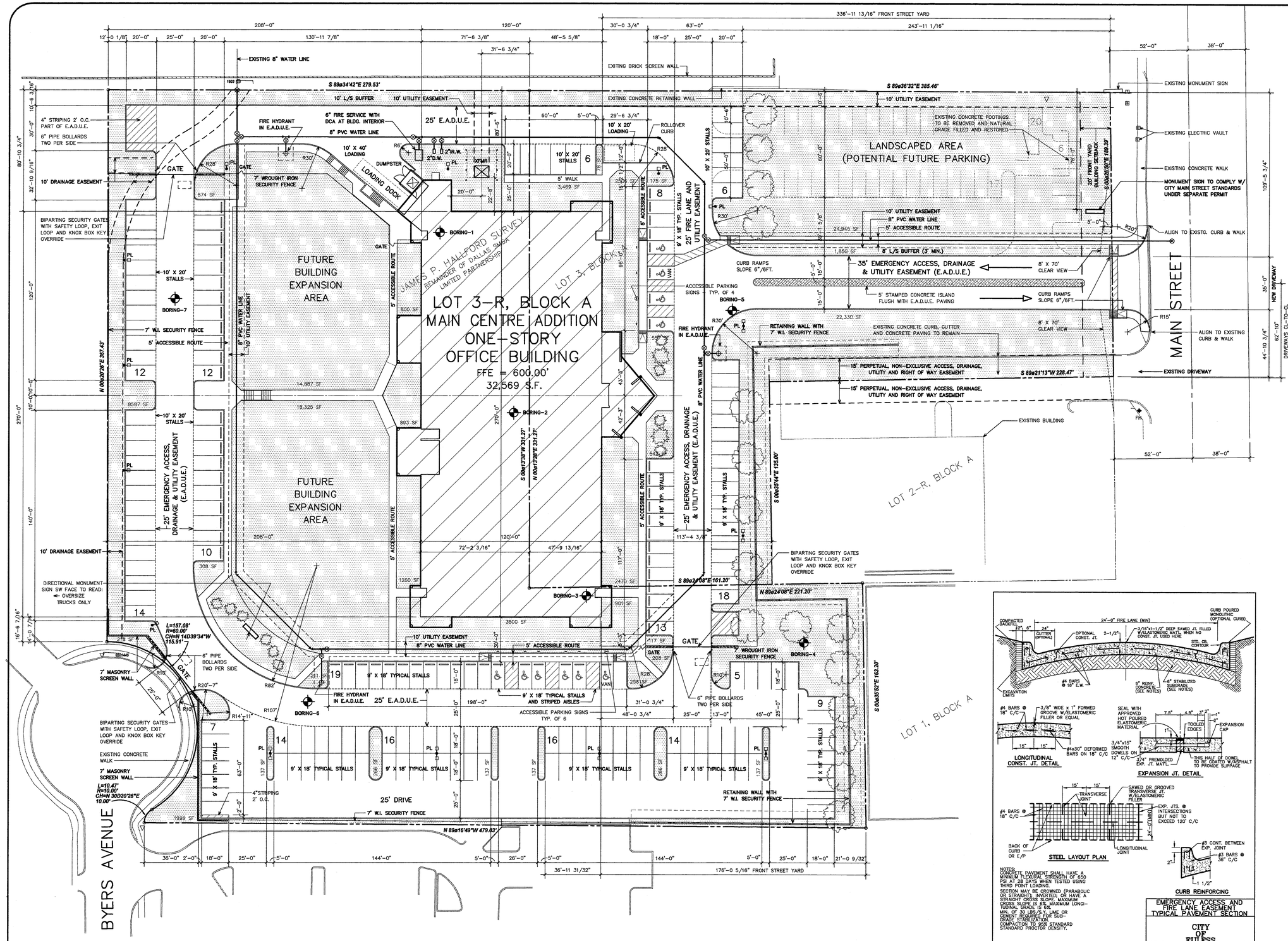
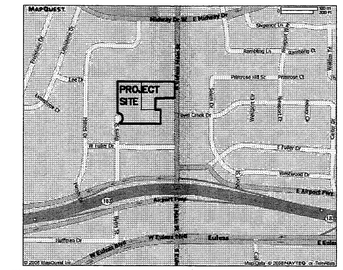




NORTH

VICINITY MAP

SITE ANALYSIS

PROJECT SITE IS DESCRIBED AS FOLLOWS:
LOT 3-R, BLOCK A, MAIN CENTRE ADDITION, COMPRISING 6.038 ACRES OR 263,002 S.F.

PROJECT SITE IS RESULT OF TWO PROPERTIES COMBINED AND PROPOSED FOR REPLAT:
EAST: LOT 3, BLOCK A, MAIN CENTRE ADDITION, COMPRISING 2.208 ACRES OR 96,187 S.F. WITH NO EXISTING BUILDINGS ON THE PROPERTY.
WEST: JAMES P. HALLFORD SURVEY, ABSTRACT NO. 711, TRACTS 2A02, 2A02A AND 2A03 COMPRISING 3.830 ACRES OR 166,815 S.F. WITH NO EXISTING BUILDINGS ON THE PROPERTY.

ANALYSIS OF APPLICABLE ORDINANCE:
EXISTING ZONING: C-2 COMMUNITY BUSINESS DISTRICT AND PARTLY PD#1025
PROPOSED USE: OFFICE, CORPORATE HEADQUARTERS

MAXIMUM BUILDING HEIGHT LIMIT:	60 FEET	OR FOUR STORIES
WITHIN 100 FT. OF RESIDENTIAL:	NO	
MINIMUM LOT AREA:	NONE	
MINIMUM LOT WIDTH:	NONE	
MINIMUM FRONT YARD:	20 FEET	
MINIMUM REAR YARD:	15 FEET	
MINIMUM SIDE YARD:	NONE	
MINIMUM FRONT YARD LANDSCAPE AREA:	15%	

PROJECT SITE FEATURES FOR PROPOSED NEW DEVELOPMENT:

ENCLOSED BUILDING AREA:	32,569 S.F.	12.38% LOT COVERAGE
PAVED AREA:	117,145 S.F.	44.54% LOT COVERAGE
LANDSCAPE AREA:	113,288 S.F.	43.08% LOT COVERAGE
FRONT YARD AREA (TO MAIN ST.):	108,414 S.F.	41.22% OF LOT
F.Y. PAVED AREA:	51,152 S.F.	47.18% OF FRONT YARD
F.Y. LANDSCAPE AREA:	57,262 S.F.	52.82% OF FRONT YARD
PARKING SPACES REQUIRED:	109	1 SPACE PER 300 S.F. BLDG.
PARKING SPACES PROVIDED:	199	182% OF MINIMUM REQUIREMENT
EMPLOYEE PARKING (SECURE):	148	6 ACCESSIBLE
VISITOR PARKING (NON-SECURE):	51	4 ACCESSIBLE
ACCESSIBLE SPACES REQUIRED:	9	6 SECURE AND 3 VISITOR
LOADING SPACES REQUIRED:	2	1 AT 10'X40' AND 1 AT 10'X20'
LOADING SPACES PROVIDED:	2	1 AT 10'X40' AND 1 AT 10'X20'

PROPOSED NEW BUILDING IS ONE-STORY COMPRISING 32,569 S.F. ENCLOSED AREA
PROPOSED BUILDING HEIGHT IS 32'-10" FEET ABOVE FINISH FLOOR AND 33'-4" ABOVE FINISH GRADE AS MEASURED TO THE HIGHEST POINT.

THE PROPERTY REPRESENTED IN THIS PLAN CONFORMS WITH THE PARKING LOT LIGHTING REQUIREMENTS OF SECTION 84-201(I) OF THE UNIFIED DEVELOPMENT CODE OF THE CITY OF EULESS, TEXAS.

COMPLETE SITE LANDSCAPING WILL BE DESIGNED, SUBMITTED FOR APPROVAL, AND INSTALLED TO CONFORM WITH THE REQUIREMENTS OF ARTICLE 7 OF THE UNIFIED DEVELOPMENT CODE OF THE CITY OF EULESS, TEXAS. LANDSCAPING PLANS SHALL BE DESIGNED BY A LICENSED PROFESSIONAL LANDSCAPE ARCHITECT.

COMPLETE UNDERGROUND IRRIGATION SYSTEM WILL BE DESIGNED, SUBMITTED FOR APPROVAL, AND INSTALLED TO CONFORM WITH THE REQUIREMENTS OF THE UNIFIED DEVELOPMENT CODE OF THE CITY OF EULESS, TEXAS. UNDERGROUND IRRIGATION SYSTEM PLANS SHALL BE DESIGNED BY A LICENSED IRRIGATOR.

WITHIN EMERGENCY ACCESS, DRAINAGE AND UTILITY EASEMENTS (FIRE LANES), THE ROADWAY SURFACE, SUBGRADE, MARKINGS AND SIGNAGE SHALL BE MAINTAINED AT ALL TIMES TO ALLOW FOR CLEAR PASSAGE OF EMERGENCY VEHICLES. CLEAR PASSAGE SHALL INCLUDE BOTH HORIZONTAL AND VERTICAL WIDTHS ACCORDING TO CLEARANCES ESTABLISHED BY THE FIRE MARSHAL'S POLICY STATEMENT.

E.A.D.U.E. GRADES SHALL NOT EXCEED 6 PERCENT SLOPE.

OWNER/DEVELOPER: CITY OF EULESS

PLAN PREPARER'S ACKNOWLEDGMENT

I PREPARED THIS SITE PLAN IN ACCORDANCE WITH THE CITY OF EULESS UNIFIED DEVELOPMENT CODE, AND I INCLUDED ALL APPLICABLE REQUESTED INFORMATION.

PLAN PREPARER'S SIGNATURE — DATE: 10/15/08
PRINTED NAME: BYRON T. FOLSE — PRINTED TITLE: PRESIDENT

NOTES:
CONCRETE PAVEMENT SHALL HAVE A MINIMUM FLEXURAL STRENGTH OF 650 PSI AT 28 DAYS WHEN TESTED USING THIRD POINT LOADING.
SECTION MAY BE CROWNED (PARABOLIC OR STRAIGHT); INVERTED; OR HAVE A STRAIGHT CROSS SLOPE. MAXIMUM CROSS SLOPE IS 6%. MAXIMUM LONGITUDINAL GRADE IS 6%.
MIN. OF 50 LBS./S.Y. LIME OR CEMENT REQUIRED FOR SUBGRADE STABILIZATION.
COMPACTION TO 95% STANDARD STANDARD PROCTOR DENSITY.

EMERGENCY ACCESS AND FIRE LANE EASEMENT TYPICAL PAVEMENT SECTION
CITY OF EULESS
COE-FL 1/01

NORTH

SITE PLAN

SCALE 1" = 30'

0 30' 60' 90' 120'
GRAPHIC SCALE IN FEET

ZONING CHANGE REQUEST

CASE NUMBERS: 08-04-PD AND 08-11-SP
MAIN CENTRE ADDITION, LOT 3-R, BLOCK A
FROM 2 LOTS LOCATED ON 6.038 ACRES OF LAND
2.208 ACRES COMPRISING LOT 3, BLOCK A, MAIN CENTRE ADDITION, AND 3.830 ACRES OF JAMES P. HALLFORD SURVEY, A-711, TRACTS 2A02, 2A02A & 2A03
CITY OF EULESS, TARRANT COUNTY, TEXAS

10/07/2008 SITE PLAN REVIEW ONLY-NOT FOR CONSTRUCTION
10/15/2008 DRC COMMENTS-NOT FOR CONSTRUCTION

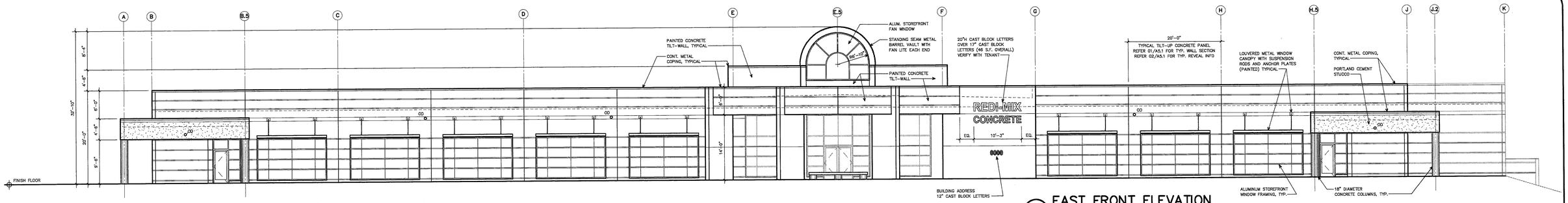
BYRON FOLSE ASSOCIATES, INC.
ARCHITECTS AND PLANNERS
2275 WESTPARK COURT EULESS, TEXAS

REGISTERED ARCHITECT BYRON T. FOLSE 3405 STATE OF TEXAS

JOB NO.: 07-07-554
DR. BY: SAH
DATE: AS ABOVE

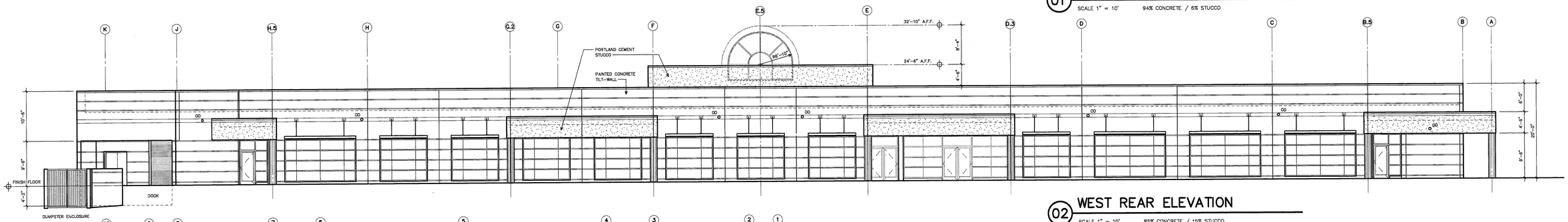
A NEW OFFICE BUILDING FOR
REDI-MIX CONCRETE
EULESS, TEXAS

SHEET A0.1 OF



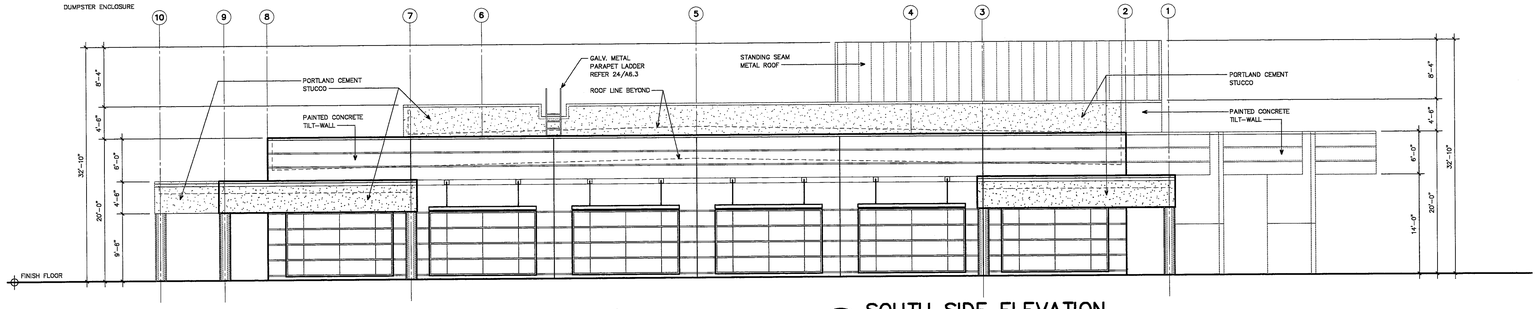
01 EAST FRONT ELEVATION

SCALE 1" = 10' 94% CONCRETE / 6% STUCCO



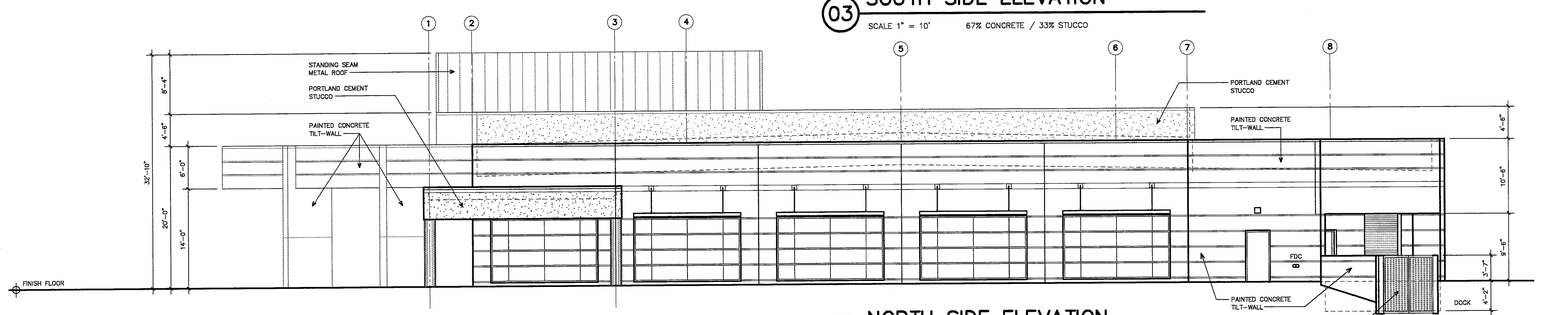
02 WEST REAR ELEVATION

SCALE 1" = 10' 85% CONCRETE / 15% STUCCO



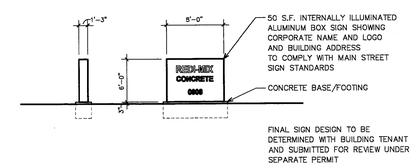
03 SOUTH SIDE ELEVATION

SCALE 1" = 10' 67% CONCRETE / 33% STUCCO



04 NORTH SIDE ELEVATION

SCALE 1" = 10' 70% CONCRETE / 30% STUCCO



FINAL SIGN DESIGN TO BE DETERMINED WITH BUILDING TENANT AND SUBMITTED FOR REVIEW UNDER SEPARATE PERMIT

05 MAIN STREET MONUMENT SIGN

SCALE 1" = 10'

10/07/2008 SITE PLAN REVIEW ONLY – NOT FOR CONSTRUCTION

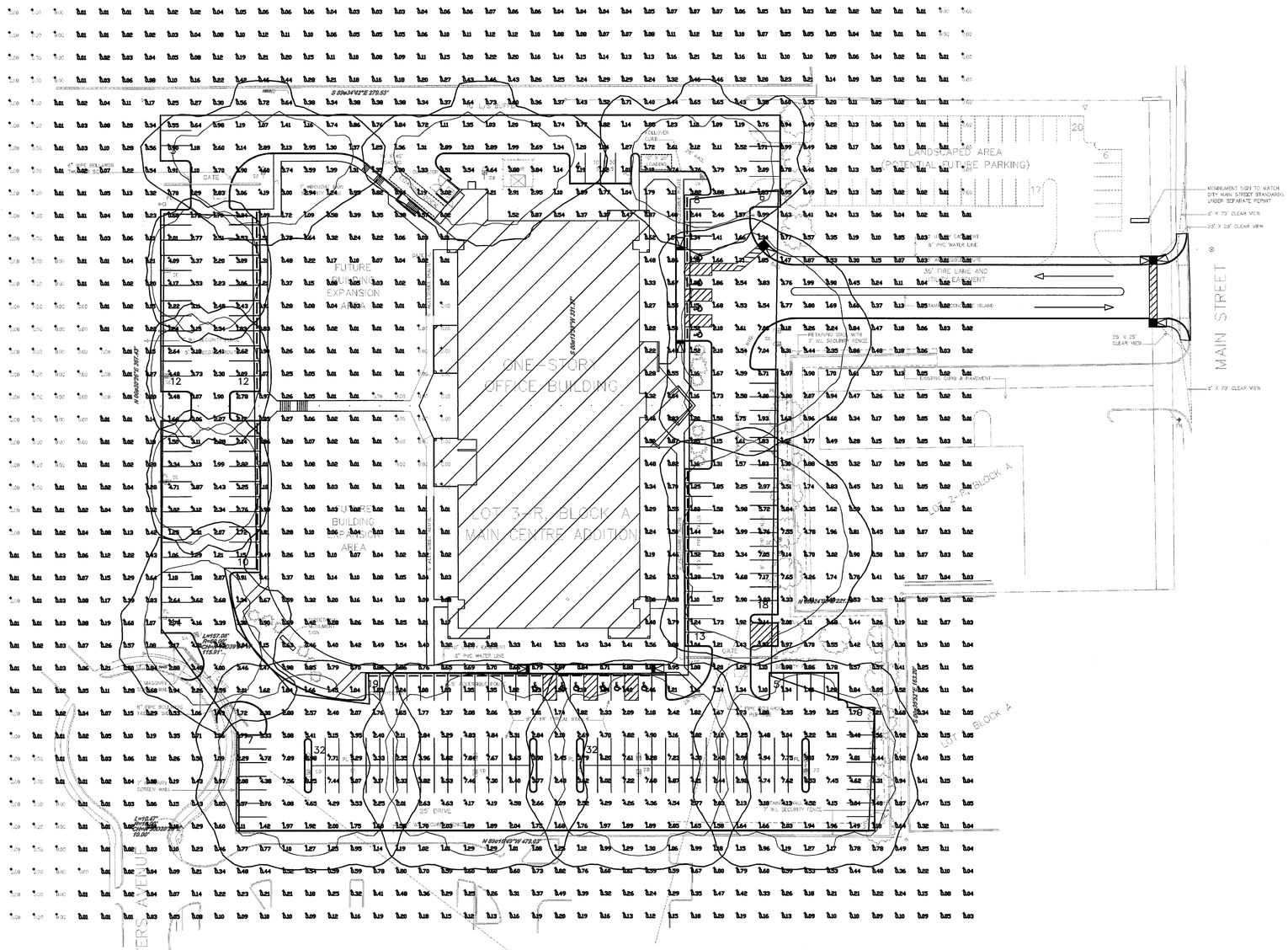
BYRON FOLSE ASSOCIATES, INC.
ARCHITECTS AND PLANNERS
2275 WESTPARK COURT EULESS, TEXAS

REGISTERED ARCHITECT STATE OF TEXAS

JOB NO.: 07-07-554
DR. BY: SAH
DATE: AS ABOVE

A NEW OFFICE BUILDING FOR
REDI-MIX CONCRETE
EULESS, TEXAS

SHEET A4.1 OF



C:\Apps\gardco.bmp	Applications Department 1611 Clovis Barker Rd. San Marcos, TX 78666 Phone: 512-753-1200 Fax: 512-753-1241 Email: apps@sitelighting.com

Project: Redmix	Project #452-7607
Specifier: Danny Gipson - Bashankhah Engineering	
Agent: Tim Galvin - ALA	
Calculations By: Richard Johnstone - Gardco Lighting	
Date: September 25, 2008	
Scale: 1 : 1	
Filename: V:\Private\apps\2008\ALA\452\Redmix\452-7607A32	
Photometric data used is based on established IES procedures and published lamp ratings.	
Pt. x pt. values shown are horizontal illuminance at grade (single-plane), in footcandles.	
The LLF is based on lamp manufacturer's published mean lumen ratings.	
Field performance will depend on actual lamp, ballast, electrical, and site characteristics.	
Luminaire height shown is approximate overall mounting height above finished grade. (U.N.O.)	
* TVSN arrangement luminaires require field-rotation of the optics	

Luminaire Schedule

Project: Redmix							
Symbol	Qty	Label	Description	Arrangement	Lumens	LLF	Filename
	2	SA	Gardco GIB-1-3XL-400PSMH @ 27.5'	SINGLE	40000	0.750	GV2X4Mins
	2	SB	Gardco GIB-1-4XL-400PSMH @ 27.5'	SINGLE	40000	0.750	GV2X4Mins
	2	SC	Gardco GIB-2-4XL-400PSMH @ 27.5'	TVSN-ROTATED	40000	0.750	GV4X4Mins
	4	SD	Gardco GIB-2-4XL-400PSMH @ 27.5'	BACK-BACK	40000	0.750	GV4X4Mins
	3	SE	Gardco GIB-1-3LC-400PSMH @ 27.5'	SINGLE	40000	0.750	GIB-Final-V4-SE-

Statistical Area Summary

Project: Redmix							
Label	Avg	Max	Min	Avg/Min	Max/Min	# Pts	Units
Parking Area	3.03	9.10	0.99	3.06	9.19	352	Fc

Parking Area
Illuminance Values (Fc)
Average =3.03
Maximum =9.10
Minimum =0.99
Avg/Min Ratio=3.06
Max/Min Ratio=9.19
Max/Avg Ratio=3.00
No. Points= 352

A NEW OFFICE BUILDING FOR
REDI-MIX CONCRETE
EULESS, TEXAS

BYRON FOLSE ASSOCIATES, INC.
ARCHITECTS AND PLANNERS
2275 WESTPARK COURT EULESS, TEXAS

bei
1 BASHARKHAH
2 ENGINEERING
3 INCORPORATED

STATE OF TEXAS
BASHARKHAH
58864
REGISTERED
PROFESSIONAL ENGINEER
10/6/08

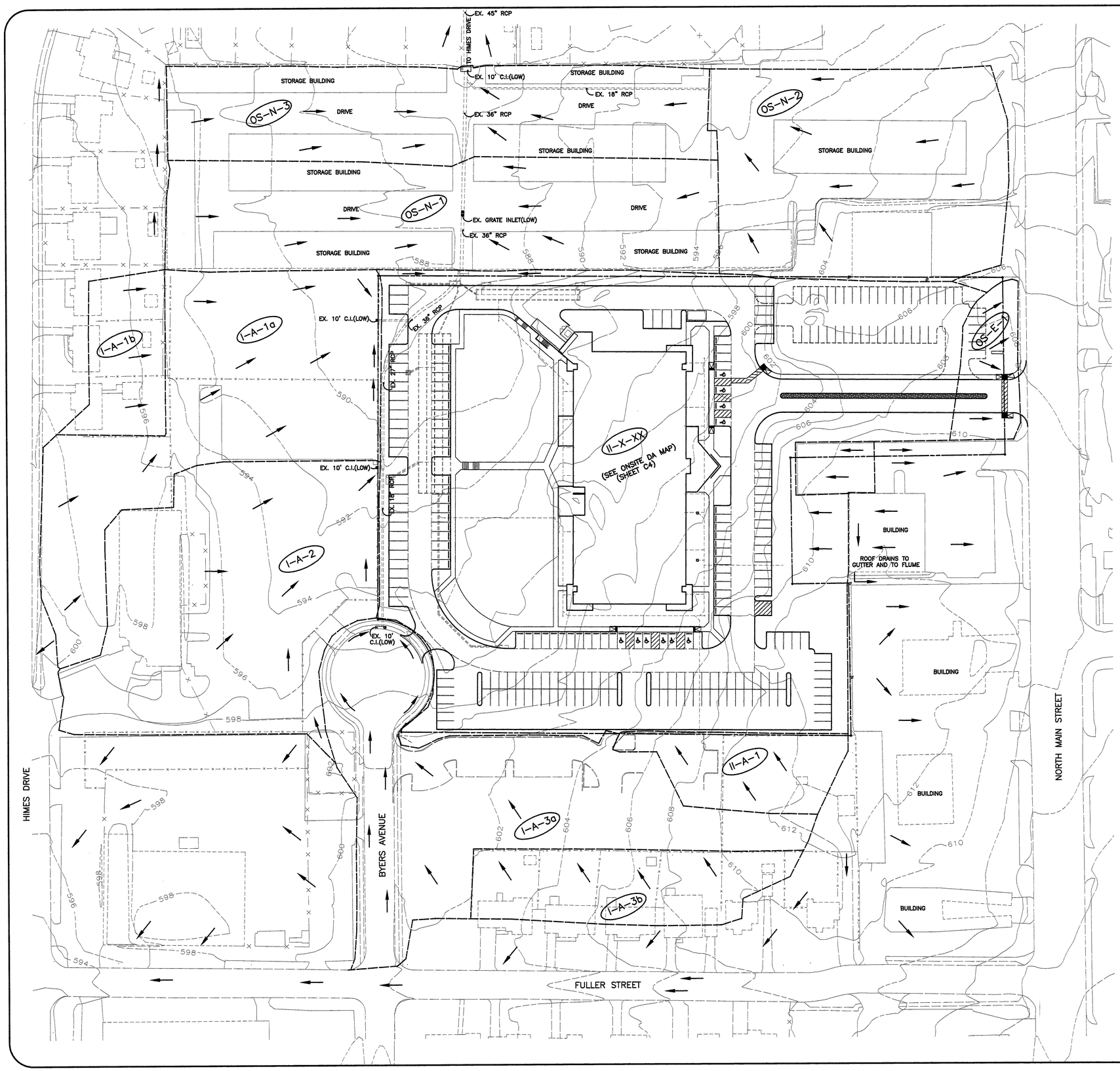
1201 turtle creek blvd
dallas texas 75207
(214) 720-1005

BEI Job # 08103

JOB NO.: 07-07-554
DR. BY: SAH
DATE: 00/00/2008

SHEET

OF



GRAPHIC SCALE IN FEET 1" = 150'

GENERAL NOTES:

1. OVERALL TOPOGRAPHY WAS OBTAINED FROM EXISTING CITY OF EULESS TOPOGRAPHIC MAPS, RECORDS ON FILE IN THE OFFICES OF ELLIOTT AND HUGHES, INC. AND FROM ON-THE-GROUND SURVEYS PREPARED FOR THE OWNER BY MARSHALL LANCASTER AND ASSOCIATES, INC, HURST, TEXAS IN 2007-2008.
2. INFORMATION ON EXISTING DRAINAGE FACILITIES WERE DERIVED FROM THE ABOVE SOURCES IN ADDITION TO LIMITED FIELD INVESTIGATIONS. PROPOSED STORM DRAINAGE FACILITIES ARE SHOWN ON THE VARIOUS PLAN AND PLAN-PROFILE SHEETS.
3. LOCATIONS OF THE PROPOSED BUILDING AND ACCESS DRIVEWAYS AND PARKING AREAS WERE DERIVED FROM THE SITE PLAN PREPARED FOR THE OWNER BY BYRON T. FOLSE ASSOCIATES, INC. ARCHITECTS, EULESS, TEXAS.
4. PRE-DEVELOPMENT DRAINAGE AREAS WERE DETERMINED FROM FIELD INVESTIGATIONS AND RECORD DRAWINGS OBTAINED FROM THE CITY OF EULESS AND ARE SHOWN ON THIS SHEET. ON-SITE OR POST DEVELOPMENT DRAINAGE AREAS ARE SHOWN ON SHEET C4 AND WERE DETERMINED USING THE SITE GRADING PLAN SHOWN ON SHEET C7.
5. POSITIVE OVERFLOW ROUTES FOR STORMS LARGER THAN THE SYSTEM DESIGN STORM ARE PROVIDED. FINISHED FLOOR ELEVATIONS HAVE BEEN ESTABLISHED FOR PROPOSED HABITABLE STRUCTURES.
6. SHORT TERM UNDERGROUND STORM WATER DETENTION IS PROVIDED TO MAINTAIN THE ANTICIPATED 25 YEAR DISCHARGE AT THE NORTH PROPERTY LINE AT OR BELOW THAT WHICH EXISTED PRIOR TO DEVELOPMENT OF THIS PROJECT. ADDITIONAL INFORMATION IS SHOWN ON SHEETS C5A, C5B, AND C5C.
7. RUNOFF WAS COMPUTED USING THE RATIONAL METHOD OF DESIGN AND THE MODIFIED RATIONAL HYDROGRAPH METHOD FOR DETENTION CALCULATIONS. INTENSITY-FREQUENCY-DURATION CURVES USED WERE DEVELOPED FROM NWS TECHNICAL PAPER NO. 40. TIMES OF CONCENTRATION WERE DETERMINED USING TR-55 AND THE "NOMOGRAPH FOR TIMES OF CONCENTRATION" AS SHOWN IN THE "STORM DRAINAGE DESIGN AND CRITERIA MANUAL" PUBLISHED BY THE CITY OF FORT WORTH, TEXAS. MINIMUM TIME OF CONCENTRATION OF 10 MINUTES WAS ALSO APPLIED. RUNOFF COMPUTATIONS ARE SHOWN ON SHEET C5A.

PRELIMINARY~FOR SITE PLAN REVIEW.
NOT INTENDED FOR CONSTRUCTION,
BIDDING, OR PERMIT PURPOSES.
ISSUED BY: DAVID C. HUGHES, JR., P.E.
TEXAS REG. # 31348~10/06/08

ELLIOTT & HUGHES, INC.,
ENGINEERS/PLANNERS
1001 WEST EULESS BOULEVARD~SUITE 214
EULESS, TEXAS 76040 ~ 817-267-1303

OVERALL DRAINAGE AREA MAP

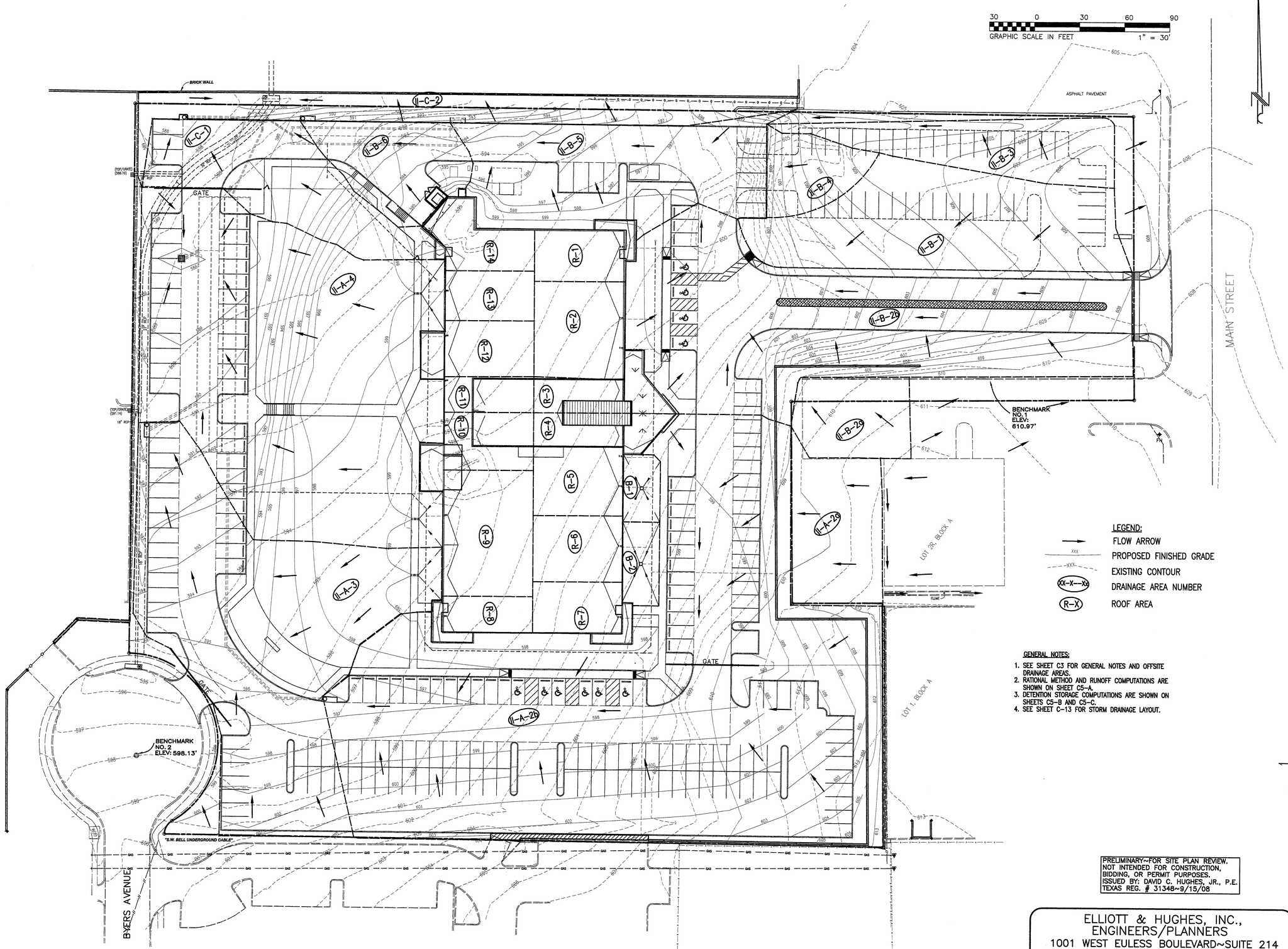
LOT 3-R, BLOCK A
MAIN CENTRE ADDITION
EULESS, TEXAS

BYRON FOLSE ASSOCIATES, INC.
ARCHITECTS AND PLANNERS
2275 WESTPARK COURT EULESS, TEXAS

STATE OF TEXAS
DAVID C. HUGHES, JR.
31348
REGISTERED PROFESSIONAL ENGINEER
10-6-08

JOB NO: 0708-E
DRAWN BY: SLA/DCH
DATE: 10/2008

SHEET C3 OF



LEGEND:

- FLOW ARROW
- PROPOSED FINISHED GRADE
- EXISTING CONTOUR
- DRAINAGE AREA NUMBER
- ROOF AREA

GENERAL NOTES:

1. SEE SHEET C3 FOR GENERAL NOTES AND OFFSITE DRAINAGE AREAS.
2. RATIONAL METHOD AND RUNOFF COMPUTATIONS ARE SHOWN ON SHEET C5-A.
3. DETENTION STORAGE COMPUTATIONS ARE SHOWN ON SHEETS C5-B AND C5-C.
4. SEE SHEET C-13 FOR STORM DRAINAGE LAYOUT.

PRELIMINARY~FOR SITE PLAN REVIEW.
NOT INTENDED FOR CONSTRUCTION,
BIDDING, OR PERMIT PURPOSES.
ISSUED BY: DAVID C. HUGHES, JR., P.E.
TEXAS REG. # 31348~9/15/08

ELLIOTT & HUGHES, INC.,
ENGINEERS/PLANNERS
1001 WEST EULESS BOULEVARD~SUITE 214
EULESS, TEXAS 76040 ~ 817-267-1303

ON-SITE DRAINAGE AREA MAP

LOT 3-R, BLOCK A
MAIN CENTRE ADDITION
EULESS, TEXAS

BYRON FOLSE ASSOCIATES, INC.
ARCHITECTS AND PLANNERS
2275 WESTPARK COURT
EULESS, TEXAS

STATE OF TEXAS
DAVID C. HUGHES, JR.
31348
REGISTERED PROFESSIONAL ENGINEER

JOB NO:
0708-E
DRAWN BY:
SLA/DCH
DATE:
10/2008

SHEET
C4
OF

RATIONAL METHOD OF DESIGN
URBANIZED WATERSHED–NO UPSTREAM DETENTION
EXISTING CONDITIONS–PRE DEVELOPMENT

AREA NUMBER	AREA (ACRES)	"C"	C*A	SUM C*A	Tc (MIN)	I (5) (IN/HR)	Q(5) (CFS)	I (10) (IN/HR)	Q(10) (CFS)	I(25) (IN/HR)	Q(25) (CFS)	I(100) (IN/HR)	Q(100) (CFS)	REMARKS
I–A–1a	1.64	0.95	1.56											FROM AT&T
I–A–1b	0.57	0.65	0.37											FROM RESIDENTIAL
				1.93	10.00	6.60	12.73	7.90	15.24	9.25	17.84	11.80	22.76	TOTAL TO INLET (AT&T)
I–A–2	1.79	0.95	1.70	1.70	10.00	6.60	11.22	7.90	13.43	9.25	15.73	11.80	20.07	TOTAL TO INLET (AT&T)
I–A–3a	1.57	0.95	1.49											FROM OFFICE COMPLEX
I–A–3b	0.33	0.65	0.21											FROM RESIDENTIAL/WELL
				1.71	10.00	6.60	11.26	7.90	13.48	9.25	15.78	11.80	20.13	TOTAL TO INLET IN STREET
	5.90			5.34	10.00	6.60	35.21	7.90	42.15	9.25	49.35	11.80	62.95	TOTAL IN 36" PIPE @ INLET
II–A–1	0.37	0.90	0.33											OFFICE AND WELL SITE
II–X–XX	6.07	0.36	2.19											UNDEVELOPED AREA
				2.52	14.00	5.65	14.23	6.80	17.12	8.00	20.15	10.00	25.18	OVERLAND TO INLET
				7.85	14.00	5.65	44.37	6.80	53.40	8.00	62.83	10.00	78.53	TOTAL IN 36" PIPE AT NPL
OS–N–1	1.93	0.95	1.83		10.00	6.60	12.10	7.90	14.48	9.25	16.96	11.80	21.64	STORAGE FACILITY/GRATE
				9.69	14.00	5.65	54.73	6.80	65.87	8.00	77.49	10.00	96.87	TOTAL IN 36" RCP
OS–N–2	1.68	0.95	1.60		10.00	6.60	10.53	7.90	12.61	9.25	14.76	11.80	18.83	IN PIPE FROM EAST
				11.28	14.00	5.65	63.75	6.80	76.72	8.00	90.26	10.00	112.83	TOTAL IN 45" RCP
OS–N–3	1.51	0.95	1.43		10.00	6.60	9.47	7.90	11.33	9.25	13.27	11.80	16.93	STORAGE FACILITY TO INLET
				12.72	14.00	5.65	71.85	6.80	86.48	8.00	101.74	10.00	127.17	TOTAL IN 45" TO HIMES DR
OS–E–1	0.23	0.35	0.08	0.08	10.00	6.60	0.53	7.90	0.64	9.25	0.74	11.80	0.95	TO MAIN STREET
PROPOSED CONDITIONS–POST DEVELOPMENT–ON–SITE														
II–A–1	0.37	0.90	0.33	0.33	10.00	6.60	2.20	7.90	2.63	9.25	3.08	11.80	3.93	OFFICE COMPLEX/FLUME
II–A–2a	0.13	0.40	0.05											PERMANENT LANDSCAPE
II–A–2b	1.50	0.95	1.43											PARKING ON SITE
				1.81	10.00	6.60	11.95	7.90	14.30	9.25	16.74	11.80	21.36	TO CURB INLET NO. 1
II–A–3	0.65	0.95	0.62	0.62	10.00	6.60	4.08	7.90	4.88	9.25	5.71	11.80	7.29	TO CURB INLET NO. 2
				2.43	10.00	6.60	16.02	7.90	19.18	9.25	22.45	11.80	28.64	TOTAL W/O ROOF DRAINS
II–A–4	0.87	0.95	0.83	0.83	10.00	6.60	5.45	7.90	6.53	9.25	7.65	11.80	9.75	TO GRATE INLET NO. 3
	3.52			3.25	10.00	6.60	21.48	7.90	25.71	9.25	30.10	11.80	38.40	TO WEST DETENTION W/O ROOF DRAINS
II–B–1	0.32	0.95	0.30	0.30	10.00	6.60	2.01	7.90	2.40	9.25	2.81	11.80	3.59	FUTURE PARKING
II–B–2a	0.11	0.95	0.10	0.10	10.00	6.60	0.69	7.90	0.83	9.25	0.97	11.80	1.23	AUTO PARTS DRIVE
II–B–2b	0.68	0.95	0.65	0.65	10.00	6.60	4.26	7.90	5.10	9.25	5.98	11.80	7.62	MAIN ACCESS DRIVE
				1.05	10.00	6.60	6.96	7.90	8.33	9.25	9.75	11.80	12.44	TOTAL IN VALLEY
II–B–3	0.14	0.95	0.13	0.13	10.00	6.60	0.88	7.90	1.05	9.25	1.23	11.80	1.57	FUTURE PARKING
II–B–4	0.07	0.95	0.07	0.07	10.00	6.60	0.44	7.90	0.53	9.25	0.62	11.80	0.78	FUTURE PARKING
				0.20	10.00	6.60	1.32	7.90	1.58	9.25	1.85	11.80	2.35	
				1.25	10.00	6.60	8.28	7.90	9.91	9.25	11.60	11.80	14.80	TOTAL IN DRIVE (NORTH)
II–B–5	0.28	0.95	0.27	0.27	10.00	6.60	1.76	7.90	2.10	9.25	2.46	11.80	3.14	PARKING AND DRIVE
				1.52	10.00	6.60	10.03	7.90	12.01	9.25	14.06	11.80	17.94	TO CURB INLET NO. 4
II–B–6	0.13	0.95	0.12	0.12	10.00	6.60	0.82	7.90	0.98	9.25	1.14	11.80	1.46	TO CURB INLET NO. 5
	1.73			1.64	10.00	6.60	10.85	7.90	12.98	9.25	15.20	11.80	19.39	TO NORTH DETENTION W/O ROOF DRAINS
II–C–1	0.21	0.95	0.20	0.20	10.00	6.60	1.32	7.90	1.58	9.25	1.85	11.80	2.35	TO CURB INLET NO. 6
II–C–2	0.15	0.35	0.05	0.05	10.00	6.60	0.35	7.90	0.41	9.25	0.49	11.80	0.62	LANDSCAPE TO INLET (EX)
PROPOSED CONDITIONS–POST DEVELOPMENT–ON–SITE AND OFF–SITE TO NORTH PROPERTY L;INE INLET														
OFF–SITE	5.90			5.34	10.00	6.60	35.21	7.90	42.15	9.25	49.35	11.80	62.95	TOTAL SOUTH, WEST, EAST
II–C–1	0.21	0.95	0.20	0.20	10.00	6.60	1.32	7.90	1.58	9.25	1.85	11.80	2.35	PARKING TO J/B NO. 1
II–C–2	0.15	0.35	0.05	0.05	10.00	6.60	0.35	7.90	0.41	9.25	0.49	11.80	0.62	LANDSCAPE TO INLET @ P/L
	6.26			5.59	10.00	6.60	36.87	7.90	44.14	9.25	51.68	11.80	65.93	TOTAL IN 36" RCP W/O UNDEVELOPED TRACT

NOTE: 25 YEAR DISCHARGES SHOWN DIFFER FROM HYDROGRAPH VALUES DUE TO COMPUTATION METHODS AND ROUNDING.

TO DETENTION NORTH SIDE													
	1.79	1.00		1.79	10.00	6.60	11.81	7.90	14.14	9.25	16.56	11.80	21.12
TO DETENTION WEST SIDE													
	4.13	0.86		3.55	10.00	6.60	23.44	7.90	28.06	9.25	32.85	11.80	41.91

ROOF AND BUILDING AREAS

ROOF CONTRIBUTIONS: ROOF CONTRIBUTION IS BASED ON ANTICIPATED FLOWS FROM THE ROOF DRAINS, VERTICAL DOWNSPOUTS AND HORIZONTAL LEADERS AS COMPUTED BY THE MEP CONSULTANT IN ACCORD WITH THE UNIFORM PLUMBING CODE, AND ARE MAXIMUM ANTICIPATED DISCHARGES. THE ROOF DRAIN COLLECTION SYSTEM HAS BEEN DESIGNED ON THAT BASIS AS FOLLOWS:

EAST SIDE, AREA DRAINS, SOUTH WEST

AREA NO.	AREA (SF)	FLOW(GPM)	LEADER (HORIZ)	FLOW(CFS)
R–1	2373	110	4"@2%	0.245
R–2	5256	220	6"@1%	0.490
				0.735
R–3	746	110	4"@2%	0.245
				0.980
R–4	583	77	4"@1%	0.172
				1.152
R–5	4146	174	4"@4%	0.388
				1.540
B–1	(0.02 AC)	N/A	AREA DRAIN	0.090
				1.630
R–6	2623	110	4"@2%	0.245
				1.875
B–2	(0.06 AC)	N/A	AREA DRAIN	0.220
				2.095
R–7	2009	110	4"@2%	0.245
				2.340
R–8	1416	110	4"@2%	0.245
				2.585
R–9	4942	174	4"@4%	0.388
				2.97

NORTH WEST SIDE

R–10	2299	174	4"@4%	0.388
R–11	1409	110	4"@2%	0.245
				0.633
R–12	2225	110	4"@2%	0.245
				0.878
R–13	1975	110	4"@2%	0.245
				1.123
R–14	2304	110	4"@2%	0.245
				1.37

GENERAL NOTES:

1. SEE OFF–SITE DRAINAGE AREA MAP AND ON–SITE DRAINAGE AREA MAP ON SHEETS C3 AND C4, RESPECTIVELY.
2. SEE GENERAL NOTES ON RATIONAL METHOD OF RUNOFF COMPUTATION ON SHEET C3.
3. HYDROGRAPH AND RESERVOIR (DENTENTION FACILITIES) CALCULATIONS ARE SHOWN ON SHEETS C5B AND C5C.
4. ALL STORM DRAINAGE FACILITIES CONSTRUCTED ON THE PROJECT SITE ARE "PRIVATE" FACILITIES AND WILL BE OPERATED AND MAINTAINED BY THE FEE OWNER OF LOT 3–R, BLOCK A, MAIN CENTRE ADDITION. (JUNCTION BOX NO. 1 IS AN EXCEPTION AND WILL REMAIN PART OF THE PUBLIC SYSTEM.)
5. THE HYDRAULIC GRADE LINE COMPUTATION FOR THE EXISTING PUBLIC STORM DRAIN SYSTEM WAS DEVELOPED TO COMPARE PRE–DEVELOPMENT AND POST DEVELOPMENT (W/DETENTION) FLOWS TO INSURE THE DEVEL–OPMENT OF LOT 3–R, BLOCK A, WOULD NOT ADVERSELY EFFECT DOWN–STREAM FACILITIES.

EXISTING PUBLIC SYSTEM
COMPUTATION OF HYDRAULIC GRADE LINE
H.G. LINE STARTS IN MANHOLE AT C/L HIMES DRIVE

Q (cfs)	PIPE SIZE	LENGTH	AREA	"K"	s(FT/FT)	Hf(FT)	D.S. ELEV	U.S ELEV	V(FPS)	V^2/2g	"k"	k(V^2/2g)	HL(FT)	U.S.H.G.	REMARKS
TOTAL SYSTEM EXISTING CONDITIONS FOR 25 YEAR RETURN FREQUENCY STORM															
101.74	45" RCP	158.00	11.045	1209.51	0.0086	1.36	578.55	579.91	9.21	1.32	0.50	0.52	0.80	580.71	@ INLET NORTH STORAGE
90.26	45" RCP	6.00	11.045	1209.51	0.0086	0.05	580.71	580.76	8.17	1.04	0.75	0.57	0.46	581.22	@ WYE
94.77	45" RCP	3.00	11.045	1209.51	0.0068	0.03	581.22	581.25	7.02	0.67	0.10	0.08	0.08	581.33	@ REDUCER 45" TO 36" RCP
77.49	36" RCP	143.05	7.069	667.02	0.0135	1.93	581.33	583.26	10.96	1.87	0.50	0.61	1.25	584.51	@ GRATE INLET IN STORAGE
* 62.83	36" RCP	55.81	7.069	667.02	0.0089	0.50	584.51	585.00	8.89	1.23	0.50	0.38	0.85	585.85	@ INLET@ P/L EXISTING
49.35	36" RCP	72.00	7.069	667.02	0.0055	0.39	585.85	586.25	6.98	0.76	0.75	0.26	0.49	586.74	@ WYE 36" X 18"
33.57	36" RCP	3.00	7.069	667.02	0.0025	0.01	586.74	586.75	4.75	0.35	0.10	0.04	0.04	586.78	@ REDUCER 36" X 27"
33.57	27" RCP	165.00	3.976	309.51	0.0118	1.94	586.78	588.72	8.44	1.11	0.75	0.23	0.87	589.60	@ WYE 27" X 18"
17.84	27" RCP	3.00	3.976	309.51	0.0033	0.01	589.60	589.61	4.49	0.31	0.10	0.03	0.03	589.64	@ REDUCER 27" X 18"
17.84	18" RCP	169.00	1.767	105.03	0.0194	3.28	589.64	592.92	10.10	1.58	1.25	1.98	1.98	594.89	@ INLET IN BYERS
TOTAL SYSTEM PROPOSED CONDITIONS (W/DETENTION) (EXISTING SYSTEM-OLD) FOR 25 YEAR RETURN FREQUENCY STORM															
101.07	45" RCP	158.00	11.045	1209.51	0.0086	1.36	578.55	579.91	9.15	1.30	0.50	0.51	0.79	580.70	@ INLET NORTH STORAGE
89.59	45" RCP	6.00	11.045	1209.51	0.0086	0.05	580.70	580.75	8.11	1.02	0.75	0.56	0.46	581.21	@ WYE
76.82	45" RCP	3.00	11.045	1209.51	0.0086	0.03	581.21	581.23	6.96	0.75	0.10	0.08	0.08	581.31	@ REDUCER 45" TO 36" RCP
76.82	36" RCP	143.05	7.069	667.02	0.0133	1.90	581.31	583.21	10.87	1.83	0.50	0.60	1.23	584.44	@ GRATE INLET IN STORAGE
* 62.16	36" RCP	55.81	7.069	667.02	0.0087	0.48	584.44	584.92	8.79	1.20	0.50	0.59	0.61	585.53	@ INLET@P/L EXISTING
61.67	36" RCP	12.72	7.069	667.02	0.0085	0.11	585.53	585.64	8.72	1.18	0.25	0.19	0.99	586.64	@ JUNCTION BOX NO. 1 (NEW)
49.35	36" RCP	72.00	7.069	667.02	0.0055	0.39	586.64	587.03	6.98	0.76	0.75	0.26	0.49	587.52	@ WYE 36" X 18"
33.57	36" RCP	3.00	7.069	667.02	0.0025	0.01	587.52	587.53	4.75	0.35	0.10	0.04	0.04	587.57	@ REDUCER 36" X 27"
33.57	27" RCP	165.00	3.976	309.51	0.0118	1.94	587.57	589.51	8.44	1.11	0.75	0.23	0.87	590.38	@ WYE 27" X 18"
17.84	27" RCP	3.00	3.976	309.51	0.0033	0.01	590.38	590.39	4.49	0.31	0.10	0.03	0.03	590.42	@ REDUCER 27" X 18"
17.84	18" RCP	169.00	1.767	105.03	0.0194	3.28	590.42	593.70	10.10	1.58	1.25	1.98	1.98	595.68	@ INLET IN BYERS

* 25 YEAR DISCHARGE AT THE PROPERTY LINE WITHIN THE UNDERGROUND SYSTEM IS REDUCED FROM 62.83 CFS TO 62.16 CFS FOLLWOING DEVELOPMENT AND CONSTRUCTION OF DETENTION SYSTEMS.

PRELIMINARY~FOR SITE PLAN REVIEW.
NOT INTENDED FOR CONSTRUCTION,
BIDDING, OR PERMIT PURPOSES.
ISSUED BY: DAVID C. HUGHES, JR., P.E.
TEXAS REG. # 31348~10/06/08

ELLIOTT & HUGHES, INC.,
ENGINEERS/PLANNERS
1001 WEST EULESS BOULEVARD~SUITE 214
EULESS, TEXAS 76040 ~ 817–267–1303

STORM DRAINAGE COMPUTATIONS

LOT 3-R, BLOCK A
MAIN CENTRE ADDITION
EULESS, TEXAS

BYRON FOLSE ASSOCIATES, INC.
ARCHITECTS AND PLANNERS
2275 WESTPARK COURT
EULESS, TEXAS

STATE OF TEXAS
DAVID C. HUGHES, JR.
31348
REGISTERED
PROFESSIONAL ENGINEER

JOB NO: 0708–E
DRAWN BY: SLA/DCH
DATE: 10/2008

SHEET C5A
OF

HYDROGRAPH REPORT

RECORD NUMBER : 1
TYPE : MOD. RATIONAL
DESCRIPTION : EXISTING OFF-SITE

[HYDROGRAPH INFORMATION]

Peak Discharge..... = 50.97 (cfs)
Volume..... = 0.70 (acft)
Time Interval..... = 1 (min)
Time to Peak..... = 10.00 (min)
Time of Base..... = 20.00 (min)
Multiplication factor..... = 1.00

[RATIONAL HYDROGRAPH INFORMATION]

Runoff Coeficient..... = 0.00000 (cfs)
Receding limb factor..... = 1.00000

[BASIN DESCRIPTION]

Watershed Area..... = 6.11 (ac)
Curve Number..... = 0
Runoff coefficient..... = 0.91

[TIME CONCENTRATION -- USER DEFINED]

Time of Concentration..... = 10.00 (min)

[RAINFALL DESCRIPTION]

Distribution Type..... = SYNTHETIC
Total Precipitation..... = 1.53 (in)
Return Period..... = 25 (yr)
Storm Duration..... = 0.17 (hr)

[Hydrograph Flow Values Time vs. Flow]
(The time interval is 1 min)

TIME INTV	TIME (min)	INCREMENTAL RAINFALL (in)	CUMULATIVE RAINFALL (in)	INCREMENTAL OUTFLOW (cfs)	DESIGN OUTFLOW (cfs)
1	1	0.15	0.15	5.10	5.10
2	2	0.15	0.31	5.10	10.19
3	3	0.15	0.46	5.10	15.29
4	4	0.15	0.61	5.10	20.39
5	5	0.15	0.77	5.10	25.49
6	6	0.15	0.92	5.10	30.58
7	7	0.15	1.07	5.10	35.68
8	8	0.15	1.23	5.10	40.78
9	9	0.15	1.38	5.10	45.88
10	10	0.15	1.53	5.10	50.97
11	11	0.00	1.53	-5.10	45.88
12	12	0.00	1.53	-5.10	40.78
13	13	0.00	1.53	-5.10	35.68
14	14	0.00	1.53	-5.10	30.58
15	15	0.00	1.53	-5.10	25.49
16	16	0.00	1.53	-5.10	20.39
17	17	0.00	1.53	-5.10	15.29
18	18	0.00	1.53	-5.10	10.19
19	19	0.00	1.53	-5.10	5.10

HYDROGRAPH REPORT

RECORD NUMBER : 2
TYPE : MOD. RATIONAL
DESCRIPTION : WEST DETENTION INFLOW

[HYDROGRAPH INFORMATION]

Peak Discharge..... = 32.68 (cfs)
Volume..... = 0.45 (acft)
Time Interval..... = 1 (min)
Time to Peak..... = 10.00 (min)
Time of Base..... = 20.00 (min)
Multiplication factor..... = 1.00

[RATIONAL HYDROGRAPH INFORMATION]

Runoff Coeficient..... = 0.00000 (cfs)
Receding limb factor..... = 1.00000

[BASIN DESCRIPTION]

Watershed Area..... = 4.13 (ac)
Curve Number..... = 0
Runoff coefficient..... = 0.86

[TIME CONCENTRATION -- USER DEFINED]

Time of Concentration..... = 10.00 (min)

[RAINFALL DESCRIPTION]

Distribution Type..... = SYNTHETIC
Total Precipitation..... = 1.53 (in)
Return Period..... = 25 (yr)
Storm Duration..... = 0.17 (hr)

[Hydrograph Flow Values Time vs. Flow]
(The time interval is 1 min)

TIME INTV	TIME (min)	INCREMENTAL RAINFALL (in)	CUMULATIVE RAINFALL (in)	INCREMENTAL OUTFLOW (cfs)	DESIGN OUTFLOW (cfs)
1	1	0.15	0.15	3.27	3.27
2	2	0.15	0.31	3.27	6.54
3	3	0.15	0.46	3.27	9.80
4	4	0.15	0.61	3.27	13.07
5	5	0.15	0.77	3.27	16.34
6	6	0.15	0.92	3.27	19.61
7	7	0.15	1.07	3.27	22.88
8	8	0.15	1.23	3.27	26.15
9	9	0.15	1.38	3.27	29.41
10	10	0.15	1.53	3.27	32.68
11	11	0.00	1.53	-3.27	29.41
12	12	0.00	1.53	-3.27	26.15
13	13	0.00	1.53	-3.27	22.88
14	14	0.00	1.53	-3.27	19.61
15	15	0.00	1.53	-3.27	16.34
16	16	0.00	1.53	-3.27	13.07
17	17	0.00	1.53	-3.27	9.80
18	18	0.00	1.53	-3.27	6.54
19	19	0.00	1.53	-3.27	3.27

HYDROGRAPH REPORT

RECORD NUMBER : 3
TYPE : MOD. RATIONAL
DESCRIPTION : NORTH DETENTION INLOW

[HYDROGRAPH INFORMATION]

Peak Discharge..... = 16.47 (cfs)
Volume..... = 0.23 (acft)
Time Interval..... = 1 (min)
Time to Peak..... = 10.00 (min)
Time of Base..... = 20.00 (min)
Multiplication factor..... = 1.00

[RATIONAL HYDROGRAPH INFORMATION]

Runoff Coeficient..... = 0.00000 (cfs)
Receding limb factor..... = 1.00000

[BASIN DESCRIPTION]

Watershed Area..... = 1.79 (ac)
Curve Number..... = 0
Runoff coefficient..... = 1.00

[TIME CONCENTRATION -- USER DEFINED]

Time of Concentration..... = 10.00 (min)

[RAINFALL DESCRIPTION]

Distribution Type..... = SYNTHETIC
Total Precipitation..... = 1.53 (in)
Return Period..... = 25 (yr)
Storm Duration..... = 0.17 (hr)

[Hydrograph Flow Values Time vs. Flow]
(The time interval is 1 min)

TIME INTV	TIME (min)	INCREMENTAL RAINFALL (in)	CUMULATIVE RAINFALL (in)	INCREMENTAL OUTFLOW (cfs)	DESIGN OUTFLOW (cfs)
1	1	0.15	0.15	1.65	1.65
2	2	0.15	0.31	1.65	3.29
3	3	0.15	0.46	1.65	4.94
4	4	0.15	0.61	1.65	6.59
5	5	0.15	0.77	1.65	8.24
6	6	0.15	0.92	1.65	9.88
7	7	0.15	1.07	1.65	11.53
8	8	0.15	1.23	1.65	13.18
9	9	0.15	1.38	1.65	14.82
10	10	0.15	1.53	1.65	16.47
11	11	0.00	1.53	-1.65	14.82
12	12	0.00	1.53	-1.65	13.18
13	13	0.00	1.53	-1.65	11.53
14	14	0.00	1.53	-1.65	9.88
15	15	0.00	1.53	-1.65	8.24
16	16	0.00	1.53	-1.65	6.59
17	17	0.00	1.53	-1.65	4.94
18	18	0.00	1.53	-1.65	3.29
19	19	0.00	1.53	-1.65	1.65

GENERAL NOTES:

1. THIS SHEET WAS PREPARED TO SHOW THE FLOOD HYDROGRAPH FOR EXISTING CONDITIONS OFF-SITE AND THE INFLOW HYDROGRAPHS FOR THE TWO (2) DETENTION AREAS FOR THE ONSITE DEVELOPMENT.
2. STAGE/DISCHARGE INFORMAITON IS SHOWN FOR THE NORTH RESERVOIR AND THE WEST RESERVOIR.
3. ROUTED HYDROGRAPHS FOR BOTH RESERVOIRS AND THE COMBINED OUTFLOW HYDROGRAPH FOR THE SYSTEM ARE SHOWN ON SHEET C5.

NORTH RESERVOIR (10' X 5' PRECAST RCB)

RESERVOIR REPORT

RECORD NUMBER : 1
STORAGE TYPE : RECT VAULT
DISCHARGE TYPE : COMP STAGE/DISC
DESCRIPTION : NORTH DETENTION 10 X 5 RCB 12" RCP

[RATING CURVE LIMIT]

Minimum Elevation..... = 581.83 (ft)
Maximum Elevation..... = 586.83 (ft)
Elevation Increment..... = 0.50 (ft)

[STAGE STORAGE INFORMATION]

RESERVOIR DESCRIPTION:
Length..... = 120.00 (ft)
Width..... = 10.00 (ft)

[STAGE DISCHARGE INFORMATION]

OUTLET STRUCTURE:
STR # : 1
TYPE : CIRCULAR CONCRETE w/ groove end w/ headwall
DESCRIPTION : OUTLET FOR NORTH DETENTION AREA 12" RCP

[Reservoir Discharge Value vs. Stage]
(the elevation increment is 0.5)

STAGE (ft)	ELEVATION (ft)	CONTOUR AREA (sqft)	STORAGE (cuft)	DISCHARGE (cfs)
0.00	581.83	0.00	0.00	0.00
0.50	582.33	1200.00	600.00	0.23
1.00	582.83	1200.00	1200.00	2.20
1.50	583.33	1200.00	1800.00	3.72
2.00	583.83	1200.00	2400.00	5.17
2.50	584.33	1200.00	3000.00	6.10
3.00	584.83	1200.00	3600.00	6.91
3.50	585.33	1200.00	4200.00	7.64
4.00	585.83	1200.00	4800.00	8.30
4.50	586.33	1200.00	5400.00	8.91
5.00	586.83	1200.00	6000.00	9.49

OUTLET STRUCTURE REPORT

RECORD NUMBER : 1
TYPE : CIRCULAR CONCRETE w/ groove end w/ headwall
DESCRIPTION : OUTLET FOR NORTH DETENTION AREA 12" RCP

[RATING CURVE LIMIT]

Minimum Elevation..... = 581.83 (ft)
Maximum Elevation..... = 586.83 (ft)
Elevation Increment..... = 0.50 (ft)

[OUTLET STRUCTURE INFORMATION]

Circular Radius..... = 0.50000 (ft)
Culvert Invert Elevation..... = 581.83 (ft)
Slope..... = 0.00500
Manning's N-value..... = 0.01300
Orifice Coefficient..... = 0.35000
Tailwater..... = 581.83 (ft)
Number barrels..... = 1

[Culvert Weir Discharge Value vs. Stage]
(the elevation increment is 0.5)

STAGE	ELEVATION (ft)	FLOW (cfs)
0.50	582.33	0.23
1.00	582.83	2.20
1.50	583.33	3.72
2.00	583.83	5.17
2.50	584.33	6.10
3.00	584.83	6.91
3.50	585.33	7.64
4.00	585.83	8.30
4.50	586.33	8.91
5.00	586.83	9.49

WEST RESERVOIR (4-8' X 4' CAST-IN-PLACE RCB)

RESERVOIR REPORT

RECORD NUMBER : 5
STORAGE TYPE : RECT VAULT
DISCHARGE TYPE : COMP STAGE/DISC
DESCRIPTION : WEST RESERVOIR 4-8X4 RCB 12" RCP

[RATING CURVE LIMIT]

Minimum Elevation..... = 581.97 (ft)
Maximum Elevation..... = 585.97 (ft)
Elevation Increment..... = 0.50 (ft)

[STAGE STORAGE INFORMATION]

RESERVOIR DESCRIPTION:
Length..... = 170.00 (ft)
Width..... = 32.00 (ft)

[STAGE DISCHARGE INFORMATION]

OUTLET STRUCTURE:
STR # : 4
TYPE : CIRCULAR CONCRETE w/ groove end w/ headwall
DESCRIPTION : OUTLET FOR WEST DETENTION 12" RCP

[Reservoir Discharge Value vs. Stage]
(the elevation increment is 0.5)

STAGE (ft)	ELEVATION (ft)	CONTOUR AREA (sqft)	STORAGE (cuft)	DISCHARGE (cfs)
0.00	581.97	0.00	0.00	0.00
0.50	582.47	5440.00	2720.00	0.75
1.00	582.97	5440.00	5440.00	2.25
1.50	583.47	5440.00	8160.00	3.45
2.00	583.97	5440.00	10880.00	4.95
2.50	584.47	5440.00	13600.00	5.61
3.00	584.97	5440.00	16320.00	6.21
3.50	585.47	5440.00	19040.00	6.76
4.00	585.97	5440.00	21760.00	7.26

OUTLET STRUCTURE REPORT

RECORD NUMBER : 4
TYPE : CIRCULAR CONCRETE w/ groove end w/ headwall
DESCRIPTION : OUTLET FOR WEST DETENTION 12" RCP

[RATING CURVE LIMIT]

Minimum Elevation..... = 581.97 (ft)
Maximum Elevation..... = 585.97 (ft)
Elevation Increment..... = 0.50 (ft)

[OUTLET STRUCTURE INFORMATION]

Circular Radius..... = 0.50000 (ft)
Culvert Invert Elevation..... = 581.97 (ft)
Slope..... = 0.00500
Manning's N-value..... = 0.01300
Orifice Coefficient..... = 0.35000
Tailwater..... = 581.97 (ft)
Number barrels..... = 1

[Culvert Weir Discharge Value vs. Stage]
(the elevation increment is 0.5)

STAGE	ELEVATION (ft)	FLOW (cfs)
0.50	582.47	0.75
1.00	582.97	2.25
1.50	583.47	3.45
2.00	583.97	4.95
2.50	584.47	5.61
3.00	584.97	6.21
3.50	585.47	6.76
4.00	585.97	7.26

PRELIMINARY-FOR SITE PLAN REVIEW.
NOT INTENDED FOR CONSTRUCTION,
BIDDING, OR PERMIT PURPOSES.
ISSUED BY: DAVID C. HUGHES, JR., P.E.
TEXAS REG. # 31348-10/06/08

ELLIOTT & HUGHES, INC.,
ENGINEERS/PLANNERS
1001 WEST EULESS BOULEVARD-SUITE 214
EULESS, TEXAS 76040 ~ 817-267-1303

STORM DRAINAGE COMPUTATIONS

LOT 3-R, BLOCK A
MAIN CENTRE ADDITION
EULESS, TEXAS

BYRON FOLSE ASSOCIATES, INC.
ARCHITECTS AND PLANNERS
2275 WESTPARK COURT EULESS, TEXAS

JOB NO: 0708-E
DRAWN BY: SLA/DCH
DATE: 10/2008

SHEET C5B
OF

9/22/108 EDSC WATERSHED MODELING Page 1

HYDROGRAPH REPORT

RECORD NUMBER : 16
TYPE : RESER MOD. PULS
DESCRIPTION : WEST RESERVOIR 4 8X4 170'

[HYDROGRAPH INFORMATION]

Peak Discharge..... = 6.11 (cfs)
Volume..... = 0.45 (acft)
Time Interval..... = 1 (min)
Time to Peak..... = 18.00 (min)
Time of Base..... = 494.00 (min)
Peak Elevation..... = 584.88 (ft)

[INFLOW HYDROGRAPH INFORMATION]

Hydrograph #..... = 2
Hydrograph Description..... = WEST DETENTION INFLOW

[Computation of Reservoir Outflow Table of Modified Puls Method]
(The time interval is 1 min)

INTV#	TIME (min)	INFLOW (cfs)	(I1+I2)	+	EQUATION 2(S1)/dt-O1	=	2(S2)/dt+O2	OUTFLOW O2(cfs)	STORAGE (cuft)	ELEVATION (ft)	
1	1.0	3.27	3.27	+	0.00	=	3.27	0.03	97.24	581.99	
2	2.0	6.54	9.80	+	3.21	=	13.02	0.11	387.36	582.04	
3	3.0	9.80	16.34	+	12.81	=	29.15	0.24	867.20	582.13	
4	4.0	13.07	22.88	+	28.67	=	51.54	0.42	1533.65	582.25	
5	5.0	16.34	29.41	+	50.70	=	80.11	0.66	2383.65	582.41	
6	6.0	19.61	35.95	+	78.80	=	114.75	1.13	3408.52	582.60	
7	7.0	22.88	42.49	+	112.49	=	154.97	1.78	4595.65	582.81	
8	8.0	26.15	49.02	+	151.40	=	200.43	2.47	5938.65	583.06	
9	9.0	29.41	55.56	+	195.48	=	251.04	3.13	7437.35	583.34	
10	10.0	32.68	62.09	+	244.78	=	306.88	3.96	9087.46	583.64	
11	11.0	29.41	62.09	+	298.96	=	361.05	4.84	10686.34	583.93	
12	12.0	26.15	55.56	+	351.37	=	406.93	5.23	12050.91	584.19	
13	13.0	22.88	49.02	+	396.46	=	445.49	5.52	13199.10	584.40	
14	14.0	19.61	42.49	+	434.45	=	476.94	5.73	14136.22	584.57	
15	15.0	16.34	35.95	+	465.47	=	501.42	5.89	14865.92	584.70	
16	16.0	13.07	29.41	+	489.64	=	519.05	6.01	15391.23	584.80	
17	17.0	9.80	22.88	+	507.03	=	529.91	6.08	15714.83	584.86	PEAK
18	18.0	6.54	16.34	+	517.75	=	534.09	6.11	15839.38	584.88	
19	19.0	3.27	9.80	+	521.87	=	531.68	6.09	15767.50	584.87	
20	20.0	0.00	3.27	+	519.49	=	522.76	6.03	15501.76	584.82	
21	21.0	0.00	0.00	+	510.69	=	510.69	5.95	15142.11	584.75	
22	22.0	0.00	0.00	+	498.78	=	498.78	5.88	14787.19	584.69	
23	23.0	0.00	0.00	+	487.03	=	487.03	5.80	14436.94	584.62	
24	24.0	0.00	0.00	+	475.43	=	475.43	5.72	14091.30	584.56	
25	25.0	0.00	0.00	+	463.99	=	463.99	5.65	13750.20	584.50	
26	26.0	0.00	0.00	+	452.69	=	452.69	5.57	13413.72	584.44	
27	27.0	0.00	0.00	+	441.56	=	441.56	5.49	13082.06	584.37	
28	28.0	0.00	0.00	+	430.58	=	430.58	5.41	12755.26	584.31	
29	29.0	0.00	0.00	+	419.77	=	419.77	5.33	12433.24	584.26	
30	30.0	0.00	0.00	+	409.11	=	409.11	5.25	12115.94	584.20	
31	31.0	0.00	0.00	+	398.62	=	398.62	5.17	11803.29	584.14	
32	32.0	0.00	0.00	+	388.27	=	388.27	5.10	11495.21	584.08	
33	33.0	0.00	0.00	+	378.08	=	378.08	5.02	11191.65	584.03	
34	34.0	0.00	0.00	+	368.03	=	368.03	4.95	10892.53	583.97	
35	35.0	0.00	0.00	+	358.14	=	358.14	4.79	10600.33	583.92	
36	36.0	0.00	0.00	+	348.55	=	348.55	4.64	10317.49	583.87	
37	37.0	0.00	0.00	+	339.28	=	339.28	4.49	10043.84	583.82	
38	38.0	0.00	0.00	+	330.31	=	330.31	4.34	9779.08	583.77	
39	39.0	0.00	0.00	+	321.63	=	321.63	4.20	9522.90	583.72	
40	40.0	0.00	0.00	+	313.23	=	313.23	4.06	9275.04	583.67	
41	41.0	0.00	0.00	+	305.11	=	305.11	3.93	9035.23	583.63	
42	42.0	0.00	0.00	+	297.24	=	297.24	3.80	8803.20	583.59	
43	43.0	0.00	0.00	+	289.64	=	289.64	3.68	8578.70	583.55	
44	44.0	0.00	0.00	+	282.28	=	282.28	3.56	8361.49	583.51	
45	45.0	0.00	0.00	+	275.16	=	275.16	3.45	8151.31	583.47	
46	46.0	0.00	0.00	+	268.26	=	268.26	3.36	7947.26	583.43	
47	47.0	0.00	0.00	+	261.55	=	261.55	3.27	7748.53	583.39	
48	48.0	0.00	0.00	+	255.02	=	255.02	3.18	7555.00	583.36	
49	49.0	0.00	0.00	+	248.65	=	248.65	3.10	7366.51	583.32	
50	50.0	0.00	0.00	+	242.45	=	242.45	3.02	7182.95	583.29	
51	51.0	0.00	0.00	+	236.41	=	236.41	2.94	7004.18	583.26	
52	52.0	0.00	0.00	+	230.53	=	230.53	2.86	6830.07	583.23	
53	53.0	0.00	0.00	+	224.81	=	224.81	2.79	6660.52	583.19	
54	54.0	0.00	0.00	+	219.23	=	219.23	2.72	6495.38	583.16	
55	55.0	0.00	0.00	+	213.80	=	213.80	2.64	6334.56	583.13	
56	56.0	0.00	0.00	+	208.51	=	208.51	2.58	6177.94	583.11	
57	57.0	0.00	0.00	+	203.36	=	203.36	2.51	6025.40	583.08	
58	58.0	0.00	0.00	+	198.34	=	198.34	2.44	5876.85	583.05	
59	59.0	0.00	0.00	+	193.45	=	193.45	2.38	5732.17	583.02	
60	60.0	0.00	0.00	+	188.69	=	188.69	2.32	5591.27	583.00	
61	61.0	0.00	0.00	+	184.06	=	184.06	2.26	5454.05	582.97	
62	62.0	0.00	0.00	+	179.54	=	179.54	2.18	5320.80	582.95	
63	63.0	0.00	0.00	+	175.18	=	175.18	2.11	5191.85	582.92	
64	64.0	0.00	0.00	+	170.95	=	170.95	2.04	5067.09	582.90	
65	65.0	0.00	0.00	+	166.86	=	166.86	1.98	4946.40	582.88	
66	66.0	0.00	0.00	+	162.90	=	162.90	1.91	4829.64	582.86	
67	67.0	0.00	0.00	+	159.07	=	159.07	1.85	4716.68	582.84	
68	68.0	0.00	0.00	+	155.37	=	155.37	1.79	4607.40	582.82	
69	69.0	0.00	0.00	+	151.79	=	151.79	1.73	4501.68	582.80	
70	70.0	0.00	0.00	+	148.32	=	148.32	1.68	4399.40	582.78	
71	71.0	0.00	0.00	+	144.97	=	144.97	1.62	4300.45	582.76	
72	72.0	0.00	0.00	+	141.73	=	141.73	1.57	4204.72	582.74	
73	73.0	0.00	0.00	+	138.59	=	138.59	1.52	4112.11	582.73	
74	74.0	0.00	0.00	+	135.55	=	135.55	1.47	4022.51	582.71	
75	75.0	0.00	0.00	+	132.62	=	132.62	1.42	3935.83	582.69	
76	76.0	0.00	0.00	+	129.77	=	129.77	1.37	3851.98	582.68	
77	77.0	0.00	0.00	+	127.02	=	127.02	1.33	3770.86	582.66	
78	78.0	0.00	0.00	+	124.37	=	124.37	1.29	3692.37	582.65	
79	79.0	0.00	0.00	+	121.79	=	121.79	1.24	3616.45	582.63	
80	80.0	0.00	0.00	+	119.30	=	119.30	1.20	3542.99	582.62	
81	81.0	0.00	0.00	+	116.90	=	116.90	1.16	3471.93	582.61	
82	82.0	0.00	0.00	+	114.57	=	114.57	1.13	3403.18	582.60	
83	83.0	0.00	0.00	+	112.31	=	112.31	1.09	3336.67	582.58	
84	84.0	0.00	0.00	+	110.13	=	110.13	1.05	3272.33	582.57	
85	85.0	0.00	0.00	+	108.02	=	108.02	1.02	3210.08	582.56	
86	86.0	0.00	0.00	+	105.98	=	105.98	0.99	3149.86	582.55	
87	87.0	0.00	0.00	+	104.01	=	104.01	0.95	3091.60	582.54	
88	88.0	0.00	0.00	+	102.10	=	102.10	0.92	3035.24	582.53	
89	89.0	0.00	0.00	+	100.25	=	100.25	0.89	2980.71	582.52	
90	90.0	0.00	0.00	+	98.46	=	98.46	0.86	2927.96	582.51	
91	91.0	0.00	0.00	+	96.73	=	96.73	0.84	2876.92	582.50	
92	92.0	0.00	0.00	+	95.06	=	95.06	0.81	2827.55	582.49	
93	93.0	0.00	0.00	+	93.44	=	93.44	0.78	2779.78	582.48	
94	94.0	0.00	0.00	+	91.88	=	91.88	0.76	2733.57	582.47	
95	95.0	0.00	0.00	+	90.36	=	90.36	0.74	2688.61	582.46	
96	96.0	0.00	0.00	+	88.88	=	88.88	0.73	2644.50	582.46	

9/21/108 EDSC WATERSHED MODELING Page 1

HYDROGRAPH REPORT

RECORD NUMBER : 17
TYPE : RESER MOD. PULS
DESCRIPTION : NORTH RESERVOIR W/ 12" RCP

[HYDROGRAPH INFORMATION]

Peak Discharge..... = 8.32 (cfs)
Volume..... = 0.22 (acft)
Time Interval..... = 1 (min)
Time to Peak..... = 15.00 (min)
Time of Base..... = 111.00 (min)
Peak Elevation..... = 585.14 (ft)

[INFLOW HYDROGRAPH INFORMATION]

Hydrograph #..... = 3
Hydrograph Description..... = NORTH DETENTION INLOW

[Computation of Reservoir Outflow Table of Modified Puls Method]
(The time interval is 1 min)

INTV#	TIME (min)	INFLOW (cfs)	(I1+I2)	+	EQUATION 2(S1)/dt-O1	=	2(S2)/dt+O2	OUTFLOW O2(cfs)	STORAGE (cuft)	ELEVATION (ft)	
4	4.0	6.59	11.53	+	14.82	=	26.35	0.90	763.70	581.77	
5	5.0	8.24	14.82	+	24.56	=	39.38	2.07	1119.39	582.06	
6	6.0	9.88	18.12	+	35.24	=	53.36	3.11	1507.45	582.39	
7	7.0	11.53	21.41	+	47.14	=	68.55	4.28	1927.94	582.74	
8	8.0	13.18	24.71	+	59.98	=	84.69	5.14	2386.33	583.12	
9	9.0	14.82	28.00	+	74.40	=	102.40	5.95	2893.67	583.54	
10	10.0	16.47	31.29	+	90.51	=	121.80	6.72	3452.38	584.01	
11	11.0	14.82	31.29	+	108.36	=	139.65	7.37	3968.43	584.44	
12	12.0	13.18	28.00	+	124.91	=	152.91	7.81	4352.96	584.76	
13	13.0	11.53	24.71	+	137.28	=	161.99	8.10	4616.56	584.98	
14	14.0	9.88	21.41	+	145.78	=	167.19	8.27	4767.72	585.10	PEAK
15	15.0	8.24	18.12	+	150.66	=	168.77	8.32	4813.68	585.14	
16	16.0	6.59	14.82	+	152.14	=	166.96	8.26	4761.03	585.10	
17	17.0	4.94	11.53	+	150.44	=	161.97	8.10	4615.95	584.98	
18	18.0	3.29	8.24	+	145.76	=	154.00	7.85	4384.41	584.78	
19	19.0	1.65	4.94	+	138.30	=	143.24	7.49	4072.45	584.52	
20	20.0	0.00	1.65	+	128.26	=	129.90	7.02	3686.45	584.20	
21	21.0	0.00	0.00	+	115.86	=	115.86	6.49	3280.93	583.86	
22	22.0	0.00	0.00	+	102.87	=	102.87	5.97	2907.13	583.55	
23	23.0	0.00	0.00	+	90.94	=	90.94	5.44	2564.99	583.27	
24	24.0	0.00	0.00	+	80.06	=	80.06	4.91	2254.56	583.01	
25	25.0	0.00	0.00	+	70.24	=	70.24	4.38	1975.77	582.78	
26	26.0	0.00	0.00	+	61.48	=	61.48	3.59	1736.47	582.58	
27	27.0	0.00	0.00	+	54.29	=	54.29	3.17	1533.64	582.41	
28	28.0	0.00	0.00	+	47.95	=	47.95	2.73	1356.81	582.26	
29	29.0	0.00	0.00	+	42.50	=	42.50	2.31	1205.74	582.13	
30	30.0	0.00	0.00	+	37.88	=	37.88	1.96	1077.77	582.03	
31	31.0	0.00	0.00	+	33.97	=	33.97	1.66	969.38	581.94	
32	32.0	0.00	0.00	+	30.66	=	30.66	1.35	879.18	581.86	
33	33.0	0.00	0.00	+	27.96	=	27.96	1.07	806.57	581.80	
34	34.0	0.00	0.00	+	25.82	=	25.82	0.84	749.37	581.75	
35	35.0	0.00	0.00	+	24.14	=	24.14	0.65	704.79	581.72	
36	36.0	0.00	0.00	+	22.84	=	22.84	0.51	670.12	581.69	
37	37.0	0.00	0.00	+	21.83	=	21.83	0.40	643.02	581.67	
38	38.0	0.00	0.00	+	21.04	=	21.04	0.32	621.63	581.65	
39	39.0	0.00	0.00	+	20.41	=	20.41	0.25	604.68	581.63	
40	40.0	0.00	0.00	+	19.91	=	19.91	0.21	590.99	581.62	
41	41.0	0.00	0.00	+	19.49	=	19.49	0.17	579.55	581.61	
42	42.0	0.00	0.00	+	19.14	=	19.14	0.15	569.87	581.60	
43	43.0	0.00	0.00	+	18.85	=	18.85	0.13	561.68	581.60	
44	44.0	0.00	0.00	+	18.60	=	18.60	0.11	554.75	581.59	
45	45.0	0.00	0.00	+	18.39	=	18.39	0.09	548.88	581.59	
46	46.0	0.00	0.00	+	18.21	=	18.21	0.08	543.92	581.58	
47	47.0	0.00	0.00	+	18.06	=	18.06	0.06	539.71	581.58	
48	48.0	0.00	0.00	+	17.93	=	17.93	0.06	535.96	581.58	
49	49.0	0.00	0.00	+	17.80	=	17.80	0.06	532.44	581.57	
50	50.0	0.00	0.00	+	17.69	=	17.69	0.05	529.14	581.57	
51	51.0	0.00	0.00	+	17.58	=	17.58	0.05	526.05	581.57	
52	52.0	0.00	0.00	+	17.48	=	17.48	0.05	523.14	581.57	
53	53.0	0.00	0.00	+	17.39	=	17.39	0.04	520.42	581.56	
54	54.0	0.00	0.00	+	17.30	=	17.30	0.04	517.87	581.56	
55	55.0	0.00	0.00	+	17.22	=	17.22	0.04	515.48	581.56	
56	56.0	0.00	0.00	+	17.14	=	17.14	0.04	513.24	581.56	
57	57.0	0.00	0.00	+	17.07	=	17.07	0.03	511.13	581.56	
58	58.0	0.00	0.00	+	17.00	=	17.00	0.03	509.16	581.55	
59	59.0	0.00	0.00	+	16.94	=	16.94	0.03	507.31	581.55	
60	60.0	0.00	0.00	+	16.88	=	16.88	0.03	505.58	581.55	
61	61.0	0.00	0.00	+	16.82	=	16.82	0.03	503.95	581.55	
62	62.0	0.00	0.00	+	16.77	=	16.77	0.02	502.42	581.55	
63	63.0	0.00	0.00	+	16.72	=	16.72	0.02	500.99	581.55	
64	64.0	0.00	0.00	+	16.68	=	16.68	0.02	499.65	581.55	
65	65.0	0.00	0.00	+	16.63	=	16.63	0.02	498.39	581.55	
66	66.0	0.00	0.00	+	16.59	=	16.59	0.02	497.21	581.54	
67	67.0	0.00	0.00	+	16.55	=	16.55	0.02	496.11	581.54	
68	68.0	0.00	0.00	+	16.52	=	16.52	0.02	495.07	581.54	
69	69.0	0.00	0.00	+	16.49	=	16.49	0.02	494.10	581.54	
70	70.0	0.00	0.00	+	16.45	=	16.45	0.01	493.19	581.54	
71	71.0	0.00	0.00	+	16.42	=	16.42	0.01	492.33	581.54	
72	72.0	0.00	0.00	+	16.40	=	16.40	0.01	491.53	581.54	
73	73.0	0.00	0.00	+	16.37	=	16.37	0.01	490.78	581.54	
74	74.0	0.00	0.00	+	16.35	=	16.35	0.01	490.07	581.54	
75	75.0	0.00	0.00	+	16.32	=	16.32	0.01	489.41	581.54	
76	76.0	0.00	0.00	+	16.30	=	16.30	0.01	488.79	581.54	
77	77.0	0.00	0.00	+	16.28	=	16.28	0.01	488.21	581.54	
78	78.0	0.00	0.00	+	16.26	=	16.26	0.01	487.67	581.54	
79	79.0	0.00	0.00	+	16.25	=	16.25	0.01	487.16	581.54	
80	80.0	0.00	0.00	+	16.23	=	16.23	0.01	486.68	581.54	
81	81.0	0.00	0.00	+	16.21	=	16.21	0.01	486.23	581.54	
82	82.0	0.00	0.00	+	16.20	=	16.20	0.01	485.80	581.53	
83	83.0	0.00	0.00	+	16.19	=	16.19	0.01	485.41	581.53	
84	84.0	0.00	0.00	+	16.17	=	16.17	0.01	485.04	581.53	
85	85.0	0.00	0.00	+	16.16	=	16.16	0.01	484.69	581.53	
86	86.0	0.00	0.00	+	16.15	=	16.15	0.01	484.37	581.53	
87	87.0	0.00	0.00	+	16.14	=	16.14	0.00	484.06	581.53	
88	88.0	0.00	0.00	+	16.13	=	16.13	0.00	483.77	581.53	
89	89.0	0.00	0.00	+	16.12	=	16.12	0.00	483.50	581.53	
90	90.0	0.00	0.00	+	16.11	=	16.11	0.00	483.25	581.53	
91	91.0	0.00	0.00	+	16.10	=	16.10	0.00	483.02	581.53	
92	92.0	0.00	0.00	+	16.10	=	16.10	0.00	482.80	581.53	
93	93.0	0.00	0.00	+	16.09	=	16.09	0.00	482.59	581.53	
94	94.0	0.00	0.00	+	16.08	=	16.08	0.00	482.39	581.53	
95	95.0	0.00	0.00	+	16.08	=	16.08	0.00	482.21	581.53	
96	96.0	0.00	0.00	+	16.07	=	16.07	0.00	482.04	581.53	

9/22/108 EDSC WATERSHED MODELING Page 1

HYDROGRAPH REPORT

RECORD NUMBER : 12
TYPE : COMBINE
DESCRIPTION : COMBINE REVISED RESERVOIRS AT NPL

[HYDROGRAPH INFORMATION]

Peak Discharge..... = 61.67 (cfs)
Volume..... = 1.38 (acft)
Time Interval..... = 1 (min)
Time to Peak..... = 10.00 (min)
Time of Base..... = 494.00 (min)

[COMBINE HYDROGRAPH RECORD #]

HYDROGRAPH # 1 TYPE : MOD. RATIONAL
DESCRIPTION : EXISTING OFF-SITE
Peak Discharge..... = 50.97 (cfs)
Time to Peak..... = 10.00 (min)
Time Interval..... = 1 (min)
HYDROGRAPH # 16 TYPE : RESER MOD. PULS
DESCRIPTION : WEST RESERVOIR 4-8X4 170'
Peak Discharge..... = 6.11 (cfs)
Time to Peak..... = 18.00 (min)
Time Interval..... = 1 (min)
HYDROGRAPH # 17 TYPE : RESER MOD. PULS
DESCRIPTION : NORTH RESERVOIR W/ 12" RCP
Peak Discharge..... = 8.33 (cfs)
Time to Peak..... = 15.00 (min)
Time Interval..... = 1 (min)

[Combine Hydrograph Flow Values]
(The time interval is 1 min)

INTV #	TIME (min)	OUTFLOW (cfs)	
1	1	5.14	
2	2	10.38	
3	3	15.70	
4	4	21.55	
5	5	28.08	
6	6	34.71	
7	7	41.53	
8	8	48.43	
9	9	54.98	
10	10	61.67	PEAK
11	11	58.10	
12	12	53.84	
13	13	49.32	
14	14	44.60	
15	15	39.71	
16	16	34.67	
17	17	29.49	
18	18	24.16	
19	19	18.69	
20	20	13.07	
21	21	12.45	
22	22	11.85	
23	23	11.24	
24	24	10.57	
25	25	9.84	
26	26	9.19	
27	27	8.60	
28	28	8.08	
29	29	7.62	
30	30	7.16	
31	31	6.74	
32	32	6.38	
33	33	6.08	
34	34	5.81	
35	35	5.50	
36	36	5.22	
37	37	4.96	
38	38	4.73	
39	39	4.52	
40	40	4.33	
41	41	4.16	
42	42	4.03	
43	43	3.90	
44	44	3.77	
45	45	3.66	
46	46	3.56	
47	47	3.47	
48	48	3.38	
49	49	3.29	
50	50	3.21	
51	51	3.12	
52	52	3.04	
53	53	2.96	
54	54	2.89	
55	55	2.81	
56	56	2.74	
57	57	2.67	
58	58	2.60	
59	59	2.53	
60	60	2.47	
61	61	2.40	
62	62	2.33	
63	63	2.25	
64	64	2.18	
65	65	2.11	
66	66	2.04	
67	67	1.98	
68	68	1.91	
69	69	1.85	
70	70	1.79	
71	71	1.74	
72	72	1.68	
73	73	1.63	
74	74	1.58	
75	75	1.53	
76	76	1.48	
77	77	1.43	
78	78	1.38	
79	79	1.34	
80	80	1.30	
81	81	1.26	
82	82	1.22	
83	83	1.18	
84	84	1.14	
85	85	1.10	
86	86	1.07	
87	87	1.03	
88	88	1.00	
89	89	0.97	
90	90	0.94	
91	91	0.91	
92	92	0.88	
93	93	0.85	
94	94	0.82	
95	95	0.81	
96	96	0.79	

HYDROGRAPH TRUNCATED AT 96 MINUTES.

GENERAL NOTES:

1. THIS SHEET WAS PREPARED TO SHOW THE INFLOW HYDROGRAPHS ROUTED THROUGH THE APPLICABLE DETENTION STRUCTURE AND TO SHOW THE COMBINED HYDROGRAPH OF THE EXISTING OFFSITE CONDITIONS AND THE OUTFLOW FROM THE DETENTION AREAS. THE PEAK DISCHARGE DOWNSTREAM OF JUNCTION BOX NO. 1 IS SHOWN AT 61.67 CFS, WITH A PEAK TIME OF 10 MINUTES.
2. MAXIMUM STORAGE REQUIRED FOR THE DETENTION STRUCTURES OCCURS WITH A RAINFALL DURATION OF 20 MINUTES. MAXIMUM REQUIRED STORAGE FOR THE WEST DETENTION AREA IS 21,194 CF COMPARED TO AVAILABLE STORAGE OF 21,760 CF. MAXIMUM REQUIRED FOR THE NORTH AREA IS 5439 CF COMPARED TO AVAILABLE STORAGE OF 6000 CF.
3. SEE SHEET C5A FOR RATIONAL METHOD COMPUTATIONS. OFF-SITE DRAINAGE AREAS AND ON-SITE DRAINAGE AREAS ARE SHOWN ON SHEETS C3 AND C4 RESPECTIVELY.
4. ADDITIONAL INFORMATION ON THE DETENTION AREAS CAN BE FOUND ON SHEET C5B AND SHEETS C14A AND C14B.

PRELIMINARY~FOR SITE PLAN REVIEW.
NOT INTENDED FOR CONSTRUCTION,
BIDDING, OR PERMIT PURPOSES.
ISSUED BY: DAVID C. HUGHES, JR., P.E.
TEXAS REG. # 31348~10/06/08

ELLIOTT & HUGHES, INC.,
ENGINEERS/PLANNERS
1001 WEST EULESS BOULEVARD~SUITE 214
EULESS, TEXAS 76040 ~ 817-267-1303
STORM DRAINAGE COMPUTATIONS

LOT 3-R, BLOCK A
MAIN CENTRE ADDITION
EULESS, TEXAS

BYRON FOLSE ASSOCIATES, INC.
ARCHITECTS AND PLANNERS
2275 WESTPARK COURT
EULESS, TEXAS

STATE OF TEXAS
DAVID C. HUGHES, JR.
31348
REGISTERED PROFESSIONAL ENGINEER

JOB NO: 0708-E
DRAWN BY: SLA/DCH
DATE: 10/2008

SHEET C5C OF

GENERAL NOTES:

1. THIS SHEET HAS BEEN PREPARED TO SHOW SITE GRADING FOR THE PROJECT.

2. DO NOT SCALE DIMENSIONS FROM THIS PLAN. ALL SITE LAYOUT SHALL BE BASED ON THE DIMENSION CONTROL PLAN AND THE OTHER APPLICABLE SHEETS IN THE DRAWINGS.

3. EXISTING TOPOGRAPHY WAS DERIVED FROM AN ON-THE-GROUND TOPOGRAPHIC SURVEY PREPARED BY MARSHALL LANCASTER AND ASSOCIATES, HURST, TEXAS, IN 2008 AND FURNISHED BY THE OWNER. CONTOUR INTERVAL IS GENERALLY 1.0 FEET.

4. DETAILS ON THE PAVEMENT SECTIONS, CURB DETAILS, DETAILS ON SIDEWALKS AND WHEEL CHAIR RAMPS, SUBGRADE PREPARATION, JOINT LAYOUT, COMPACTION REQUIREMENTS, ETC. ARE DELINEATED ELSEWHERE IN THESE PLANS AND IN THE GEOTECHNICAL REPORT FURNISHED BY THE OWNER.

5. ALL "TOP OF CURB" ELEVATIONS ASSUME THE USE OF A 6-INCH HIGH CURB. ANY OTHER CURB HEIGHT REQUIRES APPROPRIATE ADJUSTMENT.

6. LOCATION OF ALL EXISTING AND PROPOSED WATER, SANITARY SEWER, ELECTRIC, GAS, TELEPHONE, CABLE TELEVISION, FIBER OPTIC CABLES, IRRIGATION FACILITIES, ETC. ARE NOT SHOWN ON THIS PLAN SHEET. IN ADDITION, THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE NOTIFICATION REQUIREMENTS OUTLINED ON SHEET C1 AND DELINEATED IN THE GENERAL NOTES WITH REGARD TO LOCATION OF PUBLIC, FRANCHISED PUBLIC, AND PRIVATE UTILITY FACILITIES.

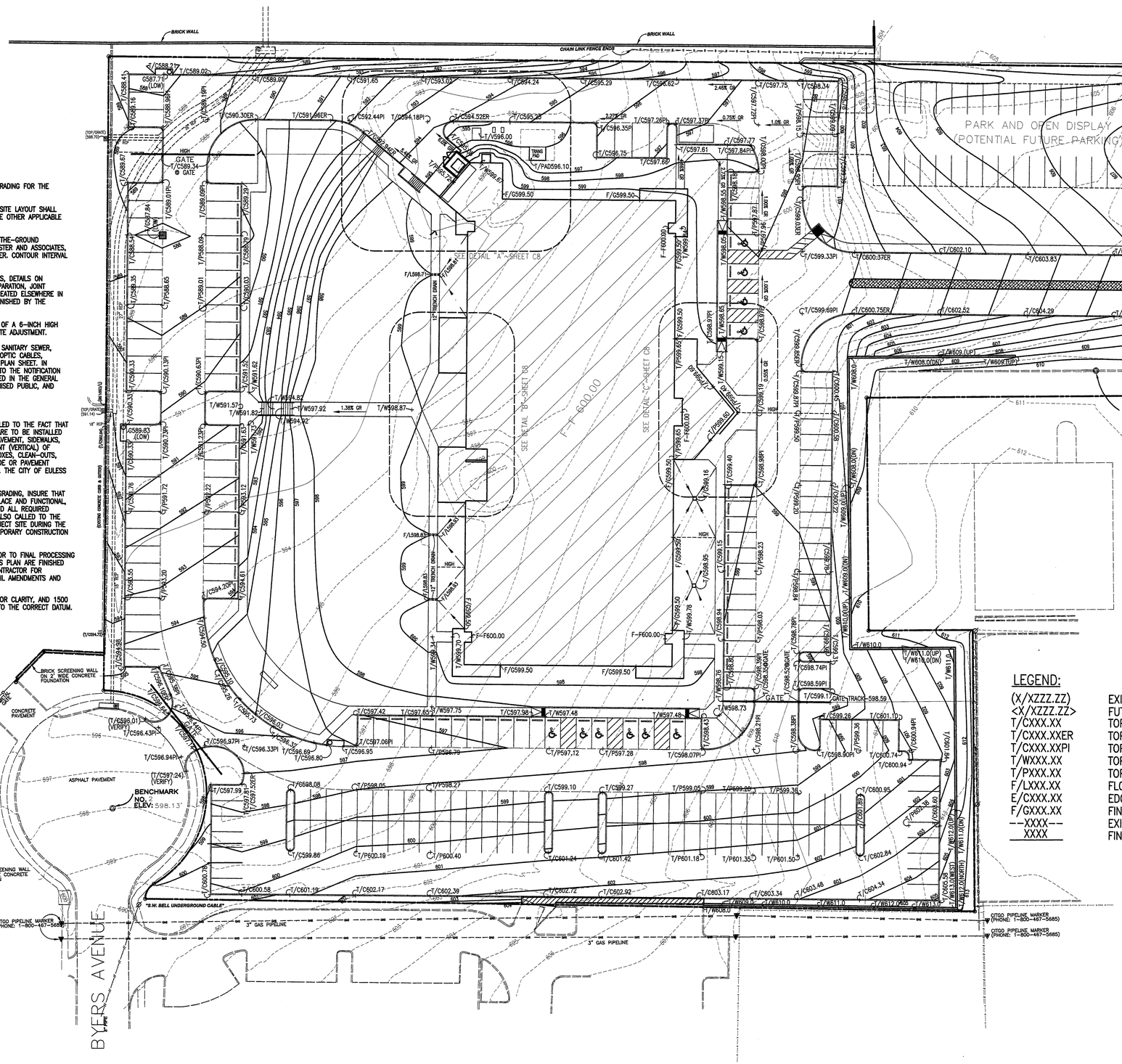
7. BENCH MARK DATA IS SHOWN ON THIS SHEET.

8. THE CONTRACTOR'S ATTENTION IS SPECIFICALLY CALLED TO THE FACT THAT CERTAIN PUBLIC AND PRIVATE UTILITY IMPROVEMENTS ARE TO BE INSTALLED IN AND ADJACENT TO AREAS RECEIVING PERMANENT PAVEMENT, SIDEWALKS, ETC. THE CONTRACTOR SHALL PROVIDE ANY ADJUSTMENT (VERTICAL) OF THESE FACILITIES (VALVE BOXES, MANHOLES, METER BOXES, CLEAN-OUTS, ETC.) NECESSARY TO CONFORM TO THE FINISHED GRADE OR PAVEMENT GRADE. ALL ADJUSTMENTS SHALL BE PERFORMED I.A.W. THE CITY OF EULESS STANDARDS.

9. PRIOR TO BEGINNING ANY SITE CLEARING AND/OR GRADING, INSURE THAT ALL REQUIRED EROSION CONTROL FACILITIES ARE IN PLACE AND FUNCTIONAL, AND THAT ALL REQUIRED FILINGS HAVE BEEN MADE AND ALL REQUIRED PERMITS SECURED. THE CONTRACTOR'S ATTENTION IS ALSO CALLED TO THE FACT THAT ALL VEHICLE ENTRY AND EXIT TO THE PROJECT SITE DURING THE SITE GRADING OPERATIONS WILL BE THROUGH THE TEMPORARY CONSTRUCTION ENTRANCE ON MAIN STREET AND BYERS.

10. SEE SHEET C10 FOR PAVEMENT THICKNESSES PRIOR TO FINAL PROCESSING OF THE PAVEMENT SUBGRADE. GRADES SHOWN ON THIS PLAN ARE FINISHED GRADES AND ALLOWANCES MUST BE MADE BY THE CONTRACTOR FOR PAVEMENT FACILITIES AND ADDITIONAL TOP SOIL OR SOIL AMENDMENTS AND GRASS SOD REQUIRED BY THE LANDSCAPE PLANS.

11. THE ELEVATIONS SHOWN HAVE BEEN TRUNCATED FOR CLARITY, AND 1500 SHOULD BE ADDED TO EACH ELEVATION TO BRING IT TO THE CORRECT DATUM.



30 0 30 60 90
GRAPHIC SCALE IN FEET 1" = 30'

LEGEND:

(X/XZZZ.ZZ)	EXISTING GRADE
<X/XZZZ.ZZ>	FUTURE GRADES (BY OTHERS)
T/CXXX.XX	TOP OF CURB
T/CXXX.XXER	TOP OF CURB @ END OF RETURN
T/CXXX.XXPI	TOP OF CURB @ EXTENDED INTERSECTION
T/WXXX.XX	TOP OF WALK
T/PXXX.XX	TOP OF PAVEMENT
F/LXXX.XX	FLOW LINE ELEVATION
E/CXXX.XX	EDGE CONCRETE
F/GXXX.XX	FINISHED GRADE
--XXXX--	EXISTING CONTOUR
XXXX	FINISHED CONTOUR

PRELIMINARY~FOR SITE PLAN REVIEW.
NOT INTENDED FOR CONSTRUCTION,
BIDDING, OR PERMIT PURPOSES.
ISSUED BY: DAVID C. HUGHES, JR., P.E.
TEXAS REG. # 31348~10/06/08

ELLIOTT & HUGHES, INC.,
ENGINEERS/PLANNERS
1001 WEST EULESS BOULEVARD~SUITE 214
EULESS, TEXAS 76040 ~ 817-267-1303

SITE GRADING PLAN

LOT 3-R, BLOCK A
MAIN CENTRE ADDITION
EULESS, TEXAS

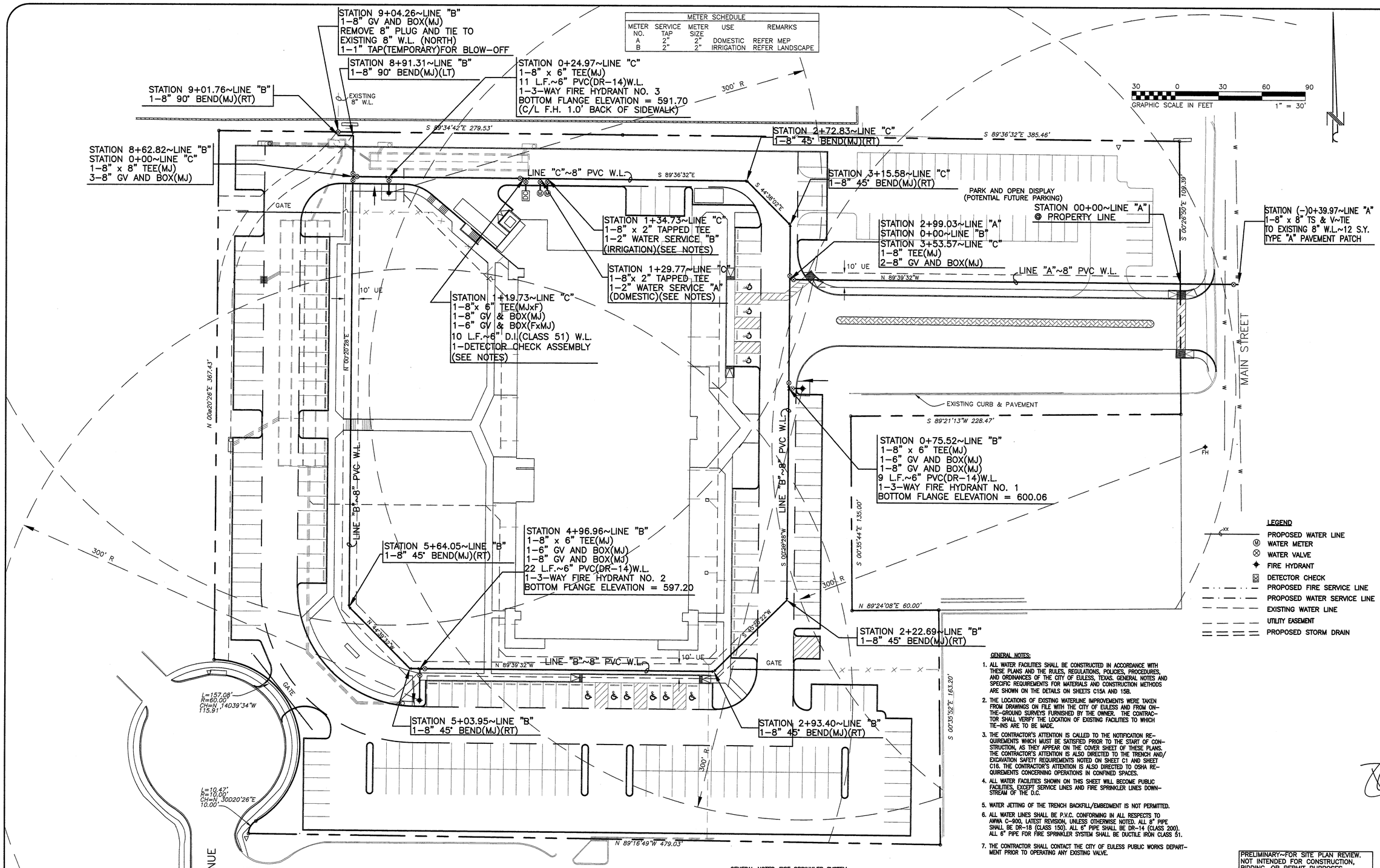
BYRON FOLSE ASSOCIATES, INC.
ARCHITECTS AND PLANNERS
2275 WESTPARK COURT
EULESS, TEXAS

STATE OF TEXAS
DAVID C. HUGHES, JR.
31348
REGISTERED
PROFESSIONAL ENGINEER
10-6-08

JOB NO: 0708-E
DRAWN BY: SLA/DCH
DATE: 10/2008

SHEET C7 OF

METER SCHEDULE				
METER NO.	SERVICE TAP	METER SIZE	USE	REMARKS
A	2"	2"	DOMESTIC	REFER MEP
B	2"	2"	IRRIGATION	REFER LANDSCAPE



LEGEND

- PROPOSED WATER LINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- DETECTOR CHECK
- PROPOSED FIRE SERVICE LINE
- PROPOSED WATER SERVICE LINE
- EXISTING WATER LINE
- UTILITY EASEMENT
- PROPOSED STORM DRAIN

GENERAL NOTES:

1. ALL WATER FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THESE PLANS AND THE RULES, REGULATIONS, POLICIES, PROCEDURES, AND ORDINANCES OF THE CITY OF EULESS, TEXAS. GENERAL NOTES AND SPECIFIC REQUIREMENTS FOR MATERIALS AND CONSTRUCTION METHODS ARE SHOWN ON THE DETAILS ON SHEETS C15A AND 15B.
2. THE LOCATIONS OF EXISTING WATERLINE IMPROVEMENTS WERE TAKEN FROM DRAWINGS ON FILE WITH THE CITY OF EULESS AND FROM ON-THE-GROUND SURVEYS FURNISHED BY THE OWNER. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING FACILITIES TO WHICH TIE-INS ARE TO BE MADE.
3. THE CONTRACTOR'S ATTENTION IS CALLED TO THE NOTIFICATION REQUIREMENTS WHICH MUST BE SATISFIED PRIOR TO THE START OF CONSTRUCTION, AS THEY APPEAR ON THE COVER SHEET OF THESE PLANS. THE CONTRACTOR'S ATTENTION IS ALSO DIRECTED TO THE TRENCH AND/EXCAVATION SAFETY REQUIREMENTS NOTED ON SHEET C1 AND SHEET C16. THE CONTRACTOR'S ATTENTION IS ALSO DIRECTED TO OSHA REQUIREMENTS CONCERNING OPERATIONS IN CONFINED SPACES.
4. ALL WATER FACILITIES SHOWN ON THIS SHEET WILL BECOME PUBLIC FACILITIES, EXCEPT SERVICE LINES AND FIRE SPRINKLER LINES DOWNSTREAM OF THE D.C.
5. WATER JETTING OF THE TRENCH BACKFILL/EMBEDMENT IS NOT PERMITTED.
6. ALL WATER LINES SHALL BE P.V.C. CONFORMING IN ALL RESPECTS TO AWWA C-900, LATEST REVISION, UNLESS OTHERWISE NOTED. ALL 8" PIPE SHALL BE DR-18 (CLASS 150). ALL 6" PIPE SHALL BE DR-14 (CLASS 200). ALL 6" PIPE FOR FIRE SPRINKLER SYSTEM SHALL BE DUCTILE IRON CLASS 51.
7. THE CONTRACTOR SHALL CONTACT THE CITY OF EULESS PUBLIC WORKS DEPARTMENT PRIOR TO OPERATING ANY EXISTING VALVE.

SPECIAL NOTES:

1. THE CONTRACTOR SHALL NOT INSTALL FIRE HYDRANTS OR FIRE SPRINKLER LINE VAULT UNLESS THE LINE AND GRADE FOR THE PARKING AREA/ACCESS DRIVE CURB HAS BEEN ESTABLISHED BY THE SURVEYOR FOR A DISTANCE OF NOT LESS THAN 5 FEET ON ALL SIDES OF THE HYDRANT/BOX. THE CONTRACTOR SHALL INSURE THE FIRE HYDRANTS ARE LOCATED I.A.W. DETAILS SHOWN ON SHEET CXX OF THESE PLANS.
2. WATER VALVE BOXES IN LANDSCAPE AREAS SHALL BE SET TO FINISH GRADE AT TIME OF INSTALLATION. WATER VALVE BOXES IN PAVEMENT AREAS SHALL BE INITIALLY SET AT 1.0 FEET BELOW TOP OF SUBGRADE, AND TO FINAL GRADE DURING PAVING OPERATIONS.

SPECIAL NOTES:

1. TAPS ON MAIN, INCLUDING FIRE LINE AND SERVICE TAPS SHALL HAVE A MINIMUM SEPARATION OF 5-FEET.
2. SET METER BOXES NOT LESS THAN 2'-0" BACK OF CURB. TOP OF METER BOX GRADE SHALL BE T/C+0.2'.
3. MINIMUM SEPARATION BETWEEN METER BOXES IS 12".
4. DETECTOR CHECK ASSEMBLY SHALL BE INSTALLED IN A R/C VAULT AS SHOWN ON SHEET C15B. SET FACE OF VAULT A MINIMUM OF 3.0' BACK OF CURB TO ELEVATION SHOWN ON THE PLAN.

GENERAL NOTES~FIRE SPRINKLER SYSTEM:

1. ALL 6-INCH DETECTOR CHECK ASSEMBLIES, AND FIRE SPRINKLER SERVICE LINES SHALL BE INSTALLED BY A LICENSED FIRE SPRINKLER SYSTEM CONTRACTOR I.A.W. THE REQUIREMENTS OF THE CITY OF EULESS.
2. THE DETECTOR CHECK ASSEMBLY, VALVES, ETC., SHALL CONFORM IN ALL RESPECTS TO CITY OF EULESS STANDARD DRAWINGS AND THE DETAILS SHOWN ON THESE PLANS.
3. MINIMUM SEPARATION BETWEEN THE FIRE SPRINKLER LINES AND OTHER UTILITY LINES SHALL BE 1-FOOT CLEAR OUTSIDE OF PIPE TO OUTSIDE OF PIPE. DETECTABLE TRACER TAPE 6-INCHES IN WIDTH WITH THE WORDING "CAUTION BURIED PIPELINE BELOW" SHALL BE LAID 9" TO 12" ABOVE THE LINE IN THE TRENCH. THE DETECTABLE TAPE SHALL BE SETON "METALLIC DETECTION TAPE" STYLE 6PIP-G OR APPROVED EQUAL.
4. AN FDC IS TO BE INSTALLED AT THE DETECTOR CHECK VAULT.

PRELIMINARY~FOR SITE PLAN REVIEW.
NOT INTENDED FOR CONSTRUCTION,
BIDDING, OR PERMIT PURPOSES.
ISSUED BY: DAVID C. HUGHES, JR., P.E.
TEXAS REG. # 31348~10/08/08

ELLIOTT & HUGHES, INC.,
ENGINEERS/PLANNERS
1001 WEST EULESS BOULEVARD~SUITE 214
EULESS, TEXAS 76040 ~ 817-267-1303
WATER LINE IMPROVEMENTS

LOT 3-R, BLOCK A
MAIN CENTRE ADDITION
EULESS, TEXAS

BYRON FOLSE ASSOCIATES, INC.
ARCHITECTS AND PLANNERS
2275 WESTPARK COURT EULESS, TEXAS

STATE OF TEXAS
DAVID C. HUGHES, JR.
31348
REGISTERED
PROFESSIONAL ENGINEER
10-8-08

JOB NO: 0708-E
DRAWN BY: SLA/DCH
DATE: 10/2008

SHEET C11
OF

CONSTRUCTION NOTES:

(A) TIE TO EXISTING 4" PVC STUB-OUT IN EXISTING MANHOLE WITH 4-INCH TYPE 1 SCHEDULE 40 PVC USING A FLEXIBLE RUBBER COUPLING WITH STAINLESS STEEL BANDS.

(B) INSTALL 4-INCH DOUBLE CLEAN-OUT ON 4-INCH SANITARY SEWER SERVICE LINE AT 100-FOOT INTERVALS, MAXIMUM. SET TOP OF CLEAN-OUT AT FINISHED GRADE +0.1 FOOT. ADJUST AS REQUIRED AFTER FINAL GRADING.

(C) INSTALL 4-INCH PVC 45°WYE, 4-INCH 45° BEND; AND 4-INCH PVC CLEAN-OUT ON 4-INCH RUN. SET TOP OF CLEAN-OUT AT FINISHED GRADE +0.1 FOOT. ADJUST AS REQUIRED AFTER FINAL GRADING.

(D) TIE TO EXISTING 4-INCH DOUBLE CLEAN-OUT AT 5-FOOT OUTSIDE THE BUILDING.

(E) INSTALL 6" FIRE SPRINKLER DETECTOR CHECK ASSEMBLY AND VAULT. SEE DETAIL ON SHEET C15B.

(F) INSTALL 6-INCH FIRE SPRINKLER LINE CAST IRON (CLASS 200) OR DUCTILE IRON (THICKNESS CLASS 52) WITH POLY-WRAP FROM FIRE SPRINKLER VAULT TO FIRE SPRINKLER RISER.

(G) TIE TO 2-INCH WATER SERVICE AND 2-INCH METER WITH 2-1/2 INCH TYPE "K" COPPER FOR DOMESTIC WATER SERVICE TO BUILDING. (SEE SHEET C15A FOR 2-INCH TAP AND 2-INCH METER DETAIL).

(H) 2-INCH WATER SERVICE AND 2-INCH METER FOR IRRIGATION. REFER LANDSCAPE PLANS FOR BACKFLOW DEVICE AND IRRIGATION SYSTEM EXTENSION.

(I) ELECTRICAL TRANSFORMER PAD WITH BLANK CONDUITS UNDER ACCESS DRIVE. REFER ELECTRICAL PLAN.

GENERAL NOTES:

1. INSTALL 2-INCH DIAMETER; 3-INCH DIAMETER OR 4-INCH DIAMETER PVC SCHEDULE 40 EMPTY CONDUIT SLEEVES IN THE LOCATIONS SHOWN FOR IRRIGATION PIPING, IRRIGATION CONTROL WIRING, AND USE FOR OTHER UTILITY FACILITIES. THE CONDUITS SHALL EXTEND TO A POINT 3-FEET BACK OF THE PROPOSED CURB(OR SIDEWALK), AND SHALL HAVE A MINIMUM OF 36-INCHES OF COVER FROM THE TOP OF SUBGRADE ELEVATION. PLUG THE ENDS OF THE CONDUIT WITH PVC PLUGS, AND WRAP SENSOR TAPE/WIRE TO THE END OF EACH CONDUIT AND EXTEND ONE END OF THE TAPE OR WIRE TOP NATURAL GROUND OR FINISHED GRADE ELEVATION. THE CONDUITS SHALL BE INSTALLED PRIOR TO PROCESSING OF THE PAVEMENT SUBGRADE, AND THE TRENCH BACKFILL SHALL BE NATIVE MATERIAL MECHANICALLY COMPACTED TO 95% OF THE STANDARD PROCTOR DENSITY ON THE WET SIDE OF OPTIMUM MOISTURE.

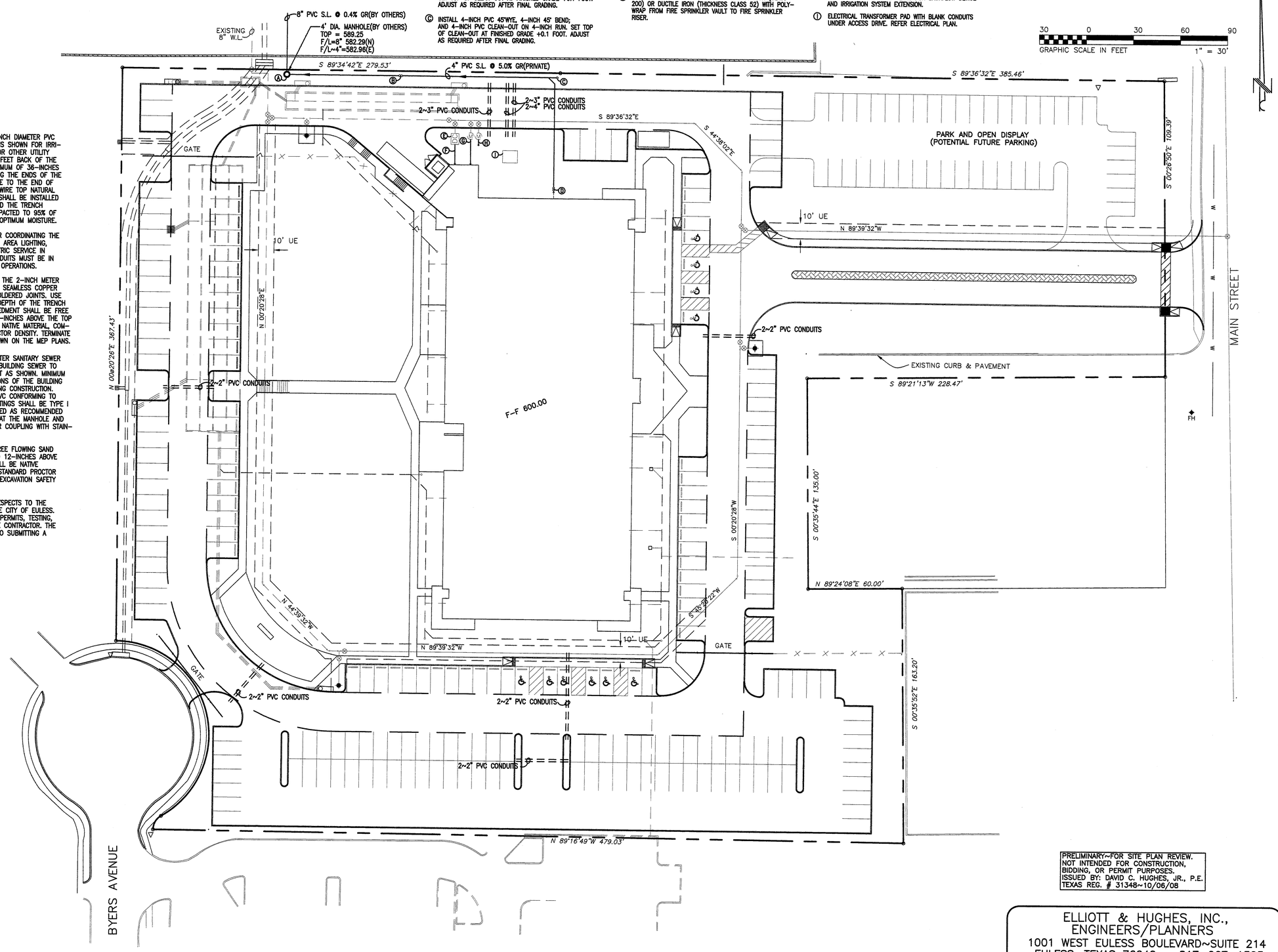
2. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COORDINATING THE SIZE, LOCATION, AND TYPE OF CONDUITS FOR IRRIGATION, AREA LIGHTING, WATER AND GAS SERVICE, TELEPHONE, CABLE, AND ELECTRIC SERVICE IN ACCORD WITH THE DRAWINGS IN THE PLAN SET. ALL CONDUITS MUST BE IN PLACE PRIOR TO SUBGRADE PROCESSING AND PAVEMENT OPERATIONS.

3. INSTALL 2-1/2 INCH DOMESTIC WATER SERVICE FROM THE 2-INCH METER TO THE BUILDING. THE SERVICE LINE SHALL BE TYPE "K" SEAMLESS COPPER TUBE, CONFORMING TO ASTM B-88 WITH SWEATED OR SOLDERED JOINTS. USE OF COMPRESSION FITTINGS IS NOT PERMITTED. MINIMUM DEPTH OF THE TRENCH FOR THE SERVICE LINE SHALL BE 30-INCHES. PIPE EMBEDMENT SHALL BE FREE FLOWING SAND FROM 4-INCHES BENEATH THE PIPE TO 12-INCHES ABOVE THE TOP OF THE PIPE. THE REMAINING TRENCH BACKFILL SHALL BE NATIVE MATERIAL, COMPACTED IN 6-INCH LIFTS TO 95% OF THE STANDARD PROCTOR DENSITY. TERMINATE THE SERVICE LINE AT THE BUILDING AT THE LOCATION SHOWN ON THE MEP PLANS.

4. 4-INCH SANITARY SEWER SERVICE: THE 4-INCH DIAMETER SANITARY SEWER SERVICE SHALL EXTEND FROM THE TERMINATION OF THE BUILDING SEWER TO THE EXISTING 6-INCH PVC STUB OUT AT S.E. 1ST STREET AS SHOWN. MINIMUM GRADE ON THE SERVICE SHALL BE 1.0%. VERIFY ELEVATIONS OF THE BUILDING SERVICE AND THE EXISTING STUB OUT PRIOR TO BEGINNING CONSTRUCTION. SANITARY SEWER PIPE SHALL BE TYPE I SCHEDULE 40 PVC CONFORMING TO ASTM D 2665-68, CS-272-65 LATEST REVISION. ALL FITTINGS SHALL BE TYPE I SCHEDULE 40 PVC. ALL JOINTS SHALL BE SOLVENT WELDED AS RECOMMENDED BY THE MANUFACTURER. CONNECTION TO THE STUB OUT AT THE MANHOLE AND THE BUILDING SHALL BE MADE USING A FLEXIBLE RUBBER COUPLING WITH STAINLESS STEEL BANDS.

EMBEDMENT FOR THE SANITARY SEWER LINE SHALL BE FREE FLOWING SAND AND SHALL EXTEND FROM 6-INCHES BELOW THE PIPE TO 12-INCHES ABOVE THE TOP OF THE PIPE. REMAINING TRENCH BACKFILL SHALL BE NATIVE MATERIAL COMPACTED IN 6-INCH LIFTS TO 95% OF THE STANDARD PROCTOR DENSITY AT OR ABOVE OPTIMUM MOISTURE. TRENCH AND EXCAVATION SAFETY REQUIREMENTS ARE SHOWN ON SHEET C15.

5. ALL UTILITY CONSTRUCTION SHALL CONFORM IN ALL RESPECTS TO THE RULES, REGULATIONS, POLICIES, AND PROCEDURES OF THE CITY OF EULESS. AND/OR THE AFFECTED UTILITY COMPANY. ALL FEES FOR PERMITS, TESTING, INSPECTIONS, ETC. ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL VERIFY ALL SITE CONDITIONS PRIOR TO SUBMITTING A PROPOSAL OR BEGINNING WORK ON THE PROJECT.



PRELIMINARY~FOR SITE PLAN REVIEW.
NOT INTENDED FOR CONSTRUCTION,
BIDDING, OR PERMIT PURPOSES.
ISSUED BY: DAVID C. HUGHES, JR., P.E.
TEXAS REG. # 31348~10/06/08

ELLIOTT & HUGHES, INC.,
ENGINEERS/PLANNERS
1001 WEST EULESS BOULEVARD~SUITE 214
EULESS, TEXAS 76040 ~ 817-267-1303

UTILITY LAYOUT PLAN

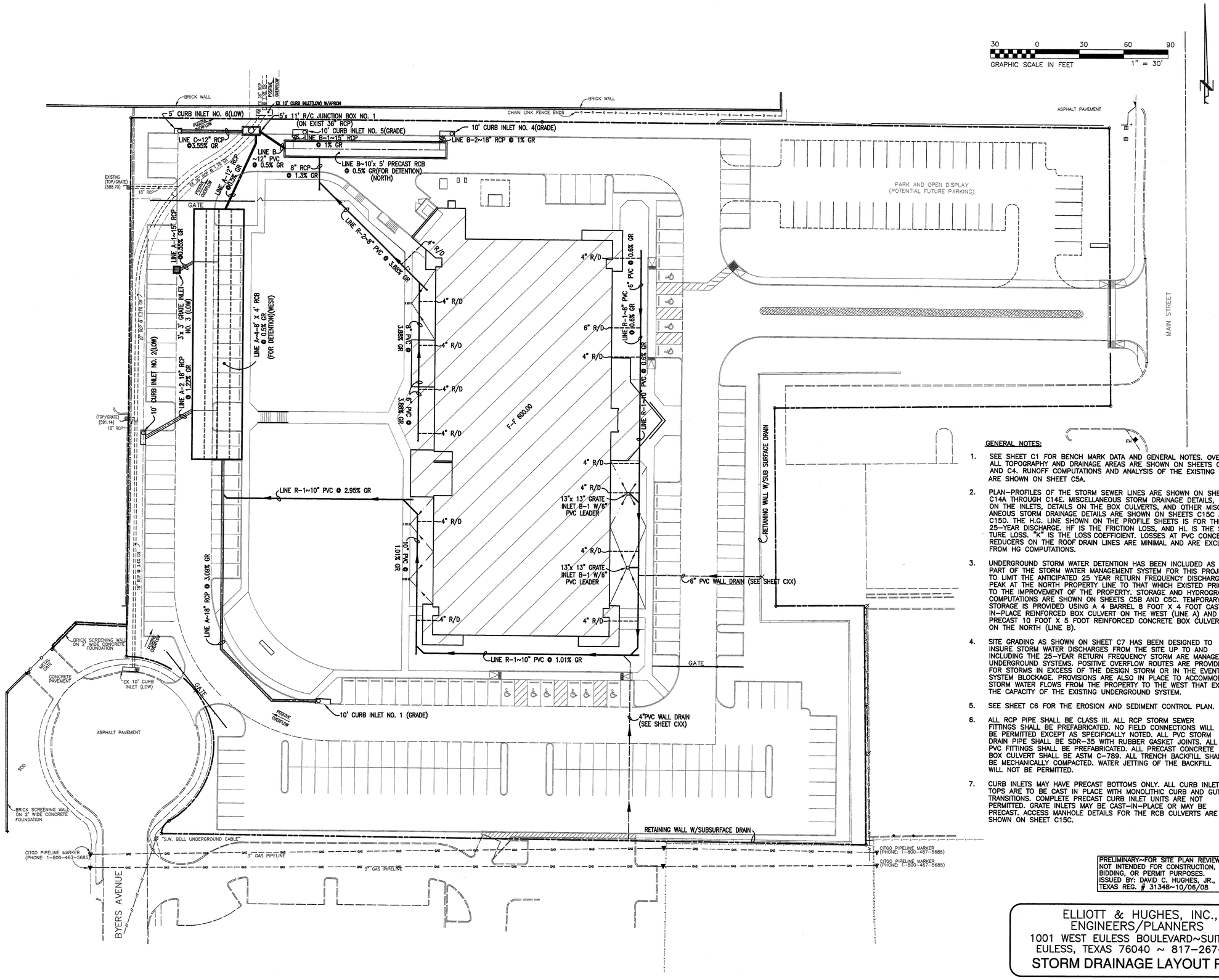
LOT 3-R, BLOCK A
MAIN CENTRE ADDITION
EULESS, TEXAS

BYRON FOLSE ASSOCIATES, INC.
ARCHITECTS AND PLANNERS
2275 WESTPARK COURT EULESS, TEXAS

STATE OF TEXAS
DAVID C. HUGHES, JR.
31348
REGISTERED
PROFESSIONAL ENGINEER
10-7-08

JOB NO: 0708-E
DRAWN BY: SLA/DCH
DATE: 10/2008

SHEET
C12
OF



GENERAL NOTES:

1. SEE SHEET C1 FOR BENCH MARK DATA AND GENERAL NOTES. OVER-ALL TOPOGRAPHY AND DRAINAGE AREAS ARE SHOWN ON SHEETS C3 AND C4. RUNOFF COMPUTATIONS AND ANALYSIS OF THE EXISTING SYSTEM ARE SHOWN ON SHEET C5A.

2. PLAN-PROFILES OF THE STORM SEWER LINES ARE SHOWN ON SHEETS C14A THROUGH C14E. MISCELLANEOUS STORM DRAINAGE DETAILS, DETAILS ON THE INLETS, DETAILS ON THE BOX CULVERTS, AND OTHER MISCELL-ANEOUS STORM DRAINAGE DETAILS ARE SHOWN ON SHEETS C15C AND C15D. THE H.G. LINE SHOWN ON THE PROFILE SHEETS IS FOR THE 25-YEAR DISCHARGE. HF IS THE FRICTION LOSS, AND HL IS THE STRUC-TURE LOSS. "K" IS THE LOSS COEFFICIENT. LOSSES AT PVC CONCENTRIC REDUCERS ON THE ROOF DRAIN LINES ARE MINIMAL AND ARE EXCLUDED FROM HG COMPUTATIONS.

3. UNDERGROUND STORM WATER DETENTION HAS BEEN INCLUDED AS A PART OF THE STORM WATER MANAGEMENT SYSTEM FOR THIS PROJECT TO LIMIT THE ANTICIPATED 25 YEAR RETURN FREQUENCY DISCHARGE PEAK AT THE NORTH PROPERTY LINE TO THAT WHICH EXISTED PRIOR TO THE IMPROVEMENT OF THE PROPERTY. STORAGE AND HYDROGRAPH COMPUTATIONS ARE SHOWN ON SHEETS C5B AND C5C. TEMPORARY STORAGE IS PROVIDED USING A 4 BARREL 8 FOOT X 4 FOOT CAST-IN-PLACE REINFORCED BOX CULVERT ON THE WEST (LINE A) AND A PRECAST 10 FOOT X 5 FOOT REINFORCED CONCRETE BOX CULVERT ON THE NORTH (LINE B).

4. SITE GRADING AS SHOWN ON SHEET C7 HAS BEEN DESIGNED TO INSURE STORM WATER DISCHARGES FROM THE SITE UP TO AND INCLUDING THE 25-YEAR RETURN FREQUENCY STORM ARE MANAGED IN UNDERGROUND SYSTEMS. POSITIVE OVERFLOW ROUTES ARE PROVIDED FOR STORMS IN EXCESS OF THE DESIGN STORM OR IN THE EVENT OF SYSTEM BLOCKAGE. PROVISIONS ARE ALSO IN PLACE TO ACCOMMODATE STORM WATER FLOWS FROM THE PROPERTY TO THE WEST THAT EXCEED THE CAPACITY OF THE EXISTING UNDERGROUND SYSTEM.

5. SEE SHEET C6 FOR THE EROSION AND SEDIMENT CONTROL PLAN.

6. ALL RCP PIPE SHALL BE CLASS III. ALL RCP STORM SEWER FITTINGS SHALL BE PREFABRICATED. NO FIELD CONNECTIONS WILL BE PERMITTED EXCEPT AS SPECIFICALLY NOTED. ALL PVC STORM DRAIN PIPE SHALL BE SDR-35 WITH RUBBER GASKET JOINTS. ALL PVC FITTINGS SHALL BE PREFABRICATED. ALL PRECAST CONCRETE BOX CULVERT SHALL BE ASTM C-789. ALL TRENCH BACKFILL SHALL BE MECHANICALLY COMPACTED. WATER JETTING OF THE BACKFILL WILL NOT BE PERMITTED.

7. CURB INLETS MAY HAVE PRECAST BOTTOMS ONLY. ALL CURB INLET TOPS ARE TO BE CAST IN PLACE WITH MONOLITHIC CURB AND GUTTER TRANSITIONS. COMPLETE PRECAST CURB INLET UNITS ARE NOT PERMITTED. GRATE INLETS MAY BE CAST-IN-PLACE OR MAY BE PRECAST. ACCESS MANHOLE DETAILS FOR THE RCB CULVERTS ARE SHOWN ON SHEET C15C.

PRELIMINARY~FOR SITE PLAN REVIEW.
NOT INTENDED FOR CONSTRUCTION,
BIDDING, OR PERMIT PURPOSES.
ISSUED BY: DAVID C. HUGHES, JR., P.E.
TEXAS REG. # 31348~10/06/08

ELLIOTT & HUGHES, INC.,
ENGINEERS/PLANNERS
1001 WEST EULESS BOULEVARD~SUITE 214
EULESS, TEXAS 76040 ~ 817-267-1303

STORM DRAINAGE LAYOUT PLAN

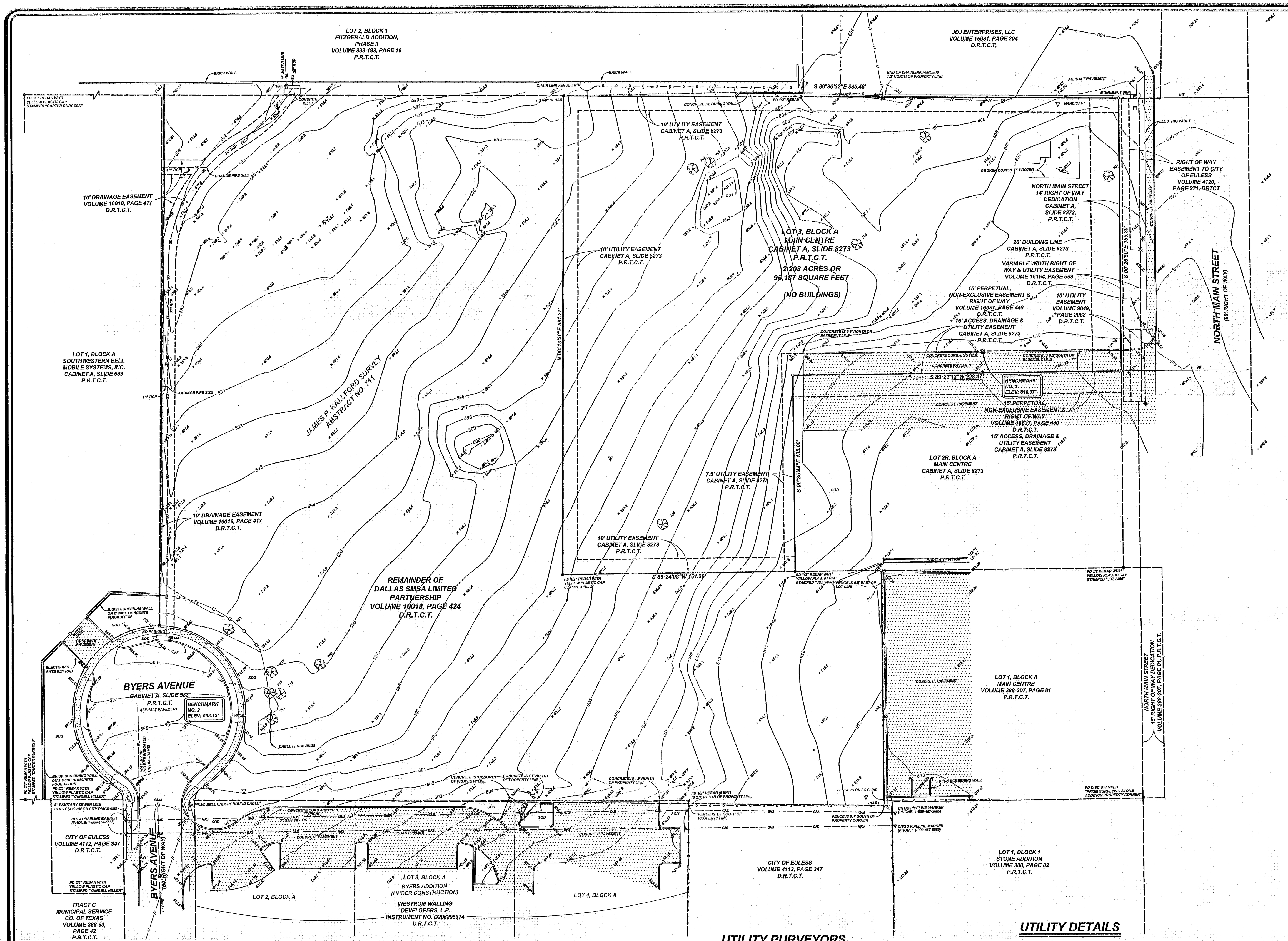
LOT 3-R, BLOCK A
MAIN CENTRE ADDITION
EULESS, TEXAS

BYRON FOLSE ASSOCIATES, INC.
ARCHITECTS AND PLANNERS
2275 WESTPARK COURT EULESS, TEXAS

STATE OF TEXAS
DAVID C. HUGHES, JR.
31348
REGISTERED
PROFESSIONAL ENGINEER

JOB NO: 0708-E
DRAWN BY: SLA/DCH
DATE: 10/2008

SHEET C13 OF



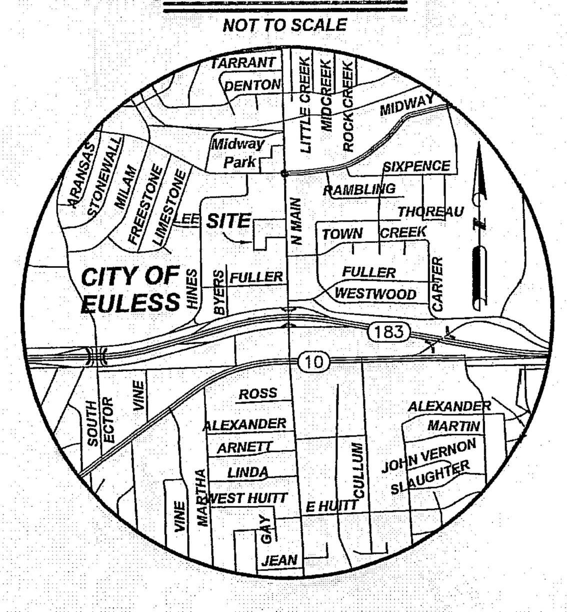
LEGEND

- ... BENCHMARK
- ... SET 1/2" REBAR WITH 1 1/2" ALUMINUM CAP UNLESS NOTED OTHERWISE
- ... FOUND MONUMENT AS DESCRIBED
- FD ... FOUND
- ... ELECTRIC METER
- ... STREET LIGHT
- ... TRAFFIC SIGNAL POLE
- ... UTILITY POLE
- ... PULLBOX
- ... TELEPHONE MANHOLE
- ... TELEPHONE MARKER
- ... TELEPHONE RISER
- ... TRANSFORMER
- ... GAS METER
- ... GAS MARKER
- ... GUARD POST
- ... MAIL BOX
- ... SIGN
- ... SANITARY SEWER CLEANOUT
- ... SANITARY SEWER MANHOLE
- ... GRATE INLET
- ... STORM DRAIN MANHOLE
- ... FIRE HYDRANT
- ICV ... IRRIGATION CONTROL VALVE
- ... HOSE BIB
- ... WATER MANHOLE
- ... WATER METER
- ... WATER VALVE
- WL ... WATER LINE
- SD ... STORM DRAIN
- SS ... SANITARY SEWER
- CPP ... CORRUGATED PLASTIC PIPE
- PVC ... PVC PIPE
- RCP ... REINFORCED CONCRETE PIPE
- CMP ... CORRUGATED METAL PIPE
- ... OVERHEAD UTILITY LINES
- ... GUY ANCHOR
- ... WIRE FENCE
- ... CHAIN LINK FENCE
- ... WOOD FENCE
- ... CABLE FENCE

30 0 30 60 90
GRAPHIC SCALE 1"=30'

VICINITY MAP

NOT TO SCALE



TREE LIST

POINT	DESCRIPTION
701	16" OAK
702	12" OAK
703	14" OAK
704	14" OAK (DEAD)
706	10" OAK
707	8" OAK
708	10" CEDAR
709	14 CEDAR
710	8" OAK
711	8" OAK
712	8" CEDAR
713	8" OAK

UTILITY PURVEYORS

ELECTRICITY:
TXU ELECTRIC DELIVERY
2801 JOHN ARDEN DRIVE
WAXAHACHIE, TEXAS
CONTACT PERSON: FRANK VASQUEZ
PHONE: 972.923.4246
FAX: 972.923.4216
CONTACT PERSON: DAN GRIDER
PHONE: 972.923.4245
WEBSITE: www.txu.com

NATURAL GAS:
ATMOS ENERGY
CONCTACT PERSON: KEITH KEATING
PHONE: 817.303.2914
FAX: 817.303.2929
WEBSITE: www.atmosenergy.com

CABLE SERVICE:
TIME WARNER CABLE
PHONE: 972.742.5892
WEBSITE: www.timewarnercable.com

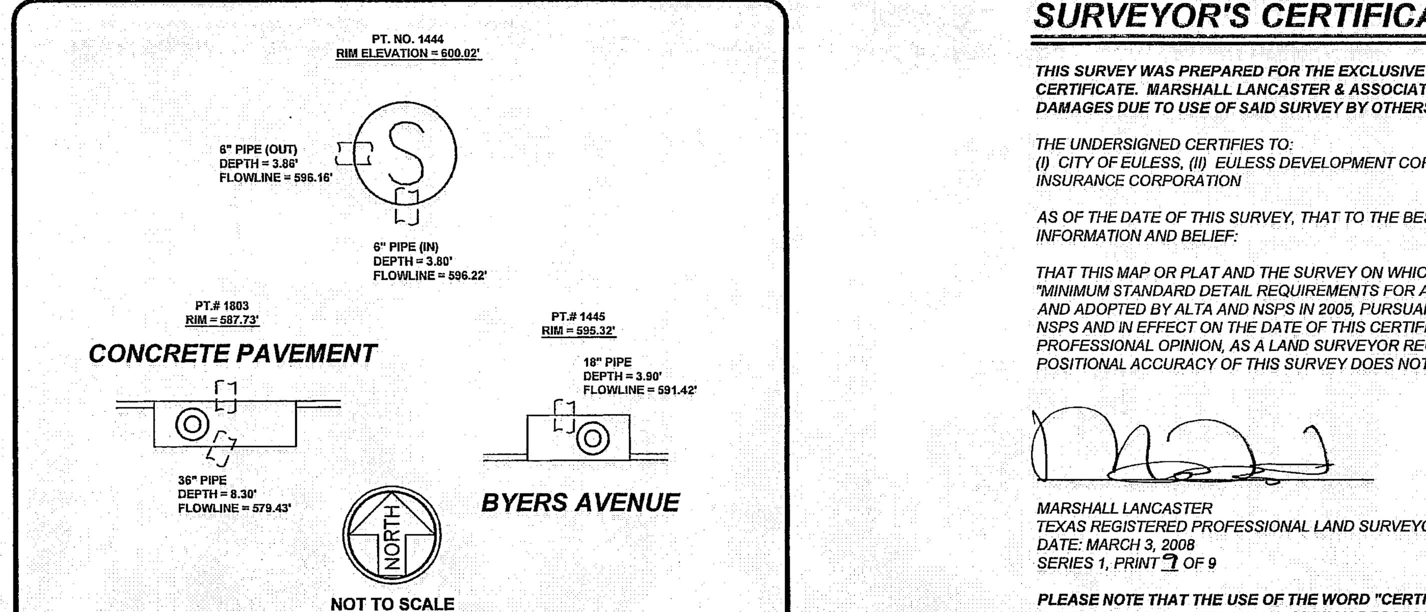
TELEPHONE:
AT&T
CONTACT PERSON: KAREN ROSE
PHONE: 972.660.0422
WEBSITE: www.att.com

VERIZON
PHONE: 1.800.483.4000

WATER:
CITY OF EULESS WATER UTILITIES OPERATIONS
201 N. ECTOR DRIVE
EULESS, TEXAS
PHONE: 972.237.8413
WEBSITE: www.ci.euless.tx.us/info/utilities.htm

UTILITY COMPANY INFORMATION OBTAINED FROM THE CITY OF EULESS WEBSITE: www.ci.euless.tx.us/info/utilities.htm.

UTILITY DETAILS



SUBSURFACE FEATURES SHOWN ON UTILITY DETAILS SHOULD BE CONSIDERED APPROXIMATE. SUBSURFACE PIPE DIAMETERS ARE BASED ON ABOVE GROUND OBSERVATIONS. SUBSURFACE UTILITIES SHOULD BE EXPOSED, DIRECTLY MEASURED AND VERIFIED PRIOR TO CONSTRUCTION OR ENGINEERING DESIGN.

LEGAL DESCRIPTION

LOT 3, BLOCK A, MAIN CENTRE, AN ADDITION TO THE CITY OF EULESS, TARRANT COUNTY, TEXAS, ACCORDING TO THE REPLAT THEREOF RECORDED IN CABINET A, SLIDE 8273, PLAT RECORDS, TARRANT COUNTY, TEXAS.

GENERAL NOTES

1. THE BASIS OF BEARINGS FOR THIS SURVEY IS THE TEXAS STATE PLANE COORDINATE SYSTEM BASED ON CITY OF EULESS GPS CONTROL MONUMENTS.

2. THIS SURVEY IS NOT INTENDED TO ADDRESS OR IDENTIFY WETLANDS, FAULTLINES, TOXIC OR HAZARDOUS WASTE AREAS, SUBSIDENCE OR ANY OTHER ENVIRONMENTAL OR GEOLOGICAL ISSUE.

3. THE EXISTING UTILITIES DEPICTED HEREON ARE BASED ON FIELD LOCATION OF VISIBLE ABOVE GROUND FACILITIES AND DIAGRAMS OBTAINED FROM THE CITY OF EULESS ENGINEERING DEPARTMENT ON FEBRUARY 13, 2008 AND RAILROAD COMMISSION ON-LINE PIPELINE MAP LOCATED AT www.rrc.state.tx.us/.

MARSHALL LANCASTER & ASSOCIATES, INC. IS NOT RESPONSIBLE FOR THE EXACT LOCATION OF SUBSURFACE UTILITY LINES SHOWN HEREON; NOR FOR ANY DAMAGES BY ANY CONSTRUCTION OR EXCAVATION ON OR NEAR SAID UTILITIES.

CALL UNDERGROUND SERVICE ALERT 800-DIG-TESS, 72 HOURS BEFORE ANY CONSTRUCTION OR EXCAVATION IN THIS AREA.

4. SOURCE BENCHMARK: CITY OF EULESS CONTROL MONUMENT NO. E20, BEING A 3-1/4" DOMED BRASS DISK FOUND IN TOP OF A CONCRETE INLET AT THE SOUTHWEST CORNER OF THE INTERSECTION OF STATE HIGHWAY NO. 10 AND SOUTH MAIN STREET.

ELEVATION = 588.774'

SOURCE BENCHMARK VERIFICATION: CITY OF EULESS CONTROL MONUMENT NO. E19, BEING A 3-1/4" DOMED BRASS DISK FOUND AT THE NORTHWEST CORNER OF THE INTERSECTION OF NORTH MAIN STREET AND HARWOOD ROAD.

PUBLISHED ELEVATION = 598.939'
MEASURED ELEVATION = 598.92'

SITE BENCHMARK NO. 1: BOX CUT ON TOP OF CONCRETE CURB, AS SHOWN HEREON.

ELEVATION = 610.97'

SITE BENCHMARK NO. 2: PK NAIL IN ASPHALT PAVEMENT ON BYERS AVENUE, AS SHOWN HEREON.

ELEVATION = 598.13'

5. OWNERSHIP REFERENCES SHOWN HEREON ARE BASED ON TARRANT APPRAISAL DISTRICT WEB PAGE DATA (WWW.TAD.ORG).

6. ONLY TREES HAVING A DIAMETER OF 8 INCHES OR GREATER (AS MEASURED AT 4 FEET ABOVE GROUND SURFACE) WERE LOCATED WITHIN DALLAS SMSA LIMITED PARTNERSHIP TRACT AND LOT 3, BLOCK A, MAIN CENTRE, AS SHOWN HEREON.

7. TITLE ENCUMBRANCE RESEARCH WAS BASED ON INFORMATION CONTAINED IN A TITLE COMMITMENT PREPARED BY LAWYERS TITLE INSURANCE CORPORATION, GF NO. 2024000498, ISSUED FEBRUARY 25, 2008. REFERENCE IS MADE TO SAID COMMITMENT AND RECORD DOCUMENTS LISTED THEREIN FOR FULL PARTICULARS.

MARSHALL LANCASTER & ASSOCIATES, INC. MAKES NO REPRESENTATION AS TO THE ACCURACY OR COMPLETENESS OF SAID RESEARCH.

8. SOME "EXCEPTIONS FROM COVERAGE" LISTED IN SCHEDULE B, OF SAID TITLE COMMITMENT MAY NOT REFER TO RECORDED DOCUMENTS. REFER TO SAID SCHEDULE B FOR EXCEPTION SPECIFICS. GRAPHICALLY PLOTTABLE ITEMS (SUCH AS EASEMENTS) LISTED IN SAID SCHEDULE B, WHOSE DESCRIPTIONS INDICATE THAT THEY ARE LOCATED ON THE SUBJECT PROPERTY ARE DEPICTED HEREON. THIS SURVEY DOES NOT ADDRESS ITEMS LISTED IN SCHEDULE C OF SAID TITLE COMMITMENT.

PROVIDED RECORD DOCUMENTS LISTED IN SAID SCHEDULE B, ARE SUMMARIZED AS FOLLOWS:

ITEM 1. RESTRICTIVE COVENANTS RECORDED IN/UNDER VOLUME 16637, PAGE 440 OF THE REAL PROPERTY RECORDS OF TARRANT COUNTY, TEXAS.
(SUBJECT PROPERTY IS DESCRIBED WITHIN THE REFERENCED DOCUMENT)

ITEM 10.A. RIGHT OF WAY AND EASEMENT TO THE CITY OF EULESS, DATED MAY 17, 1965, EXECUTED BY GEORGE L. GORDON AND ELMER L. OWENS, RECORDED IN VOLUME 4120, PAGE 271, OF THE DEED RECORDS OF TARRANT COUNTY, TEXAS. **(SHOWN ON SURVEY)**

ITEM 10.B. UTILITY EASEMENT TO THE CITY OF EULESS, DATED AUGUST 4, 1987, EXECUTED BY RONALD A. SCOTT, RECORDED IN VOLUME 9049, PAGE 2082, OF THE DEED RECORDS OF TARRANT COUNTY, TEXAS. **(SHOWN ON SURVEY)**

ITEM 10.C. DELETED.

ITEM 10.D. DELETED.

ITEM 10.E. DELETED.

ITEM 10.F. DELETED.

ITEM 10.G. DELETED.

ITEM 10.H. AIRPORT ZONING ORDINANCE DATED DECEMBER 16, 1971, A CERTIFIED COPY OF WHICH IS RECORDED IN VOLUME 7349, PAGE 1106, REAL PROPERTY OF TARRANT COUNTY, TEXAS. **(PROPERTY APPEARS TO BE SUBJECT TO ORDINANCE)**

ITEM 10.I. TERMS, CONDITIONS AND STIPULATIONS AS SET OUT IN RIGHT OF WAY DEED AND UTILITY EASEMENT DATED AUGUST 11, 2002 FROM CSS-EULESS, A CALIFORNIA LTD. PARTNERSHIP TO THE CITY OF EULESS, AS RECORDED IN VOLUME 16154, PAGE 563, REAL PROPERTY RECORDS, TARRANT COUNTY, TEXAS. **(SHOWN ON SURVEY)**

ITEM 10.J. TERMS, CONDITIONS, CHARGES, COVENANTS AND STIPULATIONS AS SET OUT IN EASEMENT AGREEMENT AND RESTRICTIVE COVENANT DATED APRIL 25, 2003, BY AND BETWEEN CSS-EULESS, A CALIFORNIA LIMITED PARTNERSHIP, AS RECORDED IN VOLUME 16637, PAGE 440, REAL PROPERTY RECORDS, TARRANT COUNTY, TEXAS. **(SUBJECT PROPERTY IS DESCRIBED WITHIN THE REFERENCED DOCUMENT. 15' PERPETUAL, NON-EXCLUSIVE EASEMENT AND RIGHT OF WAY SHOWN ON SURVEY)**

ITEM 10.K. THE FOLLOWING, ALL ACCORDING TO PLAT RECORDED IN CABINET A, SLIDE 8273, OF THE PLAT RECORDS OF TARRANT COUNTY, TEXAS:

TEN FOOT (10') UTILITY EASEMENT ALONG THE NORTH, WEST AND SOUTH PROPERTY LINE(S). **(SHOWN ON SURVEY)**

SEVEN AND ONE-HALF FOOT (7.5') UTILITY EASEMENT OVER AND ACROSS PROPERTY. **(SHOWN ON SURVEY)**

FIFTEEN FOOT (15') EASEMENT, ACCESS, DRAINAGE AND UTILITY EASEMENT OVER AND ACROSS PROPERTY. **(SHOWN ON SURVEY)**

TWENTY (20') FOOT BUILDING LINE ALONG THE EAST PROPERTY LINE(S). **(SHOWN ON SURVEY)**

FEMA NOTE

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAP NUMBER 48439C0330 J, REVISED AUGUST 23, 2000, THE SUBJECT PROPERTY (SEE LEGAL DESCRIPTION SHOWN HEREON) APPEARS TO LIE WITHIN:

ZONE "X" (NOT SHADED ON PANEL) DEFINED THEREIN AS:

"OTHER AREAS. AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOOD PLAIN".

THE ABOVE INFORMATION WAS DERIVED FROM FEMA'S WEB SITE. THE REFERENCED FLOOD INSURANCE RATE MAP WAS THE CURRENT MAP AVAILABLE ON SAID WEB SITE DURING THE RESEARCH PHASE OF THIS SURVEY.

ADDITIONAL RESEARCH INTO LETTERS OF MAP REVISION, AMENDMENT, OR ANY OTHER INFORMATION ON SAID WEB SITE WAS NOT PERFORMED.

MARSHALL LANCASTER & ASSOCIATES, INC. MAKES NO REPRESENTATION AS TO THE ACCURACY OR CURRENT STATUS OF SAID MAPS.

SURVEYOR'S CERTIFICATE

THIS SURVEY WAS PREPARED FOR THE EXCLUSIVE USE OF THOSE PARTIES NAMED IN THE SURVEYORS CERTIFICATE. MARSHALL LANCASTER & ASSOCIATES, INC., EXPRESSLY DISCLAIMS ANY LIABILITIES FOR DAMAGES DUE TO USE OF SAID SURVEY BY OTHERS.

THE UNDERSIGNED CERTIFIES TO:
(I) CITY OF EULESS, (II) EULESS DEVELOPMENT CORPORATION, (III) CSS-EULESS AND (IV) LAWYERS TITLE INSURANCE CORPORATION

AS OF THE DATE OF THIS SURVEY, THAT TO THE BEST OF THE UNDERSIGNED'S PROFESSIONAL KNOWLEDGE, INFORMATION AND BELIEF:

THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH "MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ACSM LAND TITLE SURVEYS," JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS IN 2005, PURSUANT TO ACCURACY STANDARDS AS ADOPTED BY ALTA AND NSPS AND IN EFFECT ON THE DATE OF THIS CERTIFICATION, UNDERSIGNED FURTHER CERTIFIES THAT IN MY PROFESSIONAL OPINION, AS A LAND SURVEYOR REGISTERED IN THE STATE OF TEXAS, THE RELATIVE POSITIONAL ACCURACY OF THIS SURVEY DOES NOT EXCEED THAT WHICH IS SPECIFIED THEREIN.

MARSHALL LANCASTER
TEXAS REGISTERED PROFESSIONAL LAND SURVEYOR, NO. 4873
DATE: MARCH 3, 2008
SERIES 1, PRINT 7 OF 9

PLEASE NOTE THAT THE USE OF THE WORD "CERTIFY" OR "CERTIFICATE" USED HEREON CONSTITUTES AN EXPRESSION OF PROFESSIONAL OPINION REGARDING THOSE FACTS OF FINDINGS WHICH ARE THE SUBJECT OF THE CERTIFICATION, AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE, EITHER EXPRESSED OR IMPLIED.

© 2008 Marshall Lancaster & Associates, Inc.

SHEET 1 OF 1
DATE: 3-03-2008
DRAWN BY: SPA
CHECKED BY: MLL
FILE: 08033 E ALTA
JOB NO.: 08033

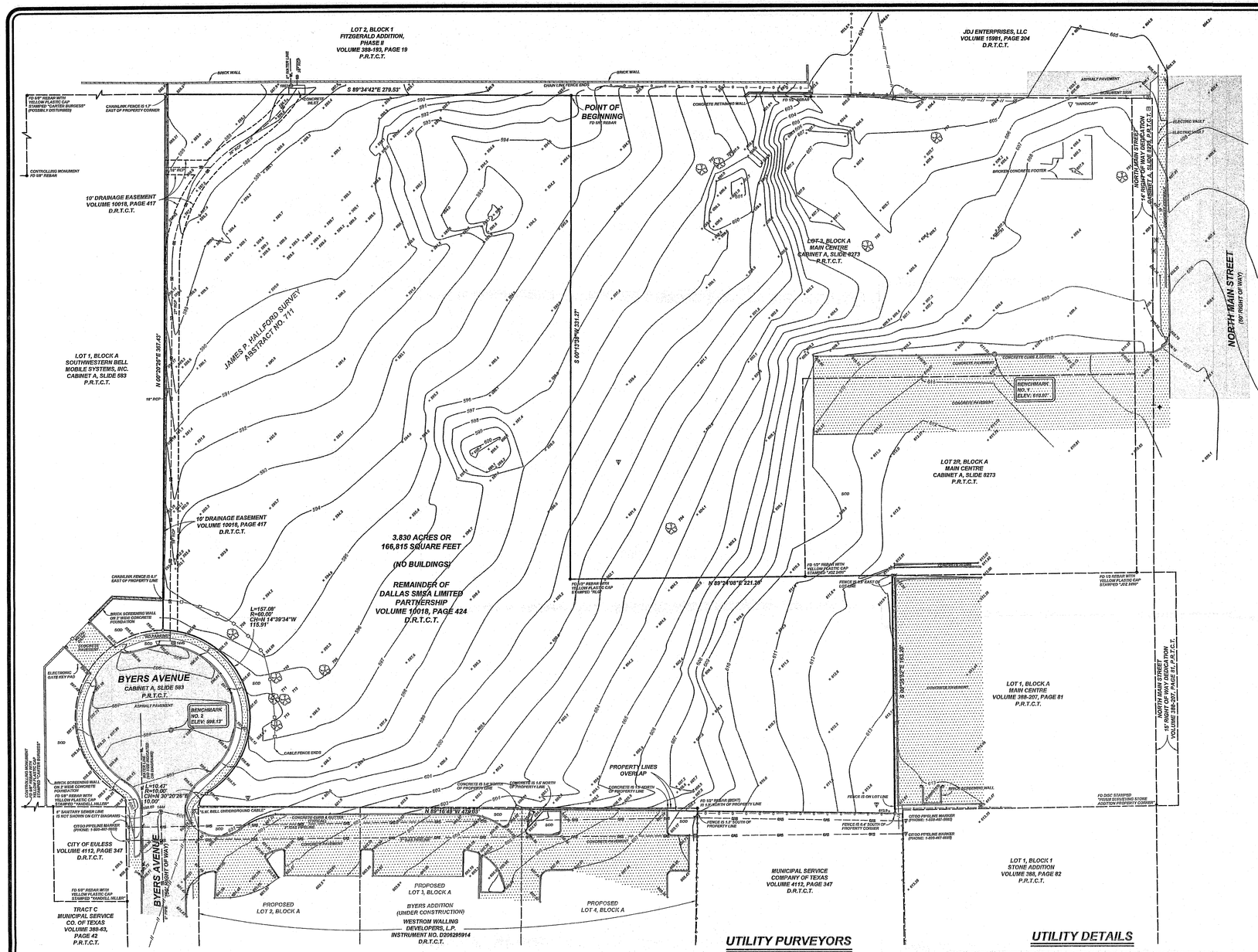
STATE OF TEXAS REGISTERED MARSHALL LANCASTER 4873 PROFESSIONAL LAND SURVEYOR
Marshall Lancaster RPLS 4873
Survey Date: 2-14-2008

REVISIONS Date:	Description:	By:

MARSHALL LANCASTER & ASSOCIATES, INC.
CONSULTING LAND SURVEYORS
land title surveys · topography · subdivision platting
retail, commercial and industrial construction surveying
1864 North Norwood Drive, Suite E, Hurst, TX 76054
metro (817) 268-8000 fax (817) 282-2231 www.mla-survey.com

ALTA/ACSM LAND TITLE SURVEY

LOT 3, BLOCK A
MAIN CENTRE
CITY OF EULESS, TARRANT COUNTY, TEXAS



LEGAL DESCRIPTION

ALL THAT CERTAIN TRACT OR PARCEL OF LAND SITUATED IN THE JAMES P. HALLFORD SURVEY, ABSTRACT NO. 711, TARRANT COUNTY, TEXAS, BEING A PORTION OF THAT CERTAIN TRACT OF LAND TO DALLAS SMSA LIMITED PARTNERSHIP, RECORDED IN VOLUME 10018, PAGE 424, DEED RECORDS, TARRANT COUNTY, TEXAS, BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING AT 5/8" REBAR FOUND AT THE NORTHEAST CORNER OF SAID DALLAS SMSA LIMITED PARTNERSHIP TRACT, SAID POINT BEING AT THE NORTHWEST CORNER OF LOT 3, BLOCK A, MAIN CENTRE, RECORDED IN CABINET A, SLIDE 9273, PLAT RECORDS, TARRANT COUNTY, TEXAS;

THENCE ALONG THE EAST LINE OF SAID DALLAS SMSA LIMITED PARTNERSHIP TRACT THE FOLLOWING **3** COURSES:

1. ALONG THE WEST LINE OF SAID LOT 3, SOUTH 00 DEGREES 13 MINUTES 38 SECONDS WEST A DISTANCE OF 331.27 FEET TO A 1/2" REBAR WITH YELLOW PLASTIC CAP STAMPED "RLG." FOUND AT THE SOUTHWEST CORNER OF SAID LOT 3;

2. ALONG THE SOUTH LINE OF SAID LOT 3, NORTH 89 DEGREES 24 MINUTES 08 SECONDS EAST PASSING A 1/2" REBAR WITH YELLOW PLASTIC CAP STAMPED "JDZ 3490" FOUND AT 161.20 FEET, CONTINUING ALONG SAID COARSE A TOTAL DISTANCE OF 221.20 FEET TO A 1/2" REBAR WITH ALUMINUM CAP STAMPED "MLA RPLS 4873" SET AT THE MOST EASTERLY NORTHEAST CORNER OF SAID DALLAS SMSA LIMITED PARTNERSHIP TRACT, SAID POINT BEING AT THE NORTHWEST CORNER OF LOT 1, BLOCK A, MAIN CENTRE, RECORDED IN VOLUME 388-207, PAGE 81, PLAT RECORDS, TARRANT COUNTY, TEXAS;

3. ALONG THE WEST LINE OF SAID LOT 1, SOUTH 00 DEGREES 35 MINUTES 52 SECONDS EAST A DISTANCE OF 163.20 FEET TO A 1/2" REBAR WITH ALUMINUM CAP STAMPED "MLA RPLS 4873" SET AT THE SOUTHEAST CORNER OF SAID DALLAS SMSA LIMITED PARTNERSHIP TRACT;

THENCE ALONG THE SOUTH LINE OF SAID DALLAS SMSA LIMITED PARTNERSHIP TRACT, NORTH 89 DEGREES 16 MINUTES 49 SECONDS WEST A DISTANCE OF 476.03 FEET TO A 1/2" REBAR WITH ALUMINUM CAP STAMPED "MLA RPLS 4873" SET ON THE EAST RIGHT OF WAY LINE OF BYERS AVENUE, RECORDED IN CABINET A, SLIDE 583; PLAT RECORDS, TARRANT COUNTY, TEXAS, SAID POINT BEING AT THE BEGINNING OF A CURVE CONCAVE SOUTHEASTERLY HAVING A RADIUS OF 10.00 FEET;

THENCE ALONG SAID EAST RIGHT OF WAY LINE THE FOLLOWING **2** COURSES:

1. ALONG SAID CURVE THROUGH A CENTRAL ANGLE 60 DEGREES 00 MINUTES 00 SECONDS, AN ARC LENGTH OF 10.47 FEET, BEING SUBTENDED BY A CHORD BEARING NORTH 30 DEGREES 20 MINUTES 26 SECONDS EAST A DISTANCE OF 10.00 FEET TO A 1/2" REBAR WITH ALUMINUM CAP STAMPED "MLA RPLS 4873" SET AT THE BEGINNING OF A REVERSE CURVE HAVING A RADIUS OF 60.00 FEET;

2. ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 150 DEGREES 00 MINUTES 00 SECONDS, AN ARC LENGTH OF 157.08 FEET, BEING SUBTENDED BY A CHORD BEARING NORTH 14 DEGREES 39 MINUTES 34 SECONDS WEST A DISTANCE OF 115.91 FEET TO A 1/2" REBAR WITH ALUMINUM CAP STAMPED "MLA RPLS 4873" SET AT THE SOUTHEAST CORNER OF LOT 1, BLOCK A, SOUTHWESTERN BELL MOBILE SYSTEMS, INC., RECORDED IN CABINET A, SLIDE 593; PLAT RECORDS, TARRANT COUNTY, TEXAS;

THENCE ALONG THE EAST LINE OF SAID LOT 1, NORTH 00 DEGREES 20 MINUTES 26 SECONDS EAST A DISTANCE OF 357.43 FEET TO A 1/2" REBAR WITH ALUMINUM CAP STAMPED "MLA RPLS 4873" SET AT THE NORTHEAST CORNER OF SAID LOT 1, SAID POINT BEING ON THE NORTH LINE OF SAID DALLAS SMSA LIMITED PARTNERSHIP TRACT;

THENCE ALONG SAID NORTH LINE, SOUTH 89 DEGREES 34 MINUTES 42 SECONDS EAST A DISTANCE OF 379.53 FEET TO THE **POINT OF BEGINNING**, CONTAINING 3.830 ACRES OR 166,815 SQUARE FEET OF LAND, MORE OR LESS.

GENERAL NOTES

1. THE BASIS OF BEARINGS FOR THIS SURVEY IS THE TEXAS STATE PLANE COORDINATE SYSTEM BASED ON CITY OF EULESS GPS CONTROL MONUMENTS.

2. THIS SURVEY IS NOT INTENDED TO ADDRESS OR IDENTIFY WETLANDS, FAULTLINES, TOXIC OR HAZARDOUS WASTE AREAS, SUBSIDENCE OR ANY OTHER ENVIRONMENTAL OR GEOLOGICAL ISSUE.

3. THE EXISTING UTILITIES DEPICTED HEREON ARE BASED ON FIELD LOCATION OF VISIBLE ABOVE GROUND FACILITIES AND DIAGRAMS OBTAINED FROM THE CITY OF EULESS ENGINEERING DEPARTMENT ON FEBRUARY 13, 2008 AND RAILROAD COMMISSION ON-LINE PIPELINE MAP LOCATED AT www.rrc.state.tx.us/.

MARSHALL LANCASTER & ASSOCIATES, INC. IS NOT RESPONSIBLE FOR THE EXACT LOCATION OF SUBSURFACE UTILITY LINES SHOWN HEREON; NOR FOR ANY DAMAGES BY ANY CONSTRUCTION OR EXCAVATION ON OR NEAR SAID UTILITIES.

CALL UNDERGROUND SERVICE ALERT 800-DIG-TESS, 72 HOURS BEFORE ANY CONSTRUCTION OR EXCAVATION IN THIS AREA.

4. SOURCE BENCHMARK: CITY OF EULESS CONTROL MONUMENT NO. E20, BEING A 3-1/4" DOMED BRASS DISK FOUND IN TOP OF A CONCRETE INLET AT THE SOUTHWEST CORNER OF THE INTERSECTION OF STATE HIGHWAY NO. 10 AND SOUTH MAIN STREET.

ELEVATION = 588.774'

SOURCE BENCHMARK VERIFICATION: CITY OF EULESS CONTROL MONUMENT NO. E18, BEING A 3-1/4" DOMED BRASS DISK FOUND AT THE NORTHWEST CORNER OF THE INTERSECTION OF NORTH MAIN STREET AND HARWOOD ROAD.

PUBLISHED ELEVATION = 598.939'
MEASURED ELEVATION = 598.92'

SITE BENCHMARK NO. 1: BOX CUT ON TOP OF CONCRETE CURB, AS SHOWN HEREON.

ELEVATION = 610.97'

SITE BENCHMARK NO. 2: PK NAIL IN ASPHALT PAVEMENT ON BYERS AVENUE, AS SHOWN HEREON.

ELEVATION = 598.13'

5. OWNERSHIP REFERENCES SHOWN HEREON ARE BASED ON TARRANT APPRAISAL DISTRICT WEB PAGE DATA (WWW.TAD.ORG).

6. ONLY TREES HAVING A DIAMETER OF 8 INCHES OR GREATER (AS MEASURED AT 4 FEET ABOVE GROUND SURFACE) WERE LOCATED WITHIN DALLAS SMSA LIMITED PARTNERSHIP TRACT AND LOT 3, BLOCK A, MAIN CENTRE, AS SHOWN HEREON.

7. TITLE ENCUMBRANCE RESEARCH WAS BASED ON INFORMATION CONTAINED IN A TITLE COMMITMENT PREPARED BY LAWYERS TITLE INSURANCE CORPORATION, GF NO. 2024000330, ISSUED FEBRUARY 6, 2008. REFERENCE IS MADE TO SAID COMMITMENT AND RECORD DOCUMENTS LISTED THEREIN FOR FULL PARTICULARS.

MARSHALL LANCASTER & ASSOCIATES, INC. MAKES NO REPRESENTATION AS TO THE ACCURACY OR COMPLETENESS OF SAID RESEARCH.

8. SOME "EXCEPTIONS FROM COVERAGE" LISTED IN SCHEDULE B, OF SAID TITLE COMMITMENT MAY NOT REFER TO RECORDED DOCUMENTS. REFER TO SAID SCHEDULE B FOR EXCEPTION SPECIFICS. GRAPHically PLOTTABLE ITEMS (SUCH AS EASEMENTS) LISTED IN SAID SCHEDULE B, WHOSE DESCRIPTIONS INDICATE THAT THEY ARE LOCATED ON THE SUBJECT PROPERTY ARE DEPICTED HEREON. THIS SURVEY DOES NOT ADDRESS ITEMS LISTED IN SCHEDULE C OF SAID TITLE COMMITMENT.

PROVIDED RECORD DOCUMENTS LISTED IN SAID SCHEDULE B, ARE SUMMARIZED AS FOLLOWS:

ITEM 10.A. EASEMENT EXECUTED BY G. E. HIMES AND MRS. MYRTLE HIMES, HIS WIFE TO SINCLAIR REFINING COMPANY, DATED OCTOBER 10, 1940, FILED MAY 13, 1941, RECORDED IN/UNDER VOLUME 1469, PAGE 623 OF THE REAL PROPERTY RECORDS OF TARRANT COUNTY, TEXAS. **(UNABLE TO DETERMINE IF SUBJECT PROPERTY IS INCLUDED WITHIN THE LANDS BOUNDED BY THE LEGAL DESCRIPTION CONTAINED WITHIN THE REFERENCED DOCUMENT)**

ITEM 10.B. EASEMENT EXECUTED BY G. E. HIMES AND MRS. MYRTLE HIMES TO SINCLAIR REFINING COMPANY, DATED NOVEMBER 5, 1947, FILED DECEMBER 31, 1947, RECORDED IN/UNDER VOLUME 1966, PAGE 509, OF THE REAL PROPERTY RECORDS OF TARRANT COUNTY, TEXAS. **(UNABLE TO DETERMINE LOCATION OF EASEMENT FROM PROVIDED REFERENCED DOCUMENT. REFERENCED DOCUMENT DOES NOT CONTAIN A LEGAL DESCRIPTION)**

ITEM 10.C. EASEMENT EXECUTED BY TEXAS TRUST SAVINGS BANK, TO CITY OF EULESS, DATED AUGUST 16, 1990, FILED AUGUST 20, 1990, RECORDED IN/UNDER VOLUME 10018, PAGE 417 OF THE REAL PROPERTY RECORDS OF TARRANT COUNTY, TEXAS. **(SHOWN ON SURVEY)**

ITEM 10.D. AIRPORT ZONING ORDINANCE DATED DECEMBER 16, 1971, A CERTIFIED COPY OF WHICH IS RECORDED IN VOLUME 7349, PAGE 1106, REAL PROPERTY OF TARRANT COUNTY, TEXAS. **(PROPERTY APPEARS TO BE SUBJECT TO ORDINANCE)**

FEMA NOTE

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAP NUMBER 48439C0330 J, REVISED AUGUST 23, 2000, THE SUBJECT PROPERTY (SEE LEGAL DESCRIPTION SHOWN HEREON) APPEARS TO LIE WITHIN:

ZONE "X" (NOT SHADED ON PANEL) DEFINED THEREIN AS:

"OTHER AREAS. AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOOD PLAIN".

THE ABOVE INFORMATION WAS DERIVED FROM FEMA'S WEB SITE. THE REFERENCED FLOOD INSURANCE RATE MAP WAS THE CURRENT MAP AVAILABLE ON SAID WEB SITE DURING THE RESEARCH PHASE OF THIS SURVEY.

ADDITIONAL RESEARCH INTO LETTERS OF MAP REVISION, AMENDMENT, OR ANY OTHER INFORMATION ON SAID WEB SITE WAS NOT PERFORMED.

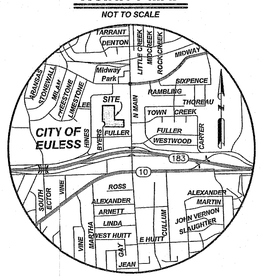
MARSHALL LANCASTER & ASSOCIATES, INC. MAKES NO REPRESENTATION AS TO THE ACCURACY OR CURRENT STATUS OF SAID MAPS.

LEGEND

- ... BENCHMARK
- ... SET 1/2" REBAR WITH 1-1/2" ALUMINUM CAP UNLESS NOTED OTHERWISE
- FD ... FOUND MONUMENT AS DESCRIBED
- FD ... FOUND
- ... ELECTRIC METER
- ... STREET LIGHT
- ... TRAFFIC SIGNAL POLE
- ... UTILITY POLE
- ... PULLBOX
- ... TELEPHONE MANHOLE
- ... TELEPHONE MARKER
- ... TELEPHONE RISER
- ... TRANSFORMER
- ... GAS METER
- ... GAS MARKER
- ... GUARD POST
- ... MAIL BOX
- ... SIGN
- ... SANITARY SEWER CLEANOUT
- ... SANITARY SEWER MANHOLE
- ... GRATE INLET
- ... STORM DRAIN MANHOLE
- ... FIRE HYDRANT
- ... IRRIGATION CONTROL VALVE
- ... HOSE BIB
- ... WATER MANHOLE
- ... WATER METER
- ... WATER VALVE
- WL ... WATER LINE
- SD ... STORM DRAIN
- SS ... SANITARY SEWER
- CPP ... CORRUGATED PLASTIC PIPE
- PVC ... PVC PIPE
- RCP ... REINFORCED CONCRETE PIPE
- CMP ... CORRUGATED METAL PIPE
- OHW ... OVERHEAD UTILITY LINES
- ... GUY ANCHOR
- ... WIRE FENCE
- ... CHAIN LINK FENCE
- ... WOOD FENCE
- ... CABLE FENCE

VICINITY MAP

NOT TO SCALE



GRAPHIC SCALE 30 0 30 60 90 1"=30'

TREE LIST

POINT	DESCRIPTION
701	16" OAK
702	12" OAK
703	14" OAK
704	14" OAK (DEAD)
706	10" OAK
707	8" OAK
708	10" CEDAR
709	14 CEDAR
710	8" OAK
711	8" OAK
712	8" CEDAR
713	8" OAK

UTILITY PURVEYORS

ELECTRICITY:
TXU ELECTRIC DELIVERY
2601 JOHN ARDEN DRIVE
WAXAHACHIE, TEXAS
CONTACT PERSON: FRANK VASQUEZ
PHONE: 972.923.4246
FAX: 972.923.4216
CONTACT PERSON: DAN GRIDER
PHONE: 972.923.4245
WEBSITE: www.txu.com

NATURAL GAS:
ATMOS ENERGY
CONCTACT PERSON: KEITH KEATING
PHONE: 817.303.2914
FAX: 817.303.2929
WEBSITE: www.atmosenergy.com

CABLE SERVICE:
TIME WARNER CABLE
PHONE: 972.742.5892
WEBSITE: www.timewarnercable.com

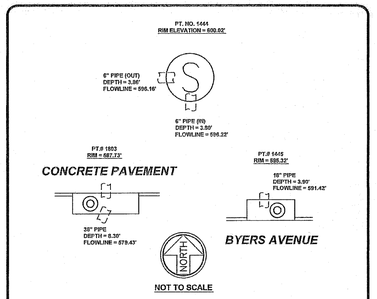
TELEPHONE:
AT&T
CONTACT PERSON: KAREN ROGE
PHONE: 972.660.0422
WEBSITE: www.att.com

VERIZON
PHONE: 1.800.483.4020

WATER:
CITY OF EULESS WATER UTILITIES OPERATIONS
201 N. ECTOR DRIVE
EULESS, TEXAS
PHONE: 972.237.8413
WEBSITE: www.ci.euless.tx.us/info/utilities.htm

UTILITY COMPANY INFORMATION OBTAINED FROM THE CITY OF EULESS WEBSITE: www.ci.euless.tx.us/info/utilities.htm.

UTILITY DETAILS



SUBSURFACE FEATURES SHOWN ON UTILITY DETAILS SHOULD BE CONSIDERED APPROXIMATE. SUBSURFACE PIPE DIAMETERS ARE BASED ON ABOVE GROUND OBSERVATIONS. SUBSURFACE UTILITIES SHOULD BE EXPOSED, DIRECTLY MEASURED AND VERIFIED PRIOR TO CONSTRUCTION OR ENGINEERING DESIGN.

SURVEYOR'S CERTIFICATE

THIS SURVEY WAS PREPARED FOR THE EXCLUSIVE USE OF THOSE PARTIES NAMED IN THE SURVEYORS CERTIFICATE. MARSHALL LANCASTER & ASSOCIATES, INC., EXPRESSLY DISCLAIMS ANY LIABILITIES FOR DAMAGES DUE TO USE OF SAID SURVEY BY OTHERS.

THE UNDERSIGNED CERTIFIES TO:
(I) CITY OF EULESS, (II) EULESS DEVELOPMENT CORPORATION, (III) DALLAS SMSA LIMITED PARTNERSHIP, (IV) LAWYERS TITLE INSURANCE CORPORATION AND (V) LANDAMERICA AMERICAN TITLE COMPANY

AS OF THE DATE OF THIS SURVEY, THAT TO THE BEST OF THE UNDERSIGNED'S PROFESSIONAL KNOWLEDGE, INFORMATION AND BELIEF:

THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH "MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ACSM LAND TITLE SURVEYS,", JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS IN 2005, PURSUANT TO ACCURACY STANDARDS AS ADOPTED BY ALTA AND NSPS AND IN EFFECT ON THE DATE OF THIS CERTIFICATION. UNDERSIGNED FURTHER CERTIFIES THAT IN MY PROFESSIONAL OPINION, AS A LAND SURVEYOR REGISTERED IN THE STATE OF TEXAS, THE RELATIVE POSITIONAL ACCURACY OF THIS SURVEY DOES NOT EXCEED THAT WHICH IS SPECIFIED THEREIN.

MARSHALL LANCASTER
TEXAS REGISTERED PROFESSIONAL LAND SURVEYOR, NO. 4873
DATE: MARCH 3, 2008
SERIES 1, PRINT 1 OF 9

PLEASE NOTE THAT THE USE OF THE WORD "CERTIFY" OR "CERTIFICATE" USED HEREON CONSTITUTES AN EXPRESSION OF PROFESSIONAL OPINION REGARDING THOSE FACTS OF FINDINGS WHICH ARE THE SUBJECT OF THE CERTIFICATION, AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE, EITHER EXPRESSED OR IMPLIED.

© 2008
Marshall Lancaster & Associates, Inc.

SHEET 1 OF 1
DATE: 3-03-2008
DRAWN BY: SPA
CHECKED BY: MLL
FILE: 08033 W ALTA
JOB NO.: 08033

STATE OF TEXAS
REGISTERED
MARSHALL LANCASTER
4873
PROFESSIONAL
SURVEYOR

Marshall Lancaster RPLS 4873
Survey Date: 2-14-2008

Date:	REVISIONS Description:	By:

MARSHALL LANCASTER & ASSOCIATES, INC.
CONSULTING LAND SURVEYORS
land title surveys - topography - subdivision platting
retail, commercial and industrial construction surveying
1864 North Norwood Drive, Suite E, Hurst, TX 76054
metro (817) 268-8000 fax (817) 282-2231 www.mla-survey.com

ALTA/ACSM LAND TITLE SURVEY

3.830 ACRES OF LAND OUT OF THE
JAMES P. HALLFORD SURVEY, ABSTRACT NO. 711
CITY OF EULESS, TARRANT COUNTY, TEXAS