



STAFF REPORT

DATE: December 11, 2025

TO: Ted Henry, City Manager

FROM: Anne Stephens, PE, City Engineer

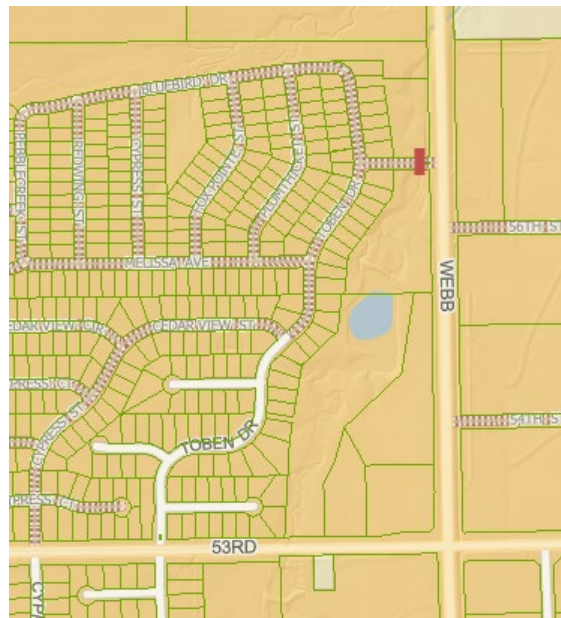
RE: Bel Aire Lakes Subgrade Modifications for RCB

BACKGROUND:

When Pearson was getting ready to install the Reinforced Box Culvert (RCB) at the Bel Aire Lakes entrance, the subgrade was not standing up to the weight of the box and the box kept sinking. City staff reached out to PEC for geotechnical assistance and suggestion on what needed to be done to provide a stable platform to support the box culvert and roadway above it.

DISCUSSION:

Upon notification of the condition of the subgrade underneath the box culvert at Bel Aire Lakes, City staff contacted PEC for geotechnical assistance. PEC performed two soil test borings on October 16, 2025 and provided a report dated November 4, 2025 detailing their recommendations for subgrade modifications that needed to occur in order to support the weight of the RCB and pavement above the RCB. Their initial recommendation was to remove 7' of soil and replace the soil with crushed rock with a geotextile placed at the bottom of the excavation. After a project team meeting, where waterlines were identified in the vicinity of the excavation, an alternative was requested. The revised recommendation involved a 3-layer approach of geotextile and rock, allowing the excavation to be significantly thinner so as not to adversely affect the water mains. The proposed Change Order from Pearson reflects this revision and includes a request for 5 working days in order to complete the over-excavation and installation of the geotextile and rock layers.



FINANCIAL CONSIDERATIONS: The cost of the improvements for these projects will be financed through a bond and spread as special assessments against the benefiting lots.

RECOMENDATION: As the subgrade is not currently able to support the RCB, let alone the backfill and paving above it, subgrade modifications are necessary to provide access to this subdivision. City staff recommend that the City Council accept Change Order No. 1 for the Street and Drainage Improvements to serve Phase 1 Bel Aire Lakes in the amount of \$28,782.00 with an additional 5 working days.