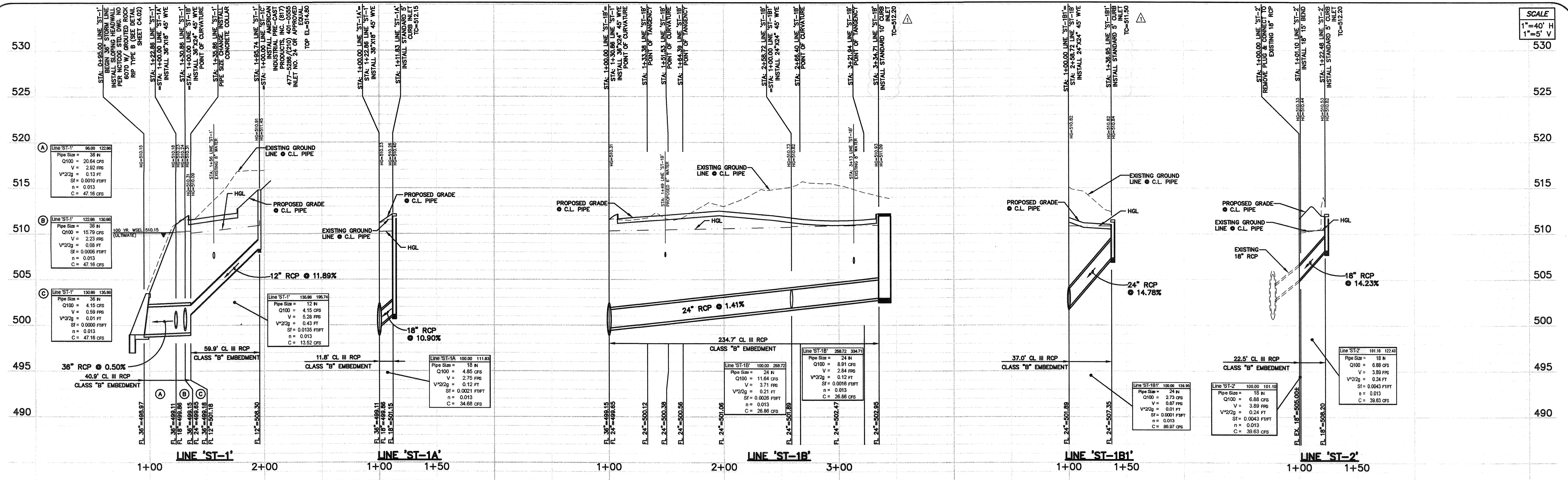


SCALE  
1"=40' H  
1"=5' V



**STORM SEWER DRAINAGE CALCULATIONS TABLE AND FLOW INFORMATION**

Line Description	Run-Off Collection Point Station	Distance Between Collection Points	Incremental Drainage Area Area Number	D.A. (Ac)	Coeff. - C	Time of Upstream Station (Min)	Rainfall Intensity I (In/Hr)	Storm Water Run-off Q (CFS)	Selected Storm Sewer Size (in)	Slope of Storm Pipe %	Manning's Coeff. (n)	Velocity in Storm Sewer (fps)	Velocity at Capacity (fps)	Slope of Hydraulic Gradient Sf (F/FT)	Capacity of Storm Sewer Q (CFS)	L'Sf	Head Loss Coeff. Kf	V. Head Loss Upstream (ft)	Inlet & Bend Losses	Time Day (V'80) (Min)	T Dv nstrm Sta (Min)	Dv nstrm HGL	Upstream HGL			
Line 'ST-1'	122.86	95.00	27.86	C4	0.550	0.90	0.50	10.39	100-yr 9.80	4.85	20.64	36	0.50%	0.013	2.92	6.67	0.0010	47.16	0.03	0.00	0.05	0.00	0.16	10.55	510.18	510.23
Line 'ST-1'	130.86	122.86	8.00	C1, C2	1.320	0.90	1.19	10.33	100-yr 9.80	11.64	15.79	36	0.50%	0.013	2.23	6.67	0.0006	47.16	0.00	0.00	0.06	10.39	510.24	510.31		
Line 'ST-1'	136.86	130.86	5.00	-	0.000	0.90	0.00	10.19	100-yr 9.80	0.00	4.15	36	0.50%	0.013	0.59	6.67	0.0000	47.16	0.00	0.00	0.14	10.33	510.31	510.09		
Line 'ST-1'	195.74	136.86	59.88	C3	0.470	0.90	0.42	10.00	100-yr 9.80	4.15	4.15	12	14.40%	0.013	3.78	17.21	0.0135	13.52	0.81	1.25	0.43	0.54	0.19	10.19	510.91	511.45
Line 'ST-1B'	258.72	100.00	158.72	C2	0.310	0.90	0.28	10.45	100-yr 9.80	2.73	11.64	24	1.41%	0.013	3.71	8.55	0.0026	26.86	0.42	0.00	0.09	0.00	0.71	11.16	510.73	510.82
Line 'ST-1B'	334.71	258.72	75.99	C1	1.010	0.90	0.91	10.00	100-yr 9.80	8.91	8.91	24	1.41%	0.013	2.84	8.55	0.0016	26.86	0.12	1.25	0.12	0.16	0.45	10.45	510.93	511.09
Line 'ST-1A'	111.83	100.00	11.83	C4	0.550	0.90	0.50	10.00	100-yr 9.80	4.85	4.85	18	10.90%	0.013	2.75	19.62	0.0021	34.68	0.03	1.25	0.12	0.15	0.07	10.07	510.26	510.40
Line 'ST-1B1'	136.95	100.00	36.95	C2	0.310	0.90	0.28	10.00	100-yr 9.80	2.73	2.73	24	14.78%	0.013	0.87	27.68	0.0001	86.97	0.01	1.25	0.01	0.01	0.71	10.71	510.82	510.84
Line 'ST-2'	101.10	100.00	1.10	-	0.000	0.90	0.00	10.09	100-yr 9.80	0.00	6.88	18	14.23%	0.013	3.89	22.42	0.0043	39.63	0.00	0.45	0.00	0.11	0.00	10.10	510.33	510.44
Line 'ST-2'	122.48	101.10	21.38	B1	0.780	0.90	0.70	10.00	100-yr 9.80	6.88	6.88	18	14.23%	0.013	3.89	22.42	0.0043	39.63	0.09	1.25	0.24	0.29	0.09	10.09	510.53	510.82

**ANALYSIS OF EXISTING STORM SEWER LINES**

Line Description	Run-Off Collection Point Station	Distance Between Collection Points	Incremental Drainage Area Area Number	D.A. (Ac)	Coeff. - C	Time of Upstream Station (Min)	Rainfall Intensity I (In/Hr)	Storm Water Run-off Q (CFS)	Selected Storm Sewer Size (in)	Slope of Storm Pipe %	Manning's Coeff. (n)	Velocity in Storm Sewer (fps)	Velocity at Capacity (fps)	Slope of Hydraulic Gradient Sf (F/FT)	Capacity of Storm Sewer Q (CFS)	L'Sf	Head Loss Coeff. Kf	V. Head Loss Upstream (ft)	Inlet & Bend Losses	Time Day (V'80) (Min)	T Dv nstrm Sta (Min)	Dv nstrm HGL	Upstream HGL			
Ex. Line 'A'	20.00	0.00	20.00	B1	0.78	0.90	0.70	11.08	100-yr 9.80	6.88	68.37	54	0.50%	0.013	4.30	8.74	0.0012	139.05	0.02	0.00	0.05	0.00	0.08	11.16	510.17	510.23
Ex. Line 'A'	150.00	20.00	130.00	-	0.00	0.90	0.00	10.52	100-yr 9.80	0.00	61.49	54	2.90%	0.013	3.87	21.06	0.0010	334.88	0.13	0.00	0.56	11.08	510.36	510.36		
Ex. Line 'A'	270.00	150.00	120.00	U.S.+Ln. B	6.97	0.90	6.27	10.00	100-yr 9.80	61.49	61.49	54	0.50%	0.013	3.87	8.74	0.0010	139.05	0.12	0.80	0.23	0.19	0.52	10.52	510.47	510.66
Ex. Line 'B'	50.00	0.00	50.00	A1a + O.S.	1.03	0.90	0.93	12.50	100-yr 9.80	9.12	33.98	48	0.50%	0.013	2.70	8.08	0.0006	101.57	0.03	0.00	0.05	0.00	0.31	12.81	510.69	510.74
Ex. Line 'B'	60.00	50.00	10.00	Exist. J	1.15	0.90	1.04	12.42	100-yr 9.80	10.14	24.86	48	0.50%	0.013	1.98	8.08	0.0003	101.57	0.00	0.00	0.02	0.00	0.08	12.50	510.74	510.77
Ex. Line 'B'	282.00	60.00	222.00	A1b+O.S.+U.S.	1.67	0.90	1.50	10.00	100-yr 9.80	14.72	14.72	42	0.50%	0.013	1.53	7.39	0.0002	71.14	0.05	0.80	0.04	0.03	2.42	12.42	510.81	510.84
Ex. Line 'A1'	23.00	0.00	23.00	B1	0.78	0.90	0.70	10.00	100-yr 9.80	6.88	6.88	18	8.26%	0.013	3.89	17.08	0.0043	30.19	0.10	0.00	0.24	0.00	0.10	10.10	510.33	510.33
Ex. Line 'B3'	33.00	0.00	33.00	A1a + O.S.	1.03	0.90	0.93	10.00	100-yr 9.80	9.12	9.12	24	4.82%	0.013	2.90	15.81	0.0016	49.67	0.05	1.25	0.13	0.16	0.19	10.19	510.79	510.86
Ex. Line 'B1'	14.00	0.00	14.00	Exist. K	0.73	0.90	0.68	0.17	100-yr 9.80	6.43	14.72	24	0.50%	0.013	4.69	5.09	0.0042	16.00	0.06	0.00	0.00	0.05	0.22	510.90	510.90	
Ex. Line 'B1'	61.00	14.00	47.00	A1b + O.S.	0.94	0.90	0.85	0.00	100-yr 9.80	8.29	8.29	18	0.45%	0.013	4.69	3.99	0.0062	7.05	0.29	1.25	0.34	0.43	0.17	0.17	511.20	511.96

**BENCH MARK LIST:**  
BENCHMARK #1  
CITY OF ROCKWALL MONUMENT (RESET #1) FOUND  
ELEVATION = 587.704  
BENCHMARK #2  
CUT AT NORTHWEST CORNER OF CURB INLET LOCATED AT THE  
INTERSECTION OF THE NORTHERLY RIGHT-OF-WAY LINE OF MEDICAL  
DRIVE AND THE WESTERLY RIGHT-OF-WAY LINE OF MEDICAL DRIVE.  
ELEVATION = 514.10

**RECORD DRAWINGS:**  
IT WAS THE INTENT THAT THE IMPROVEMENTS SHOWN BE CONSTRUCTED  
ACCORDING TO THESE PLANS AS APPROVED BY THE CITY. THE LINES AND  
GRADES WERE SET ON THE GROUND FOR CONSTRUCTION ACCORDING TO  
SAID PLANS. THE CITY INSPECTED THE CONSTRUCTION. THE ENGINEER DID  
NOT VERIFY LINES OR GRADES AFTER CONSTRUCTION. WE ARE NOT AWARE  
OF ANY CHANGES OR REVISIONS TO THESE PLANS DURING CONSTRUCTION  
OTHER THAN THOSE SHOWN. DATE: MARCH 4, 2013.

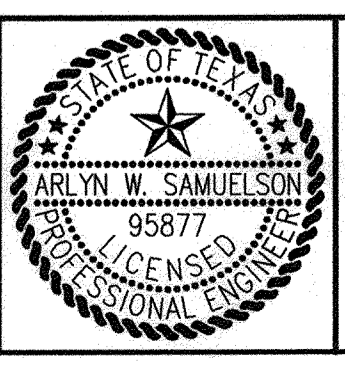
03-04-13 RECORD DRAWINGS  
 04-30-12 REVISED DUMPSTER DRAIN  
 02-28-12 REVISED WATER TAP  
 02-09-12 ADDED DETAILS FOR FIRE LINE  
 10-31-11 CITY COMMENTS  
 09-19-11  
 03-13-2013 1:58PM NURSING HOME CIVILS(DWG) 1483-11-032-STORM PROFILES.DWG  
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DESIGN	DRAWN	DATE	PI NUMBER
AW5	WTW	09-01-2011	1483-11-027

**PROJECT INFORMATION**  
LAKESIDE REHABILITATION CENTER  
BLOCK C, LOT 6, HORIZON RIDGE MEDICAL PARK  
CITY OF ROCKWALL, TEXAS  
EDWARD TEAL SURVEY, ABSTRACT NO. 207  
PROPOSED USE: NURSING & REHABILITATION CENTER

**DEVELOPER**  
SMITHERS MERCHANT BUILDERS, LP  
21726 HARDY OAK BOULEVARD  
SAN ANTONIO, TEXAS 78258  
MR. DAVID FRICK  
(210) 479-2500 PHONE  
(210) 479-2507 FAX

THE SEAL APPEARING ON THIS DOCUMENT WAS  
AUTHORIZED BY ARLYN W. SAMUELSON, P.E. 95877 ON  
09-29-2011. ALTERATION OF A SEALED DOCUMENT  
WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE  
ENGINEER IS AN OFFENSE UNDER THE TEXAS  
ENGINEERING PRACTICE ACT.  
*Arlyn W. Samuelson 09-01-11*



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MCKINNEY, TEXAS 75069  
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(214) 544-8882 FAX  
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**STORM SEWER PROFILES**  
LAKESIDE REHABILITATION CENTER  
BLOCK C, LOT 6, HORIZON RIDGE MEDICAL PARK  
EDWARD TEAL SURVEY, ABSTRACT NO. 207  
CITY OF ROCKWALL, TEXAS

SHEET NO. C5.02  
 TEXAS BOARD OF PROFESSIONAL ENGINEERS, CERTIFICATE OF REGISTRATION # 000461; TEXAS BOARD OF PROFESSIONAL LAND SURVEYING, CERTIFICATE OF REGISTRATION 100421-00