



TECHNICAL MEMORANDUM

TO: Fred Royal – Town of Pittsboro
John Poteat – Town of Pittsboro

FROM: *Tim Baldwin – Technical Specialist, McKim & Creed*
Brian T. White – Project Engineer, McKim & Creed

CC: *Tim Smith – Preston Development*

SUBJECT: *Chatham Park Water System Improvements*

M&C PROJECT #: 01561-0005

DATE: March 6, 2015

1. Executive Summary

This document is to summarize the three alternatives previously discussed for the proposed elevated water storage tank to serve the water supply needs for Chatham Park. The attached maps show the location of the proposed tank for each of the alternatives, along with tank details and additional infrastructure that is required with the elevated tank. The three alternatives include two tank site locations. For Alternatives 1 and 2, the proposed tank site is located on the Chatham Park property, north of Highway 64 Bypass. The tank site for Alternative 3 is adjacent to the Town's existing stand pipe location. This site was selected due to its higher elevation than the Chatham Park property but the land is owned by another private developer. This alternative would require negotiations with the current land owner for a land exchange with the town. Alternative 1 includes a new booster pumping station to feed the proposed elevated storage tank. Alternatives 2 and 3 would require improvements to the town's existing finished water pumping station. Additional field investigation is required to determine the extents of the improvements.

The following tables outline the pros and cons for each of the tank site alternatives. After review of these alternatives by town staff and Preston Development, a more detailed evaluation can be provided to include project costs.

Alternative 1

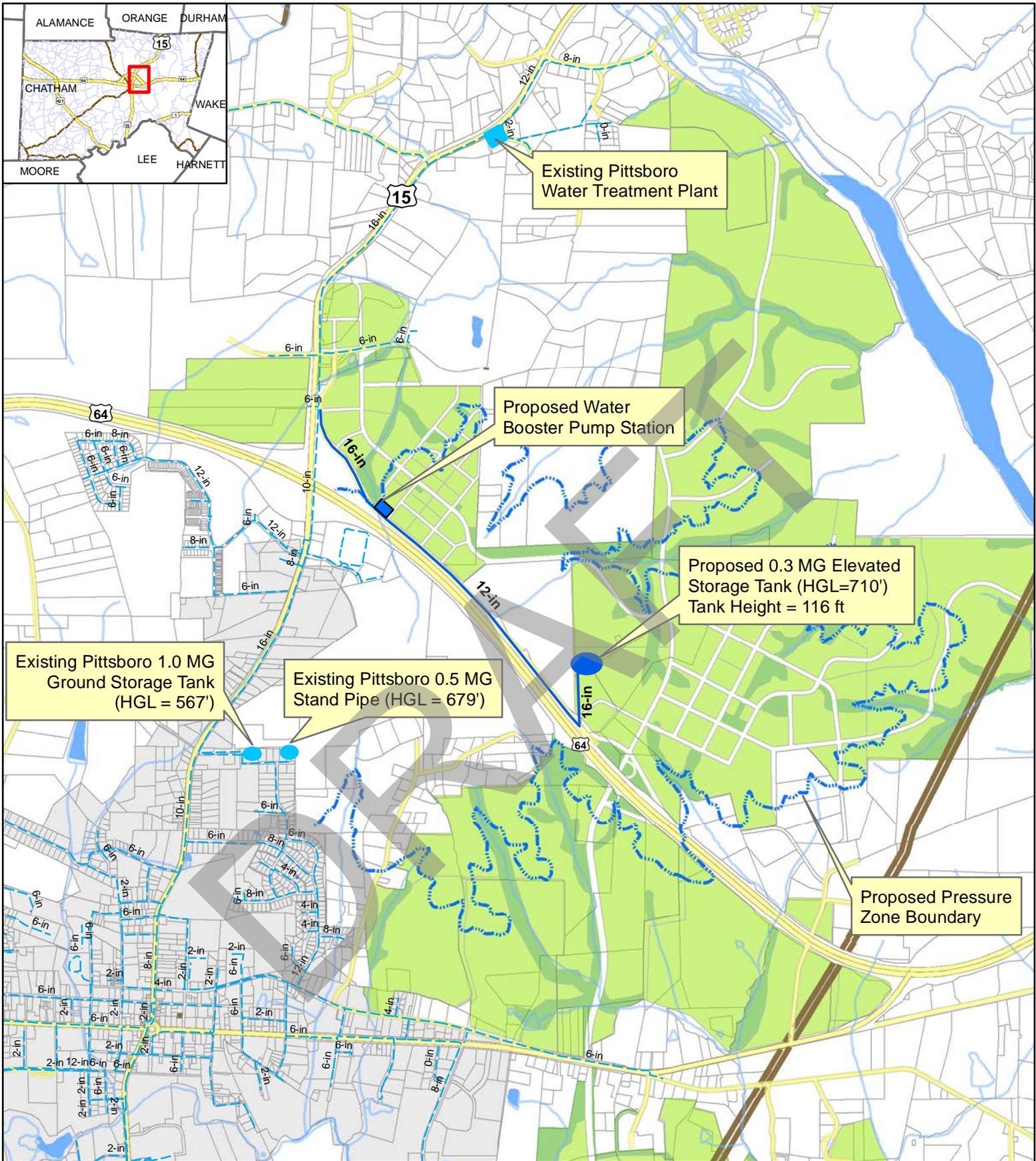
PROS	CONS
Shortest time frame for construction	Will not improve Town pressures or provide additional fire flow capacity
Least capital costs initially.	Tank height not adequate for ultimate Town pressure zone needs
Chatham Park controls the land for all the proposed infrastructure	
Tank converted to reclaimed water in second phase	

Alternative 2

PROS	CONS
Improve pressure to Town and increase fire flow capacity. Increase pressure zone from 679' to 710'	Tank height not adequate for ultimate Town pressure zone needs
Eliminates need for BPS. Pumping improvements at WTP	Pipeline crossing at Bypass Highway 64
Tank replaces existing stand pipe	Pipeline loop required to improve existing Town system
Tank converted to reclaimed water in second phase	Easement and/or right-of-way acquisition requirements for pipeline
Future tank built on existing stand pipe site and therefore does not require land acquisition	Some existing water users will require PRVs due to increase pressure

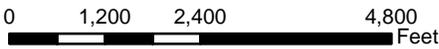
Alternative 3

PROS	CONS
Improve pressure to Town and increase fire flow capacity. Increase pressure zone from 679' to 736'	Pipeline crossing at Bypass Highway 64
Eliminates need for BPS. Pumping improvements at WTP	Pipeline loop required to achieve fire flow at Chatham Park
Serves Chatham Park start-up needs and near future needs	Easement and/or right-of-way acquisition requirements for pipeline
Tank replaces existing stand pipe	Some existing water users will require PRVs due to increase pressure
Tank height set to serve all Town future needs	Land acquisition required for tank site
	Water quality may be a concern with larger tank volume during initial phase

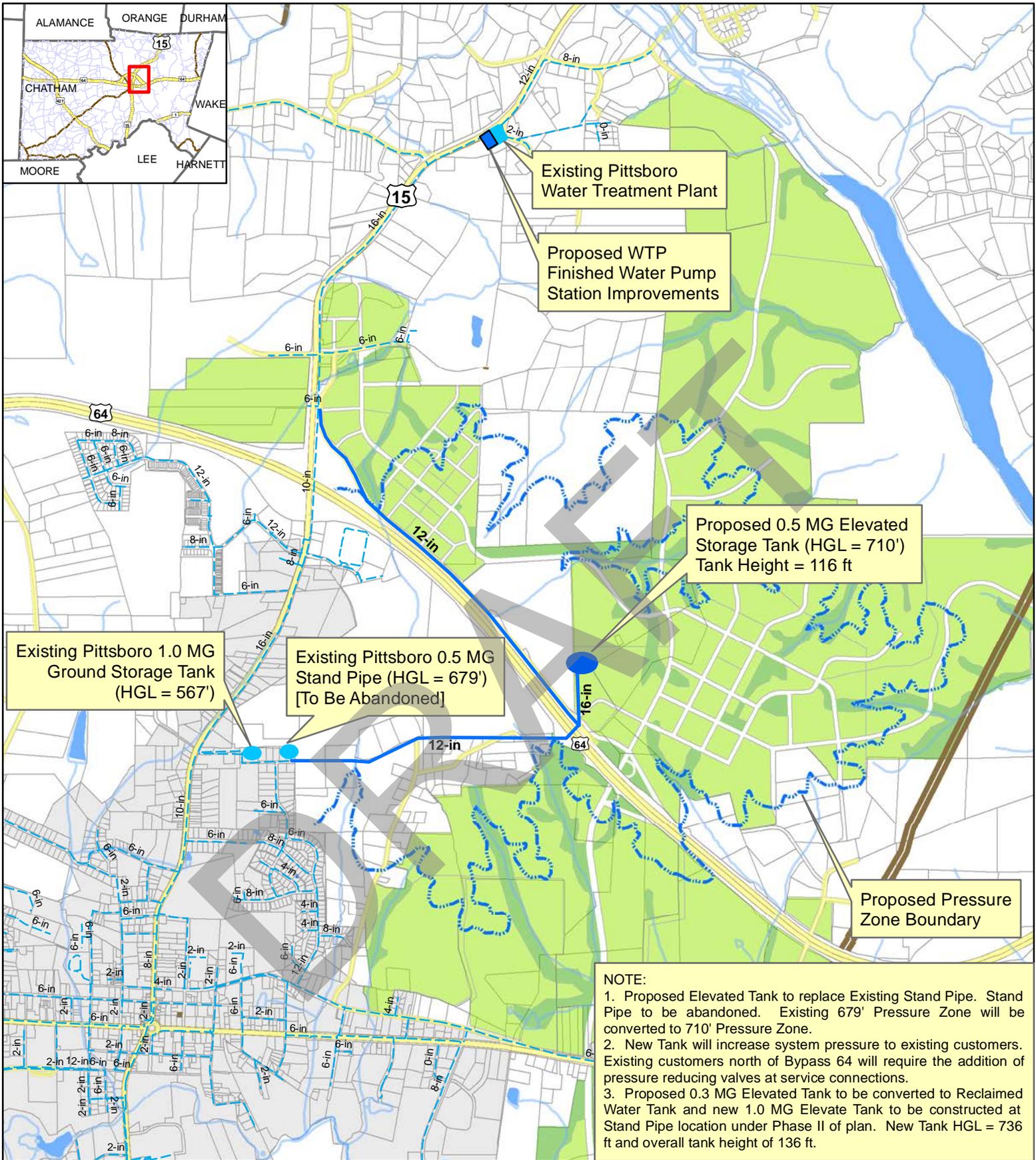


**Chatham Park
Water System Improvements - Alternative 1**

Chatham County, NC



3/4/2015



Existing Pittsboro 1.0 MG Ground Storage Tank (HGL = 567')

Existing Pittsboro 0.5 MG Stand Pipe (HGL = 679') [To Be Abandoned]

Existing Pittsboro Water Treatment Plant

Proposed WTP Finished Water Pump Station Improvements

Proposed 0.5 MG Elevated Storage Tank (HGL = 710') Tank Height = 116 ft

Proposed Pressure Zone Boundary

NOTE:

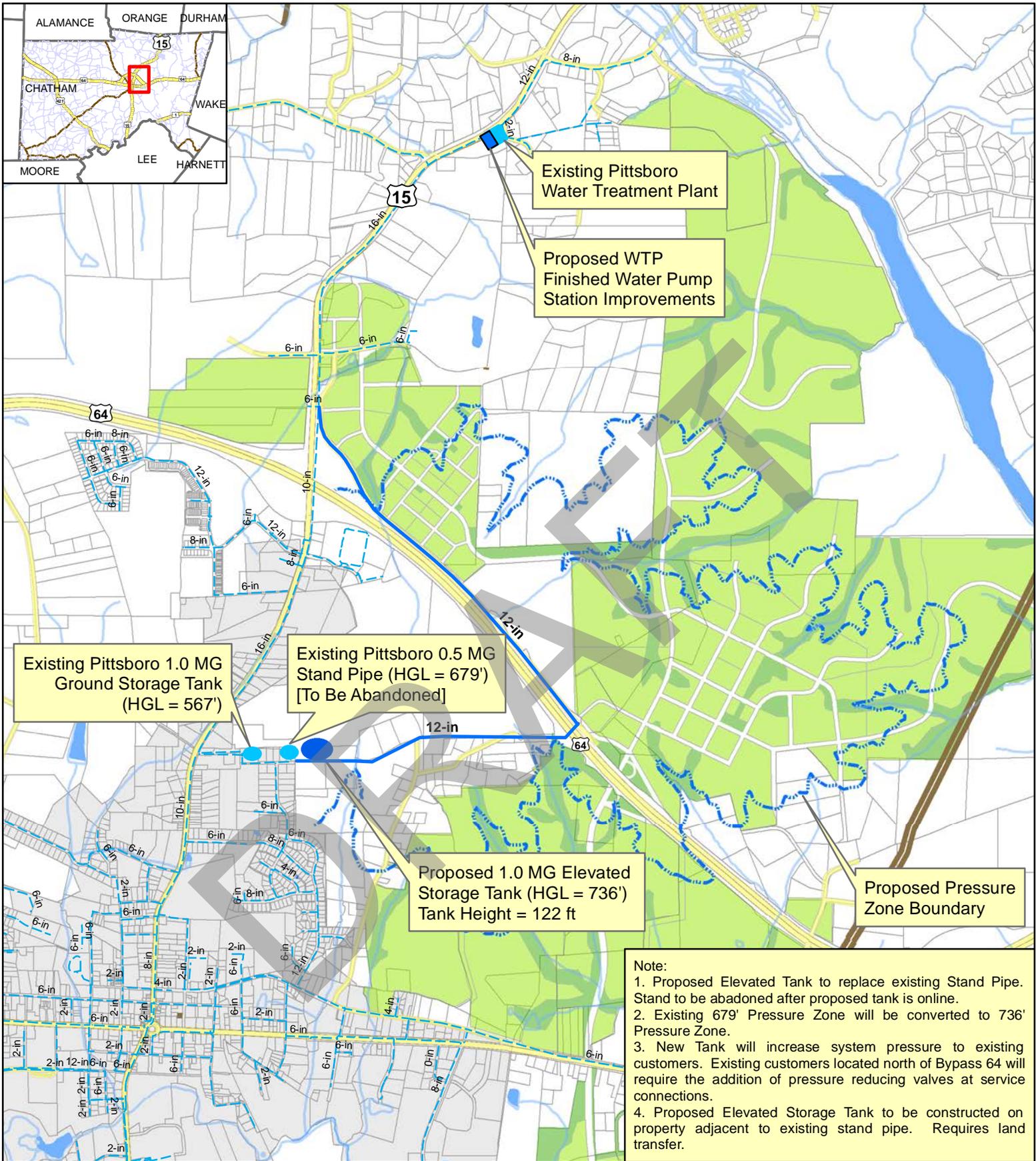
1. Proposed Elevated Tank to replace Existing Stand Pipe. Stand Pipe to be abandoned. Existing 679' Pressure Zone will be converted to 710' Pressure Zone.
2. New Tank will increase system pressure to existing customers. Existing customers north of Bypass 64 will require the addition of pressure reducing valves at service connections.
3. Proposed 0.3 MG Elevated Tank to be converted to Reclaimed Water Tank and new 1.0 MG Elevate Tank to be constructed at Stand Pipe location under Phase II of plan. New Tank HGL = 736 ft and overall tank height of 136 ft.

Chatham Park Water System Improvements - Alternative 2

Chatham County, NC



3/4/2015



- Note:
1. Proposed Elevated Tank to replace existing Stand Pipe. Stand to be abandoned after proposed tank is online.
 2. Existing 679' Pressure Zone will be converted to 736' Pressure Zone.
 3. New Tank will increase system pressure to existing customers. Existing customers located north of Bypass 64 will require the addition of pressure reducing valves at service connections.
 4. Proposed Elevated Storage Tank to be constructed on property adjacent to existing stand pipe. Requires land transfer.

Chatham Park Water System Improvements - Alternative 3

Chatham County, NC



3/4/2015