BAKER & LAWSON, INC.
ENGINEERS • PLANNERS • SURVEYORS

December 2, 2022

Mr. Otis Spriggs
City of Angleton
121 S. Velasco
Angleton, TX 77515

Subject: Engineer's Summary Letter
Riverwood Ranch Sections 3 and 4 – 35.6 Acres

Dear Mr. Spriggs:

We are pleased to prepare this Engineer's Summary report for the subject tract of land for Riverwood Ranch Land Holdings, LLC. The 35.6 acre tract is in the East area of the Riverwood Ranch development. For surrounding developments, the tract is adjacent to residential tract Colony Square Subdivision (SF-7.2) to the north, Buchta Road to the east with a multifamily apartment/townhomes development on the east side of Buchta Road, Hospital Drive to the south with rental duplex community on the south side of Hospital Drive and Riverwood Ranch Sections 1 and 2 development to the west.

General Information:
The Riverwood Ranch Sections 3 and 4 will be 145 residential lots with a usual widths of 50' or 60'. Section 3 of the development will contain a detention reserve in the middle of the two sections and a 20' drainage reserve along the north property line. The drainage reserve will provide rear lot drainage for Section 4 and the adjoining Colony Square subdivision to the north.

Parks:
The Parkland Dedication/Fees for this subdivision was initially discussed at the March 31, 2021 Council Meeting with the Developers. The payment for park fees in lieu fo land donations are spelled out in the Developer's Agreement.

Storm Drainage:
Storm water is conveyed in the detention pond by flow in concrete roadway gutters, curb inlets and storm sewer. Our detention design is restricted to the existing condition flow rate within Brazoria County Master Drainage Study for the Bastrop Bayou watersheds. Our project is within drainage basins BB 35 and BB 36, which requires an existing condition 100-year release rate of 0.80 cfs/acre. Based on this information, the project will require 19.253 ac-ft of detention. The volume includes calculated mitigation runoff from 4.58 acres in Section 2 which was allowed to free drain into the Hospital Drive storm sewer system The detention pond will

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outfall to a storm sewer stub out provided in the northeast area of the Riverwood Ranch Development at Buchta Road. This will also be the outfall for the 20' drainage reserve along the north property line. The master drainage plan has been approved by the Angleton Drainage District.

Utility - Sanitary Sewer:
Riverwood Ranch Subdivision will have two sanitary sewer ties to serve the community Sections 1, 2 and the southern portion of 3 will flow to an existing 12-inch sanitary sewer in Hospital Drive. The north portion of Section 3 and Section 4 will flow to a 12-inch sanitary sewer in Buchta Road.

Utility - Waterline:
Riverwood Ranch Subdivision will have three waterline ties to serve the community Sections 1, 2 will have two ties to a 12-inch waterline in Hospital Drive. Sections 3 and 4 will have three interconnections with Section 1 and 2 waterline loop and also another tie to an 10-inch waterline in Buchta Road.. Please see the Preliminary Utility and Storm Sewer Layout provided for Sections 3 and 4.

Geotechnical Analysis:
The owner contracted Intertek PSI to perform a geotechnical analysis of the site in late 2019. Their report, Intertek PSI - Go report 286-2139, is on file at the office of Baker & Lawson, Inc

Heritage Tree:
Topographic, elevation and tree survey of the site indicated that there are no Heritage Trees on site. This site has been a grazing pasture for many years prior to its being purchased for development. The site is covered with pasture grass and scrub growth with no tree growth. We have provided Sheet 26 in the plan set for a Heritage Tree Preservation Plan.

Traffic Impact Analysis:
A TIA is not required for Sections 1, 2 and 3 based on my interpretation of the requirements of Section 23-25. B. Applicability.

The Riverwood Ranch Development of Sections 1, 2, 3 and 4 will have access to 3 major roadways (Downing, Hospital and Buchta) which were all constructed with 41' roadways consisting of one lane in each direction with a continuous turn lane. Traffic engineering standards generally consider 18,300 vehicles per day for 2 lanes (w/ left turn lanes).

The 3 access points consist of a boulevard section at Downing and a proposed boulevard section at Buchta with 2 lanes exiting and two lane entering and a three lane section onto Hospital with 2 lanes exiting and one lane entering.

B.1 We expect to develop 349 lots with 3 access points. Section B.1 discusses generating more than 100 Peak Hour Trips (PHT) as a threshold. Traffic engineering standards generally consider 1 PHT per home in subdivisions. With 349 Lots * 1.00 = 349 PHT. This equates to 118 PHT at each access point. With multiple lanes exiting, the PHT reduces to 80 PHT (assumed 67% predominant exit movement) at each access point.

B.2 Section B.2 discusses 5,000 vehicle trips per day as a threshold. Traffic engineering standards generally use 10 trips per house per day. This equates to 3,490 vehicle trips per day.

B.3 Section B.3 discusses 25 acre developments as a threshold. The total Riverwood ranch Development is 78 acres with 3 access points. This equates to 256 acres per access point. Though this does not qualify, the access points consist of multiple lanes exiting and entering as noted above.

B.4 Section B.4 discusses oversized/slow moving vehicles which are not a part of residential development.

B.5 Section B.5 addresses impact to the Future Thoroughfare Plan (FTP). There are no proposed thoroughfares through this development.

B.6 Section B.6 discusses infill tracts which may affect existing adjoining development. The completed Riverwood Ranch Development will not affect adjoining development or thru traffic because of the 41' wide receiving roadway sections as noted above..

Please contact me if you have any questions or need to discuss any aspect of this Engineer's Summary Letter.

Respectfully submitted,

Douglas B. Roesler, P.E.
President, Principal Engineer

(File:14396 / 14396 Engineers Letter)