Oread Water Storage Tanks and Booster Pump Station Replacement

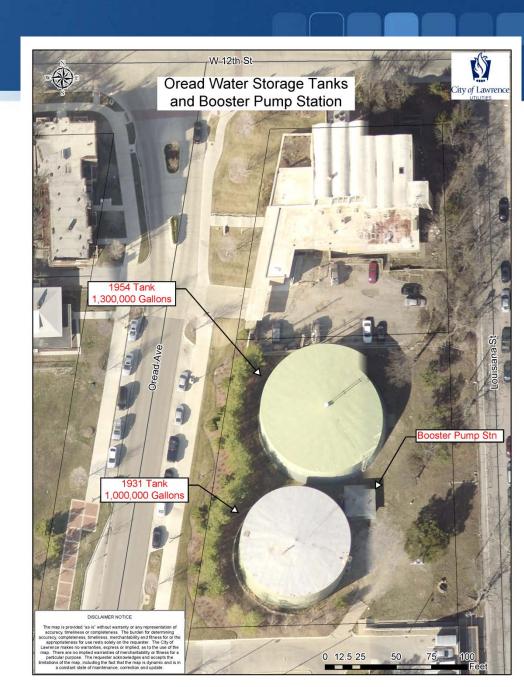


Facilities

1931 Riveted SteelStorage Tank (Hoover)1 million gallons

1954 Welded Steel Storage Tank (Ike) 1.3 million gallons

Booster Pump Station 1.8 million gpd



System Location

Serves both Central Service and West Hills Pressure Zones

Central to existing water transmission and distribution infrastructure

Project Priority

2003 Water Master Plan & 2012 Integrated Water Utility Plan

Both prioritized replacement of the tanks and pump station

<u>Citizen Survey Priorities</u>

Maintenance of Utilities Consistently Ranked in the Top 3

Project Priority

<u>2013 – 2017 Capital Improvements Plan Water</u> <u>System Reliability Priority Projects</u>

Kaw Water Treatment Plant Raw Water Intake \$4.4 million – COMPLETED

Kaw Water Treatment Plant Transmission Main Phase I \$7.4 million – COMPLETED

Oread Water Storage Tanks and Booster Pump Station \$4.9 million – 4th Quarter 2018

2012 Tank Inspection and Report

Severe Corrosion

Failed Interior and Exterior Coatings

Failing and Missing Structural Members

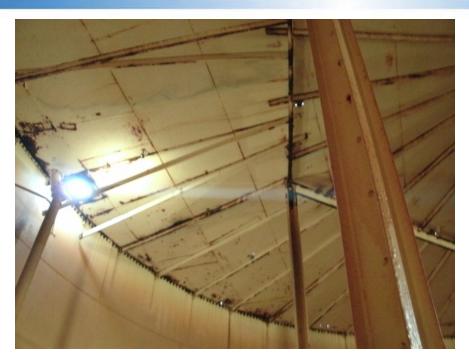
Inadequate Vents, Manways, Roof Access

Not Compliant With Current OSHA, AWWA, KDHE

and Other Safety, Design and Operations

Standards





Corrosion and Failed Interior Structural Members



Severe Corrosion and Failed Interior Coating



Failed Interior Coating



Roof Hatch Corrosion





Roof Beam Corrosion and Failed Beams



Roof Beam Corrosion





Roof and Beam Corrosion



Roof Beam Corrosion

Project Scope

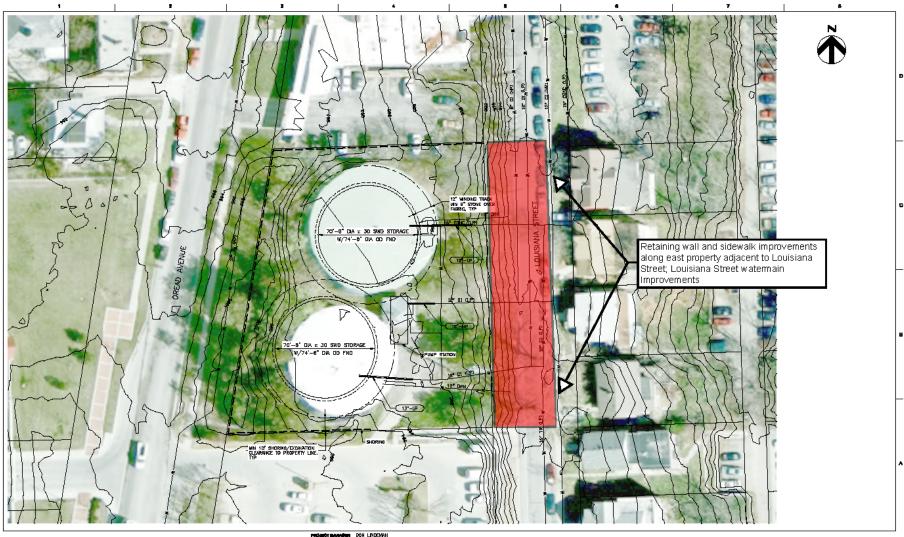
Replacement of existing water storage tanks
Replacement of existing booster pump station
Replacement of watermains in Louisiana Street
Improvements to Louisiana Street Frontage; Sidewalk
and Retaining Wall

Preliminary Design & Siting

January 2014 contracted with HDR, Inc. Evaluated multiple sites, tank and pumping configurations Hydraulic modeling to determine required storage volume Recommended maintaining the existing location and the two tank layout for reliability and operations In coordination with KU evaluated options to relocate the tanks and booster pump station to the west side of

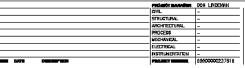
Oread Avenue, and a dual site option

Existing East Site









Original Figure Prepared by HDR. Edits by City of Lawrence.

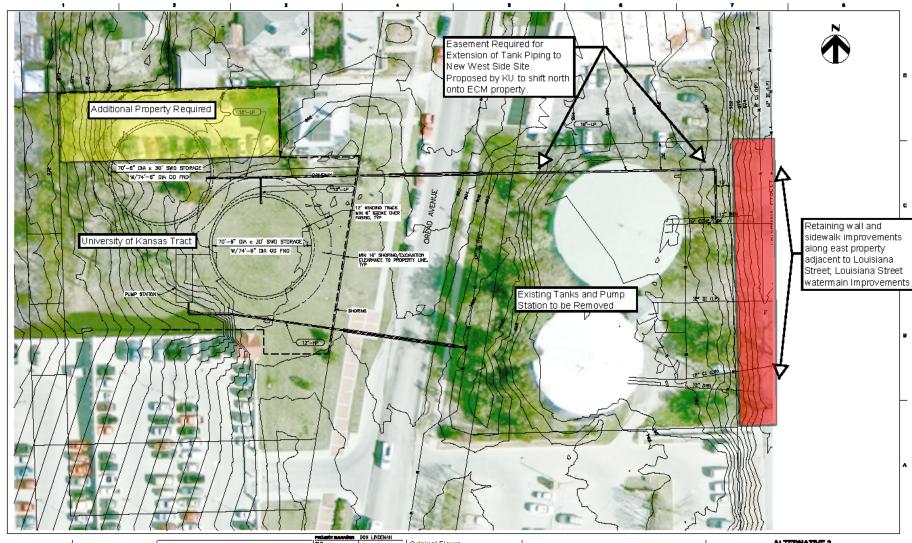


Oread Storage and City of Lawrence Booster Pump Station ALTERNATIVE 1 EAST PROPERTY SITE PLAN



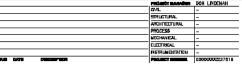
Filmon 100102.deg

West Site Option







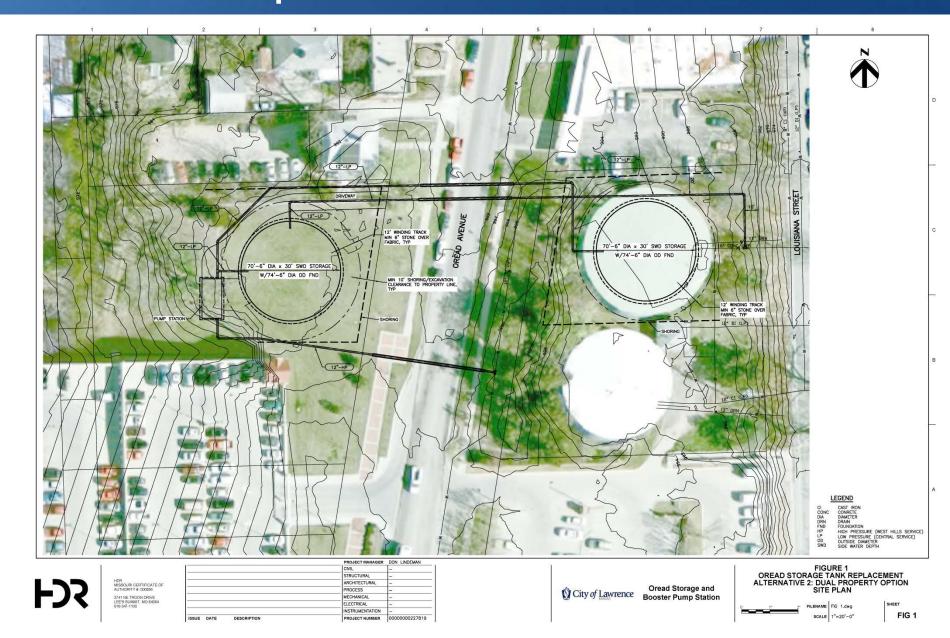


Original Figure Prepared by HDR. Edits by City of Lawrence.



Oread Storage and Booster Pump Station ALTERNATIVE 3
WEST PROPERTY
OPTION 2
SITE PLAN

Dual Site Option



Project Estimates

Existing East Side \$4.9 million

Lowest cost alternative

No existing site property available for KU use

West Side Site - \$5.6 million

Not feasible due to additional property requirements and historic district

Entire existing site available for KU use

Dual Site - \$5.7 million

South half of the existing site available for KU use KU reviewed and determined not a viable option

Land Use Approval Required

Requires Planning Commission and City Commission review and approval with neighborhood notice

Timeline: 3 to 4 months

Recommendation

Replace the water storage tanks and booster pump station on the existing site.

Execute a Supplemental Agreement with HDR, Inc. for design and bid phase engineering services.

Questions



