

NUM	DELTA	ARC	RADIUS	BEARING	DISTANCE
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C2	40°54'02"	117.78'	165.00'	S26°13'35"W	115.30'

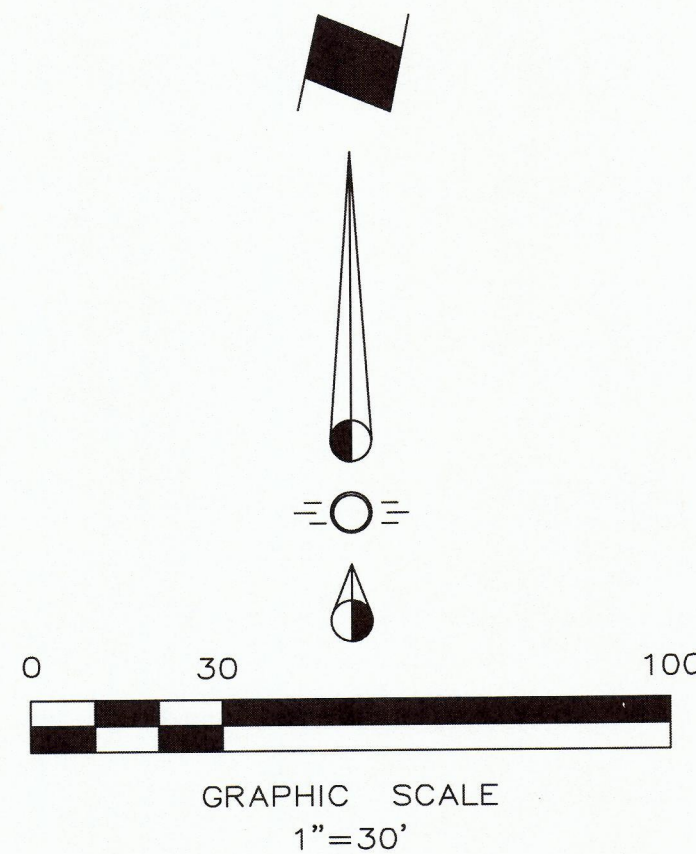
Lot 2, Block A
Excel Plaza
Inst. No. 201000010278, O.P.R.D.C.T.
16650 West Grove Dr Holdings LP
Inst. 201200062933, O.P.R.D.C.T.

12.5' TP & L/SWBT EASEMENT
Vol. 81202, Pg. 777 &
Vol. 85040, Pg. 1311, D.R.D.C.T.

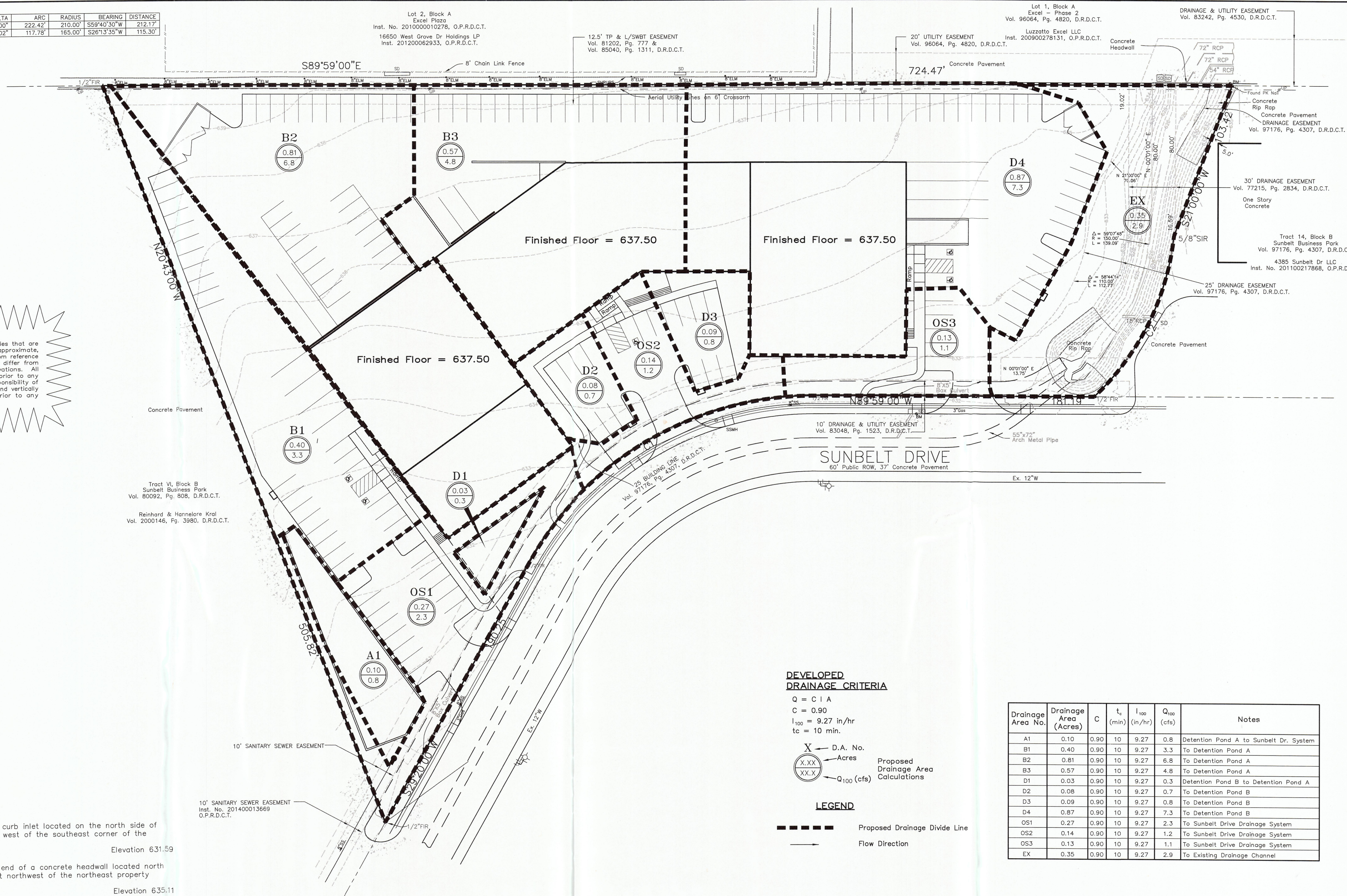
Lot 1, Block A
Excel - Phase 2
Vol. 96064, Pg. 4820, D.R.D.C.T.

Luzzetta Excel LLC
Inst. 200900278131, O.P.R.D.C.T.

DRAINAGE & UTILITY EASEMENT
Vol. 83242, Pg. 4530, D.R.D.C.T.



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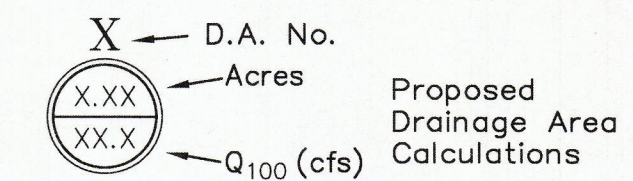


Tract VI, Block B
Sunbelt Business Park
Vol. 80092, Pg. 808, D.R.D.C.T.
Reinhard & Hannelore Kral
Vol. 2000146, Pg. 3980, D.R.D.C.T.

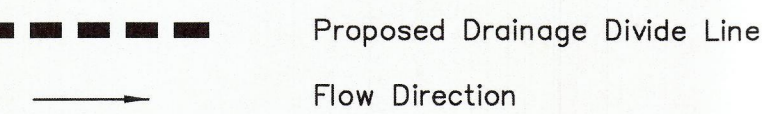
Tract 14, Block B
Sunbelt Business Park
Vol. 97176, Pg. 4307, D.R.D.C.T.
4385 Sunbelt Dr LLC
Inst. No. 201100217868, O.P.R.D.C.T.

DEVELOPED DRAINAGE CRITERIA

$Q = C I A$
 $C = 0.90$
 $I_{100} = 9.27 \text{ in/hr}$
 $t_c = 10 \text{ min.}$



LEGEND



Drainage Area No.	Drainage Area (Acres)	C	t_c (min)	I_{100} (in/hr)	Q_{100} (cfs)	Notes
A1	0.10	0.90	10	9.27	0.8	Detention Pond A to Sunbelt Dr. System
B1	0.40	0.90	10	9.27	3.3	To Detention Pond A
B2	0.81	0.90	10	9.27	6.8	To Detention Pond A
B3	0.57	0.90	10	9.27	4.8	To Detention Pond A
D1	0.03	0.90	10	9.27	0.3	Detention Pond B to Detention Pond A
D2	0.08	0.90	10	9.27	0.7	To Detention Pond B
D3	0.09	0.90	10	9.27	0.8	To Detention Pond B
D4	0.87	0.90	10	9.27	7.3	To Detention Pond B
OS1	0.27	0.90	10	9.27	2.3	To Sunbelt Drive Drainage System
OS2	0.14	0.90	10	9.27	1.2	To Sunbelt Drive Drainage System
OS3	0.13	0.90	10	9.27	1.1	To Sunbelt Drive Drainage System
EX	0.35	0.90	10	9.27	2.9	To Existing Drainage Channel

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Elevation 631.59

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Elevation 635.11

MISC. INFORMATION

NOTE:
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REVISION	DATE	DESCRIPTION



RLK ENGINEERING, INC.
111 West Main
Allen, Texas 75013
(972) 359-1733 Off
(972) 359-1833 Fax
Texas Registration No. 579

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF RONNY KLINGBELL, P.E. NO. 78831 ON JUNE 13, 2016. IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES.

PRELIMINARY DRAINAGE AREA MAP

Tract 15, Block B, Sunbelt Business Park
ADDISON, TEXAS

DESIGNED BY: RLK Engineering	TECH REVIEW: RLK	DRAWING FILE: 16032 DAMAP.dwg	DRAWING SCALE:	SHEET:
DRAWN BY: RLK Engineering	PEER REVIEW: RLK	DRAWING DATE: 6-13-16	PROJECT NUMBER: RLK 16032	C 2

City Project #16-09

NUM	DELTA	ARC	RADIUS	BEARING	DISTANCE
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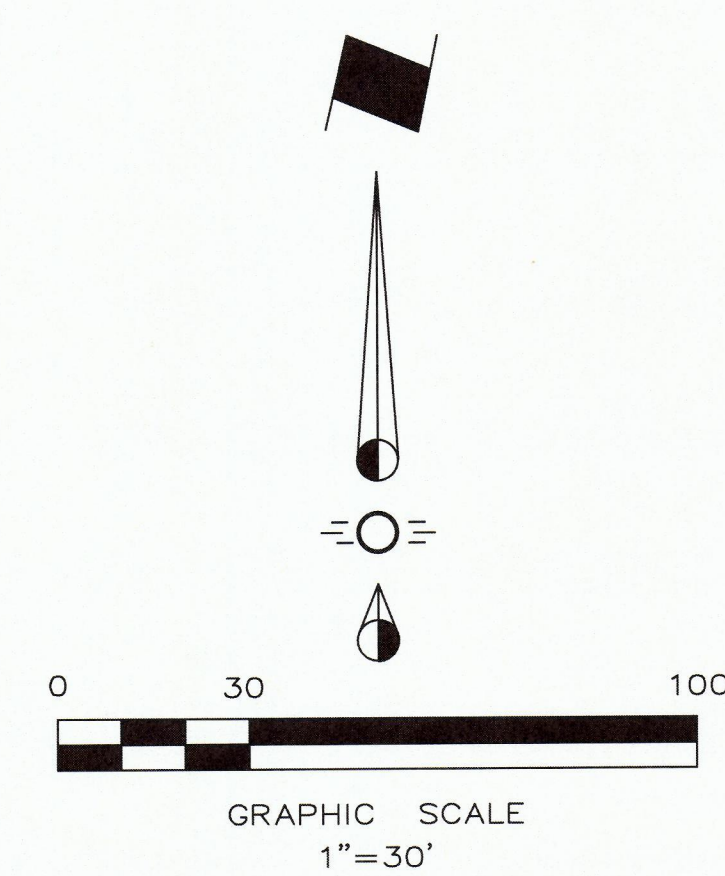
Lot 1, Block A
Excel - Phase 2
Vol. 96064, Pg. 4820, D.R.D.C.T.

DRAINAGE & UTILITY EASEMENT
Vol. 83242, Pg. 4530, D.R.D.C.T.

Luzzatto Excel LLC
Inst. 200900278131, O.P.R.D.C.T.

12.5' TP & L/SWBT EASEMENT
Vol. 81202, Pg. 777 &
Vol. 85040, Pg. 1311, D.R.D.C.T.

20' UTILITY EASEMENT
Vol. 96064, Pg. 4820, D.R.D.C.T.

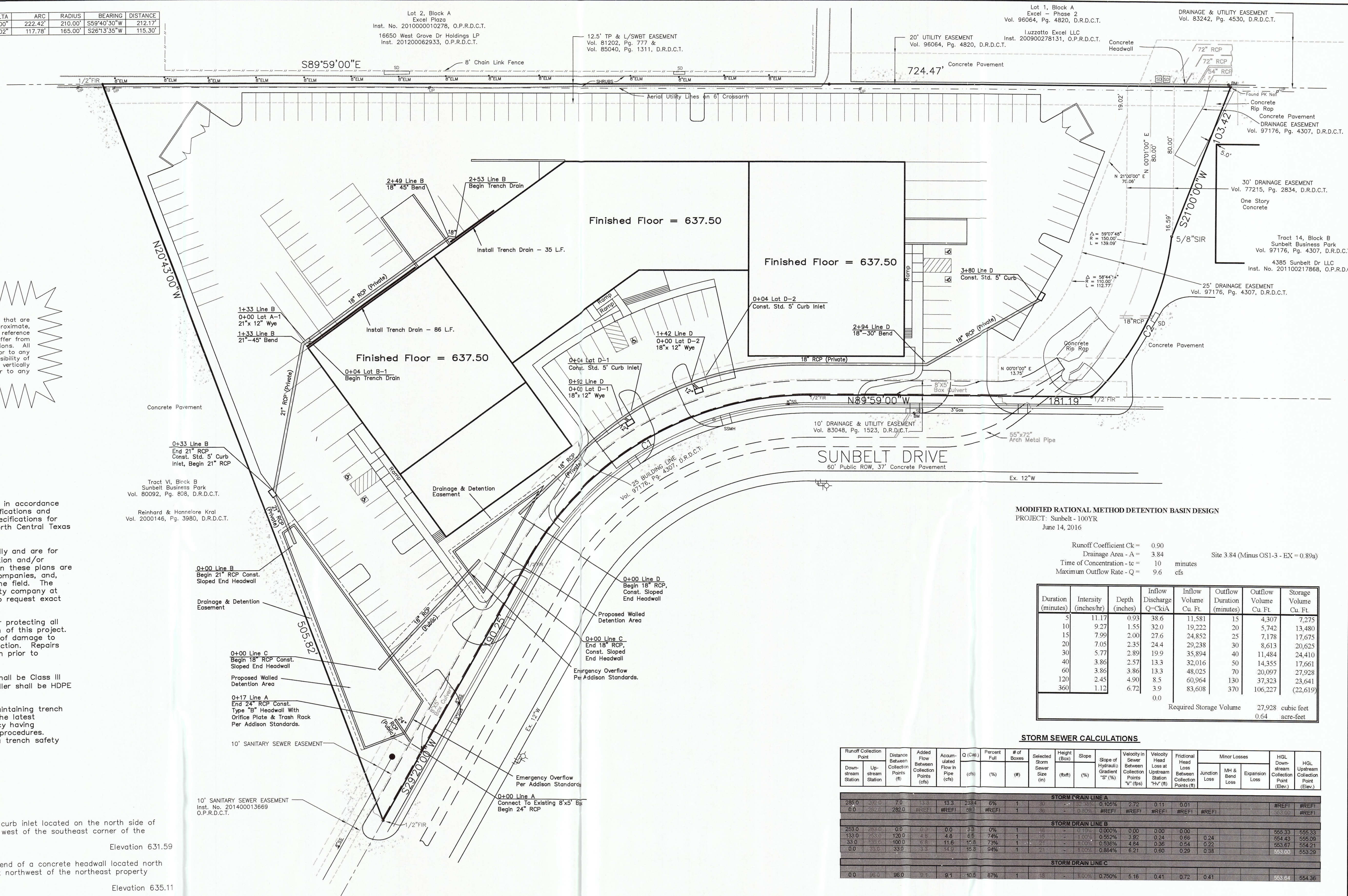


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- GENERAL NOTES**
- All materials and construction shall be in accordance with the Town of Addison Standard Specifications and Construction Standards, and Standard Specifications for Public Works Construction prepared by North Central Texas Council of Governments (Latest Revision).
 - Existing utilities are shown schematically and are for the contractors guidance only. The location and/or elevation of existing utilities as shown on these plans are based on records of the various utility companies, and, where possible, measurements taken in the field. The contractor must call the appropriate utility company at least 48 hours prior to any excavation to request exact field location of utilities.
 - The contractor shall be responsible for protecting all existing improvements in the construction of this project. The contractor is responsible for repairs of damage to any existing improvements during construction. Repairs shall be equal to or better than condition prior to construction.
 - All storm sewer pipe 12" and larger shall be Class III RCP. All storm sewer pipe 12" and smaller shall be HDPE drainage pipe or approved equal.
 - Contractor shall be responsible for maintaining trench safety requirements in accordance with the latest standards of O.S.H.A. or any other agency having jurisdiction for excavation and trenching procedures. Contractor shall provide and implement a trench safety plan complying with O.S.H.A.

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MODIFIED RATIONAL METHOD DETENTION BASIN DESIGN
PROJECT: Sunbelt-100YR
June 14, 2016

Runoff Coefficient Ck = 0.90
Drainage Area - A = 3.84
Time of Concentration - tc = 10 minutes
Maximum Outflow Rate - Q = 9.6 cfs
Site 3.84 (Minus OS1-3 - EX = 0.89a)

Duration (minutes)	Intensity (inches/hr)	Depth (inches)	Inflow Discharge Q=CkIA	Inflow Volume Cu Ft	Outflow Duration (minutes)	Outflow Volume Cu Ft	Storage Volume Cu Ft
5	11.17	0.93	38.6	11,581	15	4,307	7,275
10	9.27	1.55	32.0	19,222	20	5,742	13,480
15	7.99	2.00	27.6	24,852	25	7,178	17,675
20	7.05	2.35	24.4	29,238	30	8,613	20,625
30	5.77	2.89	19.9	35,894	40	11,484	24,410
40	3.86	2.57	13.3	32,016	50	14,355	17,661
60	3.86	3.86	13.3	48,025	70	20,097	27,928
120	2.45	4.90	8.5	60,964	130	37,323	23,641
360	1.12	6.72	3.9	83,608	370	106,227	(22,619)
				0.0			
						Required Storage Volume	27,928 cubic feet 0.64 acre-feet

STORM SEWER CALCULATIONS

Runoff Collection Point	Distance Between Collection Points (ft)	Added Flow Between Collection Points (cfs)	Accumulated Flow in Pipe (cfs)	Q (CIP) (cfs)	Percent Full (%)	# of Boxes	Selected Storm Sewer Size (in)	Height (Box) (ft)	Slope (%)	Slope of Hydraulic Gradient "S" (%)	Velocity in Sewer Between Collection Points "V" (fps)	Velocity Head Loss at Upstream Station "Hv" (ft)	Frictional Head Loss Between Collection Points (ft)	Minor Losses	HGL Downstream Collection Point (Elev.)	HGL Upstream Collection Point (Elev.)
STORM DRAIN LINE A																
286.0	286.0	7.0	13.3	13.3	233.4	6%	1	30	0.00%	0.105%	2.72	0.11	0.01	#REF!	#REF!	#REF!
0.0	286.0	282.0	#REF!	#REF!	69.1	#REF!	1	36	0.80%	#REF!	#REF!	#REF!	#REF!	#REF!	553.60	553.60
STORM DRAIN LINE B																
253.0	253.0	0.0	0.0	0.0	3.3	0%	1	18	1.00%	0.00%	0.00	0.00	0.00		555.33	555.33
133.0	253.0	120.0	4.9	4.9	6.5	74%	1	18	1.00%	0.552%	3.92	0.24	0.66	0.24	554.43	555.08
33.0	133.0	100.0	6.8	11.6	15.8	73%	1	27	1.00%	0.536%	4.84	0.36	0.54	0.22	553.67	554.21
0.0	33.0	33.0	3.3	14.9	15.8	94%	1	27	1.00%	0.684%	6.21	0.60	0.29	0.38	553.00	553.29
STORM DRAIN LINE C																
0.0	95.0	95.0	9.1	9.1	10.6	87%	1	18	1.00%	0.750%	5.16	0.41	0.72	0.41	553.64	554.36

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111 West Main
Allen, Texas 75013
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(972) 359-1833 Fax
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PRELIMINARY DRAINAGE PLAN
Tract 15, Block B, Sunbelt Business Park
ADDISON, TEXAS

DESIGNED BY: RLK Engineering
TECH REVIEW: RLK
DRAWN BY: RLK Engineering
PEER REVIEW: RLK

DRAWING FILE: 16032 Dwg.dwg
DRAWING DATE: 6-13-16
DRAWING SCALE: 1"=30'
PROJECT NUMBER: RLK-16032

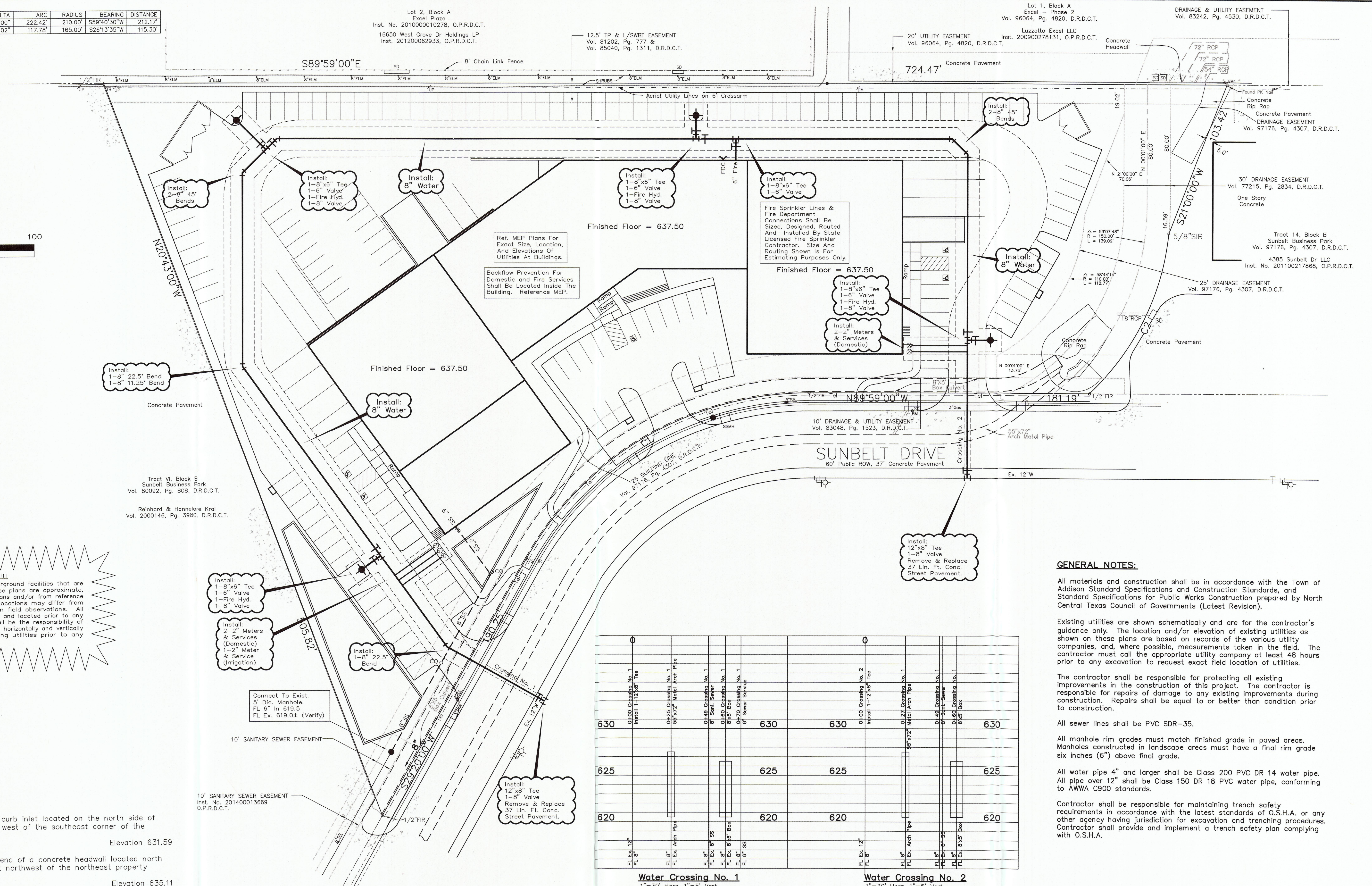
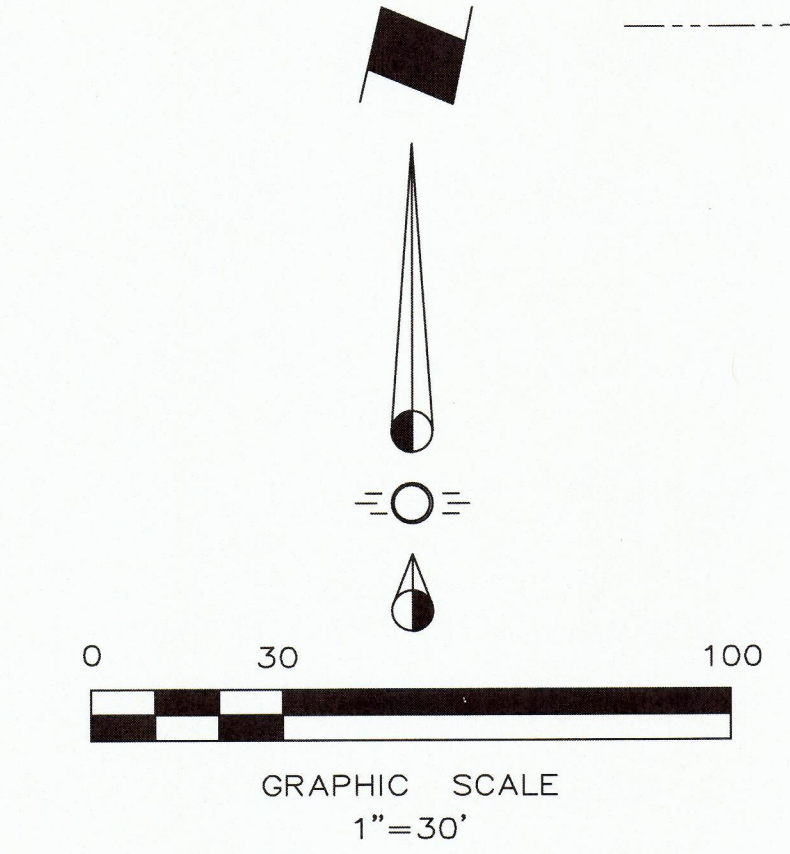
SHEET: **C3**

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Lot 1, Block A
Excel - Phase 2
Vol. 96064, Pg. 4820, D.R.D.C.T.
Luzzatto Excel LLC
Inst. 200900278131, O.P.R.D.C.T.

DRAINAGE & UTILITY EASEMENT
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Elevation 635.11

Station	Water Crossing No. 1	Water Crossing No. 2
630	04-000 Crossing No. 1 Install 1-12"x8" Tee	04-000 Crossing No. 2 Install 1-12"x8" Tee
625	04-225 Crossing No. 1 6" San. Sewer	04-227 Crossing No. 1 18"x72" Metal Arch Pipe
620	04-300 Crossing No. 1 6" San. Sewer	04-300 Crossing No. 1 6" San. Sewer

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 - The contractor shall be responsible for protecting all existing improvements in the construction of this project. The contractor is responsible for repairs of damage to any existing improvements during construction. Repairs shall be equal to or better than condition prior to construction.
 - All sewer lines shall be PVC SDR-35.
 - All manhole rim grades must match finished grade in paved areas. Manholes constructed in landscape areas must have a final rim grade six inches (6") above final grade.
 - All water pipe 4" and larger shall be Class 200 PVC DR 14 water pipe. All pipe over 12" shall be Class 150 DR 18 PVC water pipe, conforming to AWWA C900 standards.
 - Contractor shall be responsible for maintaining trench safety requirements in accordance with the latest standards of O.S.H.A. or any other agency having jurisdiction for excavation and trenching procedures. Contractor shall provide and implement a trench safety plan complying with O.S.H.A.

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PRELIMINARY WATER & SEWER PLAN

Tract 15, Block B, Sunbelt Business Park
ADDISON, TEXAS

DESIGNED BY: RLK Engineering	TECH REVIEW: RLK	DRAWING FILE: 16032 WS.dwg	DRAWING SCALE: 1"=30'	SHEET: C 4
DRAWN BY: RLK Engineering	PEER REVIEW: RLK	DRAWING DATE: 6-13-16	PROJECT NUMBER: RLK 16032	