



# Structural Evaluation Report

**Date:** August 21, 2023  
**To:** City of Dillingham Attn: Kim Johnson, Acting City Manager  
**From:** Jesse Gobeli, PE, SE  
**Location:** Dillingham  
**Project:** City of Dillingham Building structural review  
**Project No:** CRW# 60123.09  
**Subject:** Structural Evaluation Report  
**Date of site visit:** August 16, 2023

## TERRITORIAL BUILDING

### **PURPOSE OF INVESTIGATION (Scope and Intent):**

Conduct a structural review of the Territorial Building, focusing on the foundation issues.

### **Background:**

The Territorial building is a 3-story wood framed building constructed in 1936. Foundations consist of concrete footings and slab on grade. The lower level is partially below grade with concrete retaining walls at the exterior.

A thorough review of the building was conducted in 2012 by Jeffrey S. Wilson, Architect. That report noted an ongoing failure of the north retaining wall along with other issues identified during the full condition review. CRW was engaged to review foundation issues, including some potential undermining of foundation due to a water main leak.

### **Record Documents Available:**

- Jeffrey S. Wilson, Architect – Field notes, architectural drawings, and existing condition report dated from June – August 2012.

### **On site conditions:**

Jesse Gobeli from CRW completed a site visit on Wednesday, August 16, 2023. The day of the site visit the weather was warm and sunny, following several days of heavy rain.

Following is a bullet list of the key interrelated issues and my observations:

1. North side lower level concrete retaining wall. This retaining wall is a noted issue from the 2012 Wilson report. The north wall is structurally unstable, and has continued to deflect inward due to the outside pressure of the soil. During my site visit, we noticed broken windows on the north side, potentially caused by the wall movement.



*Figure 1: North side retaining wall*

2. Water main leak. There was ongoing water leak in Main St, visible by water bubbling up through the keybox access in the sidewalk adjacent to the building. The water leak has occurred uphill and within a few feet of the Territorial building. I understand that the water leak may have been repaired since my site visit. However, the water leak had been saturating the soil on the north side of the building, increasing the soil load on the north retaining wall, and causing undermining of foundations inside the building.
3. Undermining of existing concrete slab and foundations. Figure 2 shows a primary building column, and Figure 3 shows a large void beneath what was a concrete footing for the primary building column. This is a dangerous condition for the structure and could result in collapse. The soil at the bottom of the void was saturated.



*Figure 2: Building column*



*Figure 3: Void beneath column footing*

4. Water service line routing. The 2" water main that feeds the Territorial Building, splits off inside the building to feed both the Public Health Building and to the City Hall. Any decisions on the Territorial Building will need to consider the maintenance and operation of these water service lines.

#### **Conclusion:**

The undermined slab and foundation described in #3 above is a serious structural problem that will lead to building collapse. The unstable retaining wall identified in #1 above is also a structural problem. Due to these two dangerous conditions, the building should not be occupied, and access in and around the building should be restricted to limited visits by authorized personnel only for short duration. Repair of the foundation problems will be costly, intrusive, and time-consuming. Further geotechnical exploration and recommendation would be required as the solution would likely involve some kind of pile foundation to underpin the existing foundation. Demolition of the building would be most economical.

Plans will need to be developed for re-routing of the water service lines if the building is demolished.

Any repair work on the water main that requires excavation will need to proceed with extreme caution and due consideration of the precarious nature of the adjacent structural foundations. Digging in the vicinity of the Territorial building should not be permitted without engineering review.