

Western Intake Partnership

Chatham County Conditional District Rezoning Request Public Hearing Presentation

January 16, 2024



Western Intake
Partnership

- **Introductions**
- **Items for Presentation**
 - Project Purpose/Components
 - Vicinity Map
 - Concept for Raw Water Intake and Tunnel to RWTF
 - Preliminary Site Plan
 - Landscape/Planting Plan
 - Visual Impact (Renderings)

WIP Regional Water Treatment Facility (RWTF)



Western Intake Partnership (WIP)

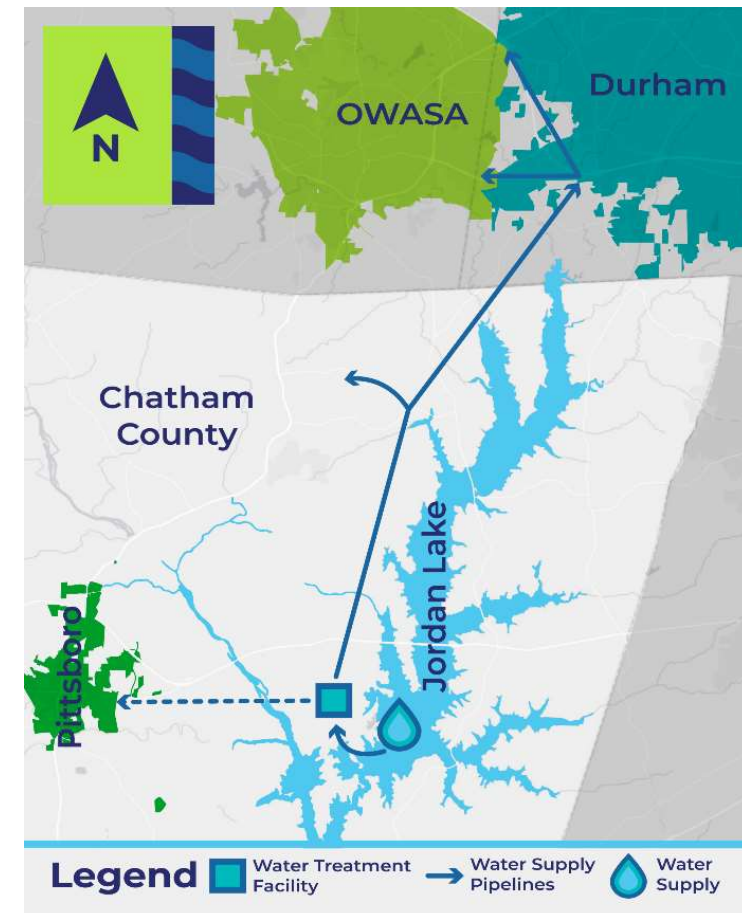
- Chatham County, City of Durham, Town of Pittsboro, OWASA
- Current owner of RWTF site – OWASA

Project Purpose and Benefits

- Construct a new surface water treatment facility to meet long-term water supply needs and access Partners' Jordan Lake allocations
- Benefits include public health and fire protection

Project Components

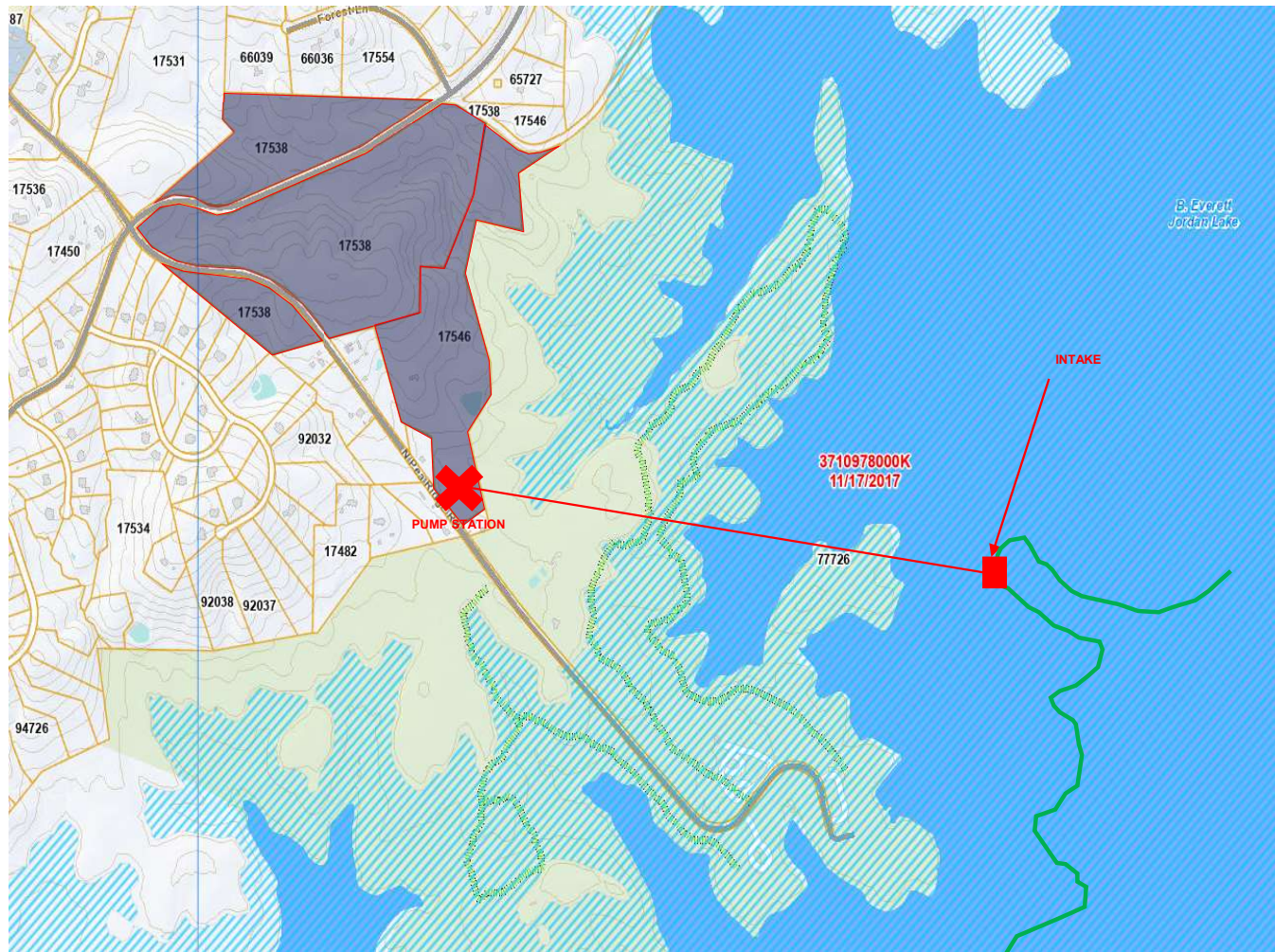
- Jordan Lake Intake & Raw Water Pump Station/Pipeline to RWTF
- New Regional Water Treatment Facility (initial capacity ~20 mgd, plans for future expansion)
- Finished Water Transmission Pipelines (~16 miles initially)



WIP RWTF Vicinity Map



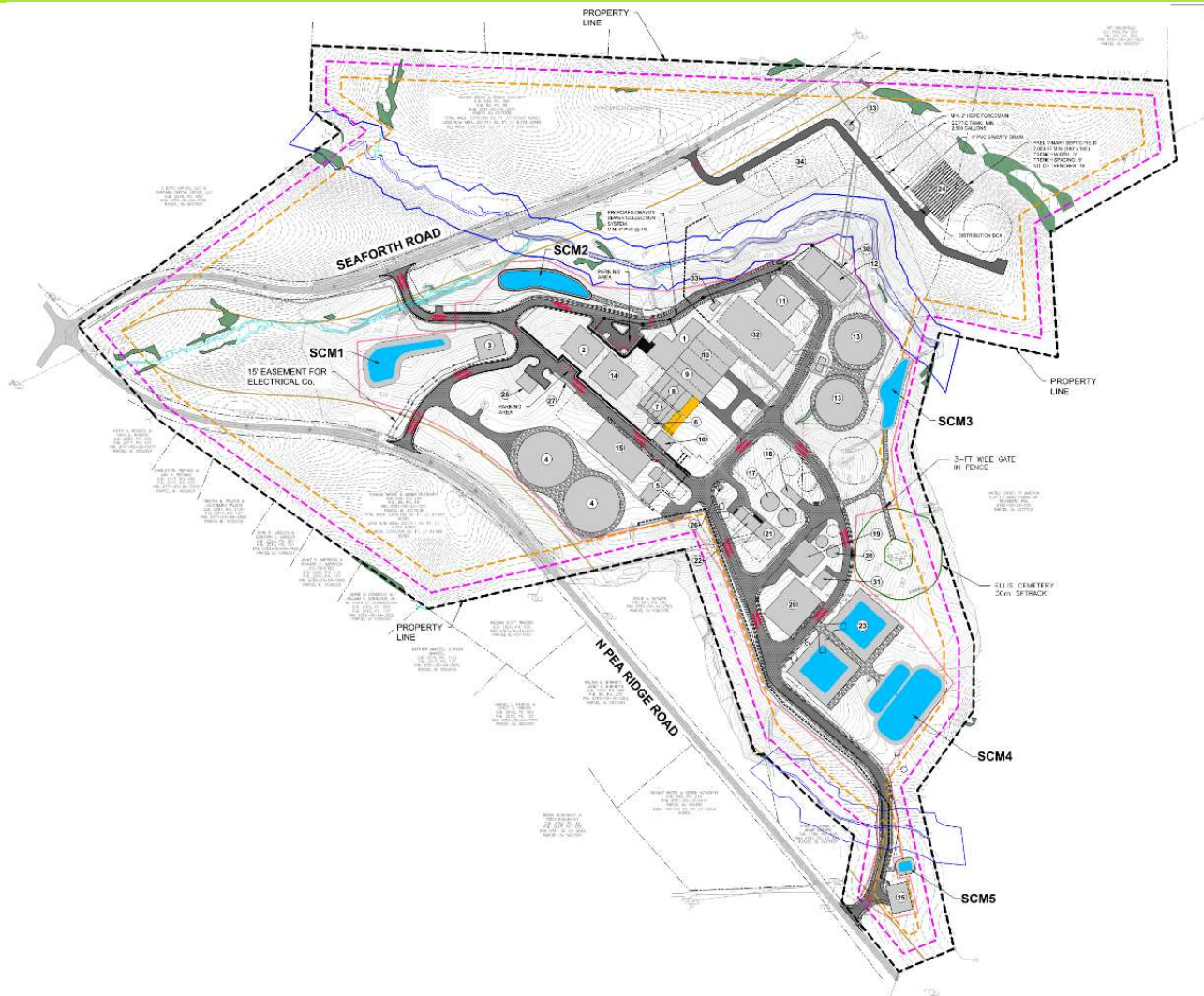
Concept for Raw Water Intake and Tunnel to RWTF



What's included in a Regional Water Treatment Facility?

- ~10-20 employees typical
 - Plant tours for student groups are common
- 2+ entrances
- Fencing & gates
- Physical security (CCTV cameras, key-card access for gates & buildings)
- Employee & visitor parking
- Administration offices
- Laboratory
- Maintenance shop
- Electrical power supply
- Emergency generators
- Storage tanks for untreated and treated water
- Treatment basins & facilities
- Chemicals to treat the water
- Disinfection process
- Treated water (“finished water”) pump station
- Facility to thicken, store & haul away solids/sediments from treatment process
- Roads, stormwater management
- Space for future expansion

Preliminary Site Plan



KEY:

- 1 ADMIN / OPERATIONS BUILDING (227'x51')
- 2 MAINTENANCE BUILDING (110'x98')
- 3 SUBSTATION / TRANSFORMERS (90'x75')
- 4 7.5MG RAW WATER STORAGE TANK (2 No. 190' DIA.)
- 5 RAW WATER OZONE INJECTION BUILDING AND CONTACTORS (66'x40')
- 6 RAPID MIX (37'x16')
- 7 FLOCCULATION (6 No. 62'x19')
- 8 SEDIMENTATION BASINS WITH PLATE SETTLERS (4 No. 70'x30')
- 9 OZONE GENERATORS AND SETTLED WATER CONTACTORS (152'x66')
- 10 FILTERS (152'x130')
- 11 GAC (123'x114')
- 12 HSPS (195.5'x75')
- 13 5MG CLEARWELL (2 No. 160' DIA.)
- 14 ELECTRICAL / GENERATORS BLDG (120'x110')
- 15 CHEMICAL BLDG (200'x100')
- 16 LOX STORAGE (60'x45')
- 17 GRAVITY THICKENER (2 No. 62' DIA.)
- 18 THICKENED SOLIDS PS (70'x30')
- 19 DEWATERING BLDG (92'x92')
- 20 THICKENED SOLIDS STORAGE (2 No. 42' DIA.)
- 21 BW EQ BASIN (80'x60')
- 22 BW PLATE SETTLERS AND RECYCLE PS (90'x40')
- 23 RECLAMATION BASINS (2 No. 175'x175')
- 24 SEPTIC DRAINAGE FIELD (150'x150')
- 25 RAW WATER PUMP STATION (95'x70')
- 26 PAC SILO (14' DIA.)
- 27 OPTIONAL WEIGH STATION (100'x12')
- 28 FUEL STORAGE FOR STANDBY GENERATORS (60'x45')
- 29 CAKE STORAGE (160'x120')
- 30 DUPLEX SEPTIC PS (12'x6') AND VALVE BOX (3'x3')
- 31 ELECTRICAL BUILDING (60'x40')
- 32 POSSIBLE IX (250'x105')
- 33 SURGE TANKS (35'x20')
- 34 FUTURE RO OR GAC/IX

LEGEND:

- PROPOSED FACILITY - 30 MGD (PHASE 1- 2031)
- POSSIBLE FUTURE FACILITIES - 40 MGD (PHASE 2)
- POSSIBLE FUTURE FACILITIES TO BUILDOUT (PHASE 3)
- ASPHALT ROAD
- CONCRETE PAVEMENT
- GRAVEL ROAD
- WETLAND
- OPEN WATER
- APPROXIMATE LOCATION OF EXISTING CEMETERY (TO BE REVISED FOLLOWING DETERMINATION OF CEMETERY BOUNDARY)
- STORMWATER CONTROL MEASURE (SCM)
- EPHEMERAL STREAM
- INTERMITTENT STREAM
- 60' SETBACK FROM INTERMITTENT STREAM
- WIP RWTF
- 50' SETBACK FROM PROPERTY LINE
- 100' SETBACK FROM PROPERTY LINE
- 100' SETBACK FROM ROADS
- PERIMETER FENCE

Preliminary Site Plan on Aerial



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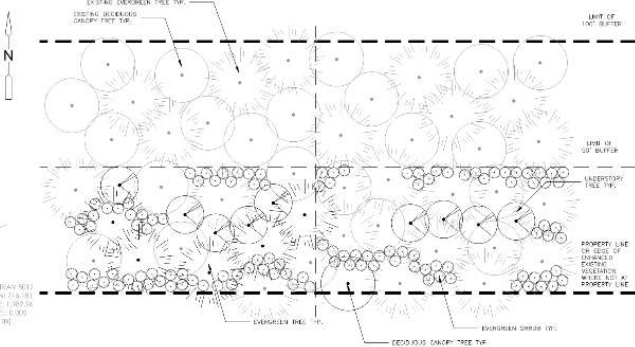
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Preliminary Planting/Landscape Plan



- LEGEND:**
- PRESERVED EXISTING VEGETATION- DO NOT DISTURB
 - WETLAND AREA
 - EXISTING VEGETATION TO BE ENHANCED FOR COMPLIANCE
 - GRASS, STAGING OR FUTURE DEVELOPMENT
 - SCREENING PLANTINGS
 - PLANTING BED WITH DECIDUOUS CANOPY TREE- SEE PLANTING SCHEDULE FOR TREE SPECIES
 - PROPOSED FACILITY - 30 MGD (PHASE 1-2031)
 - POSSIBLE FUTURE FACILITIES- 40 MGD (PHASE 2)
 - POSSIBLE FUTURE FACILITIES TO BUILDOUT (PHASE 3)



NOTE: ALL BUFFER AREAS CONSISTING OF EXISTING VEGETATION SHALL BE ASSESSED FOR COMPLIANCE WITH THE AMERICAN STANDARDS FOR NURSERY STOCK. AREAS THAT DO NOT MEET THESE GUIDELINES SHALL BE FILLED WITH EXISTING VEGETATION.

TYPICAL ENHANCED EXISTING VEGETATION IN BUFFER AREAS

PLANTING SCHEDULE					
HYD QIAN	SPECIES	COMMON NAME	SIZE	ZONE	NOTES
IC 18	ELM SPACES	CORDON ROSE TREE	10-15' H'	LARGEST AVAILABLE CONTAINER SIZE	
IC 17	SPYRDEUS VIRGINIANA	LAUREL HED HEDGE	15-18' H'	LARGEST AVAILABLE CONTAINER SIZE	
IC 13	FRAX PARVIFLORA	SMALL LEAF FRAX	14-18' H'	LARGEST AVAILABLE CONTAINER SIZE	
IC 14	FRAX PARVIFLORA	FRAX	14-18' H'	LARGEST AVAILABLE CONTAINER SIZE	
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- GENERAL NOTES**
- AREAS REPRESENTED AS POSSIBLE FUTURE FACILITIES SHALL BE GRASS UNTIL FUTURE DEVELOPMENT OCCURS
 - BUFFER AREAS CONSISTING OF PRESERVED EXISTING VEGETATION SHALL BE ASSESSED TO ENSURE COMPLIANCE WITH THE BUFFERS AND SCREENING STANDARDS SET BY THE CHATHAM COUNTY DESIGN GUIDELINES. AREAS THAT DO NOT COMPLY WITH BUFFERS AND SCREENING STANDARDS SHALL BE ENHANCED WITH NEW PLANTINGS AS NEEDED. SEE DETAIL 1 THIS SHEET.
 - ALL NEW PLANT MATERIAL SHALL CONFORM TO THE AMERICAN STANDARDS FOR NURSERY STOCK.

Preliminary Planting/Landscape Plan



VIEW 1



VIEW 4



VIEW 2



VIEW 5



VIEW 3



VIEW 6

Aerial View of Preliminary Site Plan



Tentative Operations Building Visual – Natural Aesthetic





Questions & Discussion