

# SUBDIVISION APPLICATION

20220919 06/10/23 RGV VILLA DEVELOPMENT  
SOMERCREST OAKS ESTAT 500.00CR

TENDERED: 500.00 CHECK  
APPLIED: 500.00

CHANGE: 0.00

WATER CONSERVATION STAGE 2  
THANK YOU AND HAVE A GREAT DAY!

RECEIVED  
APR 10 2023



## CITY OF MISSION SUBDIVISION APPLICATION

### PLAT FEES

Name: RGV Villa Development LLC  
Address: 123 Villa St.  
City: Mission  
Phone: 958-624-4985  
Subdivision Name: Somercres Oak  
Estates Subdivision

5 ACRE PLAT OR LESS.....\$400  
5+ ACRES.....\$500  
Re-Plat Filing/Review .....\$300  
Separate Subdivision variance/open cuts, etc. \$150  
P&Z Date: \_\_\_\_\_ City Council Date: \_\_\_\_\_

Urban (City) X Suburban ETJ \_\_\_\_\_ Rural ETJ \_\_\_\_\_  
Zone: AO-I Water Dist. United Irrig. Dist. School Dist. Shary ISD

# of Lots: Residential 28 Non-Residential 0 Common Areas/Lots 1

Water CCN: SWSC X LJWSC \_\_\_\_\_ MUD \_\_\_\_\_

### WATER

1475 L. F. of 8" Water Lines  
\_\_\_\_\_ L. F. of \_\_\_\_\_ Water Lines

Other: \_\_\_\_\_

Suburban MSR cost of water meters &  
ETJ Only: Membership costs \$ \_\_\_\_\_

### SEWER

1210 L. F. of 8" Sewer Lines  
\_\_\_\_\_ L. F. of \_\_\_\_\_ Sewer Lines

Lift Sta: \_\_\_\_\_ N/A-Septic Use: \_\_\_\_\_

Other: \_\_\_\_\_  
Suburban ETJ Only: MSR cost of Septic Tanks  
\$ \_\_\_\_\_

### STREETS

1050 L. F. of 32' B-B Wide Streets  
\_\_\_\_\_ L. F. of \_\_\_\_\_ Wide Streets

Other: \_\_\_\_\_

### STORM SEWER

650 L. F. of 24" Storm Lines  
\_\_\_\_\_ L. F. of \_\_\_\_\_ Storm Lines

\_\_\_\_\_ L. F. of \_\_\_\_\_ Storm Lines

[illegible]

AERIAL





## STORM WATER DRAINAGE STATEMENT

### A. DRAINAGE STATEMENT FOR SOMMERCREST OAKS ESTATES SUBDIVISION

#### I. PROJECT LOCATION

The Sommercrest Oaks Estates ~~X~~ Subdivision development is a 9.85-acre gross (9.15 net acre) Single Family Residential Subdivision out of the South 12 acres of the east 26.49 acres of Lot 296, John H. Shary Subdivision, Hidalgo County, Texas as per map or Plat Recorded in Volume 1, Page 17, Map Records of Hidalgo County, Texas. The property lies approximately at the Northwest Corner of North Taylor Road and East Mile 2 Road, Mission, Texas. (Refer to Exhibit A, Project Location Map).

#### II. FLOOD PLAIN

The subject tract lies in FEMA flood Zone C (No shading), Areas of minimal flooding. This area is determined to be in accordance with F.E.M.A.-F.I.R.M. Community Panel No. 480334 0400 C, Map Revised November 16, 1982. (Refer to Exhibit D, FEMA FIRM Map).

#### III. SOIL CONDITIONS

A review of the Soil survey of Hidalgo County (Refer to Exhibit E, Soil Survey of Hidalgo County Texas) indicates that 63.2% of the tract lies in the (3) Brennan fine sandy loam, 34.5 % of the tract lies in the (25) Hidalgo Fine Sandy loam and 2.2% lies in the (28) Hidalgo Sandy Clay Loam.

#### IV. EXISTING HYDRAULIC CONDITIONS

The subject tract is currently undeveloped, vacant land that has been utilized as farmland. Topographic elevations obtained from the site indicate that the existing terrain has a slight grade approximately (0-0.5%) towards the southeast. Storm water sheet flows onto the roadside ditch along the west right of way of North Taylor Road and discharges into an existing City of Mission grate inlet located at the northwest intersection of N. Taylor Road and East Mile 2 Road.

In accordance with the Drainage policies of the City of Mission and the County of Hidalgo, the Rationale Method – Kirby – Hathaway Equation was utilized to calculate the existing 10-year frequency storm event. The total contributing 10-year existing storm water runoff from this site is approximately **5.49 cfs**. (Refer to Exhibit B, Drainage Calculations)

#### V. POST DEVELOPED HYDRAULIC CONDITIONS

The ultimate conditions for this subject tract will consist of a 28-lot single-family residential Development with one lot dedicated to detention. Development in the form of impervious pavement and buildings will increase the ultimate storm water runoff. A storm drainage conveyance system comprised of a curb and gutter roadway section, concrete valley

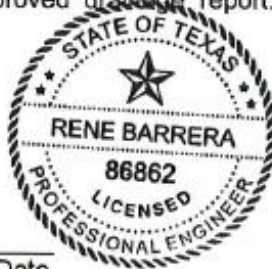
## STORM WATER DRAINAGE STATEMENT

gutters, storm drainage inlets will capture and convey storm water runoff within the subdivision. The on-site storm drainage conveyance is sized to accommodate the 10-year post developed storm flow and release the 10-year pre-developed flow (refer to the drainage area map and storm conveyance calculations). The total 50-year developed runoff, based on the Rational Methodology is **27.04 cfs**.

In accordance with the City of Mission and County of Hidalgo Drainage Policy, the peak 50-year rate for runoff for this development will be mitigated to the existing 10-year storm water runoff. A total of **36,006 cubic-feet** (Kerby-Hathaway Method) will be required to be detained for this development within a privately owned and maintained detention pond which will be sized and constructed accordingly to the Detention Storage Requirements and specifications as per the City of Mission and Hidalgo County Drainage District No. 1. The proposed on-site detention pond will be sized to accommodate approximately 59,109 cubic- feet of storage, which equals a 1.64 factor of safety.

The outfall will consist of an 18-inch RCP CLIII Pipe with a 12-inch constriction within the 18-ich RCP. The total available head is 5.0 feet of Head, resulting in an estimated flow of 5.6 cfs, which is approximate to the existing 10-year pre-developed flow of 5.38 cfs.

The developer shall be responsible for detaining and accommodating more than the detained volume of 36,006 cubic feet if it is determined, at the permit stage, that the detention requirements are greater than stated on this report and the recorded plat of Sommercrest Oaks Estates Subdivision, due to the impervious area being greater than was considered on the approved drainage report. (Refer to Exhibit C, Detention Storage Requirements).

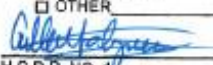


4/21/26  
 P.E.  
Rene Barrera, P.E. Date  
Tx Firm No: 6435

- ☐ REJECTED
- ☒ APPROVED FOR SUBMITTAL
  - ☐ TO H.C. PLANNING DEPT.
  - ☒ TO CITY
- ☒ DISCHARGE PERMIT REQUIRED
  - ☐ DISTRICT FACILITY
  - ☒ CITY FACILITY
  - ☐ OTHER

H.C.D.D. NO. 1/



 06/03/26  
DATE