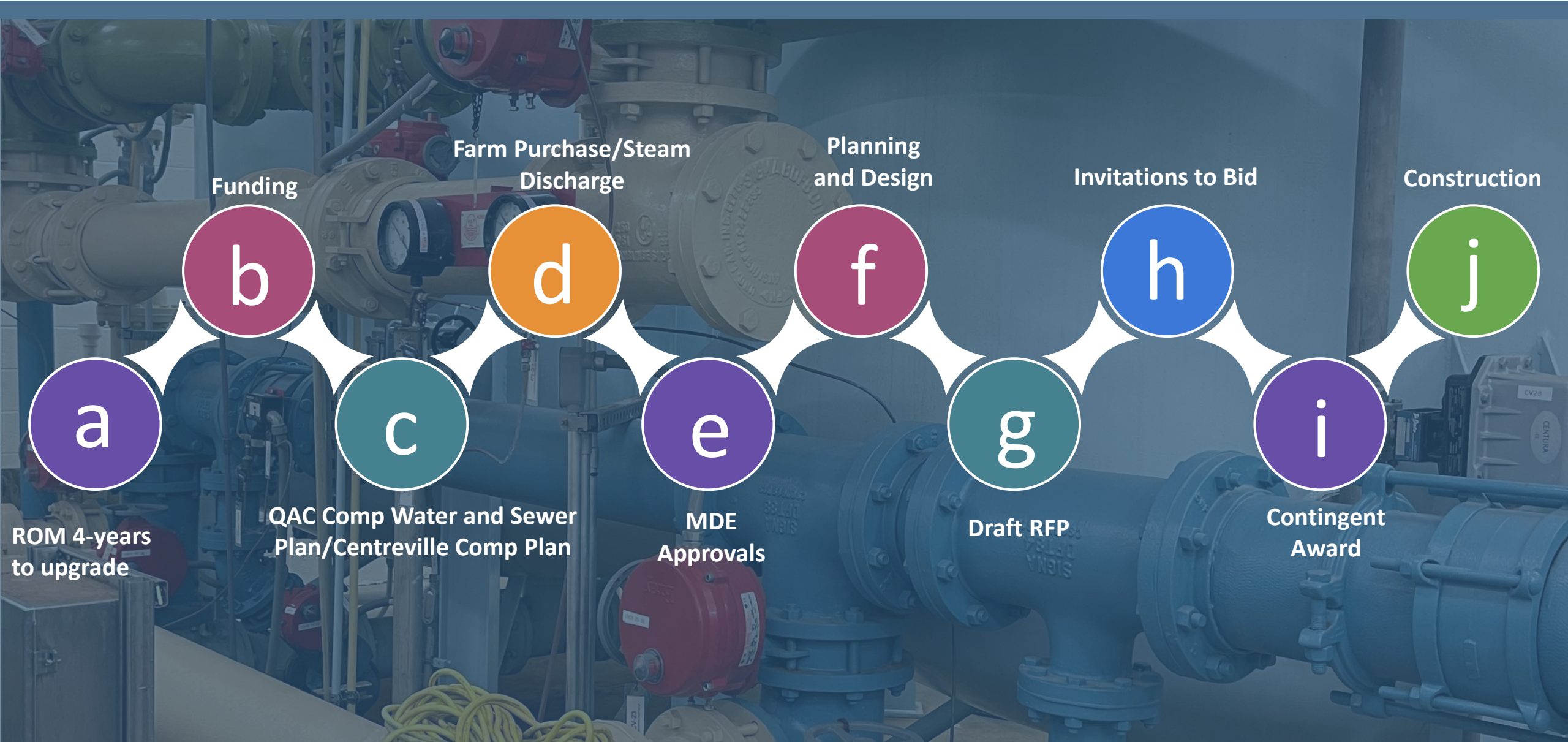
COMPREHENSIVE WATER AND SEWER PLAN
UPGRADE DISCUSSION

NOVEMBER 28, 2023

Upgrade Approach



General Project Milestones



Partnerships and Alignment



COUNTY GROWTH PLANS

- 304/301 Interchange
- Infill Development
- Business Park Development
- Mixed Commercial Use
- Department of Health - failing septic system
- Sanitary Enclave



CENTREVILLE ALIGNMENT

- Upgrade WWTP to meet both Town and County Growth and Comprehensive Plans
- Denial of service line extension.

Variables

- Planning and Design
 - Shift to modern filtering technologies (Membrane)
 - Upgraded software
 - Size/Capacity
 - Allocation Fees for future improvements or expansion
 - Support Town and County growth and planning efforts
- Discharge Options
 - **Spray Field and access infrastructure**
 - \$12M+ for the field
 - \$1M per mile to reach the field (total miles/total cost)
 - **Direct Enhanced Stream Discharge (most viable and cost-effective)**
 - Extend past Watson Rd Bridge (cost)



Revenue Streams

Grants

- a. BRF - ~\$14.9M (In Current Budget)
- b. COS - ~\$2.15M
- c. ARPA - ~\$2.5 - \$3.3M (Spray Field)
- d. Rural Dev. (Commerce) - \$500,000

Loans

- a. Loan \$14.9M (possibly offset with an annual \$5M state grant disbursed every year for the next 3 years)

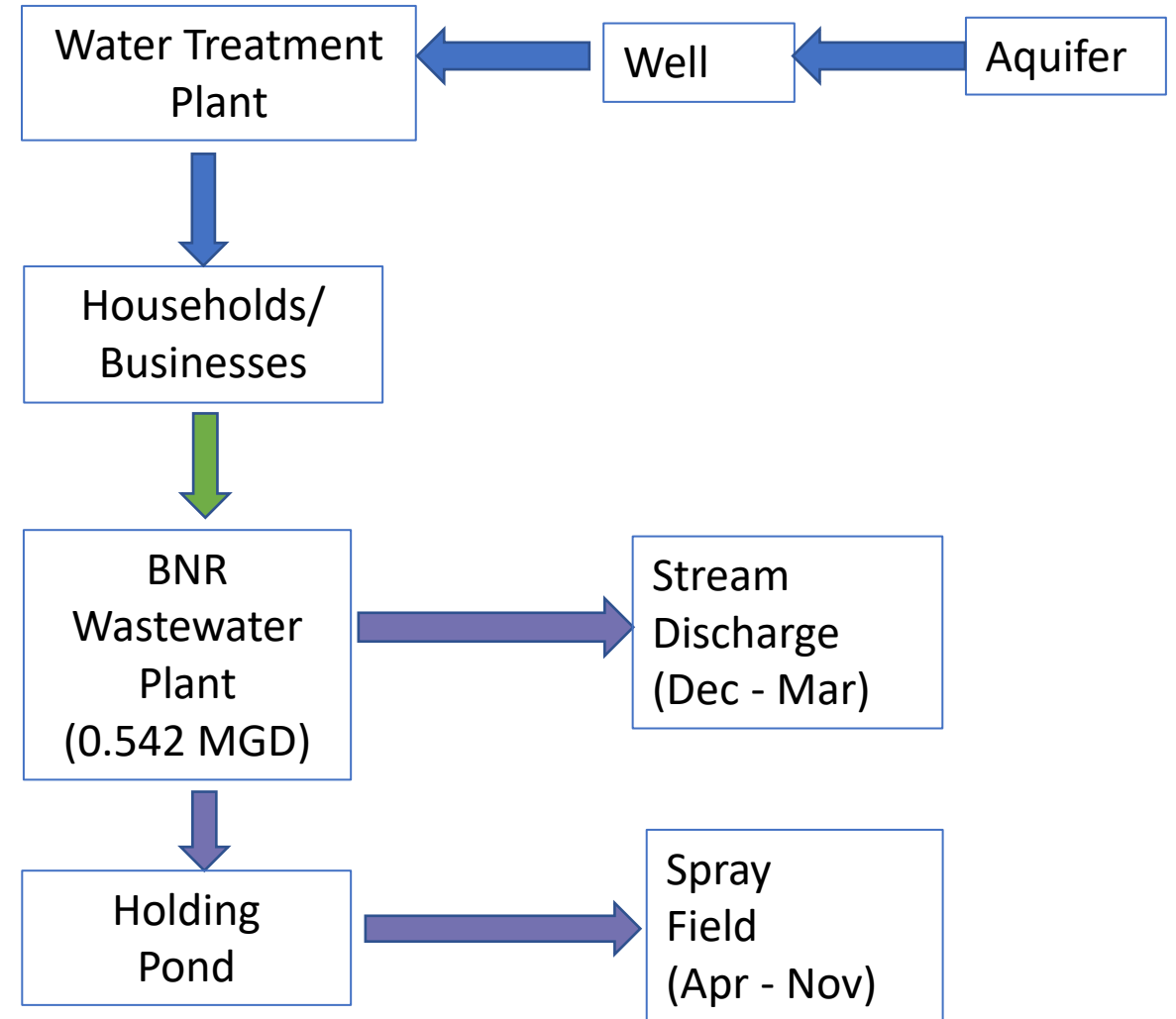
Total Cost

- a. \$38,278,008

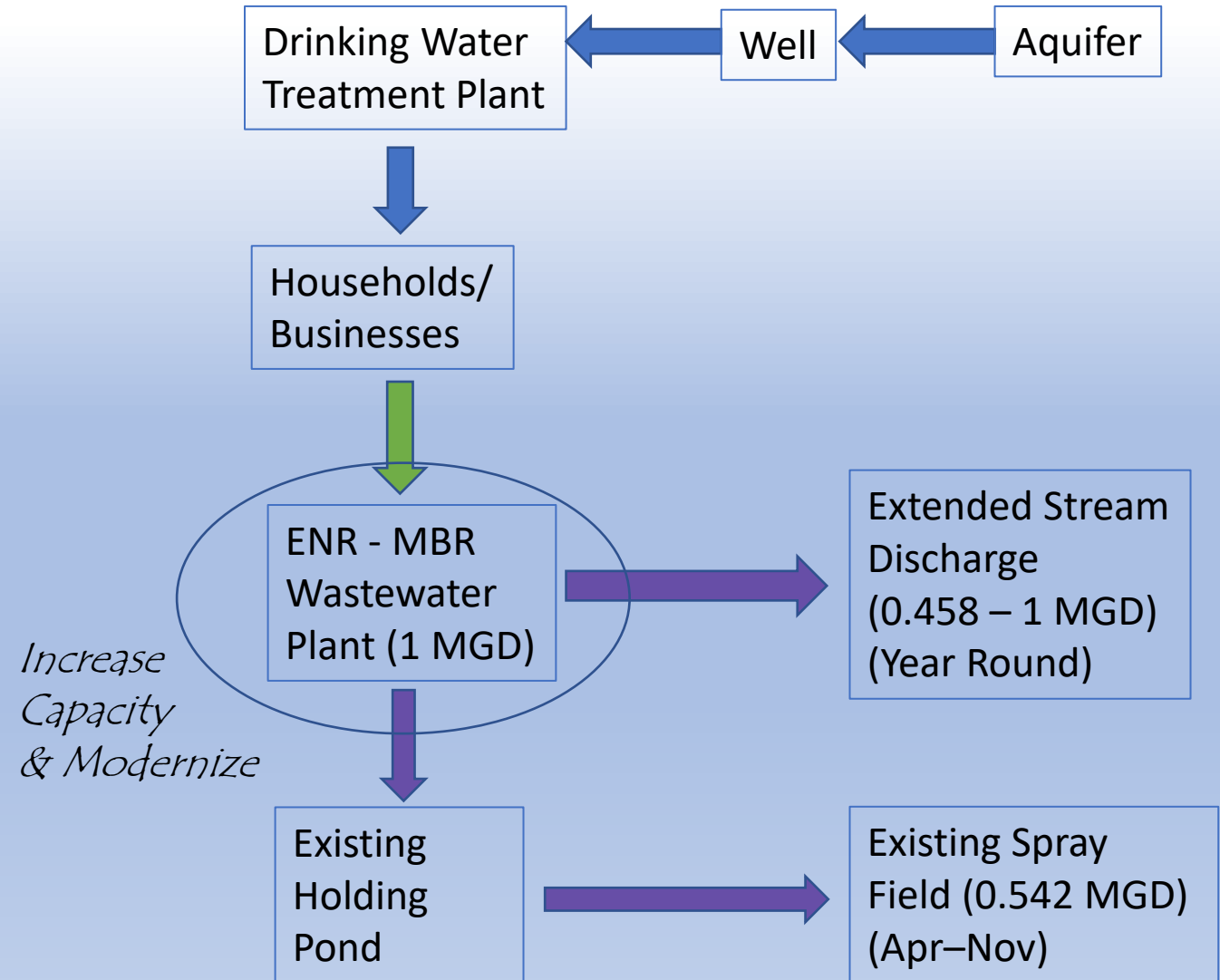
WWTP Upgrade and Expansion

- 1. Average flows have exceeded 80% of permit capacity**
 - Some years exceeded 90%**
- 2. Treatment performance challenging during high flows**
- 3. Solids handling and disposal operations need to be upgraded**

Current Configuration



Upgrade and Expansion Plan



Proposed WWTP Upgrade and Expansion

1. Liquid Treatment

- a) Screening and Grit Removal
- b) Flow Equalization
- c) Activated Sludge MBR Process (ENR)
- d) UV Disinfection
- e) Effluent Pumping

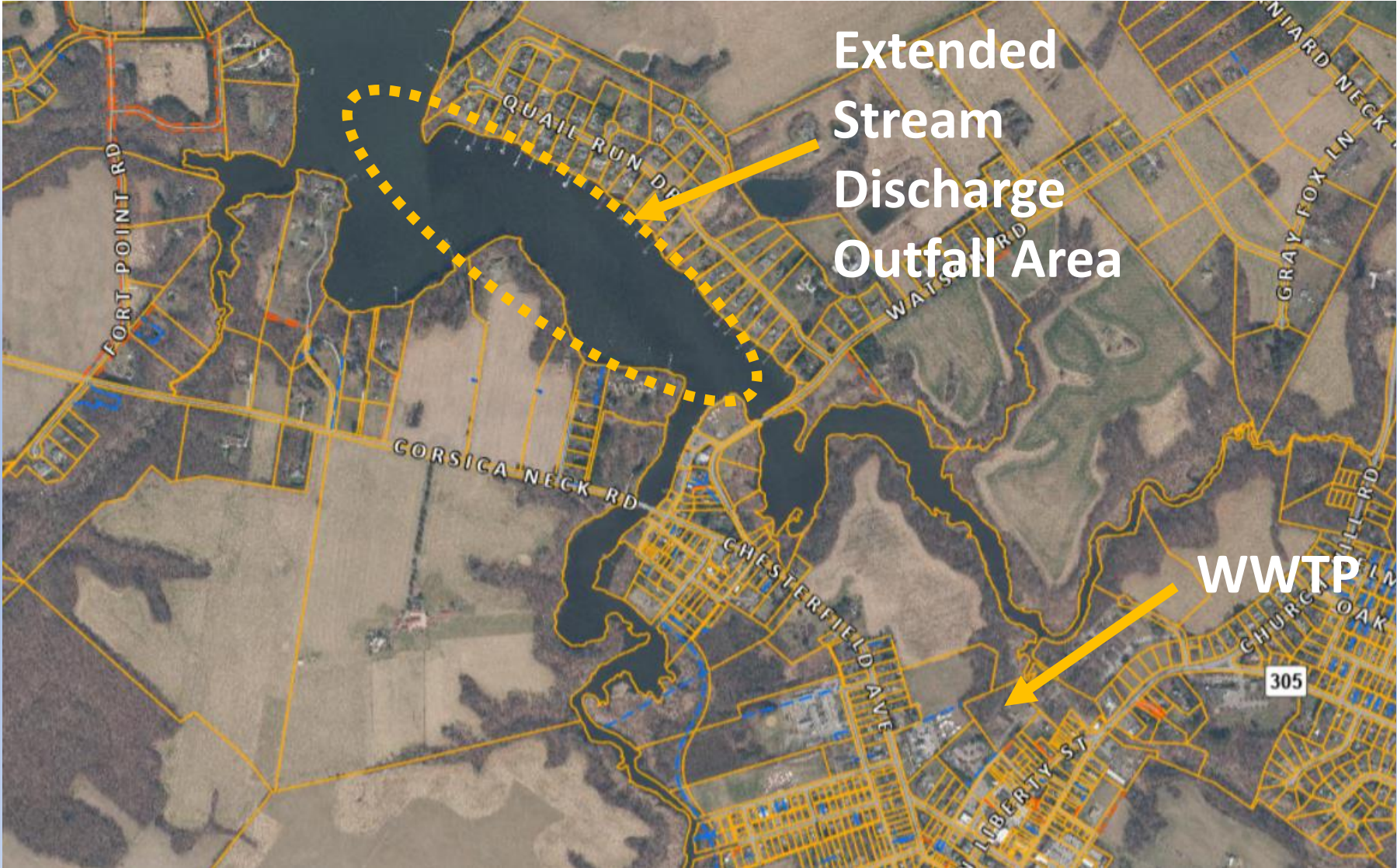
2. Solids Treatment

- a) Sludge Stabilization (Class B)
- b) Dewatering/Storage
- c) Land Application

Existing Stream Discharge



Proposed Extended Stream Discharge





DISCUSSION