



March 21, 2022

City of Aurora  
Aurora Water  
15151 E. Alameda Parkway  
Aurora, CO 80012

RE: Cortland at Abilene Station  
Sanitary Sewer Utility Conformance Letter

The purpose of this letter is to analyze the sanitary sewer system required for the Project and to demonstrate that the proposed project and subsequent infrastructure follows the City of Aurora and Aurora Water utility standards and design criteria.

Per conversations between Kurt Lang of Roth Lang Engineering Group, LLC and Nina Khanzadeh from Aurora Water, it was decided that instead of a Master Utility Study (MUS), the City will only need a sanitary sewer analysis.

#### I. Project Description

The "Project" Cortland at Abilene Station contains Lots 1 & 2 of Block 2 and Lot 3 and Tract B of Block 1 of the Abilene Station Subdivision Filing No. 1 located in the City of Aurora, County of Arapahoe in the State of Colorado.

The proposed development entails the construction of three (3) separate multi-story, residential buildings named Bldg 300, 400 and 500 with a total area of 7.625 acres and 581 total residential dwelling units.

#### II. Sanitary Sewer Criteria and Analysis

The 2022 Aurora Water '*Water, Sanitary Sewer & Storm Drainage Infrastructure Standards & Specifications*' was used for the recommended sewer loading rates for the residential development and to determine the total peak sewage flow for the Project.

An analysis was made for the proposed wastewater collection system for the project. AutoCAD Hydraflow Express Extension software was used to determine the pipe size, flow velocity, capacity and % full for peak flow demands (A summary is attached with this letter). A minimum pipe slope of 0.50% was used for design, however the existing sanitary sewer main in Blackhawk Street adjacent to the Project, slopes at an average of 3% along N Blackhawk Street to E 4<sup>th</sup> Ave.

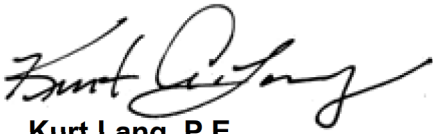
### III. Conclusion

It has been determined that the proposed sanitary sewer system is in conformance with the City of Aurora and Aurora Water standards and will adequately serve the anticipated demand flows of the Project site with no adverse impacts to the existing or surrounding system.

Please contact me if you have any questions regarding this matter.

Sincerely,

**ROTH LANG ENGINEERING GROUP, LLC**

A handwritten signature in black ink, appearing to read "Kurt Lang", with a stylized flourish at the end.

**Kurt Lang, P.E.**

Principal



# Channel Report

## 8" PVC SWR MAIN

### Circular

Diameter (ft) = 0.67

Invert Elev (ft) = 1.00

Slope (%) = 0.50

N-Value = 0.011

### Calculations

Compute by: Known Q

Known Q (cfs) = 0.60

### Highlighted

Depth (ft) = 0.37

Q (cfs) = 0.600

Area (sqft) = 0.20

Velocity (ft/s) = 2.99

Wetted Perim (ft) = 1.13

Crit Depth, Yc (ft) = 0.37

Top Width (ft) = 0.67

EGL (ft) = 0.51

