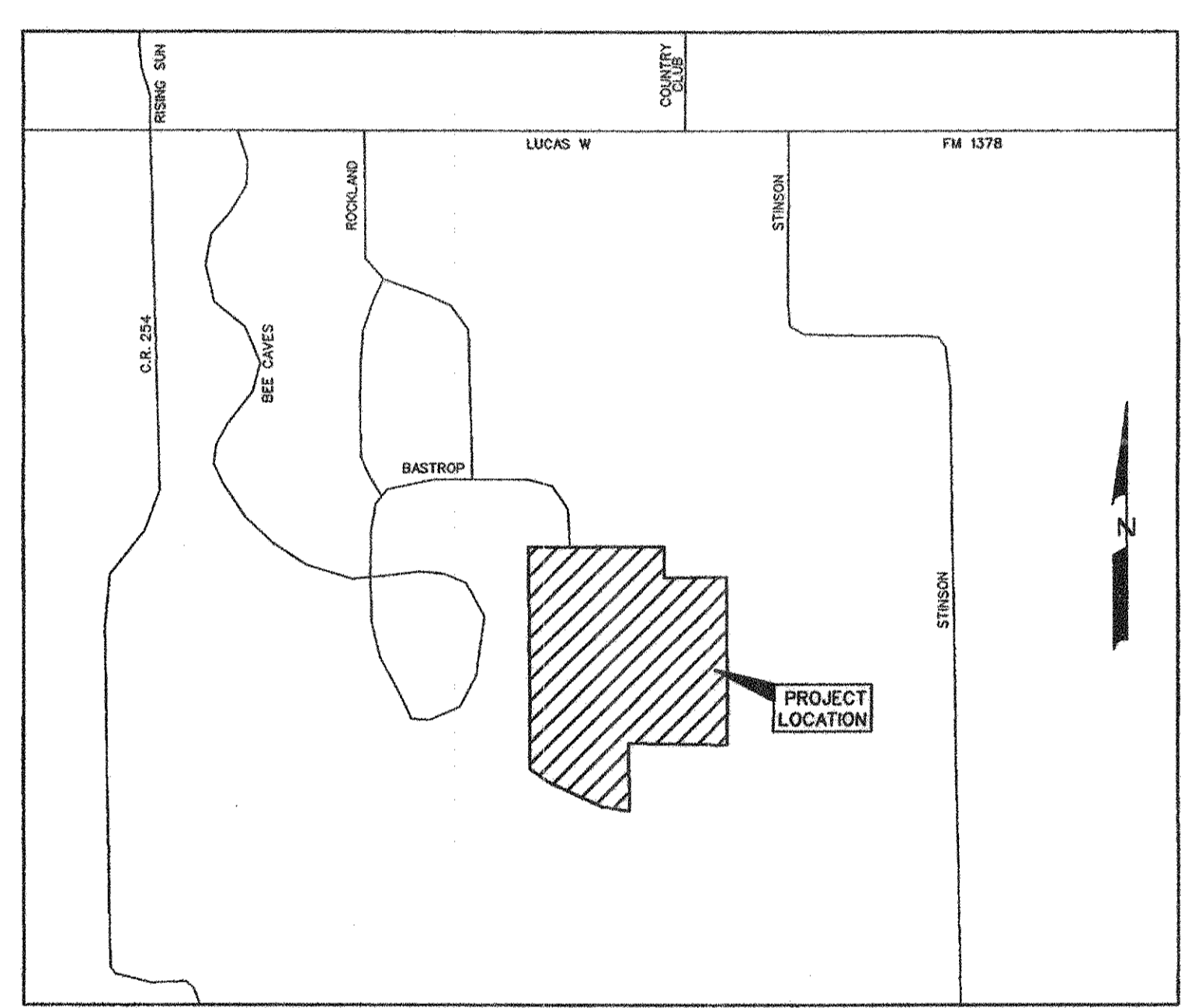


CONSTRUCTION PLANS FOR BELMONT PARK CITY OF LUCAS, TEXAS



VICINITY MAP
SCALE: 1"=1000'

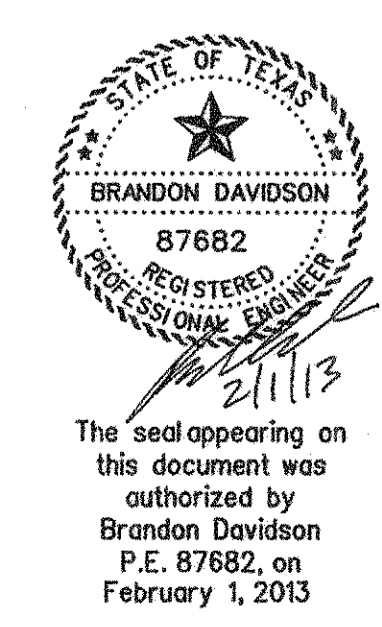
INDEX

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- 5 BASTROP ROAD
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- 8 WATER PLAN
- 9 CULVERT PLAN AND PROFILES
- 10 SWALE PLAN
- 11 SWALE PROFILES
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- 13 DETENTION POND PLAN
- 14 GRADING PLAN
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- 16 EROSION CONTROL PLAN
- 17 STREET LIGHT AND SIGN PLAN
- 18 GENERAL NOTES

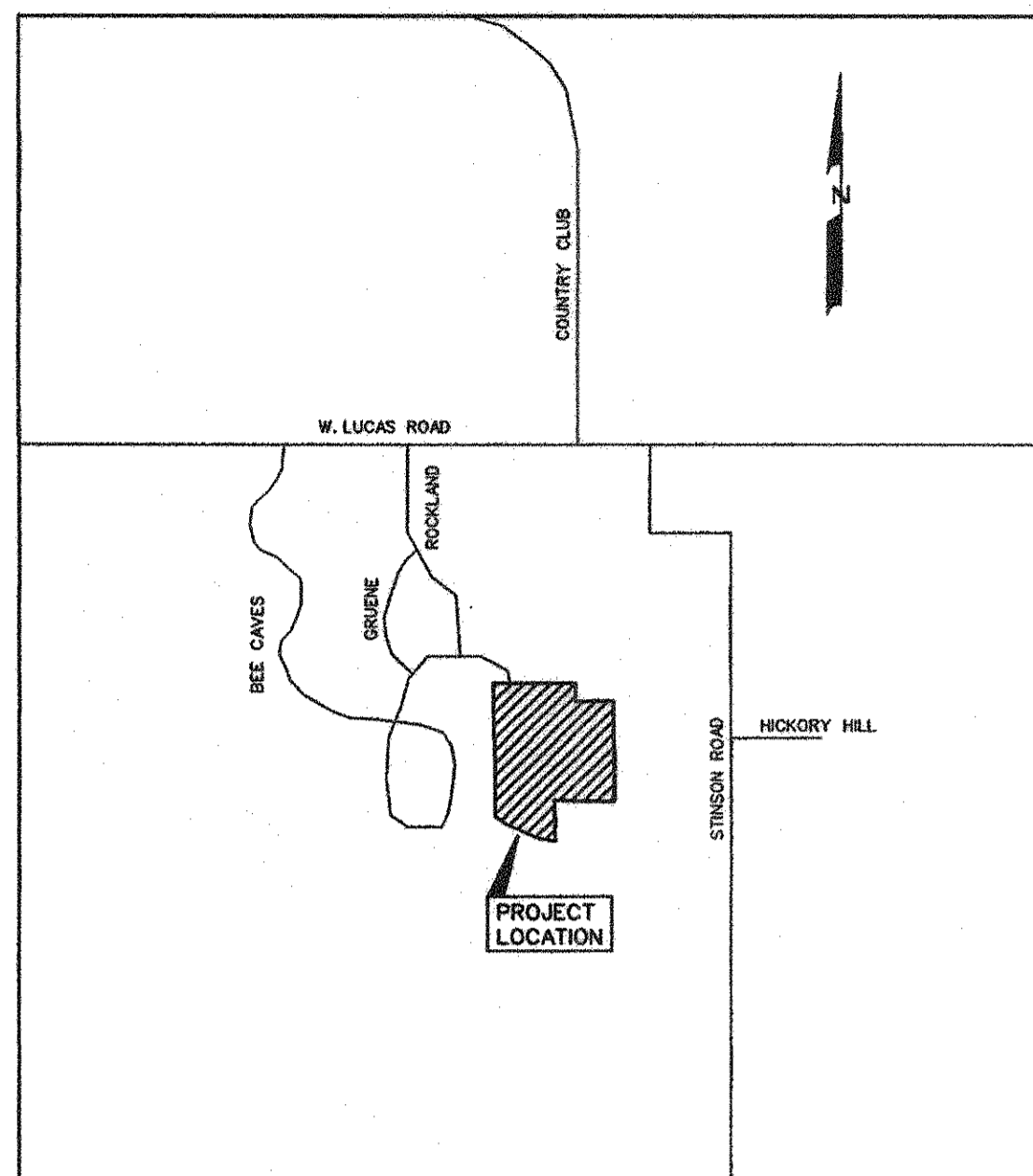
PREPARED FOR
M. CHRISTOPHER INVESTMENTS, LLC 2011
2730 COUNTRY CLUB, LUCAS, TEXAS 75002

CORWIN ENGINEERING, INC. — CONSULTING ENGINEERS
200 W. BELMONT, SUITE E TBPE FIRM #5951 ALLEN, TEXAS 75013

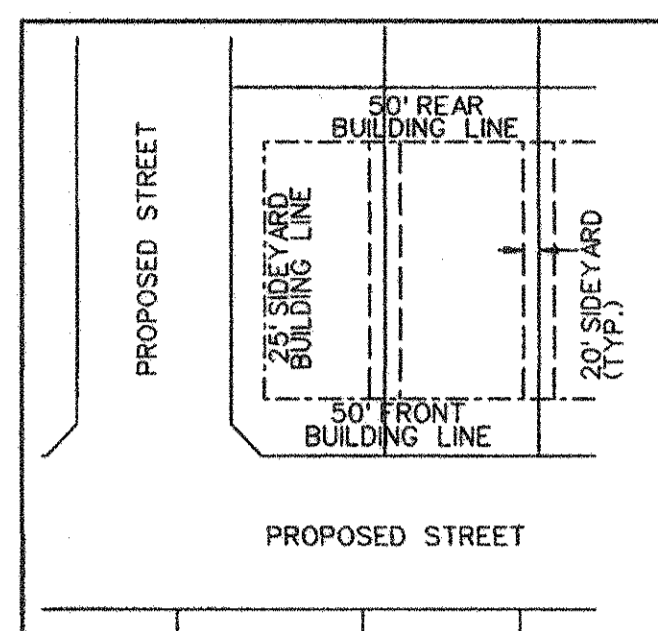
AS-BUILT FEBRUARY 2013
INFORMATION PROVIDED BY CONTRACTORS
(NOT FIELD VERIFIED)



The seal appearing on this document was authorized by Brandon Davidson P.E. 87682, on February 1, 2013



LOCATION MAP
SCALE: 1"=1000'



TYPICAL LOT DETAIL

CURVE TABLE

CURVE NO.	DELTA	RADIUS	LENGTH	TANGENT	CHORD	BEARING
1.	12° 12' 54"	600.00'	127.92'	64.20'	127.67'	S24° 50' 51" E
2.	21° 23' 25"	400.00'	149.33'	75.55'	148.47'	S41° 39' 01" E
3.	23° 14' 23"	400.00'	162.24'	82.25'	161.13'	S63° 57' 55" E
4.	53° 22' 14"	60.00'	321.10'	53.89'	321.10'	N07° 29' 25" W
5.	44° 31' 46"	200.00'	155.44'	81.88'	151.55'	S15° 23' 23" W
6.	07° 40' 48"	400.00'	53.62'	26.85'	53.58'	S03° 02' 06" E
7.	49° 14' 55"	60.00'	325.45'	50.00'	325.45'	N00° 47' 14" E
8.	303° 33' 26"	60.00'	317.88'	56.75'	317.88'	S60° 58' 25" E

LINE TABLE

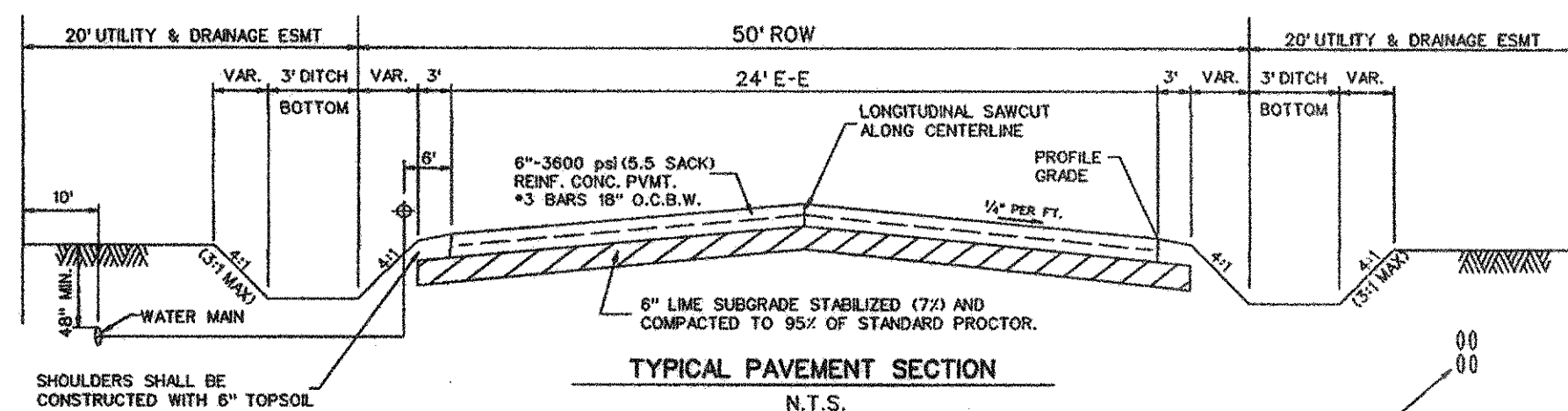
LINE NO.	BEARING	DISTANCE
1.	S 37° 39' 16" W	33.28'
2.	N 14° 24' 53" E	20.00'
3.	N 89° 11' 42" W	25.00'

Health Department Certification:
I hereby certify that the on-site sewage facilities described on this plat conform to the applicable OSSF laws of the State of Texas, that site evaluations have been submitted representing the site conditions in the area in which on-site sewage facilities are planned to be used.

Registered Sanitarian/Designated Representative
Collin County Development Services

NOTES

- Bearing are referenced to a 43.704 acre tract, as recorded in Clerks File No. 20081010001209780, in the Deed Records of Collin County, Texas.
- All lot lines are radial or perpendicular to the street unless otherwise noted by bearing.
- 1/2" iron rods with "CORWIN ENGR. INC." caps set at all boundary corners, block corners, points of curvature, points of tangency, and angle points in public right-of-way unless otherwise noted.
- "Notice: Selling a portion of this addition by metes and bounds is a violation of city ordinance and state law and is subject to fines and withholding of utilities and building permits."
- B.L. - Building Line
U.E. - Utility Easement
D.U.E. - Drainage and Utility Easement
W.E. - Water Easement
OSSF - On-Site Sewage Facilities
MIN. F.F. - Minimum finished floor
- All lots must utilize alternative type On-Site Sewage Facilities.
- Must maintain state-mandated setback of all On-Site Sewage Facility components from any/all easements and drainage areas, water distribution lines, sharp breaks and/or creeks/rivers/ponds, etc. (Per State regulations).
- A portion of lots 13 and 14 is located within the 100-year flood plain:
-Any OSSF that is located within the 100-year flood plain is subject to special planning requirements.
-All electrical/mechanical appurtenances located within the 100-year flood plain must be elevated at least 1' above base flood elevation.
- Tree removal and/or grading for OSSF may be required on individual lots.
- Individual site evaluations and OSSF design plans (meeting all State and County requirements) must be submitted to and approved by Collin County for each lot prior to construction of any OSSF system.
- Wrought iron fences are permitted in drainage and utility easements.



NOTE: CONTRACTOR TO PROVIDE LIQUID ASPHALT SEALER FOR CONCRETE JOINTS

ESTATES AT AUSTIN TRAIL
PHASE I
VOL. N, PG. 709

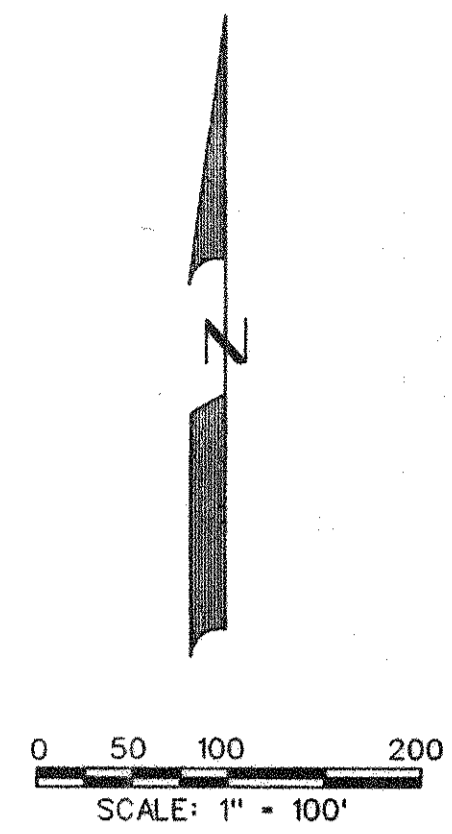
APPROX. LIMITS OF 100 YR. FLOOD PLAIN
FEMA MAP NO. 48085C0405J
DATED JUNE 2, 2009

D.R. HORTON - TEXAS, LTD.
CLERKS FILE NO. 20110830000915300

ROCKLAND FARMS
VOL. 2006, PG. 576

SANTOS SANCHEZ
CLERKS FILE NO. 20061004001429710

LUCAS REAL ESTATE, L.L.C.
CLERKS FILE NO. 201101400101190



DRIVEWAY CULVERT CHART

Block	Lot	Pipe Size (in)	No. of Barrels
A	1	36	2
A	2	18	1
A	3	21	1
A	4	18	1
A	5	18	1
A	8 (Bastrop)	18	1
A	6 (Preakness)	36	2
A	7 (Belmont)	18	1
A	7 (Preakness)	30	3
A	8	24	2
A	9	18	1
A	10	18	1
A	11	30	2
A	12 (Belmont)	18	1
A	12 (Preakness)	30	3
A	13	18	1
A	14	24	3
A	15	24	3
A	16	24	2
A	17	21	2
A	18	21	2
A	19	21	1

TRAILS END ADDITION
VOL. P, PG. 53

LOT AREA SUMMARY TABLE

BLOCK A		BLOCK A	
LOT #	AREA (SQ.F)	LOT #	AREA (SQ.F)
1	87314	11	88751
2	88292	12	94432
3	88172	13	126039
4	87390	14	16856
5	87328	15	87849
6	87334	16	87865
7	89280	17	87127
8	87559	18	88802
9	89827	19	87120
10	88057		

LOT AREAS ROUNDED TO THE NEAREST SQUARE FOOT

SITE DATA SUMMARY TABLE

GROSS ACRES:	43.704
R.O.W. DEDICATION:	3.578
NET ACRES:	40.126
TOTAL LOTS:	19
NET DENSITY:	0.47

FINAL PLAT
OF
BELMONT PARK
LOTS 1-19, BLOCK A
OUT OF THE
JAMES LOVELADY SURVEY, ABSTRACT NO. 538
IN THE
CITY OF LUCAS
COLLIN COUNTY, TEXAS
ZONING DISTRICT - R-2
OWNER/APPLICANT
M. CHRISTOPHER INVESTMENTS, LLC 2011
2730 COUNTRY CLUB
LUCAS, TEXAS 75002
972-974-2777
PREPARED BY
CORWIN ENGINEERING, INC.
200 W. BELMONT, SUITE E
ALLEN, TEXAS 75013
972-396-1200

LEGAL DESCRIPTION
BEING A TRACT OF LAND SITUATED IN THE JAMES LOVELADY SURVEY, ABSTRACT NUMBER 538, COLLIN COUNTY, TEXAS, AND BEING THE REMAINDER OF A CALLED 59.030 ACRE TRACT OF LAND DESCRIBED IN A DEED TO STINSON CROSSING, LTD. RECORDED AS INSTRUMENT NUMBER 20061017001488020 IN THE OFFICIAL PUBLIC RECORDS OF COLLIN COUNTY, TEXAS, AND BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING AT A 1" IRON ROD FOUND FOR CORNER IN THE NORTH LINE OF THAT CERTAIN TRACT OF LAND DESCRIBED AS TRACT 3 IN A DEED TO LUCAS REAL ESTATE, LLC, RECORDED AS INSTRUMENT NUMBER 2011014001101190 IN THE OFFICIAL PUBLIC RECORDS OF COLLIN COUNTY, TEXAS, AT THE SOUTHWEST CORNER OF LOT 2 OF TRAILS END ADDITION, AN ADDITION TO THE CITY OF LUCAS, COLLIN COUNTY, TEXAS, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME M, PAGE 107, PLAT RECORDS OF COLLIN COUNTY, TEXAS, SAME BEING THE MOST EASTERN SOUTHEAST CORNER OF SAID STINSON CROSSING TRACT;

THENCE NORTH 89°12'46" WEST, ALONG THE NORTH LINE OF SAID LUCAS REAL ESTATE TRACT AND THE MOST EASTERN SOUTH LINE OF SAID STINSON CROSSING TRACT, A DISTANCE OF 662.04 FEET TO A 5/8" IRON ROD FOUND FOR CORNER AT THE NORTHWEST CORNER OF SAID LUCAS REAL ESTATE TRACT, SAME BEING AN INTERIOR CORNER OF SAID STINSON CROSSING TRACT, SAID POINT ALSO BEING THE NORTH END OF A BOUNDARY LINE AGREEMENT RECORDED AS INSTRUMENT NUMBER 2006102000151010 IN THE OFFICIAL PUBLIC RECORDS OF COLLIN COUNTY, TEXAS;

THENCE SOUTH 00°34'34" EAST, ALONG SAID BOUNDARY LINE AGREEMENT, A DISTANCE OF 451.73 FEET TO A 5/8" IRON ROD FOUND FOR CORNER AT THE MOST NORTHERN NORTHEAST CORNER OF THAT CERTAIN TRACT OF LAND DESCRIBED IN A DEED TO D.R. HORTON - TEXAS, LTD. RECORDED AS INSTRUMENT NUMBER 20110830000915300 IN THE OFFICIAL PUBLIC RECORDS OF COLLIN COUNTY, TEXAS;

THENCE IN A NORTHWESTERLY DIRECTION ALONG THE MOST NORTHERN LINES OF SAID D.R. HORTON TRACT, THE FOLLOWING THREE (3) COURSES AND DISTANCE:
1) NORTH 80°37'18" WEST, A DISTANCE OF 194.67 FEET TO A 5/8" IRON ROD WITH A YELLOW PLASTIC CAP STAMPED "RPLS 5587" FOUND FOR CORNER;
2) NORTH 65°28'30" WEST, A DISTANCE OF 391.46 FEET TO A 1/2" IRON ROD WITH A BLUE PLASTIC CAP STAMPED "HINE THOMPSON" SET FOR CORNER;
3) NORTH 54°48'35" WEST, A DISTANCE OF 147.31 FEET TO 5/8" IRON ROD WITH A YELLOW PLASTIC CAP STAMPED "RPLS 5587" FOUND FOR CORNER IN THE WEST LINE OF SAID STINSON CROSSING TRACT;

THENCE NORTH 00°12'09" WEST, ALONG THE COMMON LINE OF SAID STINSON CROSSING TRACT AND SAID D.R. HORTON TRACT, PASSING AT A DISTANCE OF 6.41 FEET THE MOST NORTHERN CORNER OF SAID D.R. HORTON TRACT, SAME BEING THE SOUTHEAST CORNER OF LOT 9, BLOCK D OF ESTATES AT AUSTIN TRAIL, PHASE I, AN ADDITION TO THE CITY OF LUCAS, COLLIN COUNTY, TEXAS, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME N, PAGE 709, PLAT RECORDS OF COLLIN COUNTY, TEXAS, AND CONTINUING ALONG A COMMON LINE OF SAID STINSON CROSSING TRACT AND SAID ESTATES AT AUSTIN TRAIL, PHASE I, FOR A TOTAL DISTANCE OF 197.69 FEET TO A "60D" NAIL FOUND FOR CORNER AT AN ANGLE POINT;

THENCE IN A NORTHERLY DIRECTION CONTINUING ALONG THE COMMON LINES OF SAID STINSON CROSSING TRACT AND SAID ESTATES AT AUSTIN TRAIL, PHASE I, THE FOLLOWING FOUR (4) COURSES AND DISTANCES:
1) NORTH 00°00'20" WEST, A DISTANCE OF 207.18 FEET TO A 1/2" IRON ROD FOUND FOR CORNER;
2) NORTH 00°28'35" WEST, A DISTANCE OF 489.72 FEET TO A 1/2" IRON ROD WITH A RED PLASTIC CAP STAMPED "RPLS 4701" FOUND FOR CORNER;
3) NORTH 00°38'21" WEST, A DISTANCE OF 391.46 FEET TO A 5/8" IRON ROD FOUND FOR CORNER;
4) NORTH 00°28'45" WEST, A DISTANCE OF 207.45 FEET TO A METAL FENCE POST IN CONCRETE FOUND FOR CORNER AT THE NORTHWEST CORNER OF SAID STINSON CROSSING TRACT, SAME BEING THE SOUTHWEST CORNER OF THAT CERTAIN TRACT OF LAND DESCRIBED IN A DEED TO ROCKLAND FARMS, LTD. RECORDED AS INSTRUMENT NUMBER 2007053100733320 IN THE OFFICIAL PUBLIC RECORDS OF COLLIN COUNTY, TEXAS;

THENCE NORTH 89°47'15" EAST, ALONG THE NORTH LINE OF SAID STINSON CROSSING TRACT AND THE SOUTH LINE OF SAID ROCKLAND FARMS TRACT, A DISTANCE OF 910.67 FEET TO A 5/8" IRON ROD FOUND FOR CORNER AT THE MOST NORTHERN NORTHEAST CORNER OF SAID STINSON CROSSING TRACT, SAME BEING THE NORTHWEST CORNER OF THAT CERTAIN TRACT OF LAND DESCRIBED AS TRACT 1 IN A DEED TO SANTOS SANCHEZ RECORDED AS INSTRUMENT NUMBER 20061004001429710 IN THE OFFICIAL PUBLIC RECORDS OF COLLIN COUNTY, TEXAS, FROM WHICH A 5/8" IRON ROD (DISTURBED) FOUND FOR REFERENCE BEARS SOUTH 74°00'00" WEST, A DISTANCE OF 0.40 FEET;

THENCE SOUTH 00°08'26" EAST, ALONG THE MOST NORTHERN EAST LINE OF SAID STINSON CROSSING TRACT AND THE WEST LINE OF SAID SANCHEZ TRACT, A DISTANCE OF 208.28 FEET TO A 3/4" IRON ROD FOUND FOR CORNER AT THE SOUTHWEST CORNER OF SAID SANCHEZ TRACT, SAME BEING AN INTERIOR CORNER OF SAID STINSON CROSSING TRACT;

THENCE NORTH 89°50'39" EAST, ALONG THE MOST EASTERN NORTH LINE OF SAID STINSON CROSSING TRACT AND THE SOUTH LINE OF SAID SANCHEZ TRACT, A DISTANCE OF 422.64 FEET TO A 1/2" IRON ROD FOUND FOR CORNER AT THE COMMON EAST CORNER THEREOF AND BEING IN THE WEST LINE OF LOT 1R OF TRAILS END ADDITION, AN ADDITION TO THE CITY OF LUCAS, COLLIN COUNTY, TEXAS, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME P, PAGE 53, PLAT RECORDS OF COLLIN COUNTY, TEXAS;

THENCE SOUTH 00°09'29" EAST, ALONG THE EAST LINE OF SAID STINSON CROSSING TRACT AND THE WEST LINE OF SAID TRAILS END ADDITION (VOLUME P, PAGE 53) AND SAID TRAILS END ADDITION (VOLUME M, PAGE 107) RESPECTIVELY, A DISTANCE OF 1128.19 FEET TO THE POINT OF BEGINNING AND CONTAINING 43.702 ACRES OF LAND.

SURVEYOR'S CERTIFICATE

KNOW ALL MEN BY THESE PRESENTS that I, WARREN L. CORWIN, do hereby certify that I prepared this Plat and the field notes from an actual and accurate survey of the land, that the corner monuments shown thereon were properly placed under my personal supervision in accordance with the subdivision Regulations of the City of Lucas, Texas.

WARREN L. CORWIN
R.P.L.S. No. 4621

THE STATE OF TEXAS §
COUNTY OF COLLIN §

Before me, the undersigned, a Notary Public in and for the State of Texas, on this day personally appeared WARREN L. CORWIN, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed same for the purpose and consideration therein expressed.

Given under my hand and seal of office, this _____ day of _____, 2013.

NOTARY PUBLIC, STATE OF TEXAS

DEDICATION

NOW THEREFORE, KNOW ALL MEN BY THESE PRESENTS:

THAT, M. CHRISTOPHER INVESTMENTS, LLC 2011 is the owner of the above-described project and does hereby adopt this plat designating the herein described property as BELMONT PARK, LOTS 1-19, BLOCK A, an addition to the City of Lucas, Collin County, Texas, and does hereby dedicate to the public use forever the right-of-way, streets, easements, and alleys platted hereon.

This plat approved subject to all platting ordinances, rules, regulations, and resolutions of the City of Lucas, Texas.

EXECUTED this the _____ day of _____, 2013.

Rudy Rivas
CEO

THE STATE OF TEXAS
COUNTY OF DALLAS

BEFORE ME, the undersigned, a Notary Public for the State of Texas, on this day personally appeared RUDY RIVAS, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that the same is his act and deed in the capacity therein stated and for the purposes and considerations therein expressed.

WITNESS MY HAND AND SEAL OF OFFICE, this the _____ day of _____, 2013.

NOTARY PUBLIC, STATE OF TEXAS

CITY APPROVAL CERTIFICATE

This plat is hereby approved by the Planning and Zoning Commission of the City of Lucas, Texas

Chairperson, Planning and Zoning Commission

ATTEST:

Signature Date

Name & Title

The Director of Public Works of the City of Lucas, Texas hereby certifies that to the best of his/her knowledge or belief, this subdivision plat conforms to all requirements of the Code of Ordinances and with engineering construction standards and processes adopted by the City of Lucas, Texas as to which his/her approval is required.

Director of Public Works Date

The Director of Planning and Community Development of the City of Lucas, Texas hereby certifies that to the best of his/her knowledge or belief, this subdivision plat conforms to all requirements of the Code of Ordinances, or as may have been amended or modified, as allowed, by the Planning and Zoning Commission as to which his/her approval is required.

Director of Planning and Community Development Date

"The undersigned, the City Secretary of the City of Lucas, Texas hereby certifies that the foregoing Final Plat of BELMONT PARK, LOTS 1-19, BLOCK A, an addition to the City of Lucas was submitted to the Planning and Zoning Commission by formal action, on the _____ day of _____, 2013; and that the Commission by formal action, then and there accepted the dedication of right-of-ways, streets, easements, alleys, public places, and water and sewer lines, as shown and set forth in and upon said plat.

Witness my hand this _____ day of _____ A.D., 2013.

City Secretary
City of Lucas, Texas

FINAL PLAT
OF
BELMONT PARK

(ZONING R-2)
OUT OF THE

JAMES LOVELADY SURVEY, ABSTRACT NO. 538
IN THE

CITY OF LUCAS
COLLIN COUNTY, TEXAS

OWNER/APPLICANT
M. CHRISTOPHER INVESTMENTS, LLC 2011

2730 COUNTRY CLUB
LUCAS, TEXAS 75002
972-974-2777

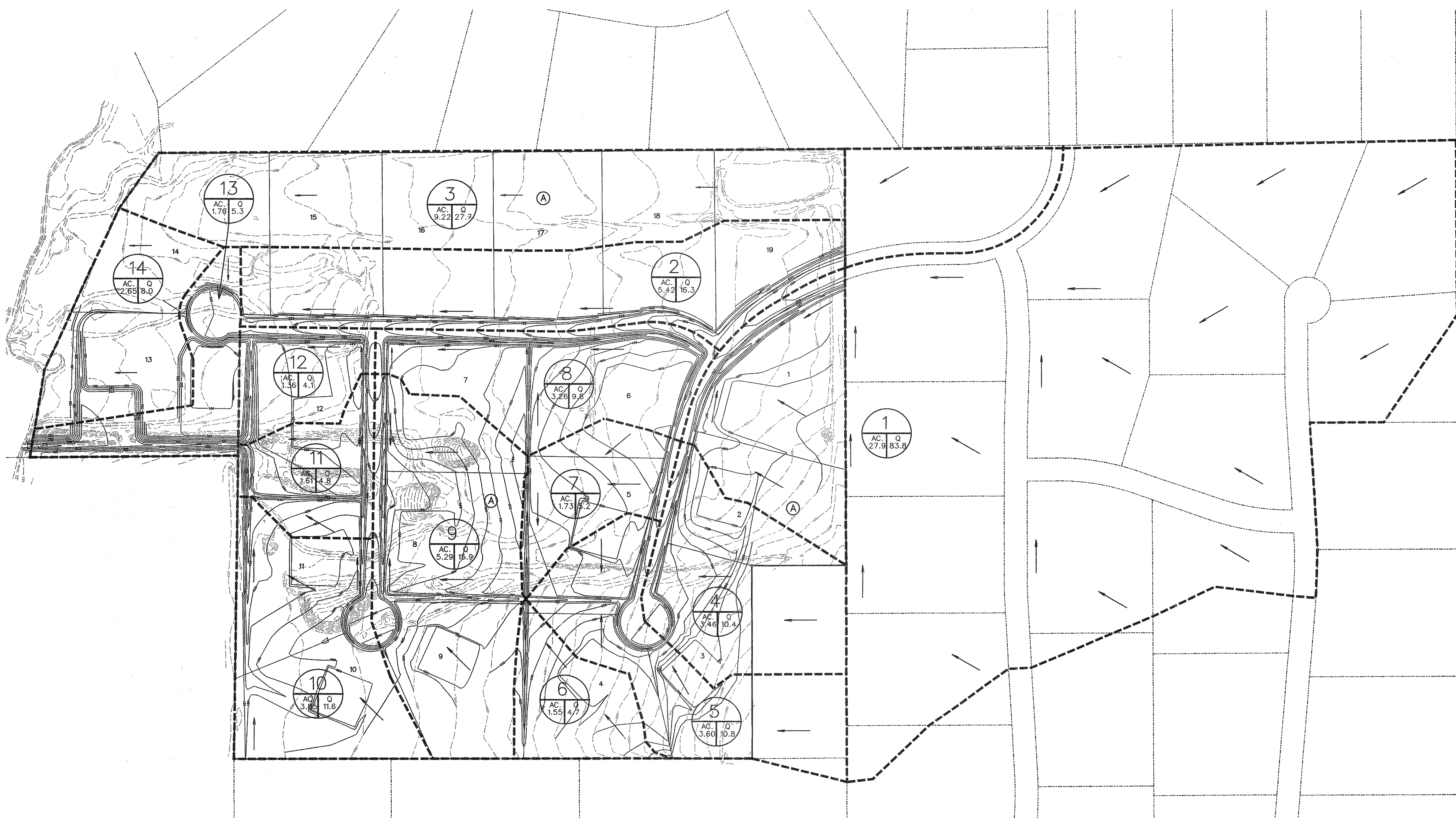
PREPARED BY
CORWIN ENGINEERING, INC.

200 W. BELMONT, SUITE E
ALLEN, TEXAS 75013
972-396-1200

DECEMBER 2012

SCALE: 1"=100'

SHEET 2 OF 2

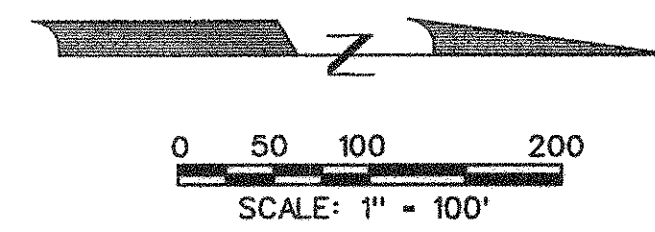


DRIVEWAY CULVERT CHART

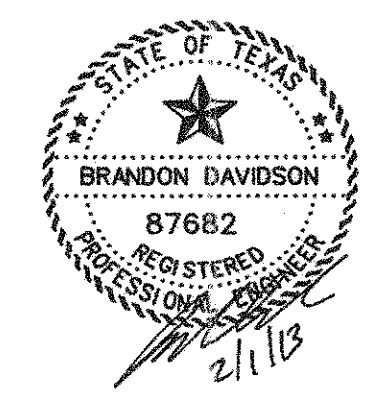
Block	Lot	Pipe Size (in)	No. of Barrels
A	1	36	2
A	2	18	1
A	3	21	1
A	4	18	1
A	5	18	1
A	6 (Bastrop)	18	1
A	6 (Preakness)	36	2
A	7 (Belmont)	18	1
A	7 (Preakness)	30	3
A	8	24	2
A	9	18	1
A	10	18	1
A	11	30	2
A	12 (Belmont)	18	1
A	12 (Preakness)	30	3
A	13	18	1
A	14	24	3
A	15	24	3
A	16	24	2
A	17	21	2
A	18	21	2
A	19	21	1

RUNOFF COMPUTATIONS

Area #	Area (sf)	Area (acres)	Runoff Coefficient	CA	Tc (min)	I(100) (in/hr)	Q(100) (cfs)
1	1216631	27.93	0.40	11.17	15	7.50	83.8
2	236011	5.42	0.40	2.17	15	7.50	16.3
3	401734	9.22	0.40	3.69	15	7.50	27.7
4	150734	3.46	0.40	1.38	15	7.50	10.4
5	158741	3.60	0.40	1.44	15	7.50	10.8
6	67632	1.55	0.40	0.82	15	7.50	4.7
7	75383	1.73	0.40	0.69	15	7.50	5.2
8	142034	3.26	0.40	1.30	15	7.50	9.8
9	230825	5.29	0.40	2.12	15	7.50	15.9
10	167750	3.85	0.40	1.54	15	7.50	11.6
11	69939	1.61	0.40	0.84	15	7.50	4.8
12	59447	1.38	0.40	0.55	15	7.50	4.1
13	78727	1.78	0.40	0.70	15	7.50	5.3
14	115800	2.65	0.40	1.08	15	7.50	8.0



AS-BUILT FEBRUARY 2013
 INFORMATION PROVIDED BY CONTRACTORS
 (NOT FIELD VERIFIED)



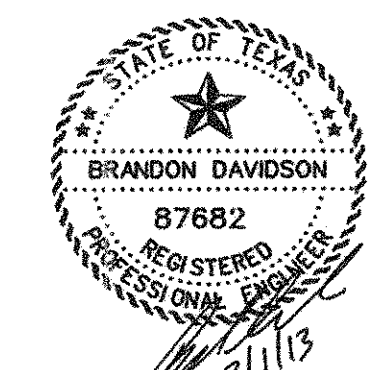
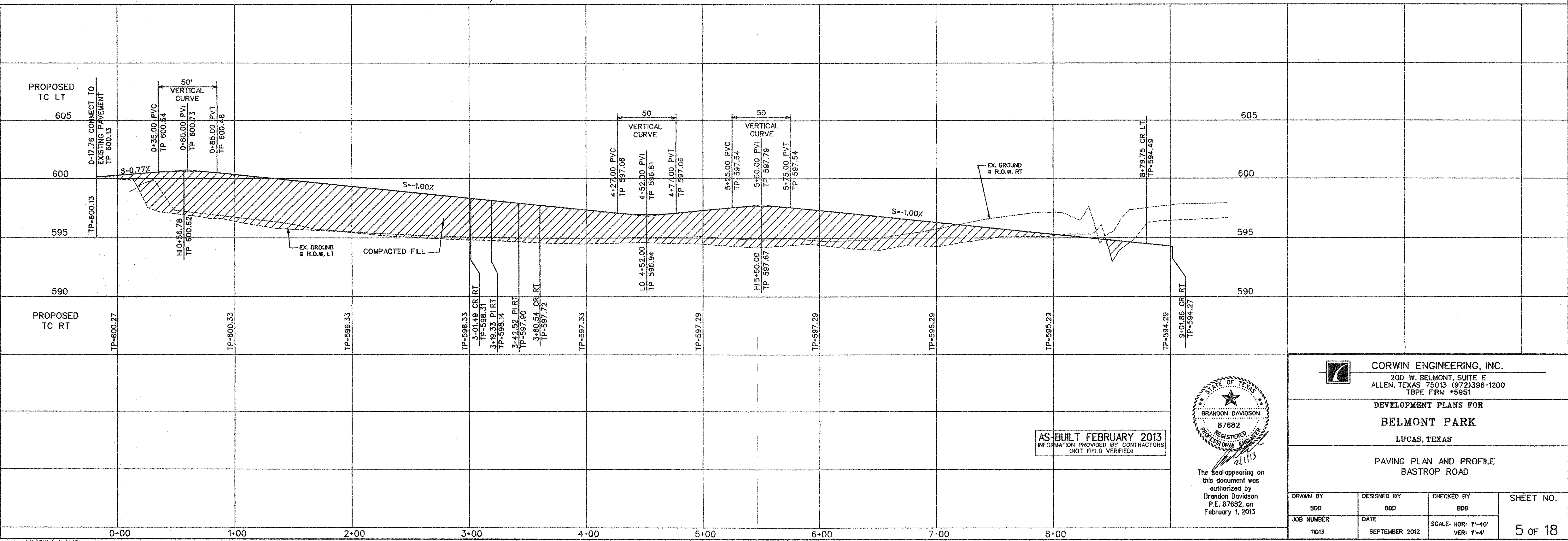
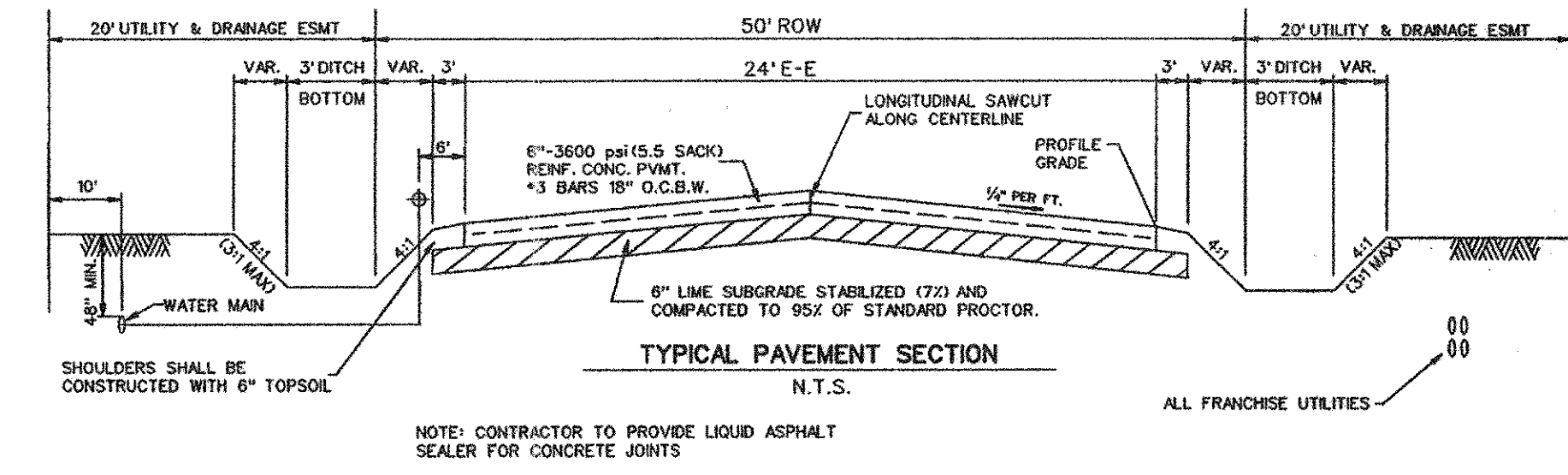
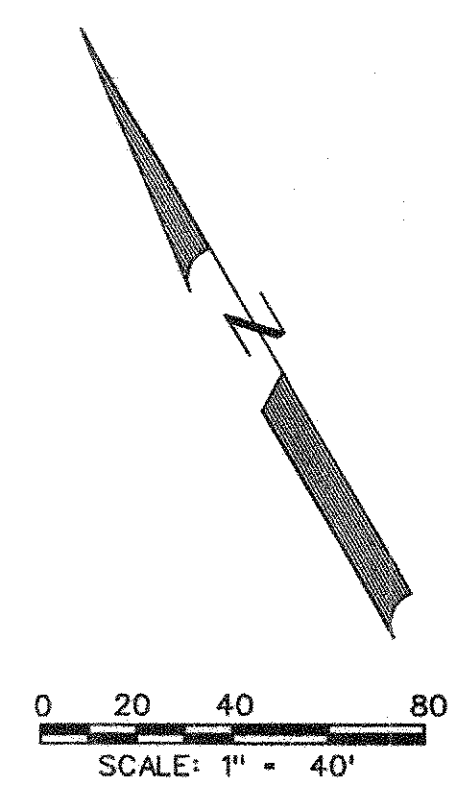
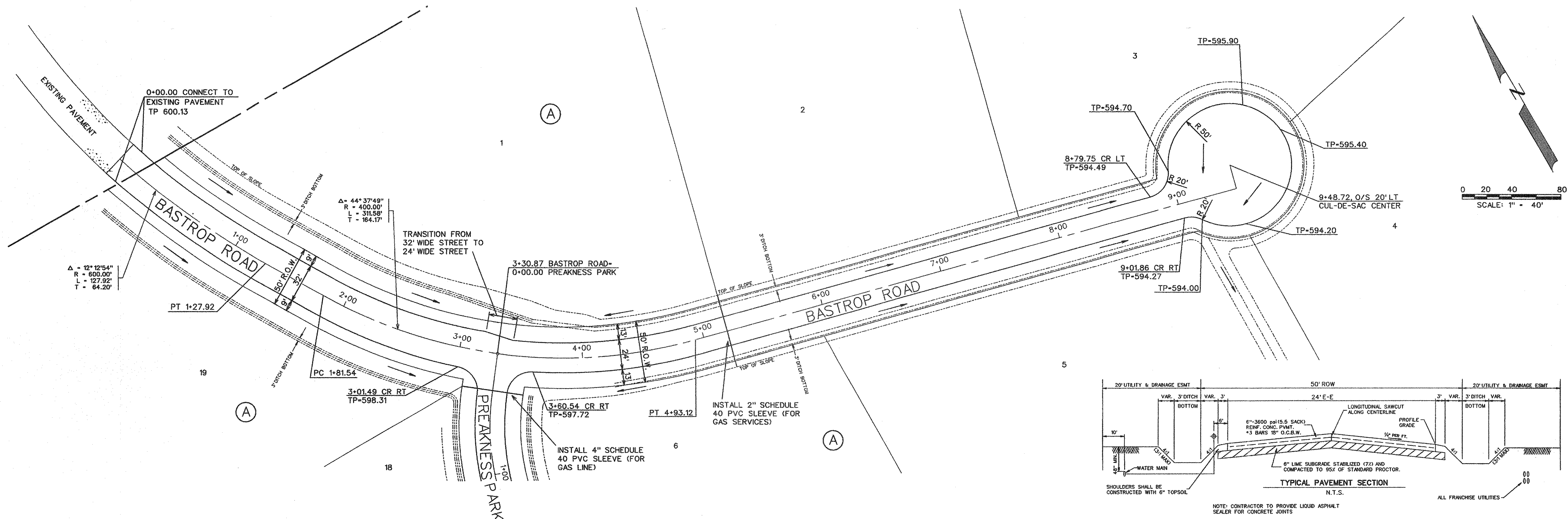
The seal appearing on this document was authorized by Brandon Davidson P.E. 87682, on February 1, 2013

CORWIN ENGINEERING, INC.
 200 W. BELMONT, SUITE E
 ALLEN, TEXAS 75013 (972)396-1200
 TBPE FIRM #5951

DEVELOPMENT PLANS FOR
BELMONT PARK
 LUCAS, TEXAS

DRAINAGE AREA MAP

DRAWN BY BDD	DESIGNED BY BDD	CHECKED BY BDD	SHEET NO. 4 of 18
JOB NUMBER 11013	DATE SEPTEMBER 2012	SCALE: 1"=100'	



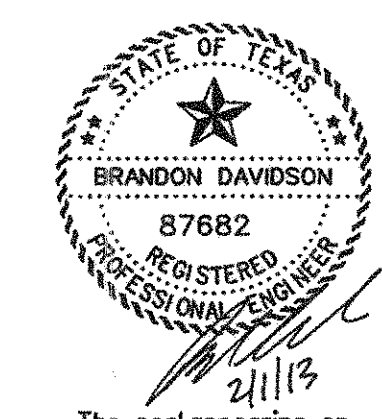
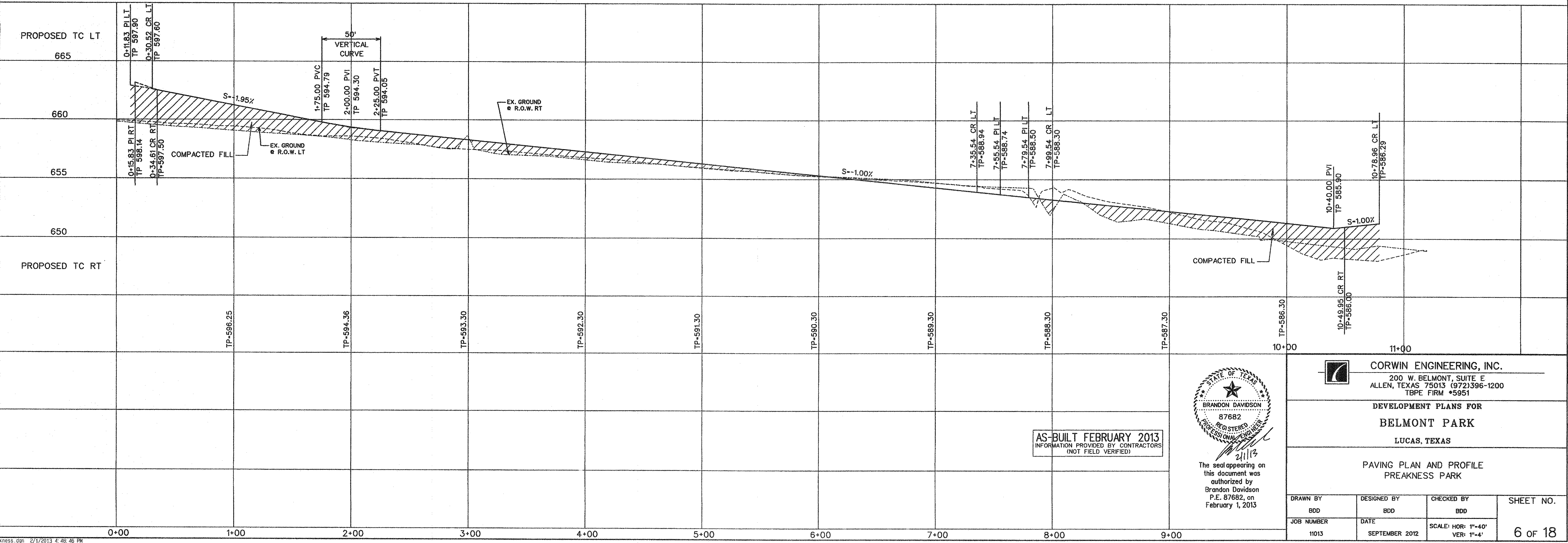
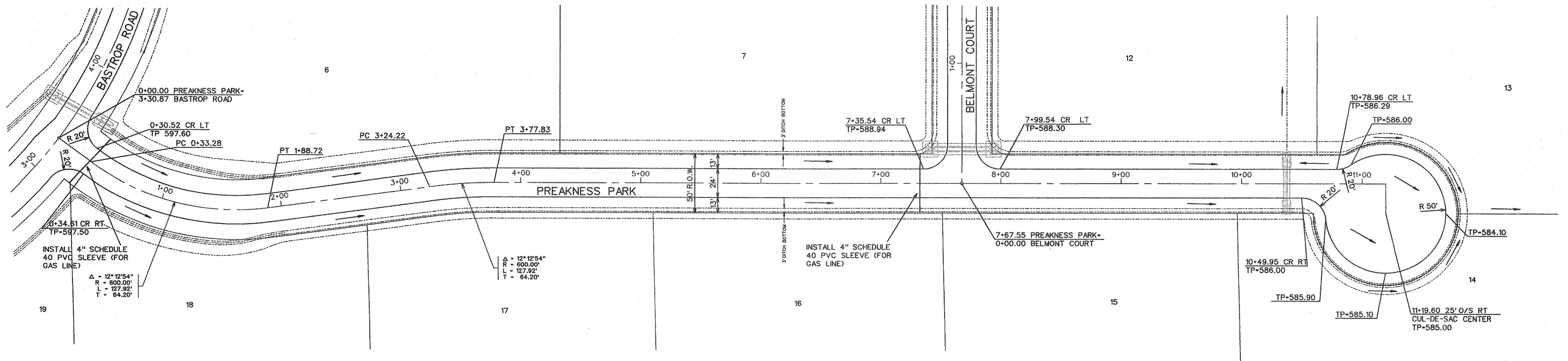
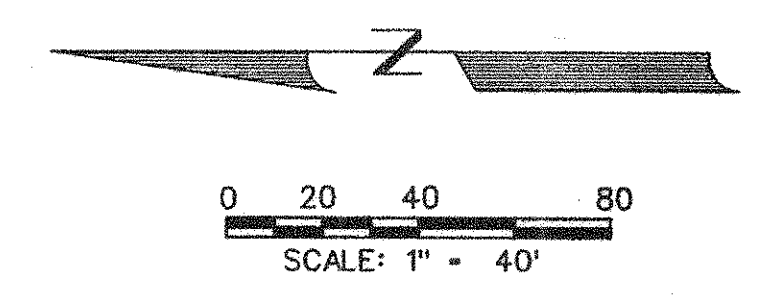
The seal appearing on this document was authorized by Brandon Davidson P.E. 87682, on February 1, 2013

CORWIN ENGINEERING, INC.
 200 W. BELMONT, SUITE E
 ALLEN, TEXAS 75013 (972) 396-1200
 TBPE FIRM #5951

**DEVELOPMENT PLANS FOR
 BELMONT PARK
 LUCAS, TEXAS**

**PAVING PLAN AND PROFILE
 BASTROP ROAD**

DRAWN BY BDD	DESIGNED BY BDD	CHECKED BY BDD	SHEET NO. 5 OF 18
JOB NUMBER 11013	DATE SEPTEMBER 2012	SCALE: HOR: 1"=40' VER: 1"=4'	



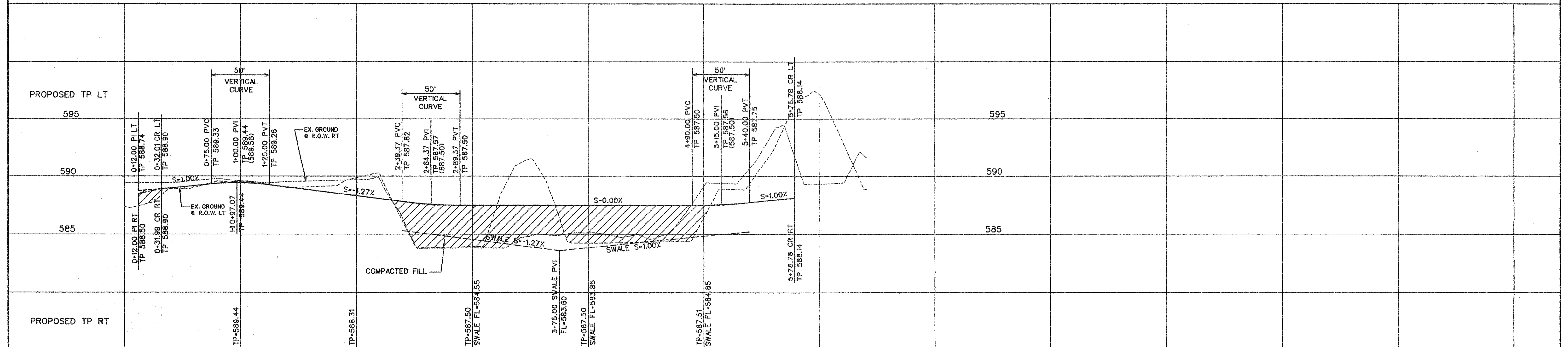
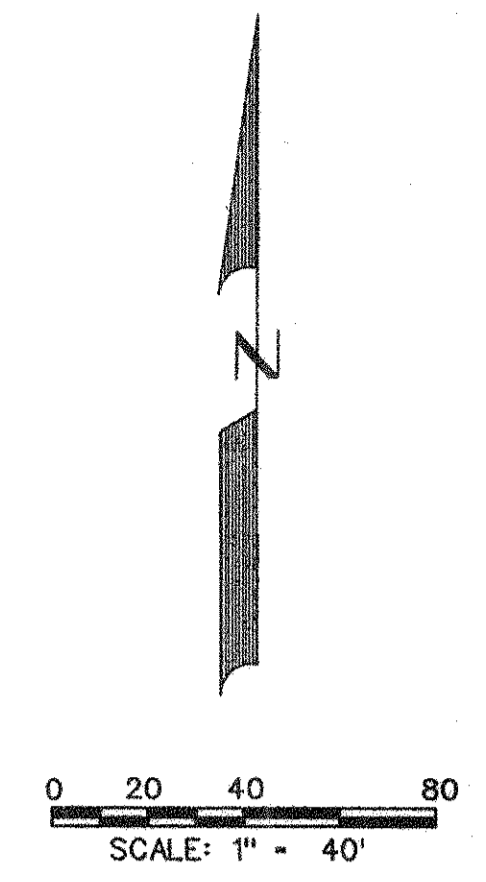
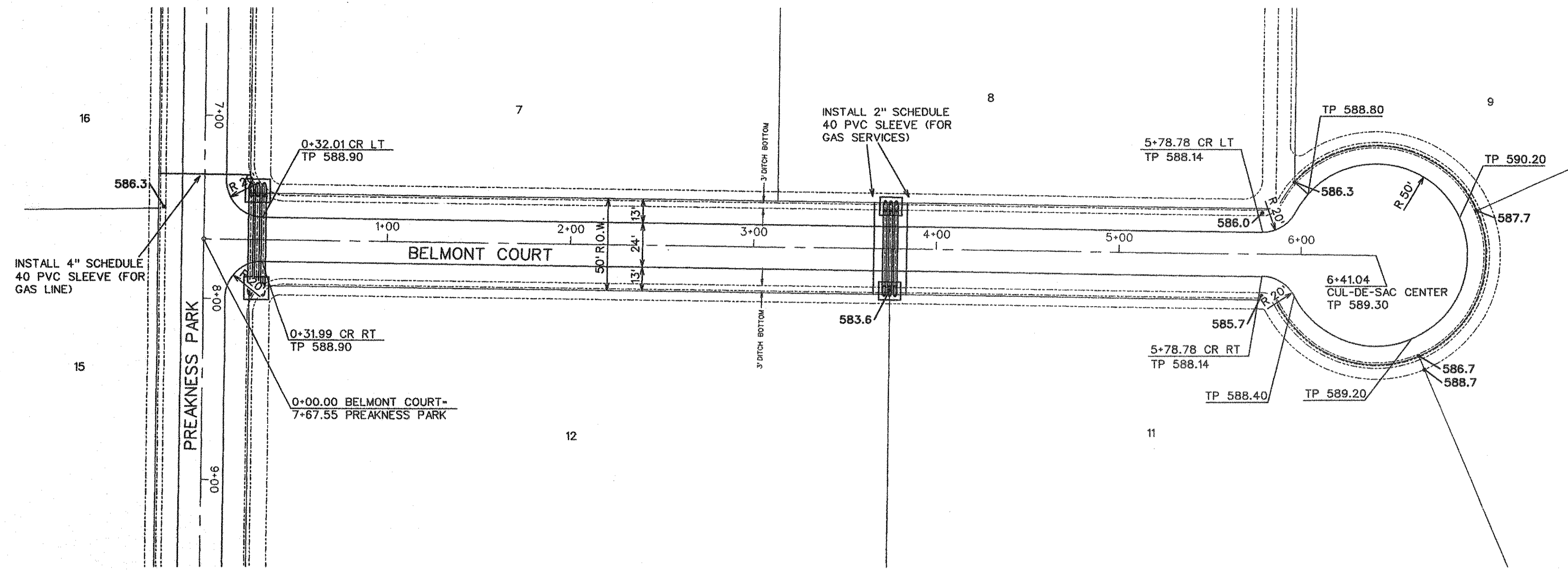
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CORWIN ENGINEERING, INC.
 200 W. BELMONT, SUITE E
 ALLEN, TEXAS 75013 (972) 396-1200
 TBPE FIRM #5951

DEVELOPMENT PLANS FOR
BELMONT PARK
 LUCAS, TEXAS

PAVING PLAN AND PROFILE
 PREAKNESS PARK

DRAWN BY BDD	DESIGNED BY BDD	CHECKED BY BDD	SHEET NO. 6 OF 18
JOB NUMBER 11013	DATE SEPTEMBER 2012	SCALE: HOR: 1"=40' VER: 1"=4'	



AS-BUILT FEBRUARY 2013
 INFORMATION PROVIDED BY CONTRACTORS
 (NOT FIELD VERIFIED)



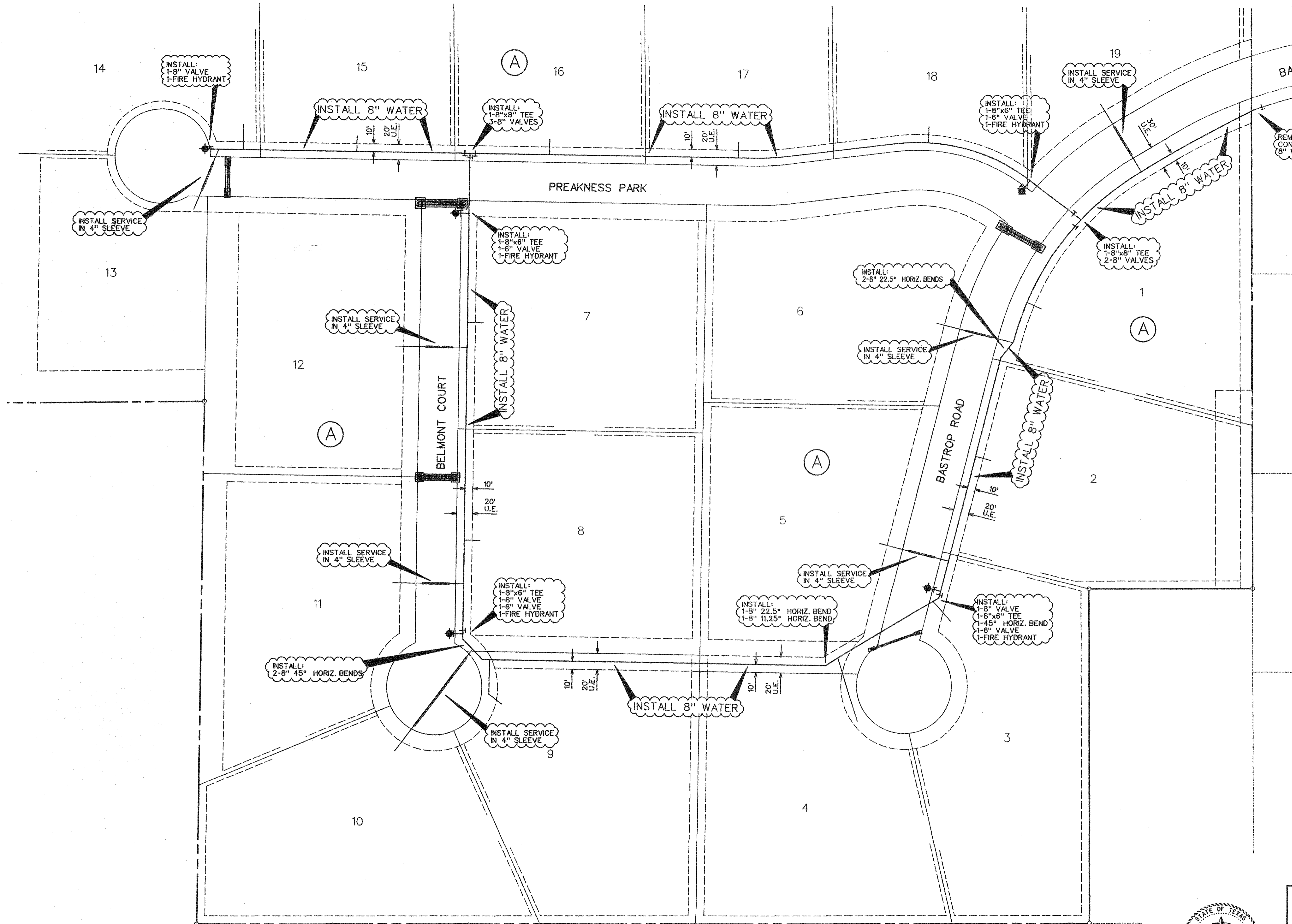
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CORWIN ENGINEERING, INC.
 200 W. BELMONT, SUITE E
 ALLEN, TEXAS 75013 (972)396-1200
 TBPE FIRM #5951

DEVELOPMENT PLANS FOR
BELMONT PARK
 LUCAS, TEXAS

PAVING PLAN AND PROFILE
 BELMONT COURT

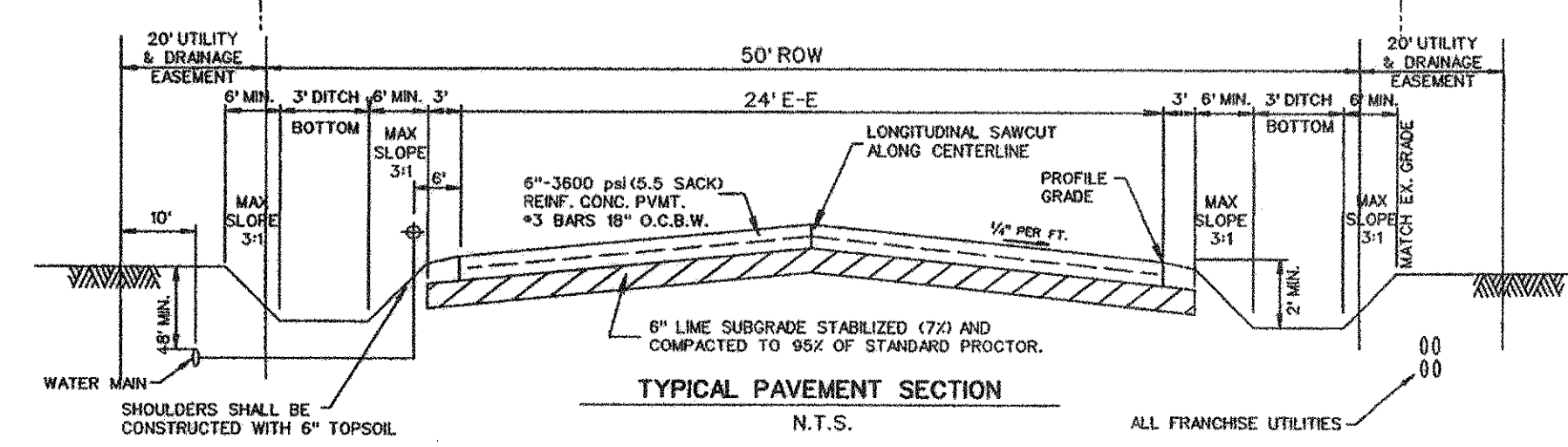
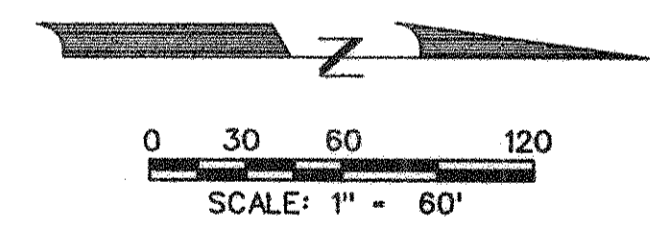
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JOB NUMBER 11013	DATE SEPTEMBER 2012	SCALE: HOR: 1"=40' VER: 1"=4'	



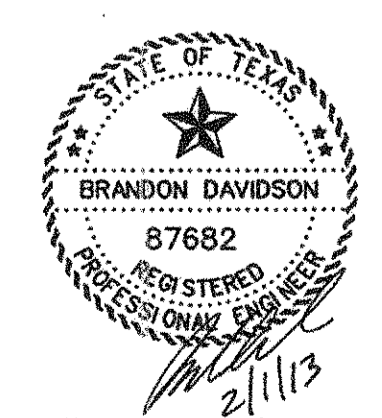
SERVICE SCHEDULE		
TYPE	SIZE	NO.
WATER	1"	19

THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THIS PLAN ARE TAKEN FROM PUBLIC RECORDS. THE ENGINEER MAKES NO GUARANTEE THAT THE EXISTING UTILITIES SHOWN HEREON ARE COMPLETE OR IN THE CORRECT LOCATION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.

- LEGEND**
- PROP. WATER LINE
 - PROP. FIRE HYDRANT AND VALVE
 - PROP. GATE VALVE
 - EXIST. WATER LINE
 - EXIST. FIRE HYDRANT AND VALVE
 - PROP. STORM SEWER
 - PROP. CONC. HEADWALL



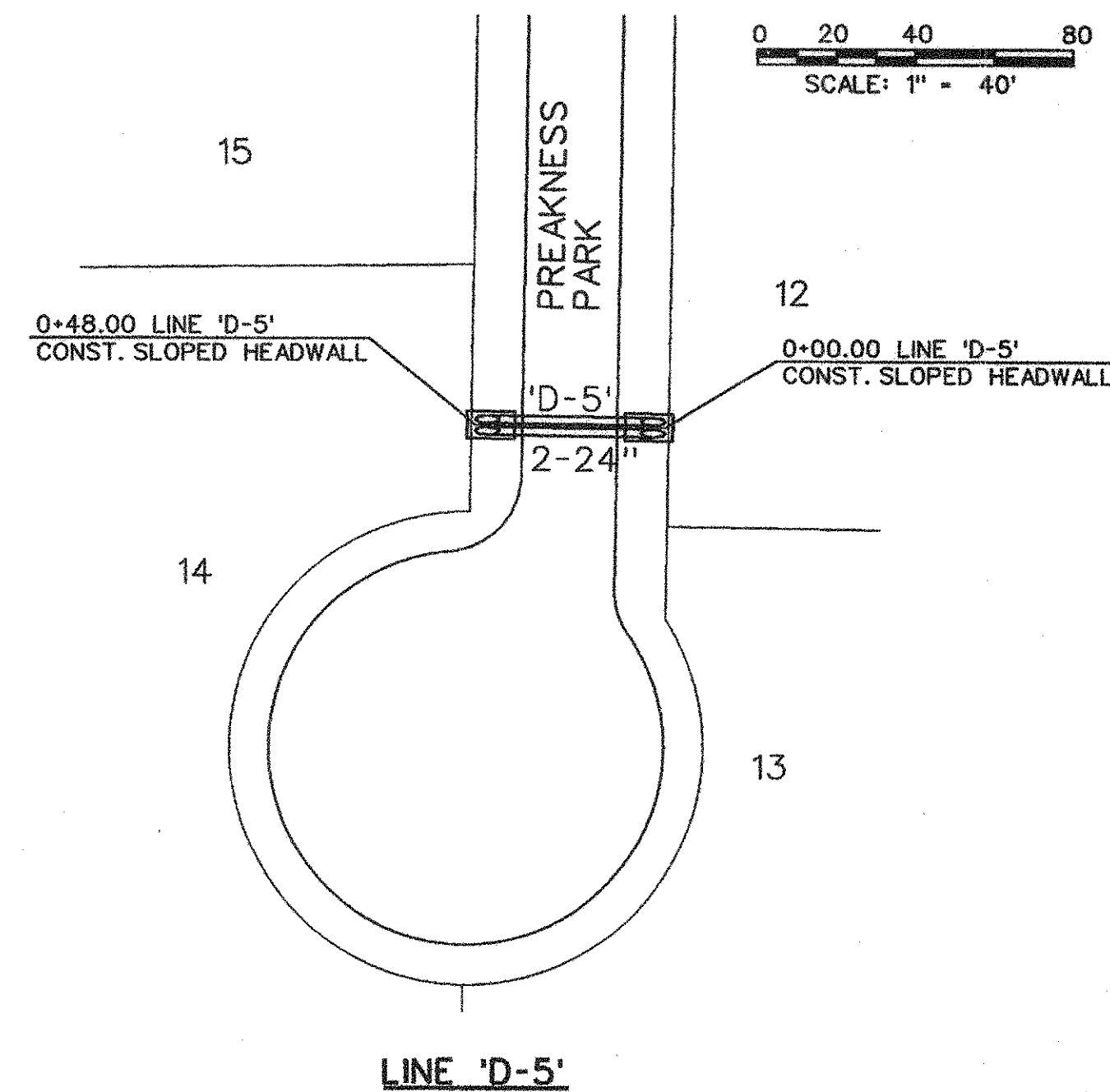
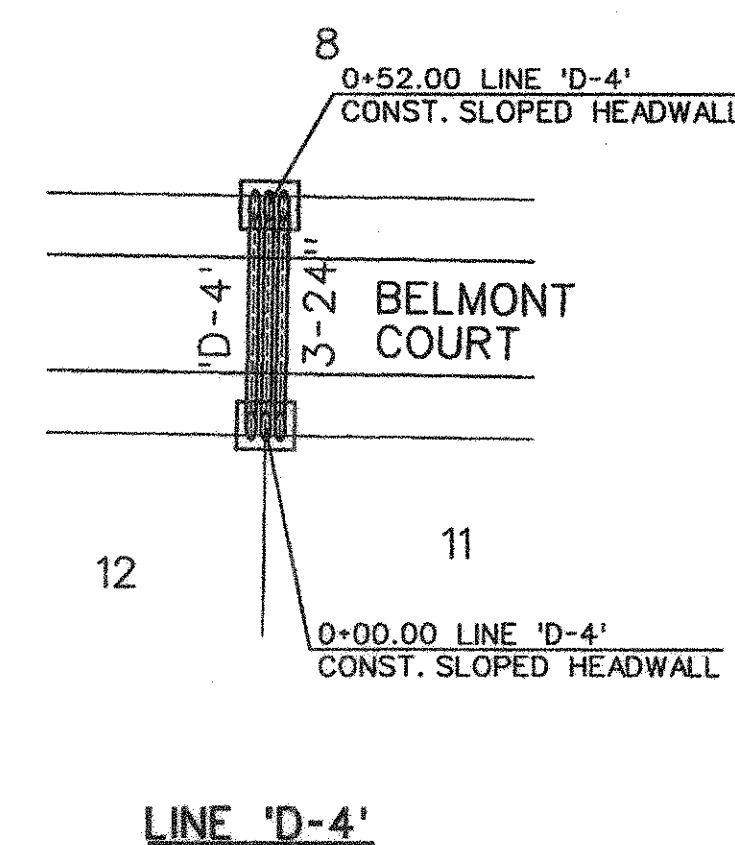
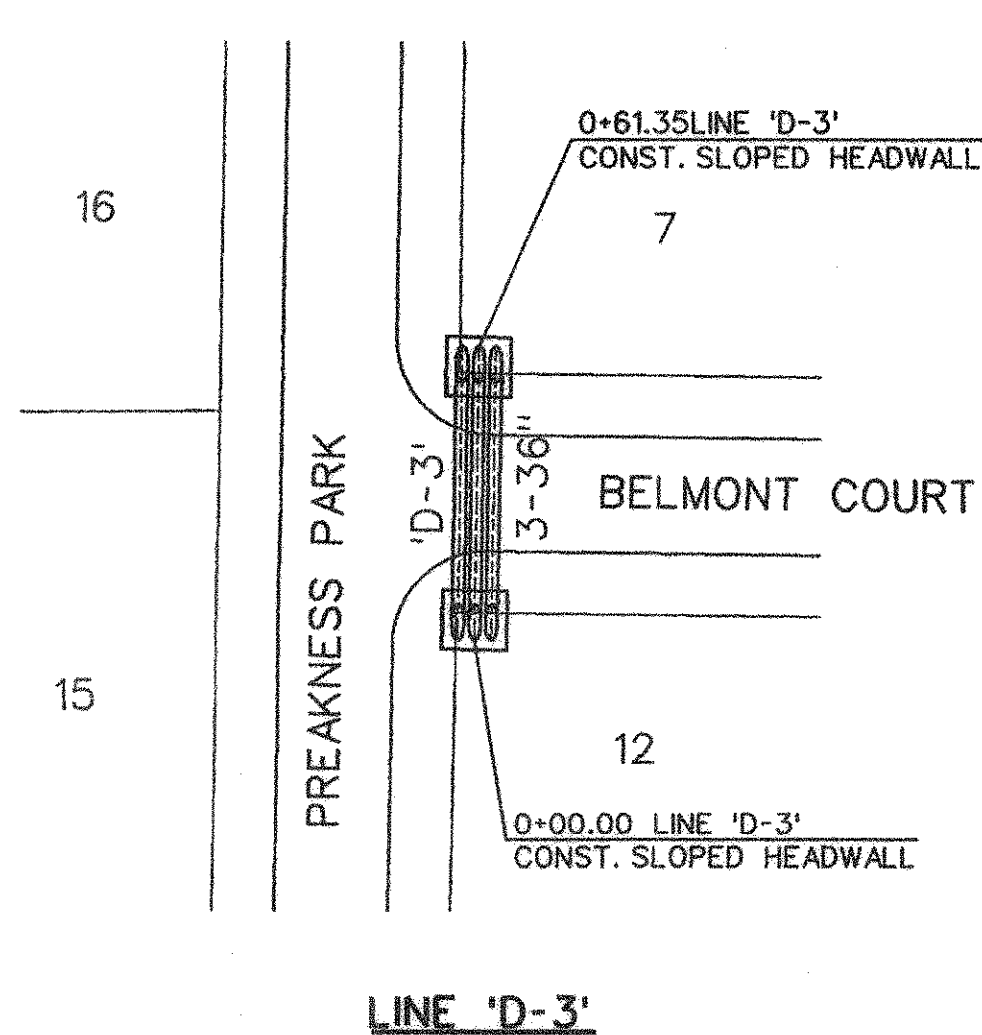
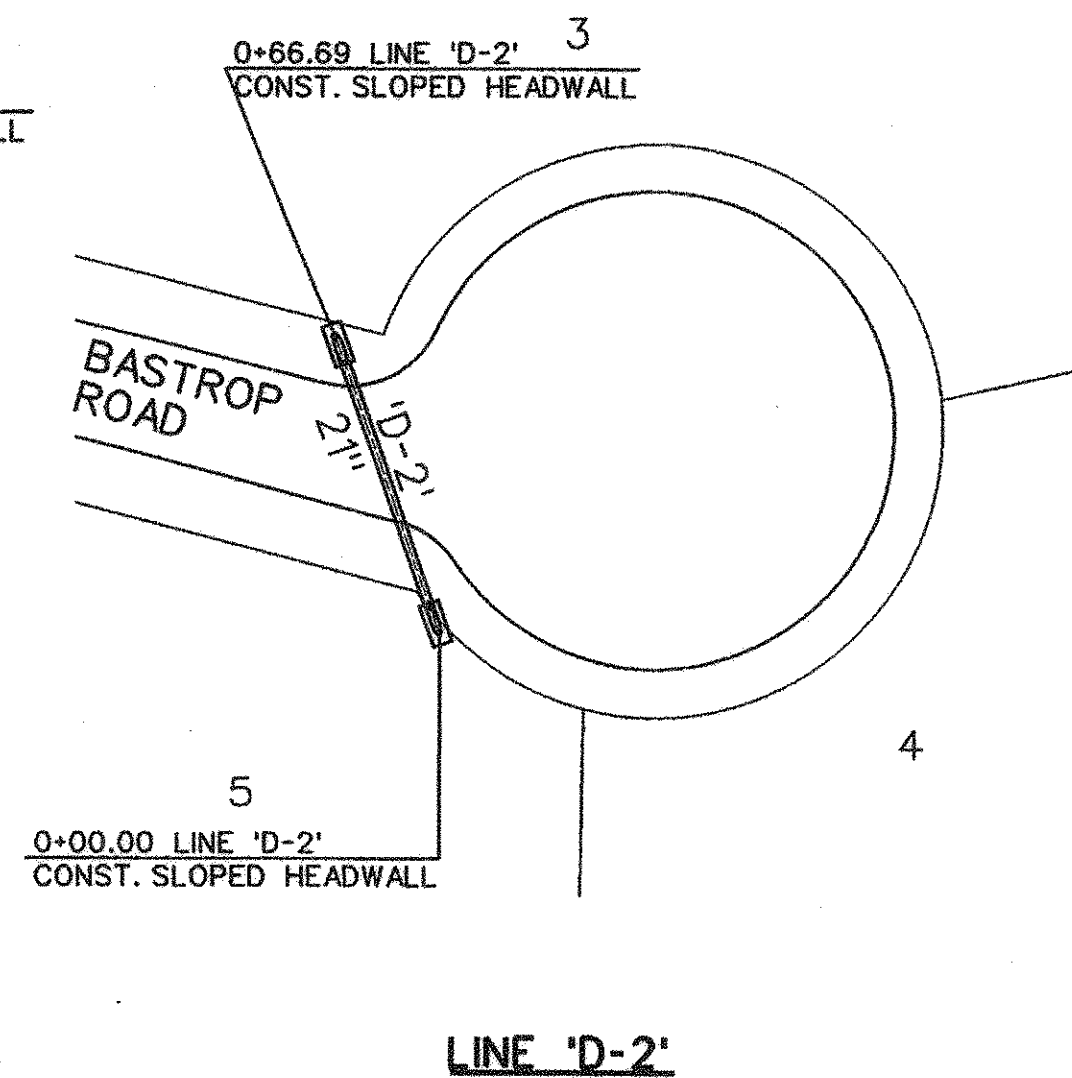
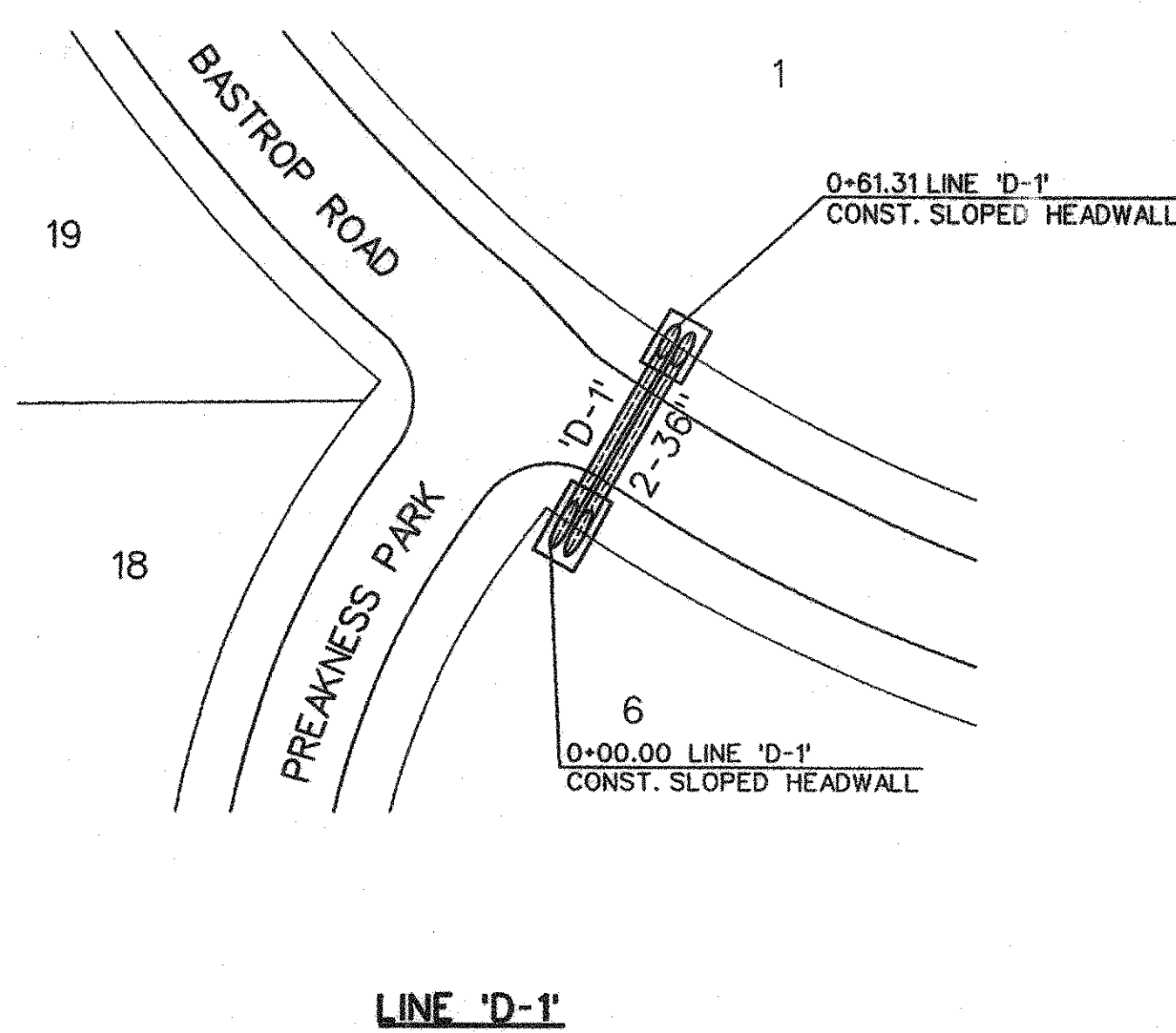
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CORWIN ENGINEERING, INC. 200 W. BELMONT, SUITE E ALLEN, TEXAS 75013 (972) 396-1200 TBPE FIRM #5951			
DEVELOPMENT PLANS FOR BELMONT PARK LUCAS, TEXAS			
WATER PLAN			
DRAWN BY BDD	DESIGNED BY BDD	CHECKED BY BDD	SHEET NO.
JOB NUMBER 11013	DATE SEPTEMBER 2012	SCALE 1"=60'	8 OF 18

- NOTES:
1. ALL STORM SEWER PIPE SHALL BE CLASS III RCP
 2. HEADWALL SLOPES ARE 3H:1V.



Station	Line 'D-1'	Line 'D-2'	Line 'D-3'	Line 'D-4'	Line 'D-5'
600	0+00.00 LINE 'D-1' CONST. SLOPED HEADWALL	0+00.00 LINE 'D-2' CONST. SLOPED HEADWALL	0+00.00 LINE 'D-3' CONST. SLOPED HEADWALL	0+00.00 LINE 'D-4' CONST. SLOPED HEADWALL	0+48.00 LINE 'D-5' CONST. SLOPED HEADWALL
595	2-36" RCP @ 1.79%	21" RCP @ 0.50%	3-30" RCP @ 0.50%	3-24" RCP @ 0.50%	2-24" RCP @ 0.50%
590	2-36" RCP @ 1.79%	21" RCP @ 0.50%	3-30" RCP @ 0.50%	3-24" RCP @ 0.50%	2-24" RCP @ 0.50%
0+00	0+00.00 LINE 'D-1' CONST. SLOPED HEADWALL	0+00.00 LINE 'D-2' CONST. SLOPED HEADWALL	0+00.00 LINE 'D-3' CONST. SLOPED HEADWALL	0+00.00 LINE 'D-4' CONST. SLOPED HEADWALL	0+00.00 LINE 'D-5' CONST. SLOPED HEADWALL
1+00	0+61.31 LINE 'D-1' CONST. SLOPED HEADWALL	0+66.69 LINE 'D-2' CONST. SLOPED HEADWALL	0+61.35 LINE 'D-3' CONST. SLOPED HEADWALL	0+52.00 LINE 'D-4' CONST. SLOPED HEADWALL	0+48.00 LINE 'D-5' CONST. SLOPED HEADWALL

AS-BUILT FEBRUARY 2013
INFORMATION PROVIDED BY CONTRACTORS
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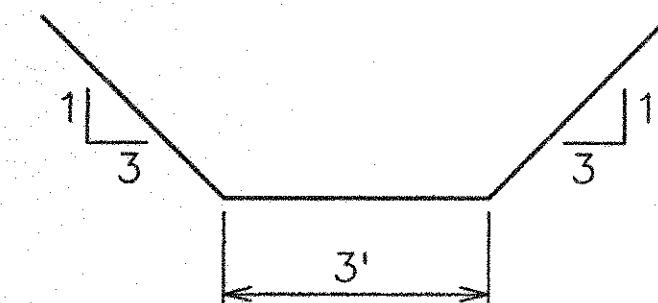
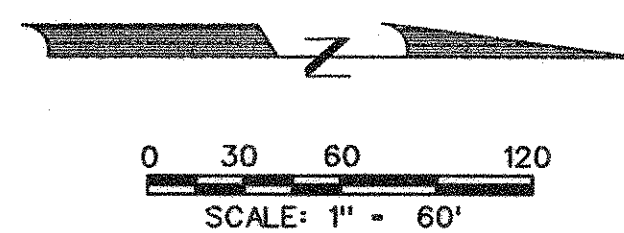
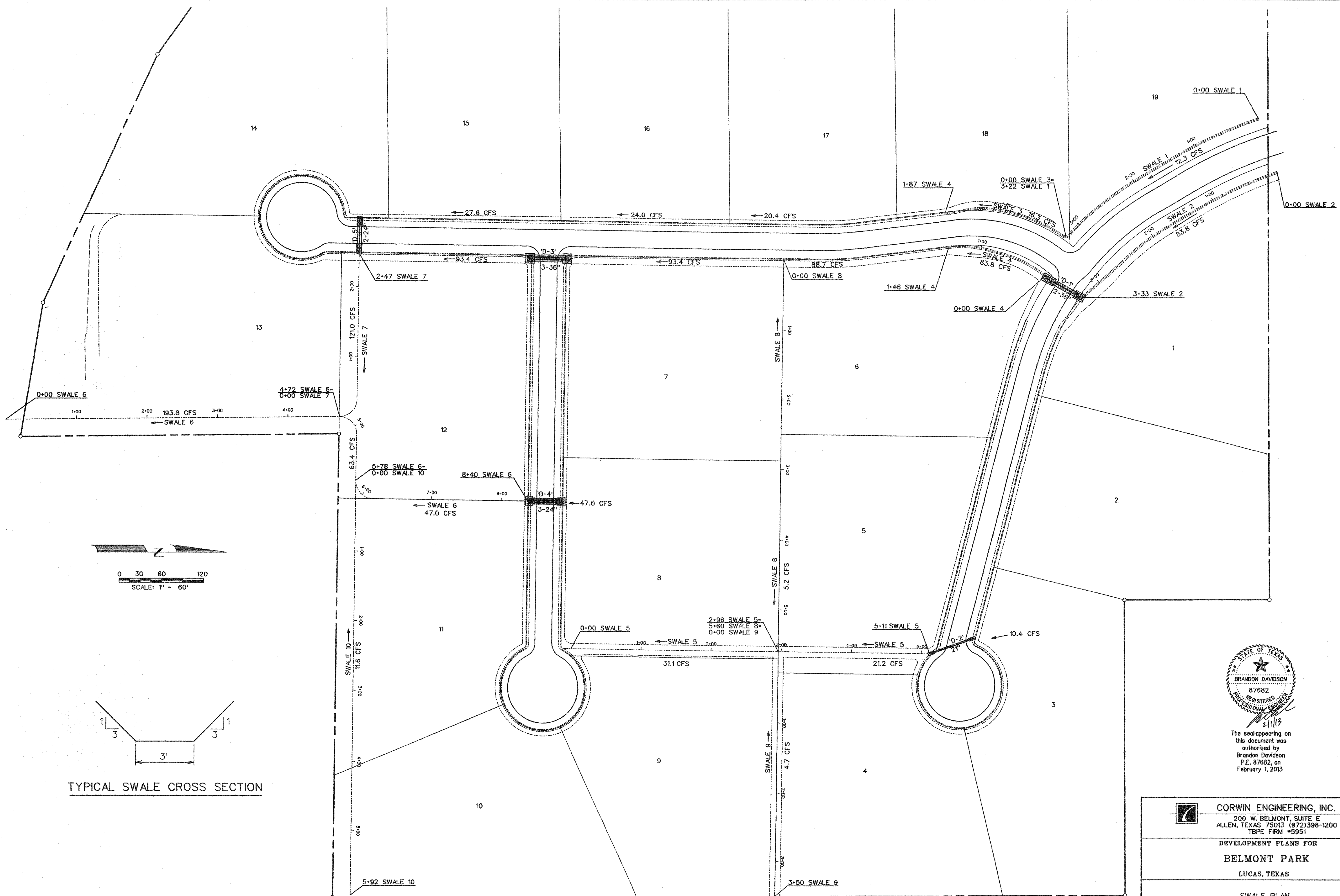
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CORWIN ENGINEERING, INC.
200 W. BELMONT, SUITE E
ALLEN, TEXAS 75013 (972)396-1200
TBE FIRM #5951

DEVELOPMENT PLANS FOR
BELMONT PARK
LUCAS, TEXAS

CULVERT PLAN AND PROFILES

DRAWN BY BDD	DESIGNED BY BDD	CHECKED BY BDD	SHEET NO. 9 OF 18
JOB NUMBER 11013	DATE SEPTEMBER 2012	SCALE: HOR: 1"=40' VER: 1"=4'	




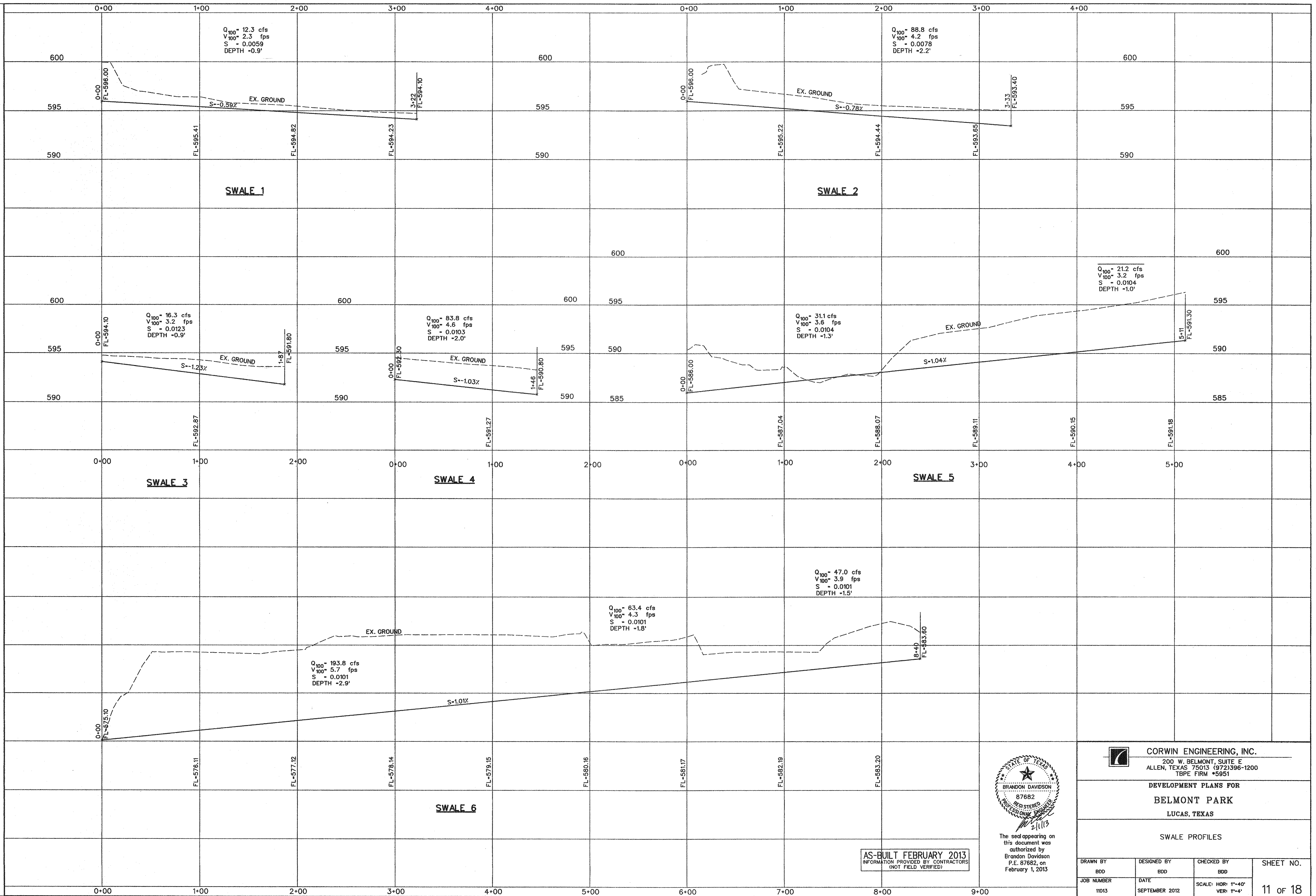
TYPICAL SWALE CROSS SECTION



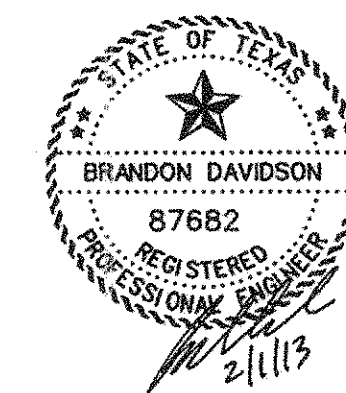
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AS-BUILT FEBRUARY 2013
 INFORMATION PROVIDED BY CONTRACTORS
 (NOT FIELD VERIFIED)

 CORWIN ENGINEERING, INC. 200 W. BELMONT, SUITE E ALLEN, TEXAS 75013 (972)396-1200 TBPE FIRM #5951			
DEVELOPMENT PLANS FOR BELMONT PARK LUCAS, TEXAS			
SWALE PLAN			
DRAWN BY BDD	DESIGNED BY BDD	CHECKED BY BDD	SHEET NO. 10 OF 18
JOB NUMBER 11013	DATE SEPTEMBER 2012	SCALE: 1"=60'	



AS-BUILT FEBRUARY 2013
 INFORMATION PROVIDED BY CONTRACTORS
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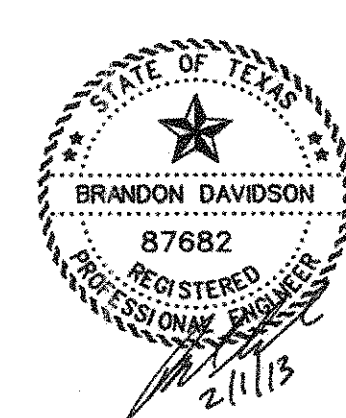
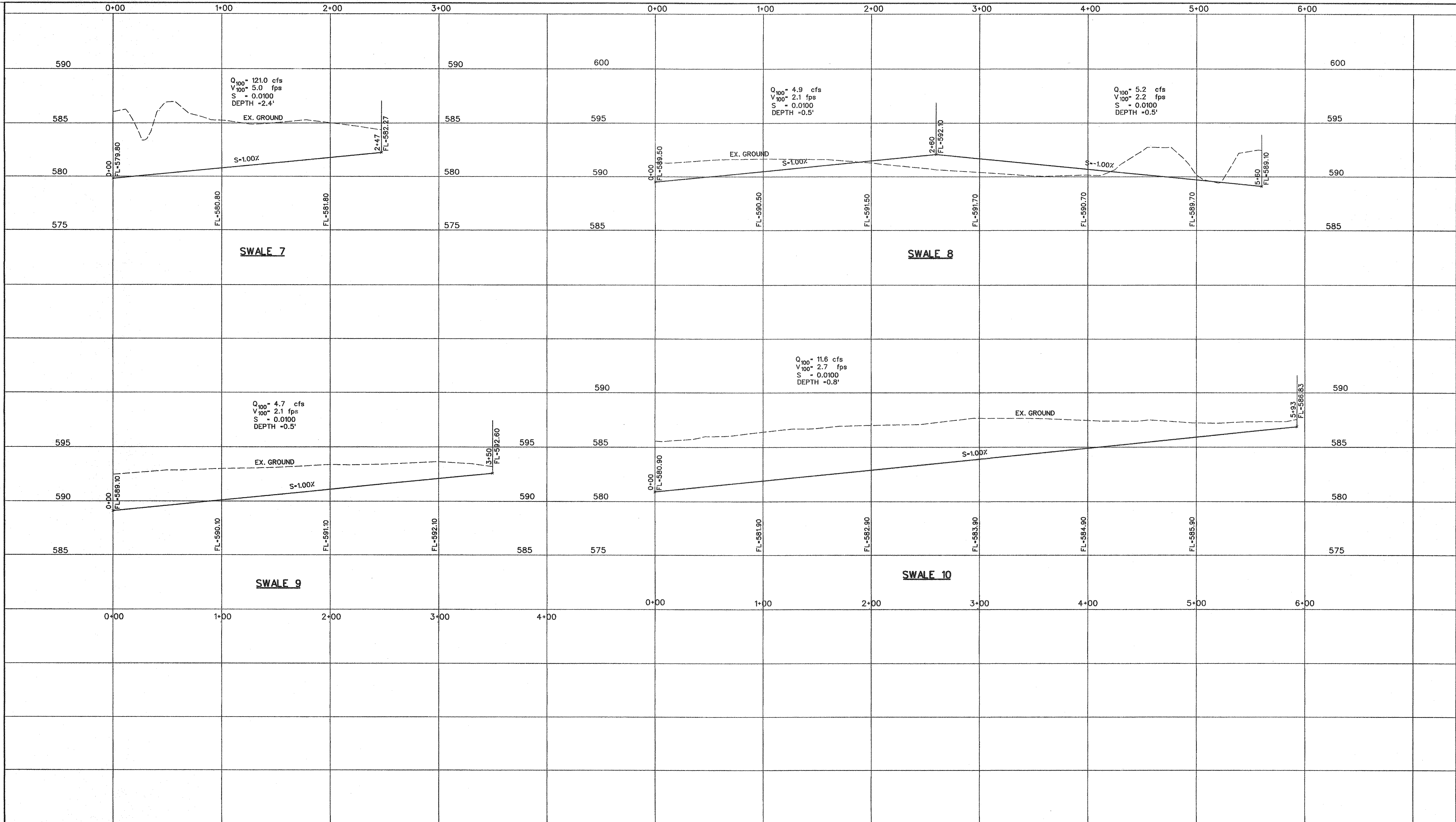
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CORWIN ENGINEERING, INC.
 200 W. BELMONT, SUITE E
 ALLEN, TEXAS 75013 (972)396-1200
 T&PE FIRM #5951

DEVELOPMENT PLANS FOR
BELMONT PARK
 LUCAS, TEXAS

SWALE PROFILES

DRAWN BY BDD	DESIGNED BY BDD	CHECKED BY BDD	SHEET NO. 11 OF 18
JOB NUMBER 11013	DATE SEPTEMBER 2012	SCALE: HOR: 1"=40' VER: 1"=4'	



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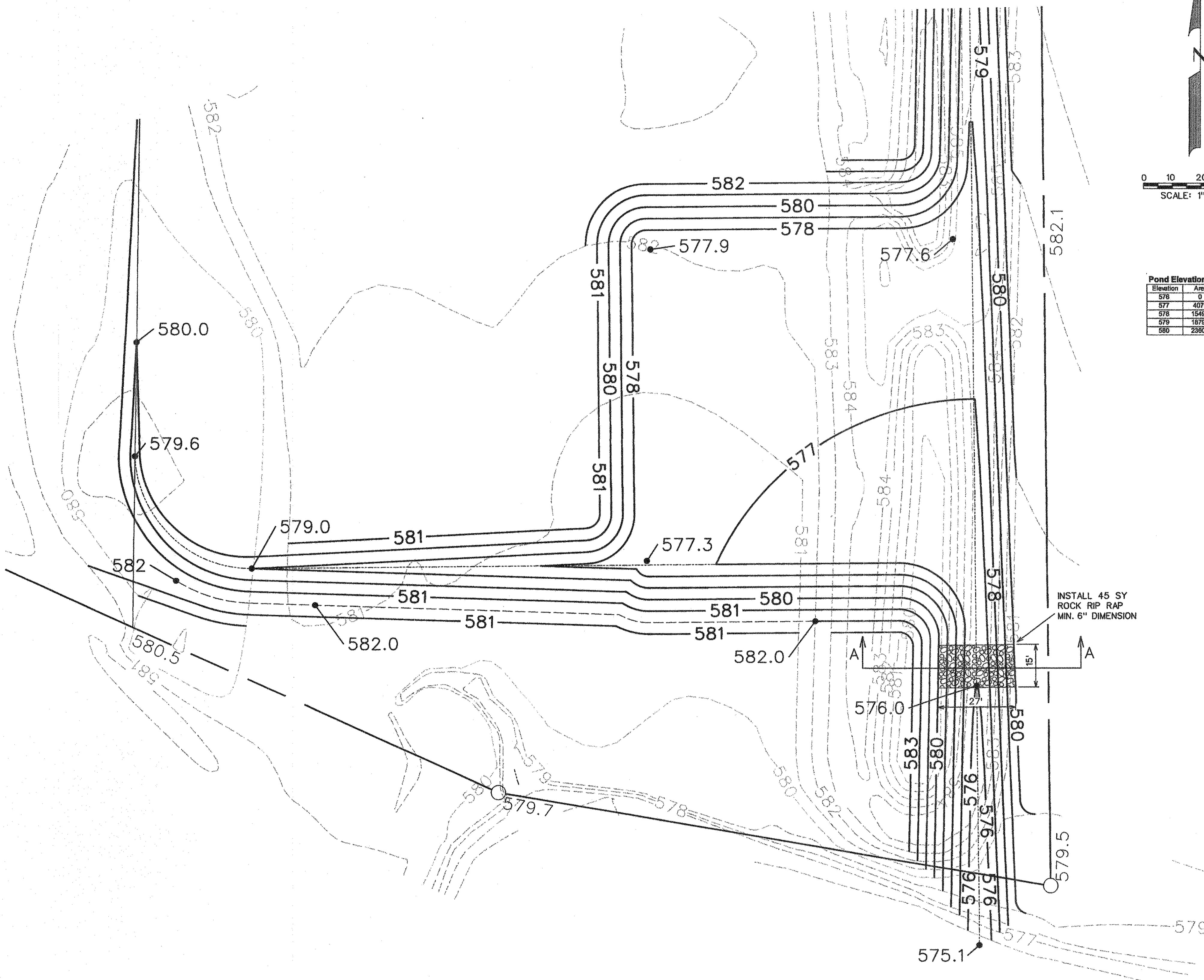
AS-BUILT FEBRUARY 2013
INFORMATION PROVIDED BY CONTRACTORS
(NOT FIELD VERIFIED)

CORWIN ENGINEERING, INC.
200 W. BELMONT, SUITE E
ALLEN, TEXAS 75013 (972)396-1200
T&E FIRM #5951

DEVELOPMENT PLANS FOR
BELMONT PARK
LUCAS, TEXAS

SWALE PROFILES

DRAWN BY BDD	DESIGNED BY BDD	CHECKED BY BDD	SHEET NO. 12 of 18
JOB NUMBER 11013	DATE SEPTEMBER 2012	SCALE: HOR: 1"=40' VER: 1"=4'	



Pond Elevation/Storage

Elevation	Area	Storage
576	0	0
577	4079	2040
578	15497	11628
579	18759	28976
580	23901	60176

ALLOWABLE RELEASE RATE CALCULATIONS

Offsite Drainage to Site

Area (acres)	C	Time of Concentration (min)	Rainfall Intensity (in/hr)				Rainfall Runoff (in/hr)			
			2 Year	5 Year	10 Year	25 Year	2 Year	5 Year	10 Year	25 Year
32.2	0.4	15	4.00	4.91	5.54	6.42	51.5	63.3	71.4	82.7

Onsite Drainage Area (Undeveloped Conditions)

Area (acres)	C	Time of Concentration (min)	Rainfall Intensity (in/hr)				Rainfall Runoff (in/hr)			
			2 Year	5 Year	10 Year	25 Year	2 Year	5 Year	10 Year	25 Year
43.7	0.3	15	4.00	4.91	5.54	6.42	52.4	64.4	72.5	84.2

Allowed Runoff = Offsite + Onsite Developed

Rainfall Runoff		Rainfall Runoff	
2 Year (in/hr)	5 Year (in/hr)	10 Year (in/hr)	25 Year (in/hr)
103.9	127.7	144.0	166.9

DETENTION STORAGE CALCULATIONS

Modified Rational Method 25 Year

Storm Duration	Outflow Duration	Area (AC.)	Future "C"	Future "K"	Future "CA"	Rainfall Intensity	Inflow (cfs)	Volume (cubic ft.)	Volume (cubic ft.)	Volume (cubic ft.)	Volume (acre-ft.)	Outflow (cfs)
10	25	75.90	0.40	1.00	30.36	7.55	229.2	157539	122115	16424	0.36	162.8
20	35	75.90	0.40	1.00	30.36	5.62	170.6	204701	170581	33740	0.77	162.8
30	45	75.90	0.40	1.00	30.36	4.54	138.0	248350	218907	28583	0.66	162.8
40	55	75.90	0.40	1.00	30.36	3.85	116.9	280609	268553	11866	0.27	162.8

Maximum Storage Required 33740

Modified Rational Method 10 Year

Storm Duration	Outflow Duration	Area (AC.)	Future "C"	Future "K"	Future "CA"	Rainfall Intensity	Inflow (cfs)	Volume (cubic ft.)	Volume (cubic ft.)	Volume (cubic ft.)	Volume (acre-ft.)	Outflow (cfs)
10	25	75.90	0.40	1.00	30.36	6.54	198.4	119054	104546	14816	0.33	139.4
20	35	75.90	0.40	1.00	30.36	4.84	148.8	176165	146395	29800	0.69	139.4
30	45	75.90	0.40	1.00	30.36	3.69	118.2	212858	181833	24653	0.57	139.4
40	55	75.90	0.40	1.00	30.36	3.29	99.9	239581	230002	9679	0.22	139.4

Maximum Storage Required 28800

Modified Rational Method 5 Year

Storm Duration	Outflow Duration	Area (AC.)	Future "C"	Future "K"	Future "CA"	Rainfall Intensity	Inflow (cfs)	Volume (cubic ft.)	Volume (cubic ft.)	Volume (cubic ft.)	Volume (acre-ft.)	Outflow (cfs)
10	25	75.90	0.40	1.00	30.36	5.82	176.6	109960	91763	14198	0.33	122.4
20	35	75.90	0.40	1.00	30.36	4.28	129.9	155854	128468	27386	0.63	122.4
30	45	75.90	0.40	1.00	30.36	3.43	104.2	187502	165173	22329	0.51	122.4
40	55	75.90	0.40	1.00	30.36	2.89	87.7	210494	201676	8676	0.20	122.4

Maximum Storage Required 27386

Modified Rational Method 2 Year

Storm Duration	Outflow Duration	Area (AC.)	Future "C"	Future "K"	Future "CA"	Rainfall Intensity	Inflow (cfs)	Volume (cubic ft.)	Volume (cubic ft.)	Volume (cubic ft.)	Volume (acre-ft.)	Outflow (cfs)
10	25	75.90	0.40	1.00	30.36	4.82	146.2	87744	72749	14895	0.34	97.0
20	35	75.90	0.40	1.00	30.36	3.44	104.3	125215	101648	23387	0.54	97.0
30	45	75.90	0.40	1.00	30.36	2.71	82.4	148287	130547	17316	0.40	97.0
40	55	75.90	0.40	1.00	30.36	2.26	68.7	164761	160047	4714	0.11	97.0

Maximum Storage Required 23367

DETENTION OUTFALL CALCULATIONS

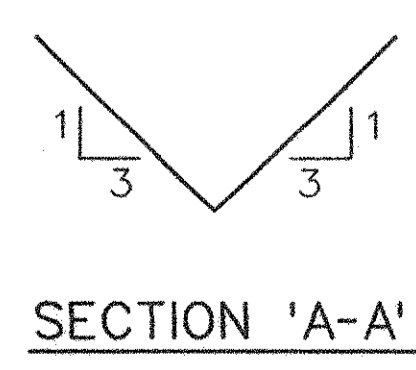
BACKWATER FROM TRIANGULAR CHANNEL ACTS AS OUTFALL CONTROL
 SIDE SLOPE=3H:1V
 MANNING'S N=0.036
 CHANNEL SLOPE=1.00%

Stage/Discharge Table

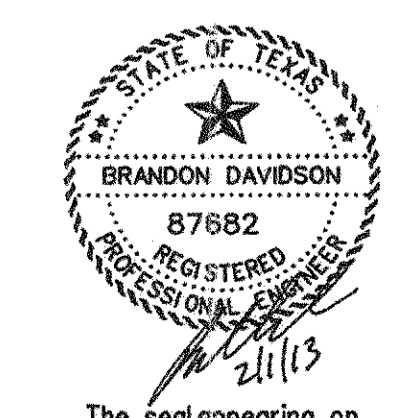
Elevation	H	Q
576.10	0.00	0.00
577.00	0.90	5.89
578.00	1.90	43.20
578.67	2.57	96.97
579.91	3.81	122.36
579.00	2.90	133.42
579.05	2.95	139.40
579.22	3.12	162.80

Pond Outflow Comparison Table

Storm Event	Actual Release Rate (cfs)	Allowable Release Rate (cfs)	Difference (cfs)	Elevation (ft)
2 Year	97.0	103.9	-6.9	578.67
5 Year	122.3	127.7	-5.4	578.91
10 Year	139.4	144.0	-4.6	579.05
25 Year	162.8	166.9	-4.1	579.22



AS-BUILT FEBRUARY 2013
 INFORMATION PROVIDED BY CONTRACTORS
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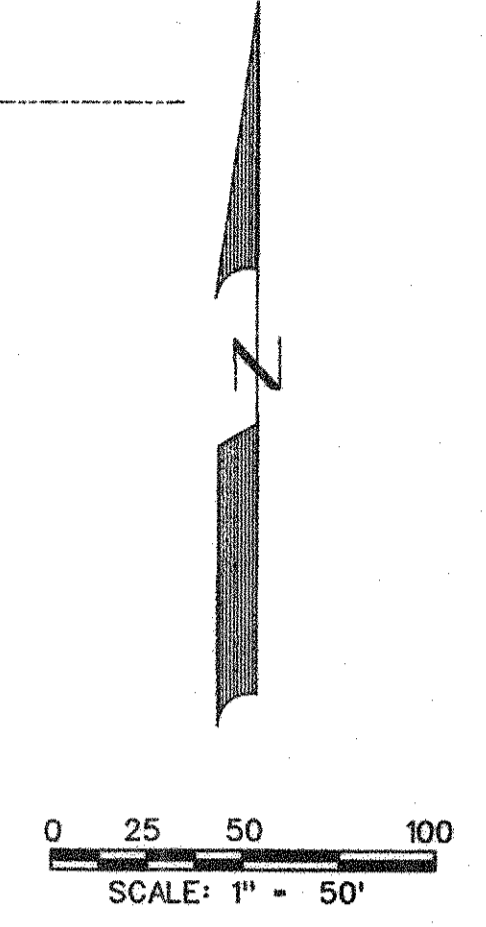
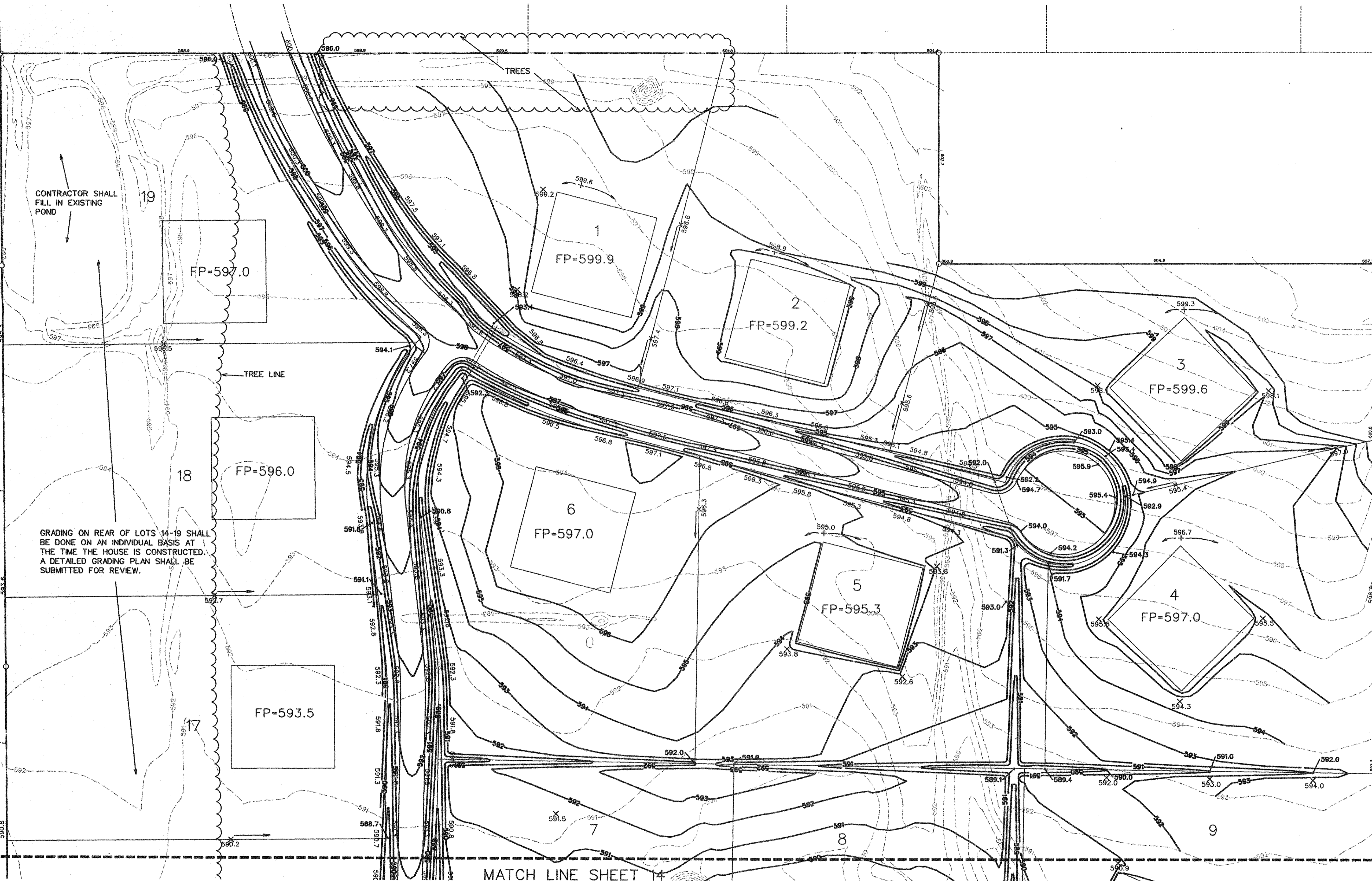
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CORWIN ENGINEERING, INC.
 200 W. BELMONT, SUITE E
 ALLEN, TEXAS 75013 (972)396-1200
 TBPE FIRM #5951

**DEVELOPMENT PLANS FOR
 BELMONT PARK
 LUCAS, TEXAS**

DETENTION POND PLAN

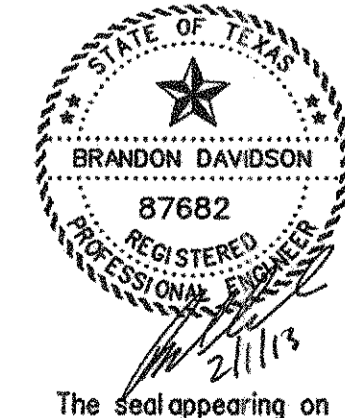
DRAWN BY BDD	DESIGNED BY BDD	CHECKED BY BDD	SHEET NO. 13 OF 18
JOB NUMBER 11013	DATE SEPTEMBER 2012	SCALE: 1"=20'	




- NOTES:
1. Finish Floor Elevation to be 0.70 Feet above Finished Pad.(FP)
 2. All earthwork and grading operations shall be in accordance with the requirements set forth in the geotechnical investigation for this project.
 3. Finished Pad Elevations are within + 0.3 Feet.
 4. Contractor shall be responsible for clearing unsuitable material from site and disposing in a legal manner offsite.

MATCH LINE SHEET 14

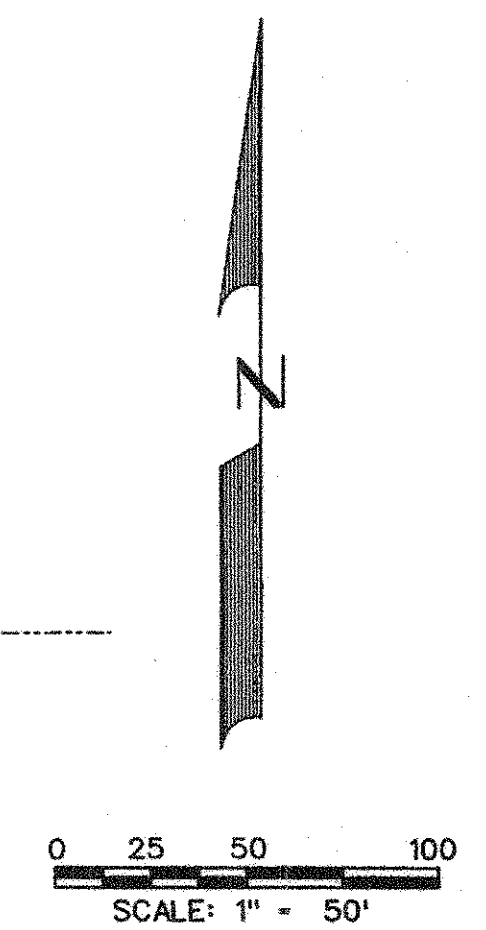
AS-BUILT FEBRUARY 2013
 INFORMATION PROVIDED BY CONTRACTORS
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 CORWIN ENGINEERING, INC. 200 W. BELMONT, SUITE E ALLEN, TEXAS 75013 (972)396-1200 TBPE FIRM •5951			
DEVELOPMENT PLANS FOR BELMONT PARK LUCAS, TEXAS			
GRADING PLAN			
DRAWN BY BDD	DESIGNED BY BDD	CHECKED BY BDD	SHEET NO.
JOB NUMBER 11013	DATE SEPTEMBER 2012	SCALE: 1"=50'	14 OF 18

MATCH LINE SHEET 13



GRADING ON REAR OF LOTS 14-19 SHALL BE DONE ON AN INDIVIDUAL BASIS AT THE TIME THE HOUSE IS CONSTRUCTED. A DETAILED GRADING PLAN SHALL BE SUBMITTED FOR REVIEW.


NOTES:

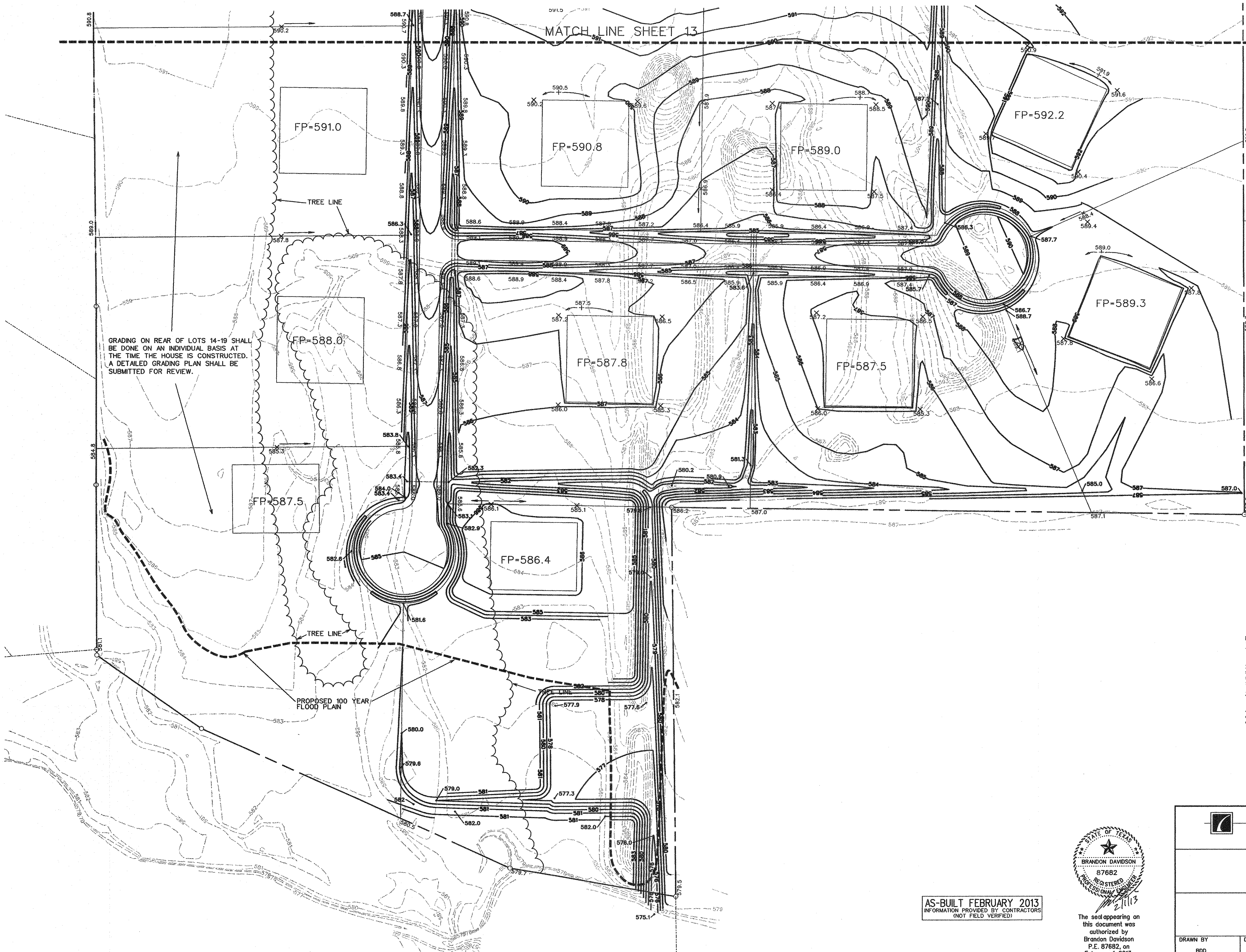
1. Finish Floor Elevation to be 0.70 Feet above Finished Pad.(FP)
2. All earthwork and grading operations shall be in accordance with the requirements set forth in the geotechnical investigation for this project.
3. Finished Pad Elevations are within ± 0.3 Feet.
4. Contractor shall be responsible for clearing unsuitable material from site and disposing in a legal manner offsite.

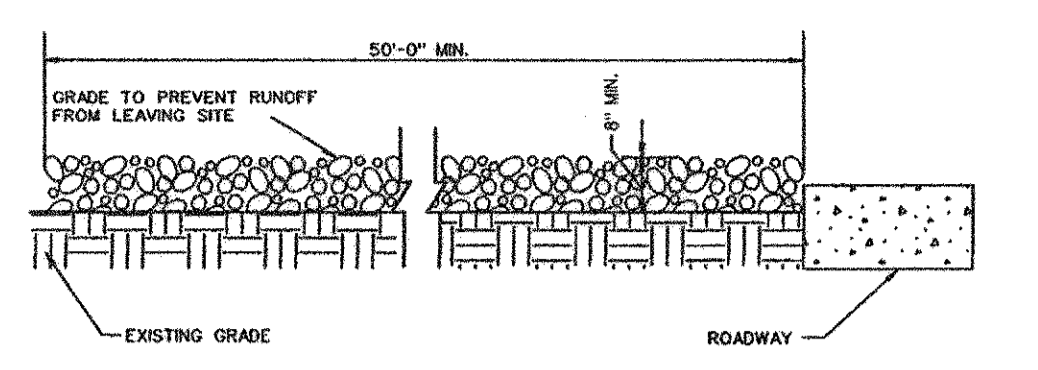
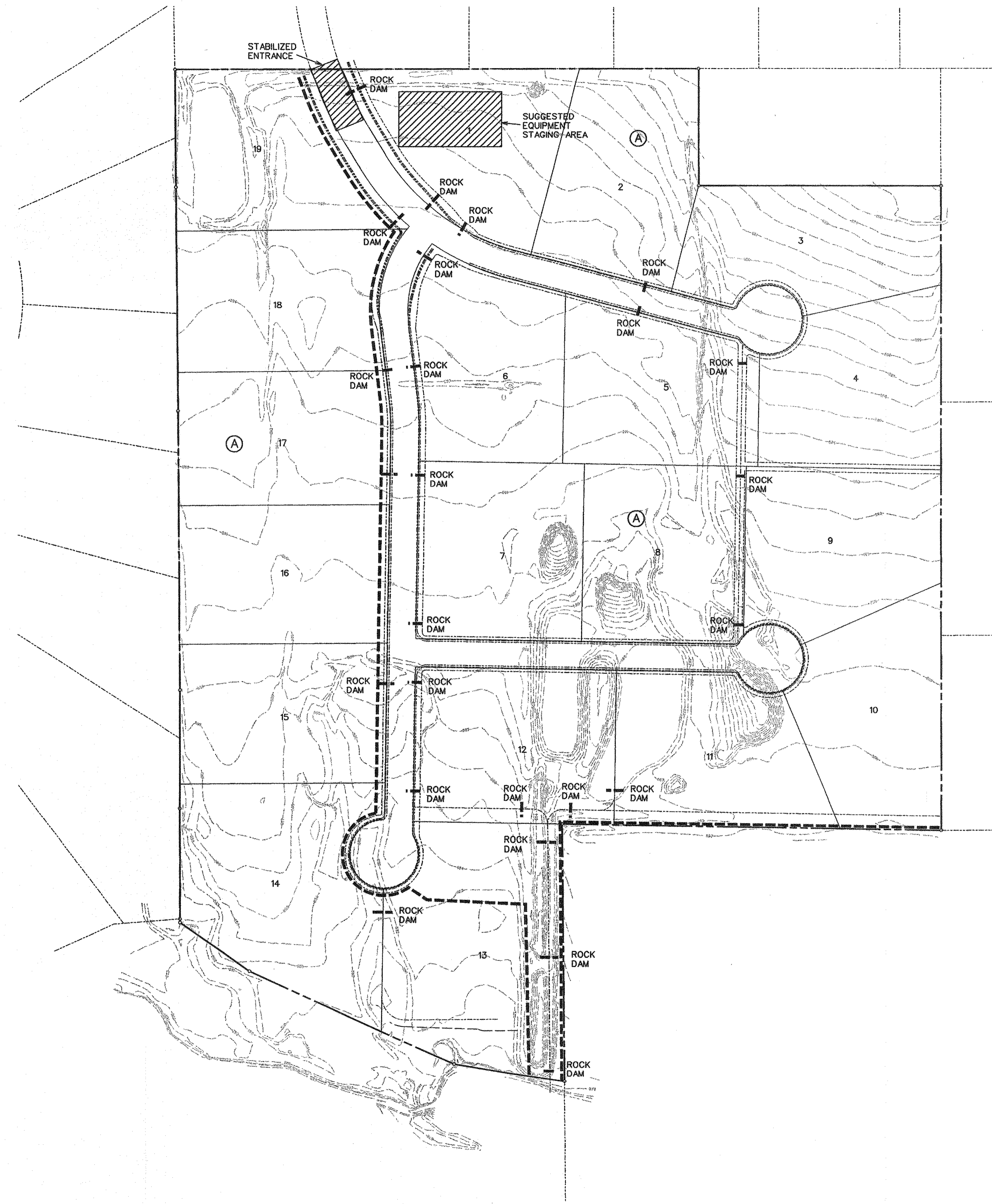
AS-BUILT FEBRUARY 2013
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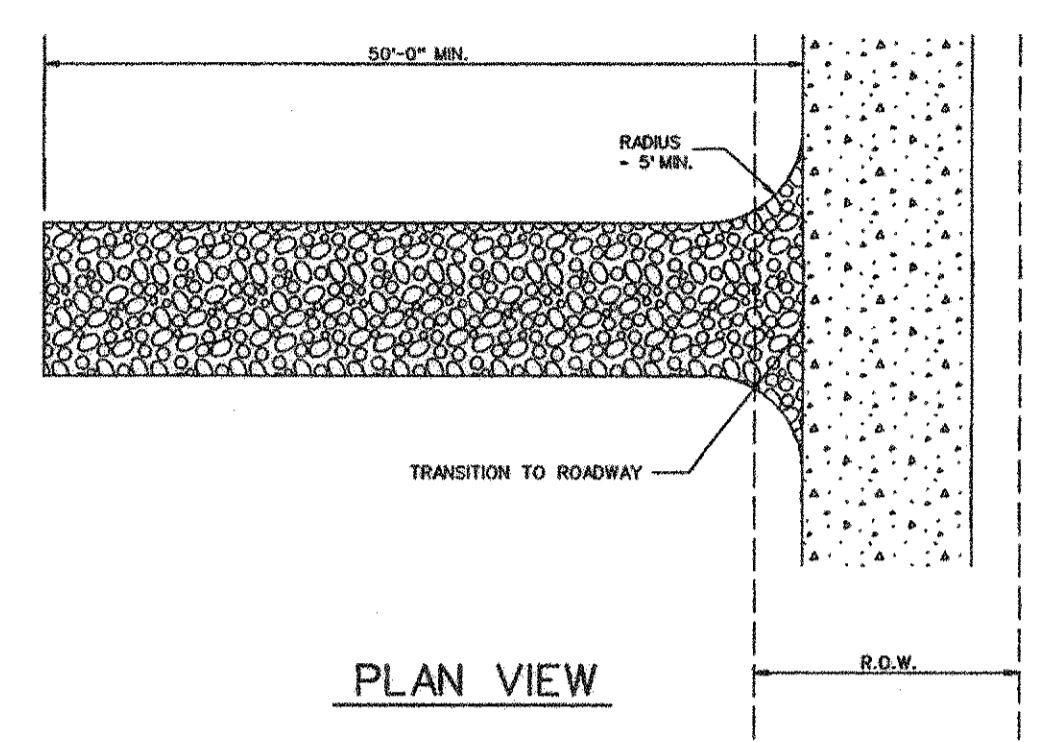
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 CORWIN ENGINEERING, INC. 200 W. BELMONT, SUITE E ALLEN, TEXAS 75013 (972)396-1200 TBPE FIRM #5951			
DEVELOPMENT PLANS FOR BELMONT PARK LUCAS, TEXAS			
GRADING PLAN			
DRAWN BY BDD	DESIGNED BY BDD	CHECKED BY BDD	SHEET NO. 15 of 18
JOB NUMBER 11013	DATE SEPTEMBER 2012	SCALE: 1"=50'	



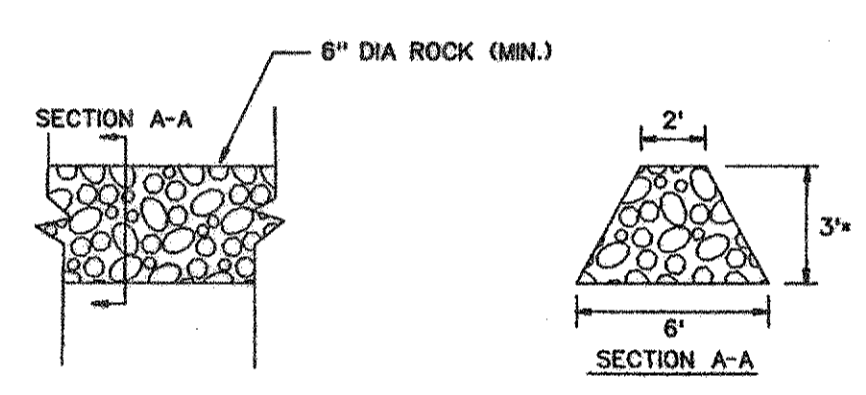


PROFILE



PLAN VIEW

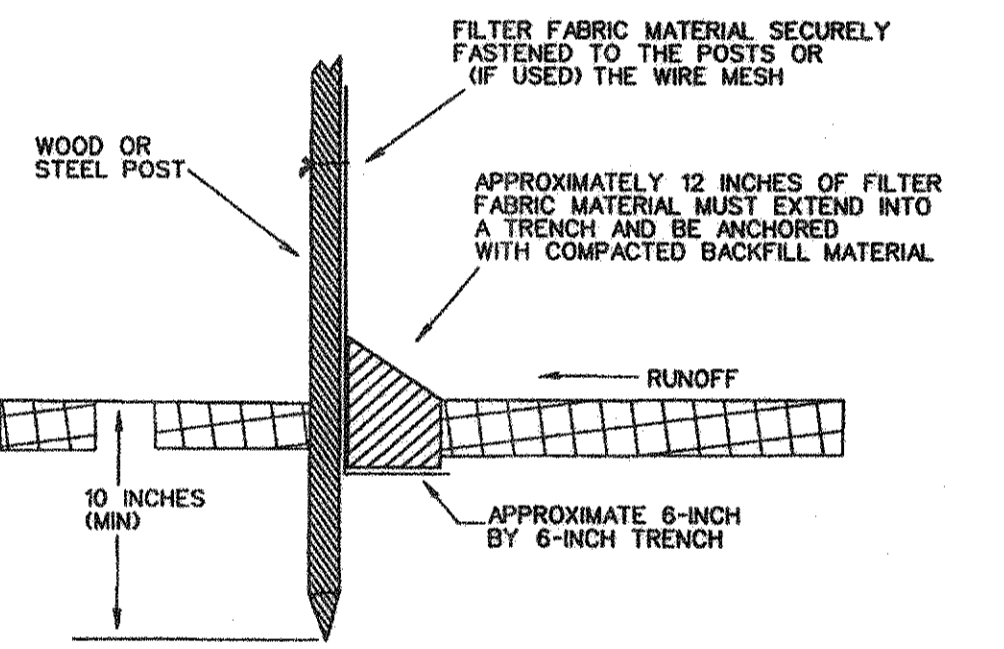
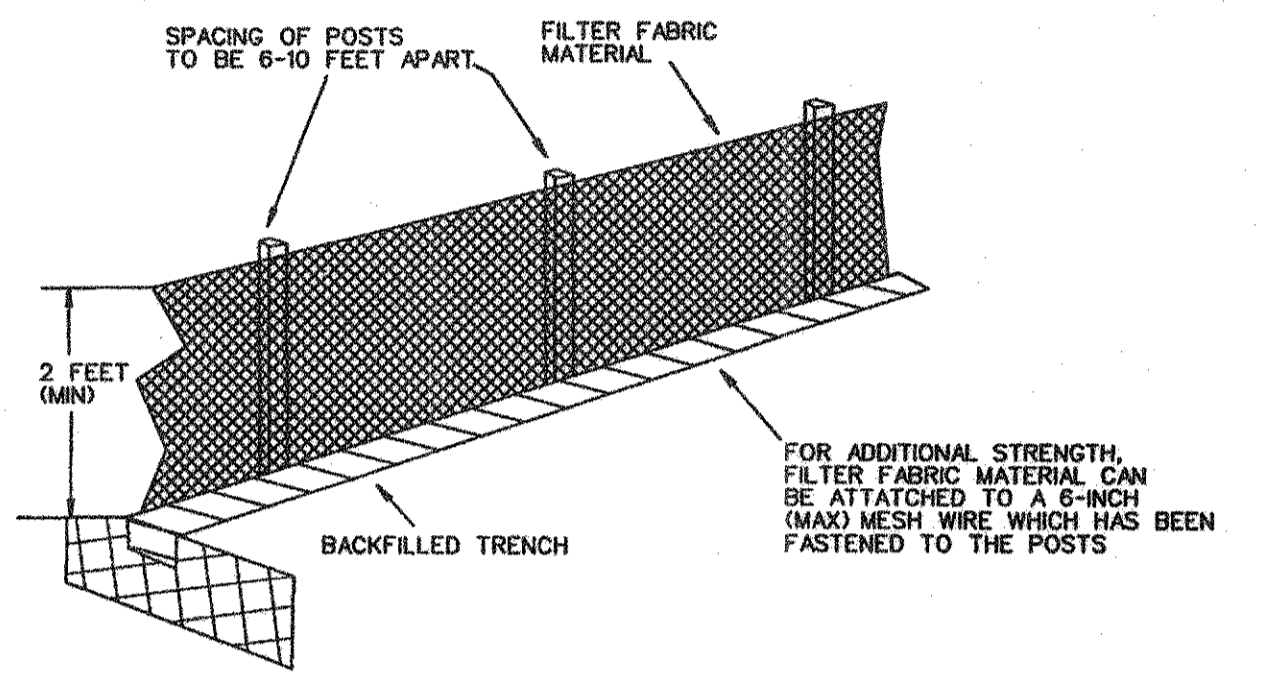
STABILIZED ENTRANCE DETAIL



ROCK DAM

N.T.S.
 *ROCK DAM SHALL NOT BE BUILT IN SUCH A MANNER THAT RUNOFF IS DIRECTED ONTO THE STREET PAVEMENT BEFORE IT GOES OVER THE TOP OF THE ROCK DAM

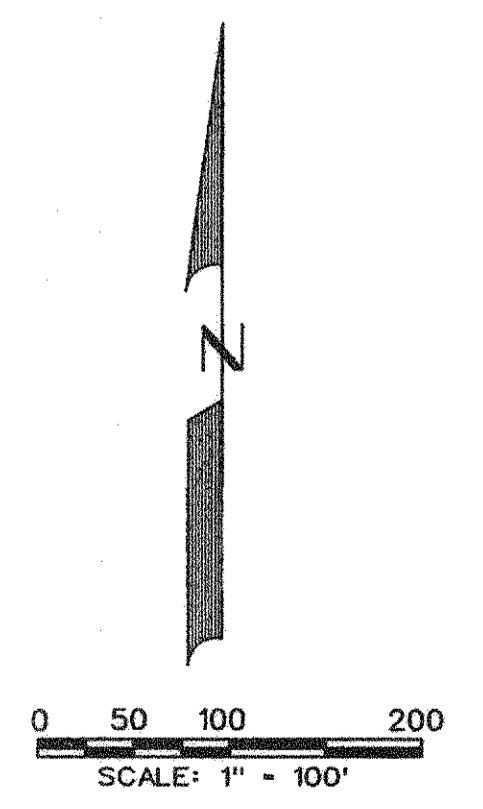
- CONSTRUCTION SEQUENCE**
1. GRADING CONTRACTOR TO INSTALL TEMPORARY STABILIZED ENTRANCE.
 2. INSTALL SILT FENCE AS SHOWN, (TS-600 POLY FELT) PER C.O.G. SPECIFICATIONS.
 3. PERFORM GRADING AND UTILITY CONSTRUCTION.
 4. INSTALL ROCK BERMS.
 5. SILT FENCE SHALL REMAIN IN PLACE UNTIL RE-VEGETATION HAS BEEN COMPLETED.
 6. PAVING CONTRACTOR SHALL REMOVE TEMPORARY STABILIZED ENTRANCE.
 7. PRIOR TO CITY ACCEPTANCE THE PAVING CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ANY MUD OR SILT WHICH COLLECTS ON THE EXISTING AND NEW PAVEMENT.



FILTER FABRIC FENCE DETAIL

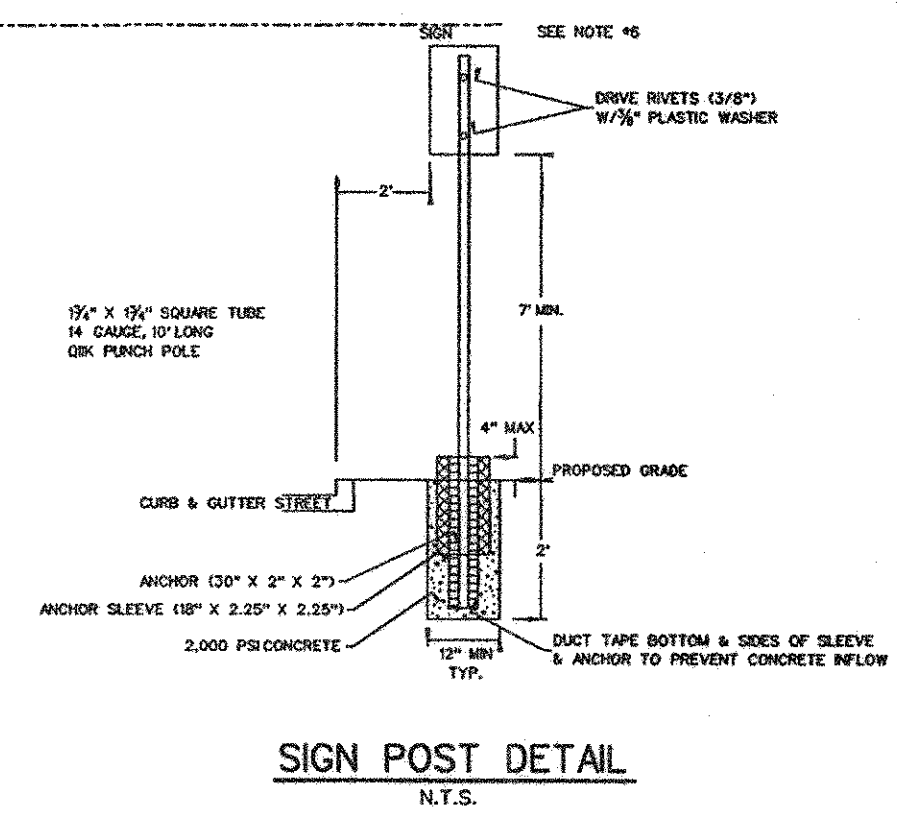
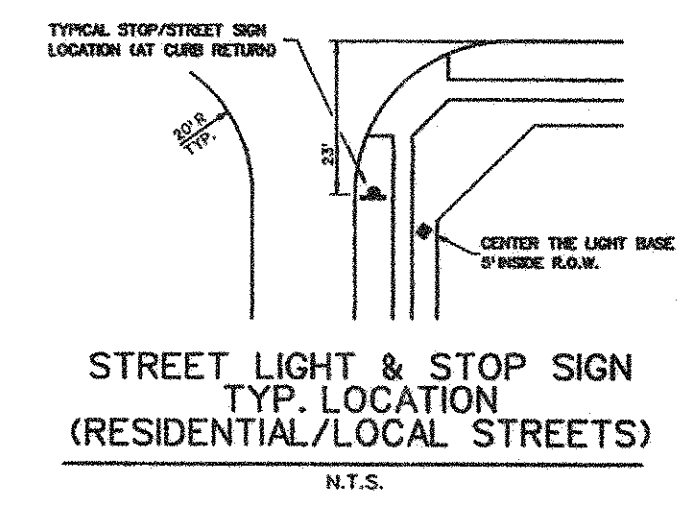
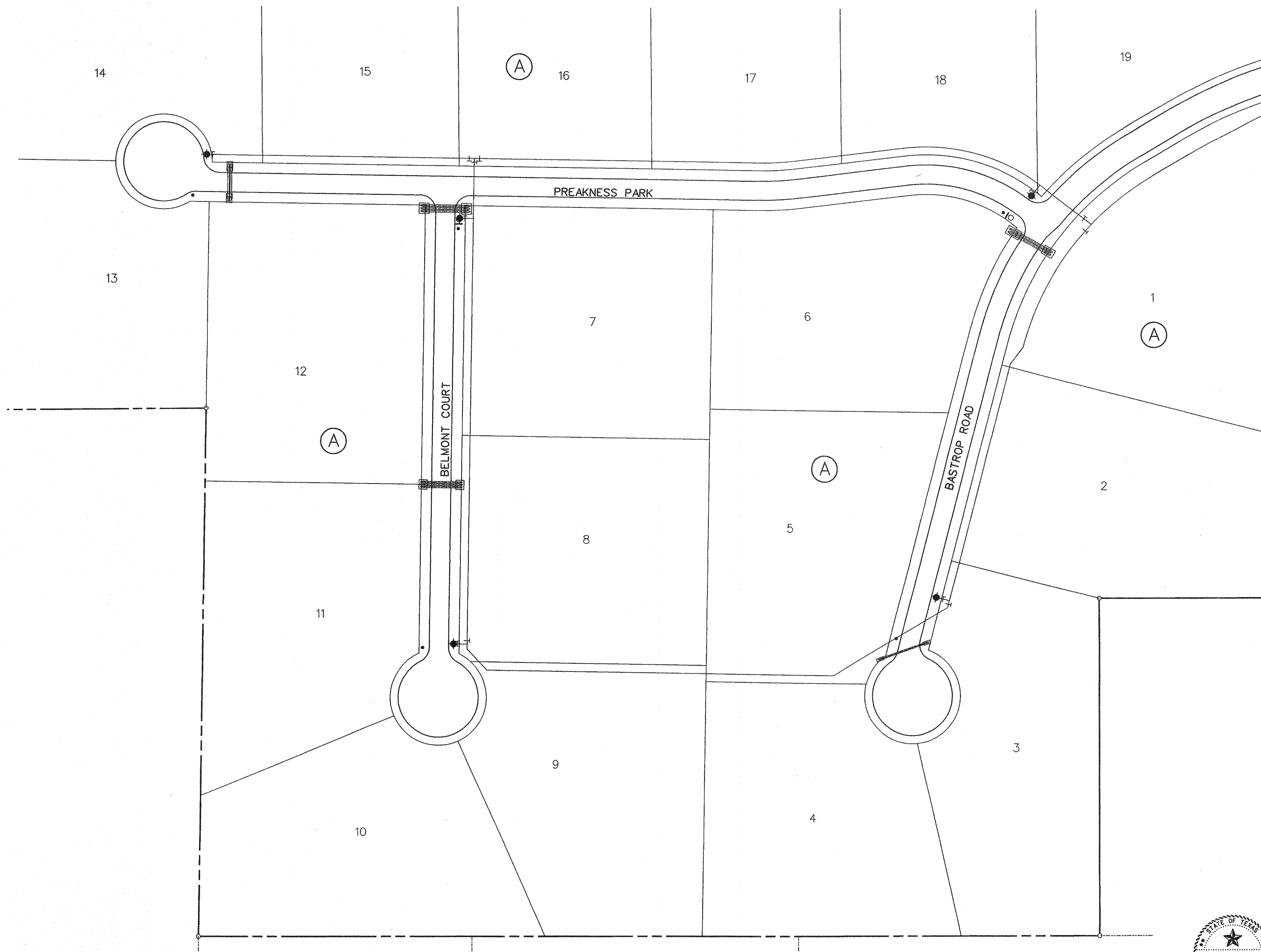
LEGEND

SILT FENCE (BEFORE CONSTRUCTION) - - - - -

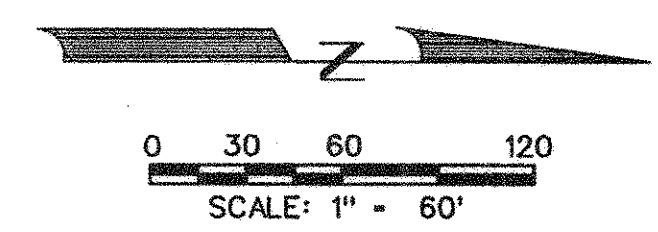


AS-BUILT FEBRUARY 2013
 INFORMATION PROVIDED BY CONTRACTORS
 (NOT FIELD VERIFIED)

<p>CORWIN ENGINEERING, INC. 200 W. BELMONT, SUITE E ALLEN, TEXAS 75013 (972)396-1200 TBPE FIRM #5951</p>			
<p>DEVELOPMENT PLANS FOR BELMONT PARK LUCAS, TEXAS</p>			
<p>EROSION CONTROL PLAN</p>			
<p>DRAWN BY BDD</p>	<p>DESIGNED BY BDD</p>	<p>CHECKED BY BDD</p>	<p>SHEET NO.</p>
<p>JOB NUMBER 11013</p>	<p>DATE SEPTEMBER 2012</p>	<p>SCALE: 1"=100'</p>	<p>16 of 18</p>



- TRAFFIC CONTROL NOTES:**
1. ALL SIGNAGE, BARRICADES, AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST REVISION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND THE STANDARD HIGHWAY SIGN DESIGN FOR TEXAS.
 2. LOCATIONS SHOWN FOR SIGNAGE AND PAVEMENT MARKINGS ARE APPROXIMATE. FINAL LOCATIONS MAY CHANGE DUE TO POST CONSTRUCTION CONDITIONS AND PRESENCE OF OTHER PHYSICAL FEATURES. FINAL LOCATION OF ALL TRAFFIC CONTROL DEVICES SHALL BE FIELD VERIFIED WITH CITY PRIOR TO INSTALLATION.
 3. ALL PAVEMENT MARKINGS OTHER THAN BUTTONS SHALL BE THERMOPLASTIC UNLESS OTHERWISE NOTED.
 4. ALL SIGNS SHALL BE HIGH INTENSITY AND THE SIZES SHALL BE STANDARD UNLESS OTHERWISE NOTED.
 5. ALL TRAFFIC SIGNS, POSTS, AND MATERIALS SHALL BE INSTALLED PER DETAIL THIS SHEET.
 6. FOR STOP SIGNS THAT WILL ACCEPT FUTURE STREET SIGNS, EXTEND POST ABOVE STOP SIGN SO THAT 2 HOLES ARE AVAILABLE FOR MOUNTING. (FOR ALL OTHERS, POST SHALL NOT EXTEND ABOVE SIGN)
 7. CHANGES TO TYPICAL SIGN POST LOCATION MADE AT ENGINEER'S DISCRETION.
 8. ALL STREET LIGHTS SHALL BE DARK SKY TYPE. CONTRACTOR SHALL SUBMIT SHOP DRAWING TO CITY PRIOR TO INSTALLATION FOR APPROVAL.



- LEGEND**
- - 30" STOP SIGN
 - - STREET LIGHT
 - - - STREET SIGN

AS-BUILT FEBRUARY 2013
INFORMATION PROVIDED BY CONTRACTORS
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The seal appearing on this document was authorized by Brandon Davidson P.E. 87682, on February 1, 2013

CORWIN ENGINEERING, INC. 200 W. BELMONT, SUITE E ALLEN, TEXAS 75013 (972) 396-1200 TBP# FIRM #5951			
DEVELOPMENT PLANS FOR BELMONT PARK LUCAS, TEXAS			
STREET LIGHT AND SIGN PLAN			
DRAWN BY BDD	DESIGNED BY BDD	CHECKED BY BDD	SHEET NO.
JOB NUMBER 11013	DATE SEPTEMBER 2012	SCALE: 1"=60'	17 OF 18

