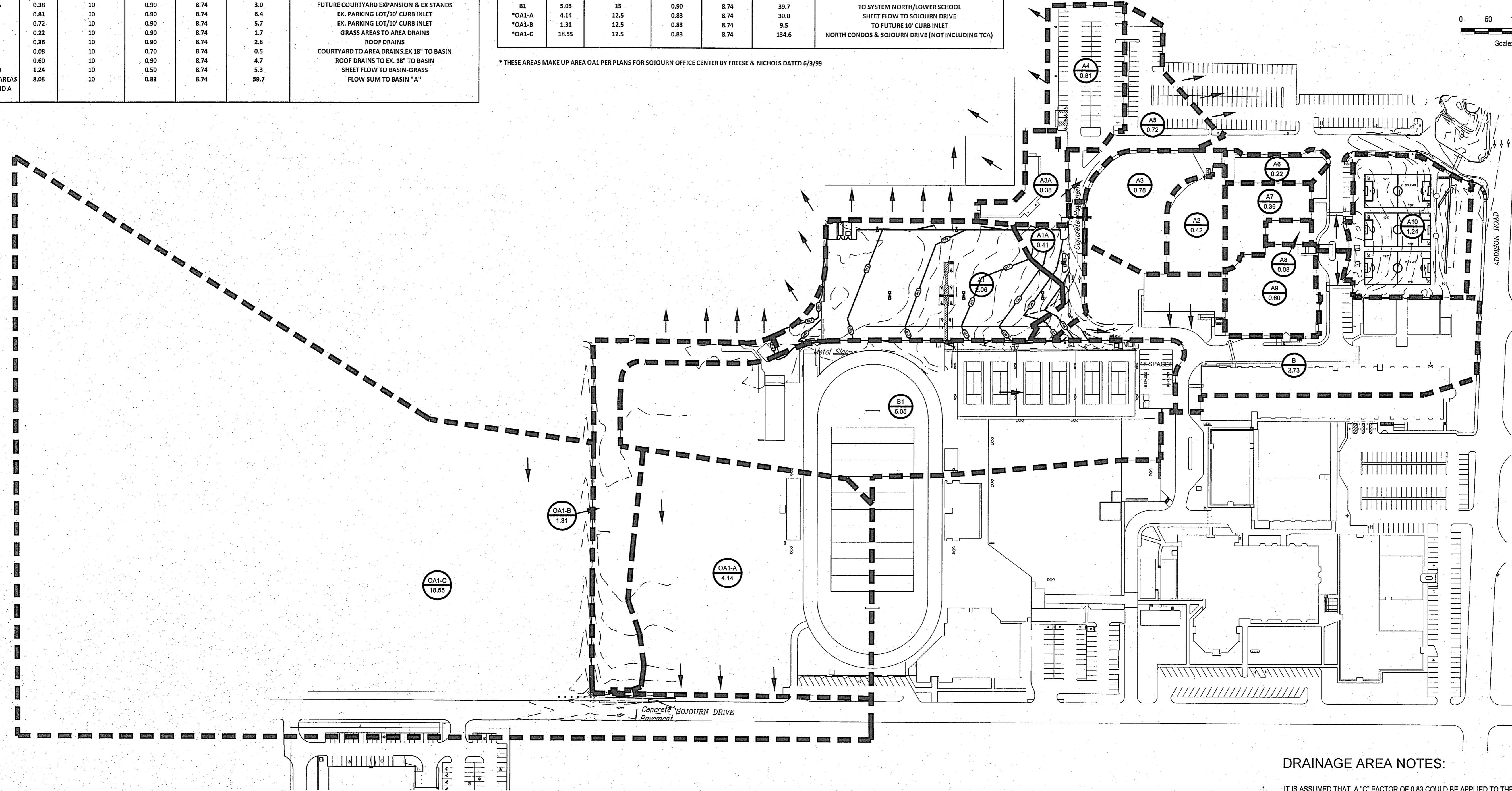


RUNOFF CALCULATIONS TO POND A (JUNE 2010)						
AREA NO.	DRAINAGE AREA (ACRES)	TIME OF CONCENTRATION MINUTES	RUNOFF COEFFICIENT "C"	INTENSITY "1.00" (INCHES/HR)	DESIGN FLOW "Q.100" (CFS)	REMARKS
A1	2.47	10	0.90	8.74	19.4	NEW PARKING LOT - 2 CURB INLETS BUILDING/ROOF DRAINS FUTURE BUILDING EXPANSION FUTURE COURTYARD EXPANSION & EX STANDS EX. PARKING LOT/10' CURB INLET EX. PARKING LOT/10' CURB INLET GRASS AREAS TO AREA DRAINS ROOF DRAINS COURTYARD TO AREA DRAINS EX. 18" TO BASIN ROOF DRAINS TO EX. 18" TO BASIN SHEET FLOW TO BASIN-GRASS FLOW SUM TO BASIN "A"
A2	0.42	10	0.90	8.74	3.3	
A3	0.78	10	0.90	8.74	6.1	
A3A	0.38	10	0.90	8.74	3.0	
A4	0.81	10	0.90	8.74	6.4	
A5	0.72	10	0.90	8.74	5.7	
A6	0.22	10	0.90	8.74	1.7	
A7	0.36	10	0.90	8.74	2.8	
A8	0.08	10	0.70	8.74	0.5	
A9	0.60	10	0.90	8.74	4.7	
A10	1.24	10	0.50	8.74	5.3	
SUM OF AREAS TO POND A	8.08	10	0.83	8.74	59.7	

NEW RUNOFF CALCULATIONS						
AREA NO.	DRAINAGE AREA (ACRES)	TIME OF CONCENTRATION MINUTES	RUNOFF COEFFICIENT "C"	INTENSITY "1.00" (INCHES/HR)	DESIGN FLOW "Q.100" (CFS)	REMARKS
A1	2.06	10	0.90	8.74	16.2	TO PROPOSED 10' CURB INLET TO PROPOSED 2-GRATE INLET TO EK. ADDISON ROAD TO SYSTEM NORTH/LOWER SCHOOL SHEET FLOW TO SOJOURN DRIVE TO FUTURE 10' CURB INLET NORTH CONDOS & SOJOURN DRIVE (NOT INCLUDING TCA)
A1A	0.41	10	0.90	8.74	3.2	
B	2.73	15	0.90	8.74	21.5	
B1	5.05	15	0.90	8.74	39.7	
*OA1-A	4.14	12.5	0.83	8.74	30.0	
*OA1-B	1.31	12.5	0.83	8.74	9.5	
*OA1-C	18.55	12.5	0.83	8.74	134.6	

\* THESE AREAS MAKE UP AREA OA1 PER PLANS FOR SOJOURN OFFICE CENTER BY FREESE & NICHOLS DATED 6/3/99



**INLET CAPACITY CALCULATIONS**

Project Description: TRINITY CHRISTIAN ACADEMY

Project No TCA  
Date: 6/7/2011

By: TJC  
Checked By: TJC:

manning's n = 0.013

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
INLET No.	C	A	Q	ROAD- WAY	STREET S	Sx (ft./ft.)	a. (in.)	Gutter or Grate Width (ft.)	S'w	Sw	Eo	Se	y (ft.)	Spread T (ft.)	V (ft./sec.)	Vo (ft./sec.)	Inlet Type	Inlet L (ft.)	HEAD (ft.)	AREA (ft.)	CAP. (c.f.s.)	Q1 Flow	% Intercp.	C	A	Inlet or Line to	A By-Pass (acre)	Inlet By-Pass to	By-Pass Tc (min.)
OA1-B	0.83	1.31	9.5	NA	SUMP	0.02	6	NA	NA	NA	NA	NA	NA	NA	NA	NA	SMP	10	0.5	NA	10.61	9.50	100.0	0.83	1.31	LINE "OA"	0	NA	10
A1	0.90	2.06	16.2	NA	SUMP	0.02	6	NA	NA	NA	NA	NA	NA	NA	NA	NA	SMP	10	0.7	NA	17.56	16.20	100.0	0.90	2.06	BASIN A	0	NA	10
A1A	0.90	0.41	3.2	NA	SUMP	0.02	6	NA	NA	NA	NA	NA	NA	NA	NA	NA	SMPGR	10	0.2	2.5	5.39	3.20	100.0	0.90	0.41	BASIN A	0	NA	10

**DRAINAGE AREA NOTES:**

- IT IS ASSUMED THAT A "C" FACTOR OF 0.83 COULD BE APPLIED TO THE ENTIRE AREA OA1-B (THIS WOULD SEEM TO BE A REASONABLE ASSUMPTION SINCE THE TOWN OF ADDISON DRAINAGE CRITERIA MANUAL OF MARCH 1990, INDICATES A RUNOFF COEFFICIENT RANGE OF 0.70 TO 0.85). THE AFFOREMENTIONED ASSUMPTION WOULD ALLOW A RUNOFF COEFFICIENT OF 0.83 TO BE APPLIED TO THE REMAINING OA1-A AREA OF 0.83. OUR ESTIMATE IS THAT AREA OA1-A IN THE PROPOSED CONDITION CONTAINS APPROXIMATELY 80,600 ± S.F. (1.39 ACRES) OF IMPERVIOUS AREA. THIS WOULD MEAN AN C FACTOR OF 0.53 WOULD SEEM APPROPRIATE FOR THIS DRAINAGE AREA, AND WOULD NOT REQUIRE DETENTION (C = 0.53 = ((1.39 x 0.90 + 0.40 x 4.06) / 5.45)).
- DRAINAGE AREA A1 WAS ACCOUNTED FOR IN POND "A" AS DESIGNATED IN THE PLANS BY GLENN ENGINEERING DATED JUNE 23, 2010. "DRAINAGE & DRIVE IMPROVEMENTS NEAR THE UPPER SCHOOL" FOR TRINITY CHRISTIAN ACADEMY.
- DRAINAGE AREA B1, WITH AN AREA OF 5.05 ACRES DOES NOT EXCEED THE COMBINED AREAS OF AREAS 3 AND 4 (4.5 AND 1.7 RESPECTIVELY, TOTALING 6.2 ACRES) AS SHOWN ON THE "DRAINAGE AREA MAP" FOR TRINITY CHRISTIAN ACADEMY DATED JUNE, 1986. WE WOULD ALSO NOTE THAT NO IMPERVIOUS AREA IS BEING PROPOSED TO BE ADDED TO THIS DRAINAGE AREA AT THIS TIME.

**GLENN ENGINEERING**  
 P.L.L.C. FIRM  
 # F-303  
 PHONE 972-717-5151  
 105 DECKER COURT-SUITE 910  
 IRVING, TEXAS 75062  
 FAX 972-717-2176

TRINITY CHRISTIAN ACADEMY  
 PARKING ADDITIONS

DRAINAGE AREA  
 MAP

Issue Dates:  
 Review: Bid March 7, 2011  
 1 Revised Grading & HC Parking May 2, 2011  
 2 Re-Bid May 11, 2011  
 3 Town Comments, June 7, 2011  
 4 Town Comments #2, Removed Loop Road June 30, 2011

Construction:  
 Scale: AS NOTED

Drawn By: TJC  
 Checked By: CMA

Project No.: 10 - 599.150

Sheet 9  
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