

Ogden Valley Community Church Drainage Report

3/6/15

General Site information

The proposed Ogden Valley Community Church (OVCC) development sits on approximately 3.35 acres of land adjacent to and to the North of Highway 39 as shown in DWG 2. Site drainage flows southwest towards the highway and towards the adjacent parcel of land to the west as shown in DWG 1. There are no significant drainage facilities in this area.

Method

For purposes of this drainage report, the site was separated into two drainage areas D1 and D2 as shown in DWG2. Area D1 (2.727 Acres) contains all development (18,671 SF Asphalt/Roofs), disturbed ground (35,732 SF), and some undisturbed pasture (64,396 SF). The post development "100 YR Storm" runoff from this area will be controlled by the detention/retention basin, 18" culvert, and grass swales as shown in DWG 2 and will limited offsite runoff to 0.1 cfs/acre (0.27 cfs.) Area D2 does not contain any proposed development or significant disturbance and was not considered in these calculations.

HydroCAD was use to model the 100 Yr Type II 24 –hr rainfall event using the SCS TR-20 method. Point precipitation rainfall data was taken from NOAA Atlas 14, Volume 1 and is attached. Curve number (CN) values of 98 were used for asphalt and roof surfaces, 69 for re-vegetated and landscaped areas on Soil Group B soils, and 61 for undisturbed pasture/grassland/range on Soil Group B soils.

The detention/retention pond is sized to control runoff to 0.1 cfs/acre, 0.27 cfs, and is shown in DWG2. Excess runoff will exit the pond through a broad crested weir and will continue in a direction similar to predevelopment conditions. Percolation rates within the pond were assumed to be 15 minutes per inch as obtained from site percolation testing.

Attached:

DW1, DW2, HydroCAD Report, PPFE (Inches), PPFE (Inches/Hour)

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