

HYDROLOGIC REPORT

“VIRON RONDO OSTERIA”

1717 & 1727 HIGHLAND AVENUE

CHESHIRE CONNECTICUT

**September 9, 2020
Amended October 8, 2020**

OCC GROUP INC.

**2091 HIGHLAND AVENUE
CHESHIRE CT 06410**

HYDROLOGIC & DRAINAGE STUDY (REV)
VIRON RONDO OSTERIA, CHESHIRE CT

SITE HYDROLOGY

This study will be analyzed using the SCS-24 hr duration storm event and modeled with Tr-20 methodology for the expanded parking lot to the West of the existing restaurant. This report will analyze the capacity of a new underground galley retention system at the East end of the new parking area to contain the additional flows from the new parking area runoff. The point of analysis is the discharge point on Reinhard Road where the storm drainage enters the road. All runoff will be to the storm water system on site or down Reinhard Road to the discharge point. The 10 25 50 and 100 storm events will be analyzed.

PRE DEVELOPMENT CONDITION

The newly purchased property for the expanded parking area presently drains Easterly to the existing parking lots and Westerly to an existing offsite detention basin and Reinhard Road. These existing lots incorporate previously installed underground galley retention systems which were designed to handle the total increase in post-development runoff from the fully expanded parking area off Reinhard Road. The proposed area is covered in brush and trees except for a gravel area adjacent to the restaurant. The Cn number for this is 65. Hydrograph 1 is the Pre development existing condition for the area of the new parking lot.

POST DEVELOPMENT CONDITION

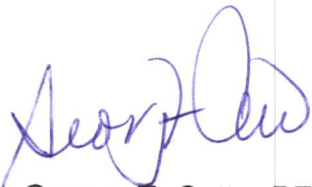
The entire post development parking lot will be directed to a galley system similar to the system designed for the original parking expansion. This system will have a 4" port and a weir in the manhole to direct the storm water discharge to the existing parking drainage system that connects to the Reinhard Road Drainage system.

Hydrograph 2 is the new parking area that will flow to the new parking lot galley system. The parking lot discharge will be routed through the new galley detention system and discharge to the existing parking lot storm drainage. The first row of chambers will be an isolation row for water quality purposes. The discharge of this system will be to the oil water separator as the storm water system leaves the property. A manhole with a weir has been added to direct the WQV (1481 CF) to the Isolator Row.

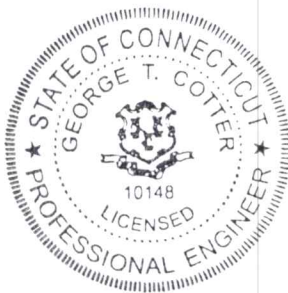
SUMMARY

The storm events analyzed for this report are the 10, 25, 50 and the 100 year event. In these entire storm events there will be a decrease in the runoff in the post development condition. The following chart shows the runoff for the different events and the height of the water in the galley in the 100yr event. The Parking Galley has a top of the units at 217.9 with one foot of stone over the units. The top water elevation for the 100 year event is 217.95. All volumes are in cfs.

	10 YR.	25 Yr.	50 Yr.	100 Yr.	TOP ELEV.
PRE DEVELOPMENT	0.95	1.42	1.78	2.19	
POST GALLEY DISCHARGE	0.55	0.64	0.70	0.96	
DIFFERENCE	-0.40	-0.78	-1.08	-1.23	217.95



George T. Cotter PE



SHEET NO. 2120

SHEET NO. 5049

SHEET NO. 5048

REINHARD

ROAD W

W

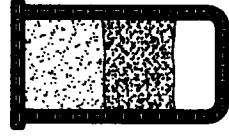
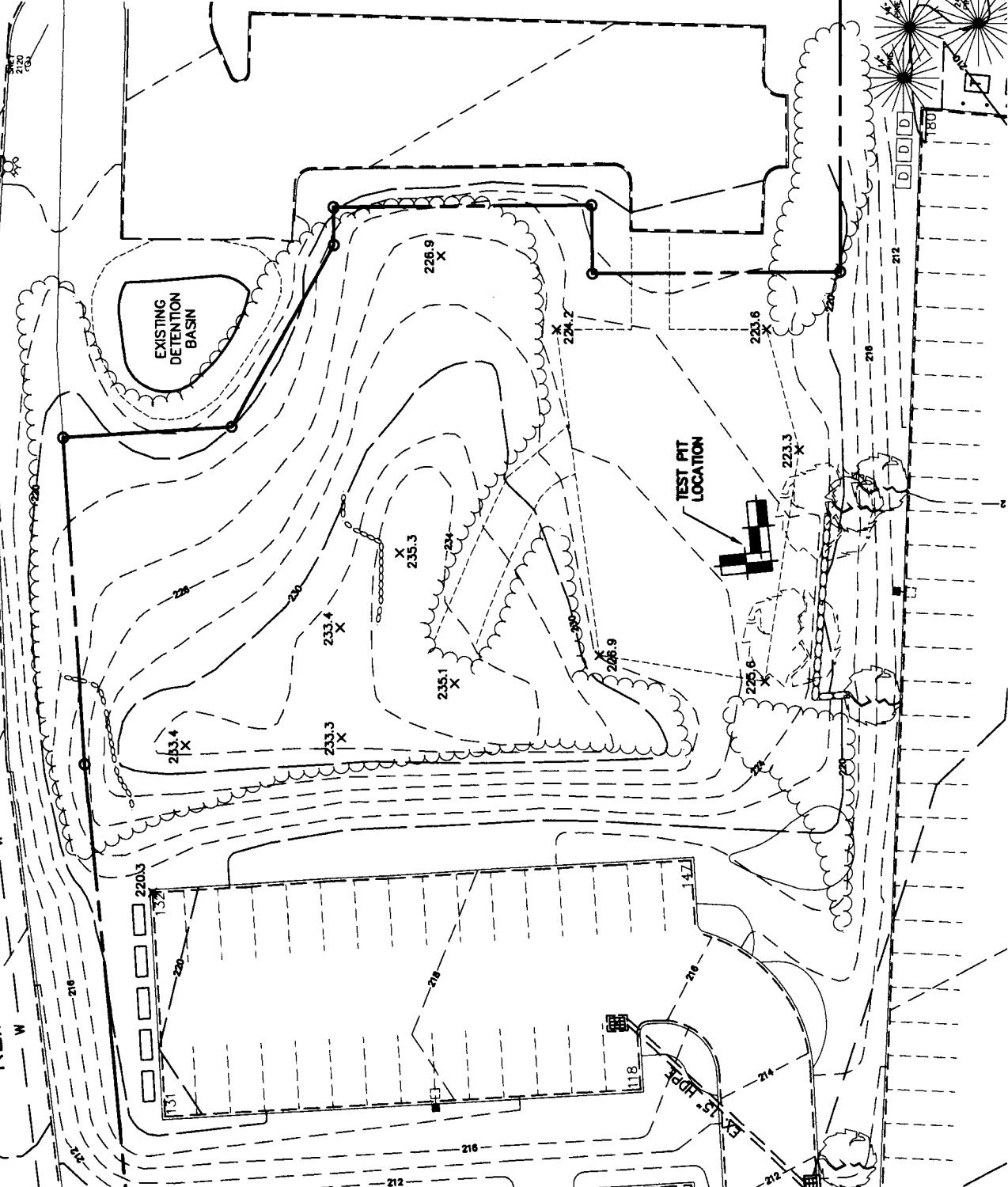
W

W

W

W

W



- 6' GRAVEL
- 4' GLACIAL TILL
- 2' FRACTURED ROCK

TEST PIT PROFILE
 DESIGN INFILTRATION RATE: 60 MIN./INCH