



DRAINAGE CALCULATIONS

$t_a = \text{TOTAL AREA (FT}^2\text{)} = (\text{PAVMT} + \text{ROOF} + \text{GREEN} + \text{LAKE})$
 $I = \text{IMPERVIOUS AREA} = (\text{PAVMT} + \text{ROOF} + \text{LAKE})$
 $P = \text{PERVIOUS AREA} = (\text{GREEN})$
 $R = \text{ROOF AREA}$
 $L = \text{LAKE AREA}$
 $D = \text{DISCOUNT (DET} = .75\text{) (RET.} = .5\text{)}$

$t_a = 45,580 \text{ SF}$
 $I = 24,660 \text{ SF}$
 $P = 20,920 \text{ SF}$
 $R = 7,205 \text{ SF}$
 $L = 0.0 \text{ SF}$
 $D = 0.75$

① 1" OVER ENTIRE SITE
 $t_a \times 0.083 \times D = 45,580 (.083) .75 = 2,838 \text{ CF}$

② 2 1/2 TIMES PERCENT IMPERVIOUSNESS
 $(t_a - I - R - P) \times (t_a - L) \times D \times .20833 =$
 $(45,580 - 0 - 7,205 - 20,920 - 0) (45,580 - 0) (.75) (.20833)$
 $= (17,455) (45,580) (.75) (.20833) = 3,240 \text{ CF}$

EXAMPLE 2 IS THE WORST CASE WITH 3,240 CF REQUIRED. 10,345 CF PROVIDED.

The owner (O'REILLY AUTO PARTS) will be entirely responsible for the operation and maintenance of the surface water management system.

STORMWATER ELEVATIONS

FLOOD ZONE "AH-35.0"

25 YR. DESIGN PEAK DISCHARGE RATE: 1.08 CFS
(MIN. COLLIER CO. REQ.=0.05 CFS HOWEVER, MIN. 3" BLEEDER IS UTILIZED PER SFWMD CRITERIA)

REQUIRED ELEVATIONS:	MINIMUM	PROPOSED
PERIMETER BERM:	36.11'	36.25'
GRATE OF DISCHARGE C.S.	36.25'	36.30'
PARKING LOT:	35.25'	36.30'
F.F. ELEV.	36.00'	37.70'
FREEBOARD	1.0'	2.7'
EXISTING CROWN OF ROAD (N ST.)	37.35'	

NOTE: ALL SIDEWALK CONSTRUCTION MUST CONFORM TO CURRENT FDOT & ADA STANDARDS, INCLUDING CURB RAMPS AND DETECTABLE WARNING SURFACES IN ACCORDANCE WITH CHAPTER 8 OF FDOT PLANS PREPARATION MANUAL AND AC-11-12(V)(E). SIDEWALK TO BE 6' WIDE & 6" THICK & HAVE MAX. CROSS SLOPE OF 2% & A MAX. RUNNING SLOPE OF 5%.

THERE ARE NO CONTRIBUTING FLOWS FROM UPSTREAM PROPERTIES

POST-DEVELOPMENT / IMPROVEMENT DISCHARGE RATE SHALL NOT EXCEED THE PRE-DEVELOPMENT RATE.

SFWMD ERP Modification not required for this site (less than 2 ac. impervious area). Owner shall provide FDEP 10/2.

THIS STORMWATER MANAGEMENT PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH SFWMD STANDARD REGULATIONS.

PAVING, GRADING AND DRAINAGE NOTES

- SUBJECT PROPERTY IS LOCATED IN FEMA FLOOD ZONE "AH-35.0" = MIN. PURSUANT TO FEMA PANEL: 1202100145H, DATED 5/16/12.
- PROPOSED MIN. FINISHED FLOOR ELEVATION = 37.70' NAVD 1985
- MINIMUM PARKING LOT GRADE = 36.30' NAVD 1985
- EXISTING SITE ELEVATIONS VARY FROM 34.2' - 34.60' NAVD 1985
- DRAINAGE FACILITY MAINTENANCE WILL BE THE RESPONSIBILITY OF THE OWNER.
- PROPOSED GRADES SHOWN ARE FINISHED GRADES AND REFER TO TOP OF PAVEMENT, SOD OR LANDSCAPING. SOD SHALL NOT INHIBIT SURFACE DRAINAGE FLOW.
- ALL FLARED END AND MITERED END SECTIONS SHALL BE INSTALLED FLUSH WITH THE RETENTION AREA BANKS.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT THE WATER DISCHARGED FROM THE SITE DURING CONSTRUCTION SHALL MEET OR EXCEED STATE WATER QUALITY STANDARDS. SPECIFICALLY, THE TURBIDITY OF DISCHARGED WATER SHALL NOT EXCEED 29 NTU ABOVE THE BACKGROUND LEVEL. WATER QUALITY AND SILTATION CONTROL DEVICES SHALL REMAIN IN PLACE UNTIL EROSION CONTROL MEASURES ARE INSTALLED, ESTABLISHED AND ACCEPTED. (SEE SHT. NO C9 FOR ADDITIONAL EROSION CONTROL DETAILS)
- WHERE INDICATED, OR AS NECESSARY, SILT FENCES AND OR HAYBALES SHALL BE PLACED ALONG THE PROJECT PERIMETER TO PREVENT SEDIMENT IN RUNOFF AND TURBID WATER FROM LEAVING THE SITE.
- STOP BARS AND STOP SIGNS SHALL BE INSTALLED AND PROVIDED AT ALL INTERSECTIONS.
- ALL TRAFFIC CONTROL DEVICES, INCLUDING SIGNS AND MARKING, SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST EDITION, PUBLISHED BY THE U.S. DEPARTMENT OF TRANS.
- THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE SITE AND THE CONTRACT DOCUMENTS, AND SHALL CONDUCT HIS WORK IN STRICT ACCORDANCE WITH ALL PERMITS AND APPROVALS OBTAINED FOR THIS PROJECT.
- THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE AGENCY PRIOR TO COMMENCING WORK WITHIN SUCH AGENCY JURISDICTION.
- ALL MATERIALS, DEBRIS, UNSUITABLE EARTH, ETC. OF NO SALVAGE VALUE BECOMES THE PROPERTY OF THE CONTRACTOR AND SHALL BE LEGALLY DISPOSED OF BY THE CONTRACTOR.
- DURING CONSTRUCTION, CONTRACTOR SHALL KEEP ALL CATCH BASINS AND STORM SEWER CLEAR OF DEBRIS. UPON COMPLETION, CONTRACTOR SHALL CLEAR AND CLEAN ENTIRE STORM SEWER SYSTEM, LAMP ALL LINES AND INSTALL SEDIMENT FILTERS AS SPECIFIED PER PAVING, GRADING AND DRAINAGE DETAIL SHEET.
- ALL CONCRETE SHALL REACH 3000 P.S.I. IN 28 DAYS.
- ALL CULVERTS, SIDEWALKS, CURBING AND PAVEMENT IN R.O.W. AS PER FDOT INDEX UNLESS OTHERWISE NOTED OR DETAILED HEREIN.
- ALL ASPHALT PAVEMENT, BASE, AND SUBGRADE TO MEET FDOT SPECIFICATIONS.
- ALL PIPING MATERIALS TO MEET FDOT SPECIFICATIONS.
- GRADE ADJ. LANDSCAPE AND SWALE AREAS TO DRAIN.
- THE APPROVAL OF THESE CONSTRUCTION PLANS DOES NOT AUTHORIZE CONSTRUCTION OF REQUIRED IMPROVEMENTS WHICH ARE INCONSISTENT WITH EASEMENTS OF RECORD.
- THE WET SEASON WATER TABLE IS 32.50' NAVD 1988
- IMPROPER FINISH OF GRADES OF PARKING AREAS WILL NOT BE ACCEPTED. ANY PONDING OR IMPROPERLY DRAINING AREAS WILL BE STRIPPED AND REPAVED UNTIL ALL DEFECTIVE DRAINAGE IS CORRECTED AT CONTRACTOR'S EXPENSE.
- A HANDICAP ACCESSIBLE ROUTE FROM THE HANDICAP PARKING TO BUILDING ENTRY SHALL BE PROVIDED. SEE BUILDING PLANS FOR CHANGES IN ELEVATION.
- THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION WITHIN ANY R/W WITH FDOT AND COLLIER COUNTY.
- THE OWNER SHALL BE RESPONSIBLE TO ENSURE THAT ALL ABOVE GROUND PUBLIC UTILITY STRUCTURES LOCATED WITHIN THE R/W, BE RELOCATED TO THE UTILITY EASEMENT BEHIND THE R/W LINE. THE CONTRACTOR SHALL COORDINATE SUCH RELOCATIONS WITH THE APPROPRIATE UTILITY COMPANY.
- THE CONTRACTOR SHALL COORDINATE THE RELOCATION OF ANY CITY SIGNS WITHIN OR ADJACENT TO THE R/W WITH FDOT AND COLLIER COUNTY.
- THE CONTRACTOR SHALL PROVIDE COMPACTION TESTING AND THICKNESS REPORTS FOR ALL ROADWAY IMPROVEMENTS WITHIN THE R/W, COPIES OF WHICH SHALL BE PROVIDED TO FDOT AND COLLIER COUNTY.
- STORMWATER ATTENUATION IS ACCOMPLISHED BY THE 10,345 CF OF ON-SITE STORMWATER DETENTION AREA.
- SOIL CLASSIFICATION FOR THIS PARCEL IS SCS #28 IMMOKALEE SAND. THE PARCEL IS NOT SUBJECT TO FRESHWATER PONDING OR SALTWATER INUNDATION.

PROPOSED STORM SEWER TABLE

PIPE	TYPE	LENGTH	SIZE	#	FROM		TO		TO		
					TYPE	RIM	#	TYPE	RIM	UPPER	LOWER
1	RCP	76 LF	15"	CS-1	C	35.25	S-2	ME	N/A	33.00	32.50
2	RCP	52 LF	2-24"	S-3	ME	N/A	S-4	ME	N/A	32.00	32.00
3	RCP	45 LF	12"	S-5	C	36.30	S-6	C	36.30	33.00	33.00
4	RCP	53 LF	12"	S-6	C	36.30	S-7	C	36.30	33.00	33.00
5	RCP	85 LF	12"	S-7	C	36.30	S-8	C	36.30	33.00	33.00
6	RCP	73 LF	15"	S-8	C	36.30	S-9	C	36.30	33.00	33.00
7	RCP	28 LF	2-24"	S-10	ME	N/A	S-11	ME	N/A	32.25	32.25

NOTE: C = TYPE C DRAINAGE INLET
ME = MITERED END SECTION

APPROVED

CA NO.: 6953
CA NO.: 29805
LA 1057

ENGINEERING
LAND SURVEYING

LIS

O'REILLY AUTO PARTS
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ROBERT W. CASE
FLORIDA P.E. #14843
VALID ONLY WITH SEAL

SCALE: 1" = 20'

DATE: APRIL 17, 2020

SHEET

C3

O'REILLY19-01