



**SHADY SHORES TOWN COUNCIL
SHADY SHORES PLANNING AND ZONING COMMISSION
SPECIAL CALLED JOINT MEETING
DECEMBER 6, 2022; 6:30 PM
101 S.SHADY SHORES ROAD
SHADY SHORES, TX 76208**

TO VIEW THE MEETING LIVE
<https://shadyshorestx.civicclerk.com/>

CALL TO ORDER

ROLL CALL

Establish a quorum. 1. Shady Shores Town Council 2. Planning and Zoning Commission

**PLEDGE ALLEGIANCE TO THE UNITED STATES FLAG AND THE TEXAS FLAG. (HONOR THE TEXAS FLAG; I
PLEDGE ALLEGIANCE TO THEE, TEXAS, ONE STATE UNDER GOD, ONE AND INDIVISIBLE.)**

REGULAR AGENDA ITEMS

Public Hearing- Conduct a Public Hearing relative to a request made by Dennis Herd for a replat of the property legally known as Stephens Corner Addition Abstract M.E.P. & P.R.R Survey A-911, Lot 4 Block A, (101 Lakeshore). The total acreage is 4.614 and the proposed replat contains five, ½ acre single family homesites.

- A) Staff Report
- B) Open Public Hearing
- C) Applicant
- D) Those in Favor
- E) Those Opposed
- F) Rebuttal if Desired
- G) Close Public Hearing

Action Regarding Public Hearing (Herd Replat)- Consider and act on a request made by Dennis Herd for a replat of the property legally known as Stephens Corner Addition Abstract M.E.P. & P.R.R Survey A-911, Lot 4 Block A.

1. Shady Shores Town Council will consider and act regarding the above request.

Public Hearing- Consider and act on approval of a preliminary plat for Hidden Valley Phase VI.

- A) Staff Report
- B) Open Public Hearing
- C) Applicant
- D) Those in Favor
- E) Those Opposed
- F) Rebuttal if Desired
- G) Close Public Hearing

Action Regarding Public Hearing-

1. Shady Shores Planning and Zoning Commission consider and act on approval of the preliminary plat for Hidden Valley Phase VI.
2. Shady Shores Town Council consider and act on approval of the preliminary plat for Hidden Valley Phase VI.

EXECUTIVE SESSION:

Pursuant to the provisions of Chapter 551, Texas Government Code, Vernon's Texas Codes Annotated, The Town Council may hold a closed meeting.

ADJOURN

The Town Council reserves the right to adjourn into closed session at any time during the course of this meeting to discuss any of the matters listed on this agenda, as authorized by Texas Government Code Section 551.071 (Consultation with Attorney), 551.072 (Deliberation about Real Property), 551.073 (Deliberation about Gifts and Donations), 551.074 (Personnel Matters), 551.076 (Deliberations about Security Devices), and 551.087 (Economic Development).

I, Wendy Withers, Town Administrator of the Town of Shady Shores do hereby certify that the above notice of the Regular Town Council Meeting was posted on the bulletin board at the Community Center, 101 S. Shady Shores Road, Shady Shores, Texas on 2nd Day of December 2022, at 9:20 A.M.

Wendy Withers
Wendy Withers, Town Administrator



AGENDA MEMORANDUM

DATE: December 6, 2022

TO:

FROM: Wendy withers, Town Administrator

Public Hearing- Conduct a Public Hearing relative to a request made by Dennis Herd for a replat of the property legally known as Stephens Corner Addition Abstract M.E.P. & P.R.R Survey A-911, Lot 4 Block A, (101 Lakeshore). The total acreage is 4.614 and the proposed replat contains five, ½ acre single family home sites.

SUBJECT: A) Staff Report (David Francis)
B) Open Public Hearing
C) Applicant
D) Those in Favor
E) Those Opposed
F) Rebuttal if Desired
G) Close Public Hearing

BACKGROUND/INFORMATION:

The applicant has proposed a replat of the above-mentioned property from a single lot to 5 residential lots. The Planning and Zoning Commission conducted the required public hearing on November 10th, 2022. The Planning and Zoning Commission recommended conditional approval of the plat pending completion of the engineers' recommendations. Which included the following recommendations:

- 1. The applicant submits for review and approval revised drainage sheets and associated calculations that are based off the Town's drainage criteria listed in our comments noted on the construction plan mark-ups. These include revised time of concentration for existing conditions and revised runoff factors for existing and proposed conditions.***
- 2. The applicant submits for review and approval revised construction plans that incorporate a 6-foot-wide concrete pilot channel in the private detention pond per ordinance and side slopes within the detention pond that provide for positive drainage to the pilot channel as noted.***
- 3. The applicant provides revised construction plans and final plat reflecting any changes to the private drainage easement that contains the proposed detention pond, as may be necessary in satisfying the requirements of the items listed above.***
- 4. The applicant submits for review and approval revised construction plans for the sidewalk in accordance with our attached mark-ups, including the necessary culverts and headwalls at the roadway ditch crossing.***
- 5. The applicant confirms there is not an existing electric easement associated with the overhead electric lines scheduled to be removed.***
- 6. The applicant shall submit evidence of LCMUA approval of water and sewer.***

To date, the majority of comments have been addressed and the Engineer again recommends conditional approval until the last few items are submitted. (A copy of the engineer's recommendation is attached.

FINANCIAL IMPLICATIONS:

None

RECOMMENDATION/ACTION DESIRED:

Approve the replat conditionally giving the Town Engineer the approval of the final changes.

ATTACHMENTS/SUPPORTING DOCUMENTATION:

1. Herd Addition - Town Eng - Letter 11-29-2022
2. D57039 - 101 Lakeshore Road - Shady Shores_2022.10.07
3. Herd Addition Civil Set 2022.11.29 Town Comments

REVIEWED BY:

November 29, 2022

Via: E-Mail

Cindy Aughinbaugh
Mayor - Town of Shady Shores
101 S Shady Shores Rd
Shady Shores, Texas 76208

Re: Plat Approval Request for Lots 1-5, Block A Herd Addition
Town of Shady Shores
Project No. 0160012012

Dear Cindy Aughinbaugh:

On November 17, 2022, we received the following information:

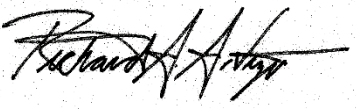
1. Revised Construction Plans for Herd Addition (dated 11/11/2022)
2. Revised Final Plat for Lots 1-5, Block A Herd Addition (dated 11/9/2022)

Based on our review, we recommend the Town consider granting conditional approval for the plat contingent on our attached plat and construction plan comments being addressed. The main requirements (not all inclusive), include the following:

1. Surveyor to provide a closure report for plat boundary.
2. The applicant submits for review and approval revised construction plans for the sidewalk and pond access in accordance with our attached mark-ups, including the necessary culverts and headwalls at the roadway ditch crossing.
3. The applicant confirms and provides evidence there is not an existing electric easement associated with the overhead electric lines scheduled to be removed.
4. The applicant shall submit evidence of LCMUA approval of water and sewer.

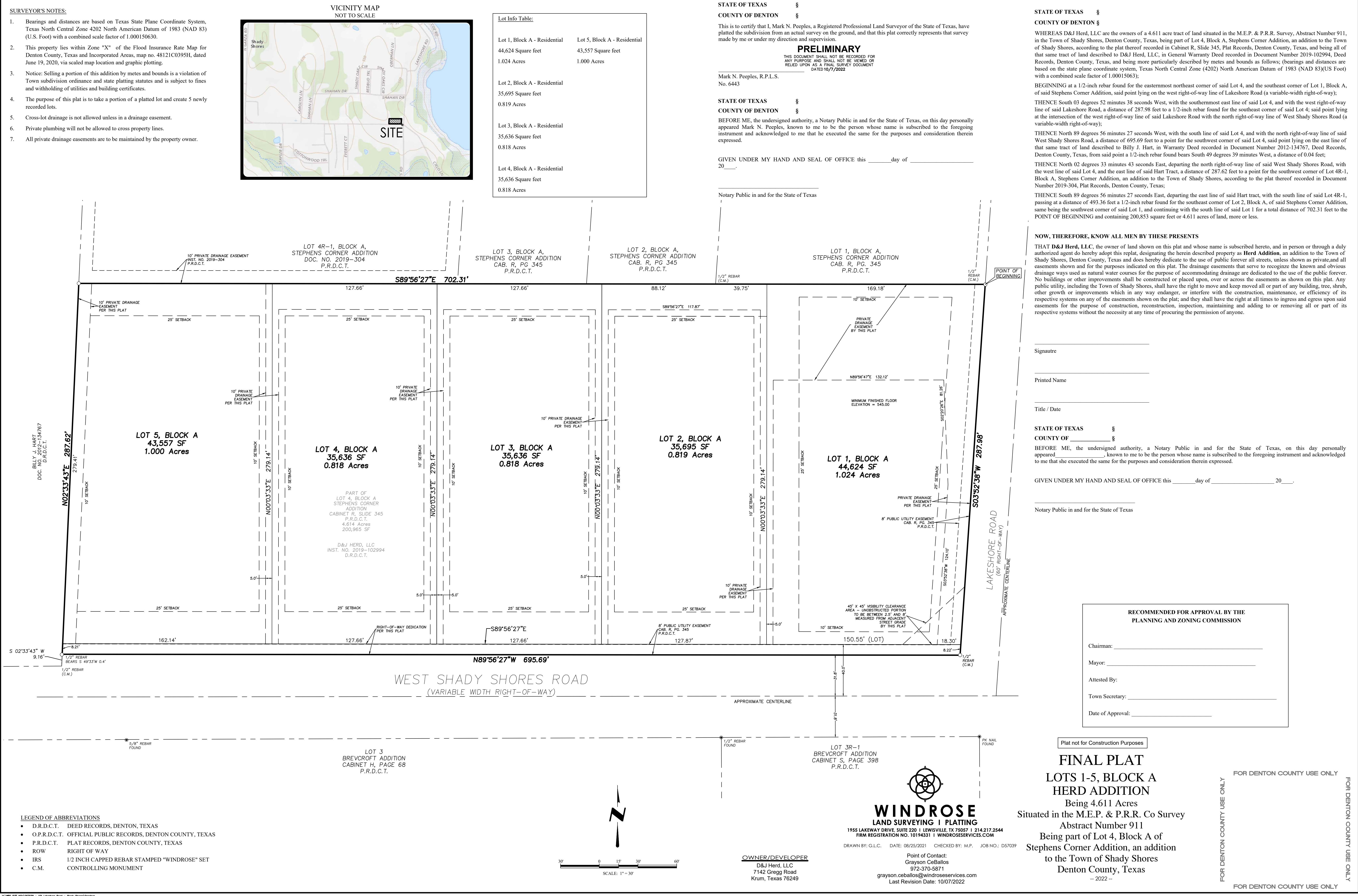
Regards,

Binkley & Barfield, Inc.



Richard A. Arvizu
Corporate Vice President
rarvizu@binkleybarfield.com

Attachments (1): Plat & Construction Plans with Town Engineer's office comments



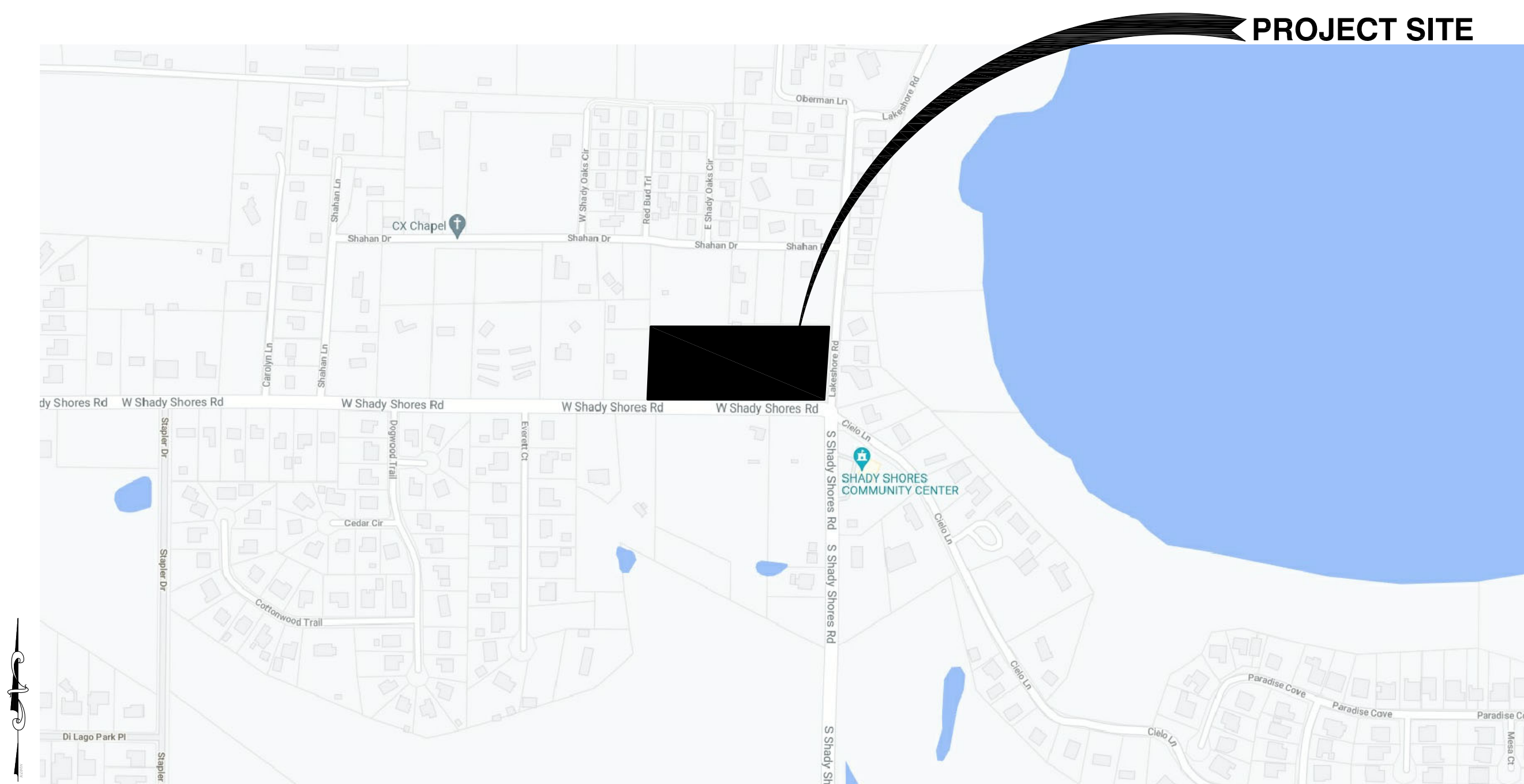
CONSTRUCTION PLANS

for

HERD ADDITION

Shady Shores, TX

TOWN ENGINEER
Comments
11-29-2022
Revise and Resubmit

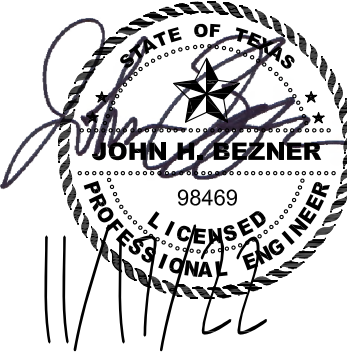


LOCATION MAP
(NOT TO SCALE)

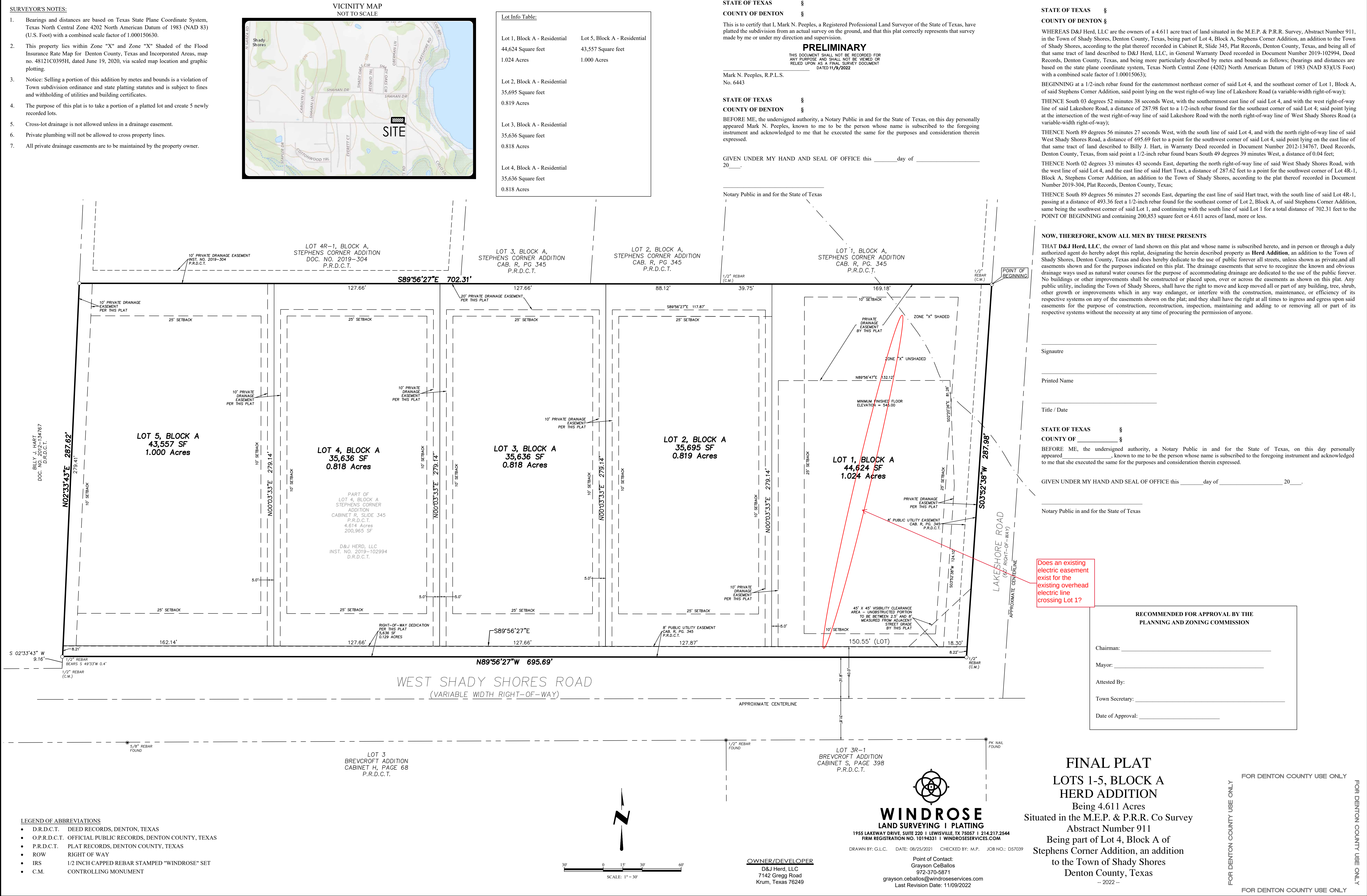
INDEX of SHEETS	
Sheet No.	Title
2	FINAL PLAT
3	UTILITY PLAN
4	GRADING PLAN
5	PRE-DEVELOPMENT DRAINAGE AREA MAP
6	POST-DEVELOPMENT DRAINAGE AREA MAP
7	DETENTION POND PLAN
8	DETENTION POND CALCULATIONS
9	EROSION CONTROL PLAN
10	DETAIL SHEET

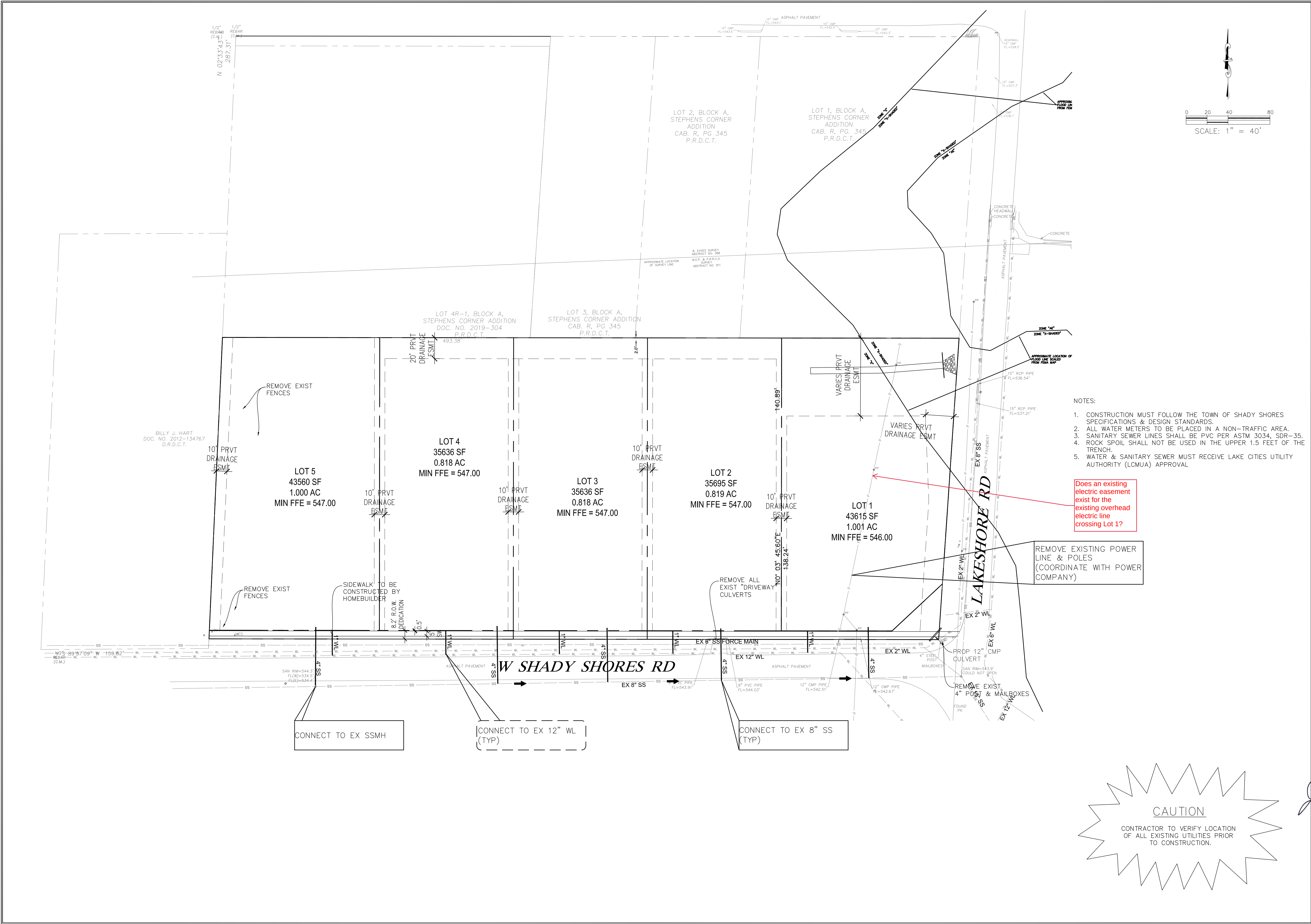
FINAL FOR CONSTRUCTION

NOVEMBER 2022



2101 CEDAR SPRINGS RD, STE 1050
DALLAS, TX 75201
972-554-1100 (OFFICE)
866-682-8129 (FAX)
TBPE Firm #: 9723



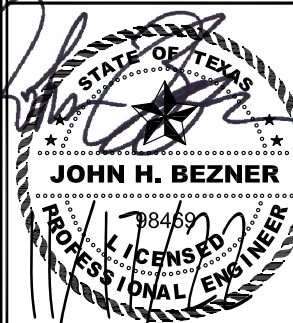


9101 LBJ FREEWAY, STE 300
DALLAS, TX 75243
972-554-1100 (Office)
1-866-682-8129 (Fax)
TBP Firm #: 9723

**CIVIL POINT**
ENGINEERS

PROJECT NAME: **HERD
ADDITION**
SHADY SHORES, TX

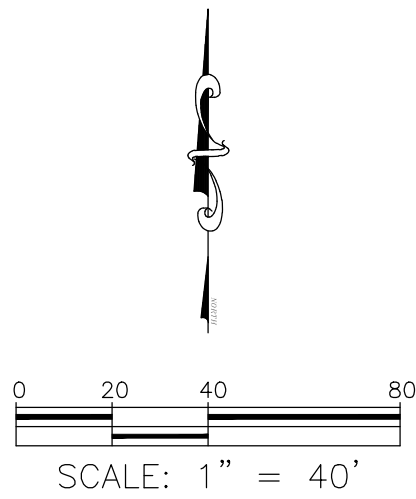
SHEET TITLE: **UTILITY PLAN**

**JOHN H. BEZNER**
PROFESSIONAL ENGINEER
STATE OF TEXAS
LICENSE NO. 78449

DATE 11-9-22
SCALE 1" = 40'
SHEET **3**
OF **10**



DATE	11-9-22
SCALE	1" = 40'
SHEET	4
OF	10



LEGEND

A1

5.71 ac.

17.13

DRAINAGE AREA NO.

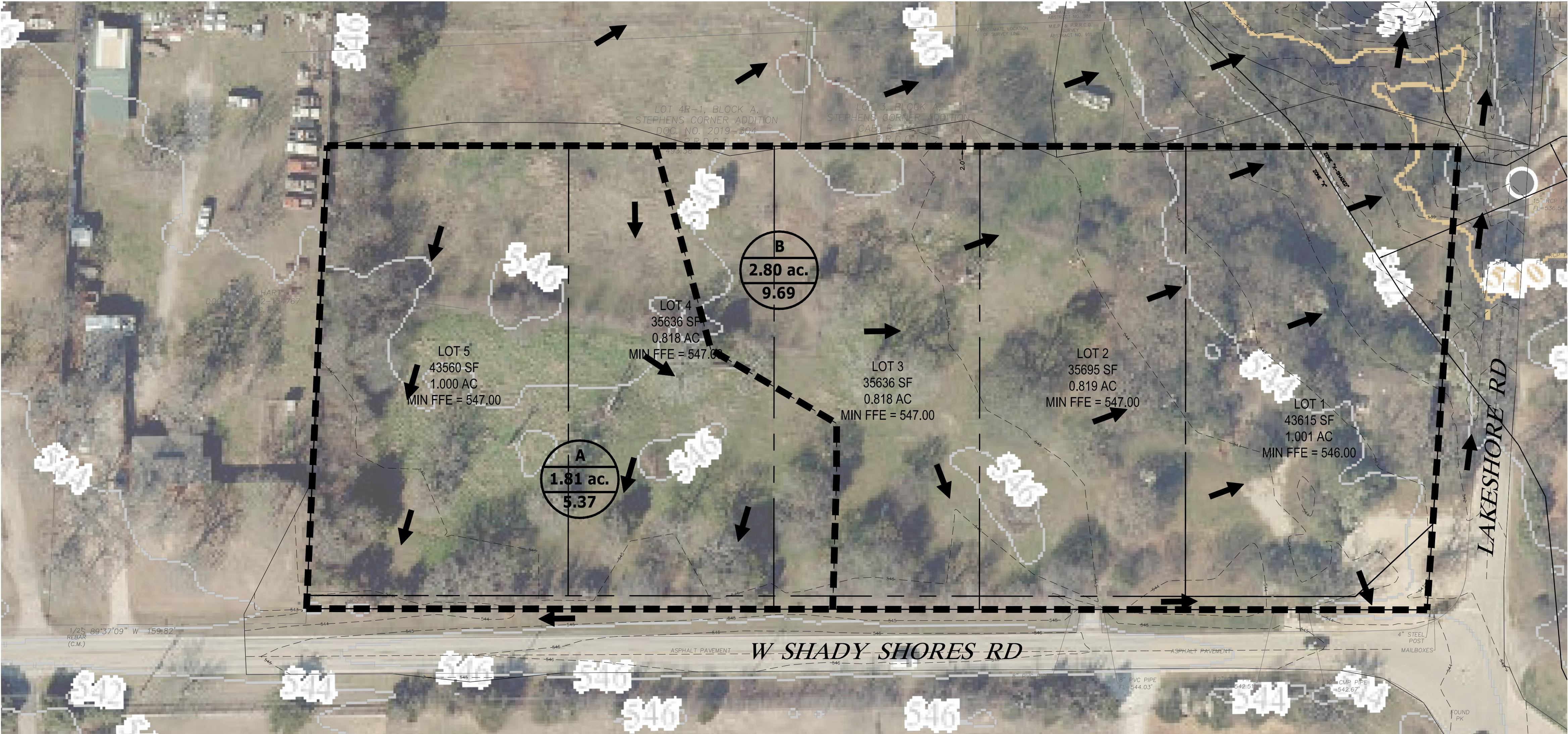
DRAINAGE AREA SIZE

DRAINAGE FLOW 100YR (CFS)

DRAINAGE FLOW DIRECTION

EXISTING CONTOUR

PROPOSED CONTOUR



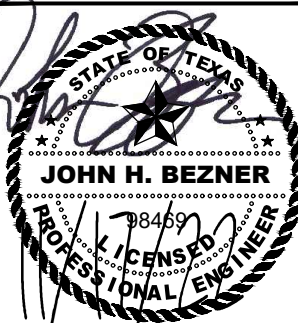
PRE-DEVELOPMENT DRAINAGE AREA CALCULATIONS																								
DRAINAGE	AREA			5 Yr			10 Yr			25 Yr			50 Yr			100 Yr			OUTFALL					
AREA #	(acre)	T/C	C	Cf	I (in/hr)	Q (cfs)	Cf	I (in/hr)	Q (cfs)	Cf	I (in/hr)	Q (cfs)	Cf	I (in/hr)	Q (cfs)	Cf	I (in/hr)	Q (cfs)	Cf	I (in/hr)	Q (cfs)			
A	1.81	15	0.30	1.0	4.85	2.63	1.0	5.50	2.99	1.1	6.41	3.83	1.2	7.14	4.65	1.25	7.91	5.37	W SHADY SHORES RD					
B	2.80	15	0.35	1.0	4.85	4.75	1.0	5.50	5.39	1.1	6.41	6.91	1.2	7.14	8.40	1.25	7.91	9.69	LAKESHORE RD					

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1-866-682-8129 (Fax)
TBPE Firm #: 9723



PROJECT NAME:
**HERD
ADDITION**
SHADY SHORES, TX

SHEET TITLE:
**PRE-DEVELOPMENT
DRAINAGE AREA MAP**



DATE 11-9-22
SCALE 1" = 40'
SHEET **5**
OF **10**

West Shady Shores Rd Ditch Calculation

East Shady Shores Rd Ditch Calculation

Lakeshore Rd Ditch

Section

Elev. (ft)

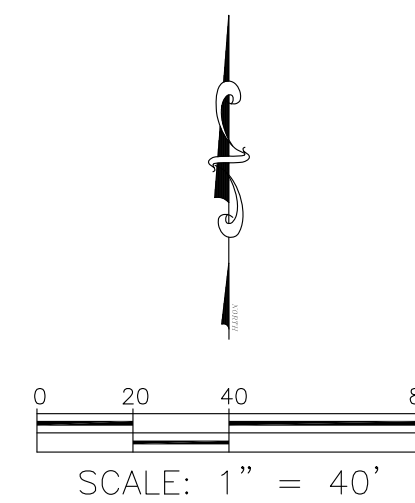
Depth (ft)

Reach (ft)

Lots 1 - 5 Culvert Calcs

Figure 1 is a 3D surface plot titled "Lake 1 - 5 Culvert Calcs". The vertical axis represents "Elev (ft)" ranging from 54.00 to 56.00. The horizontal axis represents "Reach (ft)" ranging from 0 to 28. The depth axis represents "Lake Depth (ft)" with values 0.13, 0.53, 1.13, and 2.13. Three surfaces are plotted: "Circular Culvert" (light gray), "MG1" (medium gray), and "Bridge" (dark gray). The Bridge surface is the highest, followed by MG1, and then the Circular Culvert. All surfaces show an increase in elevation as the reach increases and as the lake depth increases.

PROP 12-IN CMP CULVERT CALC



A1
5.71 ac.
17.13

DRAINAGE AREA NO.
DRAINAGE AREA SIZE
DRAINAGE FLOW 100YR (CFS)

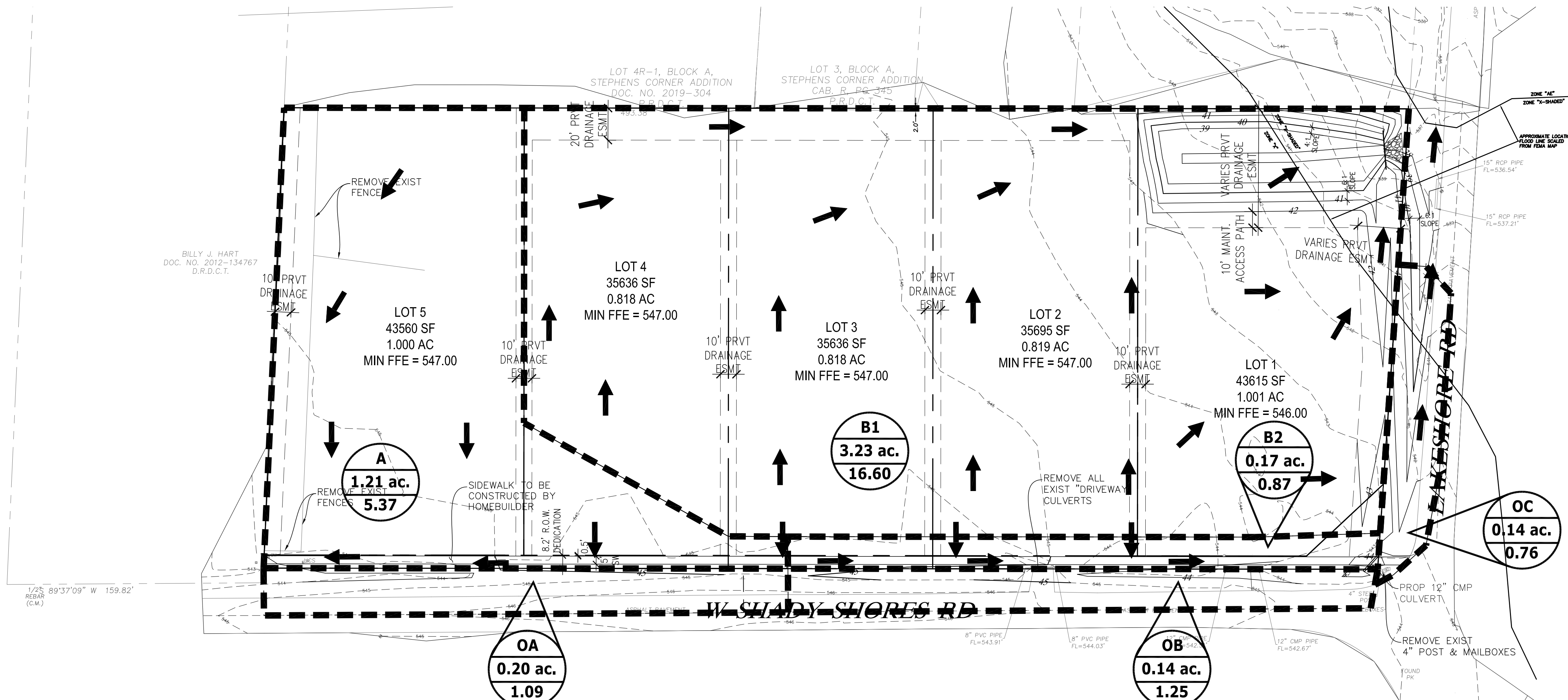
DRAINAGE FLOW DIRECTION

EXISTING CONTOUR

PROPOSED CONTOUR

Prop. Lot	Size (in)
1	12
2	12
3	12
4	12
5	12

NOTE: HOMEBUILDER TO REPLACE/INSTALL CULVERTS
CULVERT WILL NOT BE REQUIRED FOR LOT 5



DRAINAGE	AREA			5 Yr			10 Yr			25 Yr			50 Yr			100 Yr			OUTFALL
AREA #	(acre)	T/C	C	Cf	I (in/hr)	Q (cfs)	Cf	I (in/hr)	Q (cfs)	Cf	I (in/hr)	Q (cfs)	Cf	I (in/hr)	Q (cfs)	Cf	I (in/hr)	Q (cfs)	
A	1.21	15	0.45	1.0	4.85	2.64	1.0	5.50	2.99	1.1	6.41	3.83	1.2	7.14	4.66	1.25	7.91	5.37	W SHADY SHORES RD
B1	3.23	15	0.52	1.0	4.85	8.14	1.0	5.50	9.23	1.1	6.41	11.84	1.2	7.14	14.39	1.25	7.91	16.60	LAKESHORE RD
B2	0.17	15	0.52	1.0	4.85	0.43	1.0	5.50	0.49	1.1	6.41	0.62	1.2	7.14	0.76	1.25	7.91	0.87	W SHADY SHORES RD
OA	0.20	15	0.55	1.0	4.85	0.53	1.0	5.50	0.61	1.1	6.41	0.78	1.2	7.14	0.94	1.25	7.91	1.09	W Ditch Shady Shores
OB	0.23	15	0.55	1.0	4.85	0.61	1.0	5.50	0.70	1.1	6.41	0.89	1.2	7.14	1.08	1.25	7.91	1.25	E Ditch Shady Shores
OC	0.14	15	0.55	1.0	4.85	0.37	1.0	5.50	0.42	1.1	6.41	0.54	1.2	7.14	0.66	1.25	7.91	0.76	North Lakeshore Rd

9101 LBj FREEWAY, STE 300
DALLAS, TX 75243
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1-866-682-8129 (Fax)
TBPE Firm #: 9723

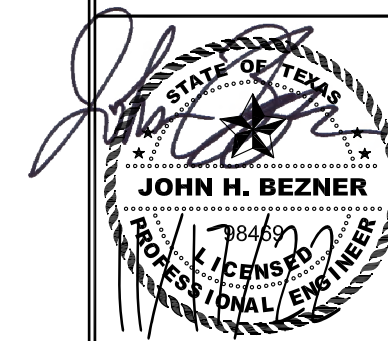


CIVIL POINT

NAME: **HERD
ADDITION
SHADY SHORES, TX**

TITLE: *POST-DEVELOPMENT
DRAINAGE AREA MAP*

SHEET TITLE:



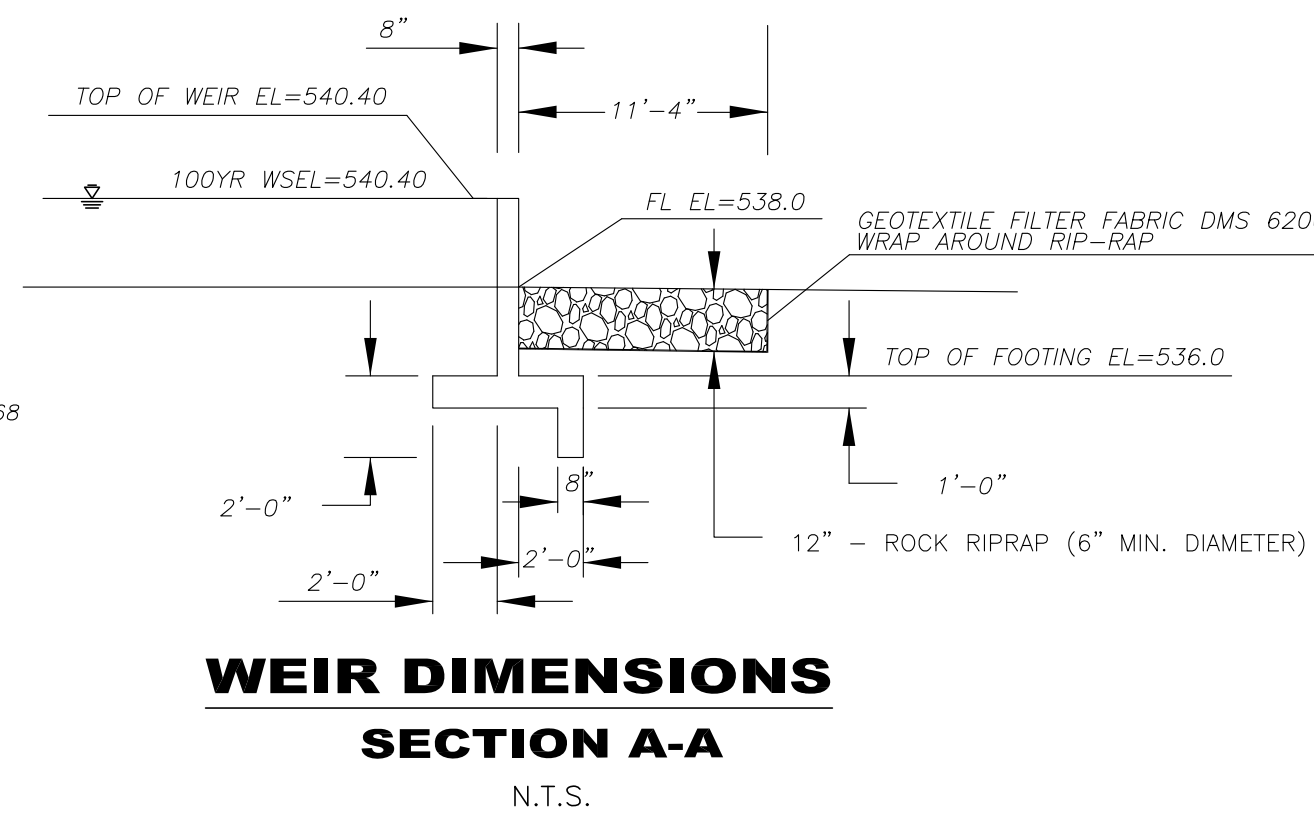
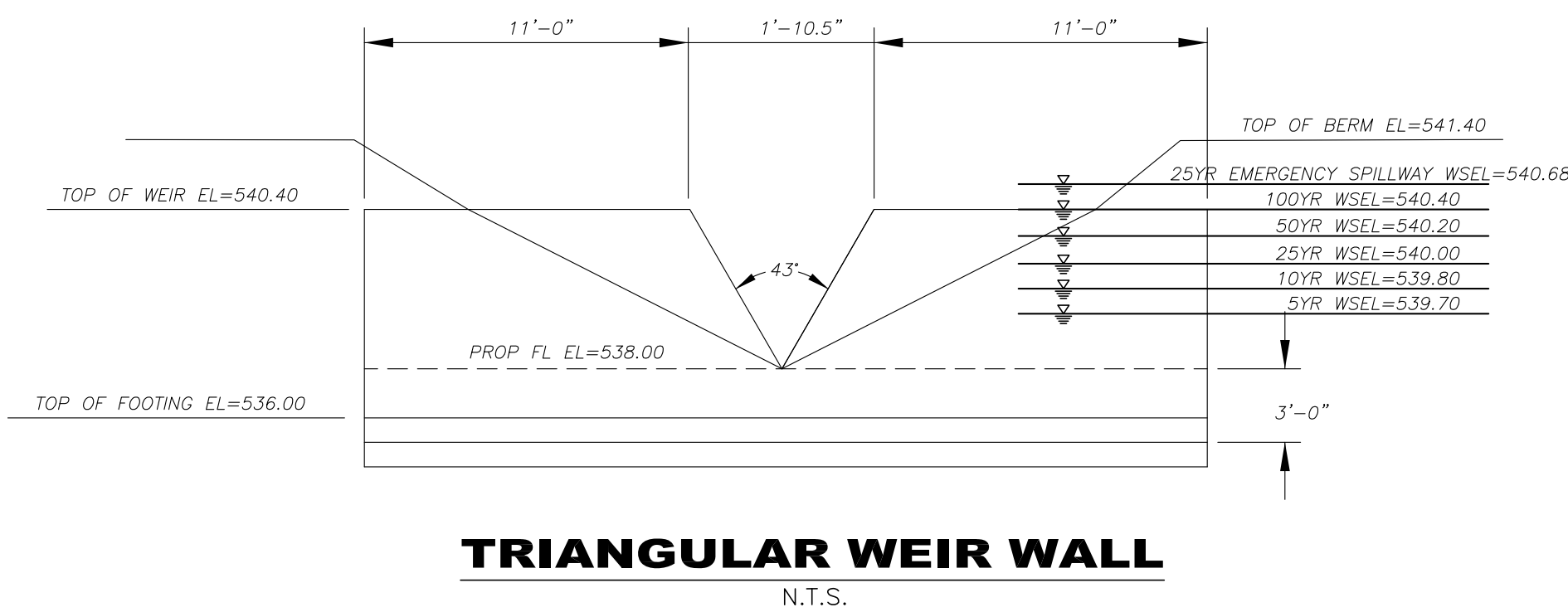
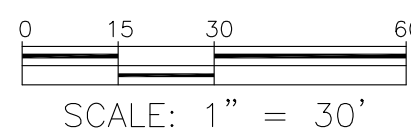
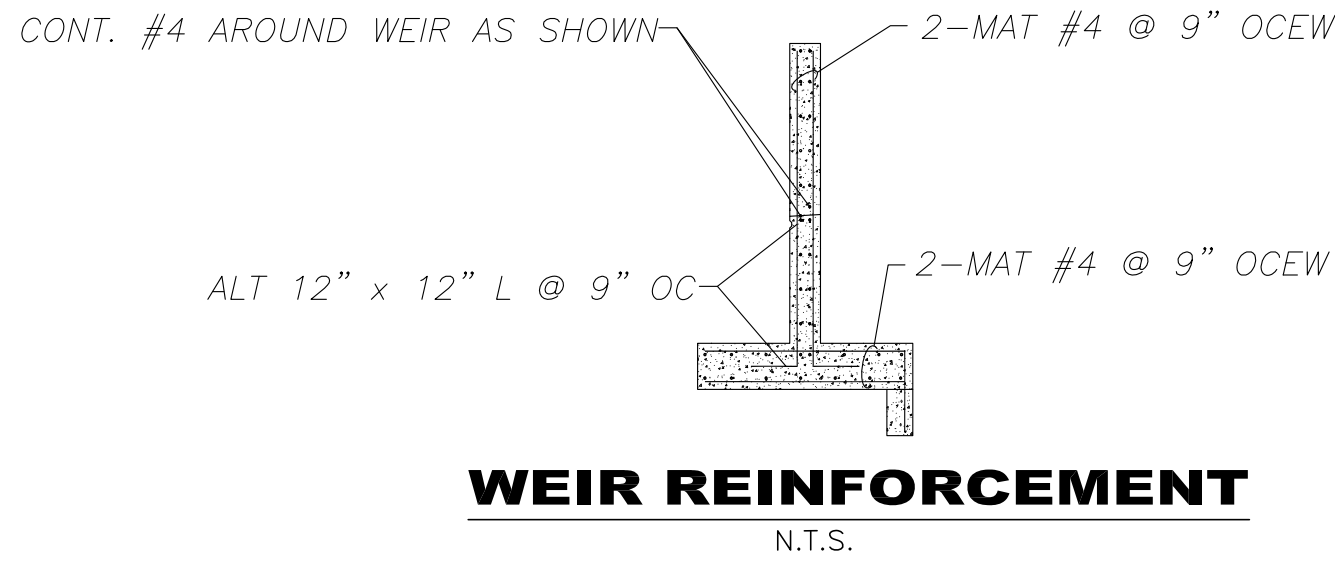
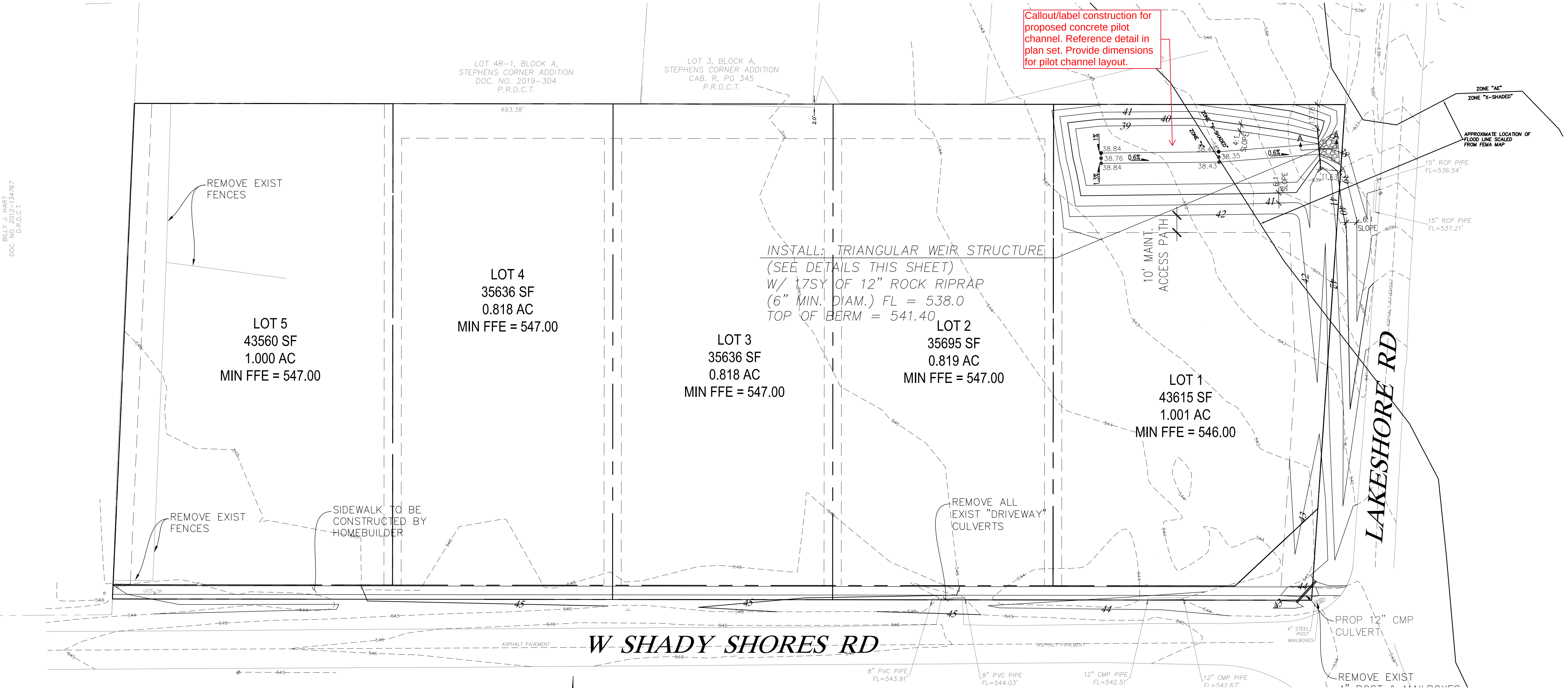
DATE	11-9-22
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SCALE 1" = 40'

SHEET 6

OF 10

BILLY J. HART
DOC. NO. 2019-304
P.R.D.C.T.



D1 VOLUME CALCULATIONS					
ELEVATION (ft)	AREA (sf)	AVE AREA (sf)	INCR DEPTH (ft)	INCR VOLUME (cf)	CUMM VOLUME (cf)
538					
539	4153	2076.5	1	2076.5	2076.5
540	5702	4927.5	1	4927.5	7004.0
541	7359	6530.5	1	6530.5	13534.5

25YR Event Emergency Spillway

Trapezoidal Weir
Crest = Sharp
Bottom Length (ft) = 17.00
Total Depth (ft) = 1.00
Side Slope (z:1) = 4.00

Calculations
Weir Coeff. Cw = 3.10
Compute by: Known Q
Known Q (cfs) = 13.77

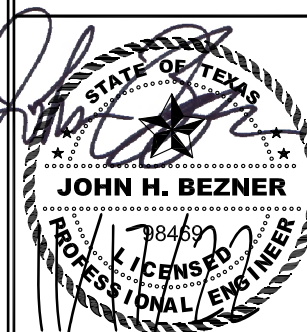
Highlighted
Depth (ft) = 0.39
Q (cfs) = 13.77
Area (sqft) = 7.24
Velocity (ft/s) = 1.90
Top Width (ft) = 20.12

9101 LBJ FREEWAY, STE 300
DALLAS, TX 75243
972-554-1100 (Office)
1-866-682-8129 (Fax)
TBPE Firm #: 9723



PROJECT NAME: **HERD ADDITION**
SHADY SHORES, TX

SHEET TITLE: **DETENTION POND PLAN**



DATE 11-9-22
SCALE 1" = 20'
SHEET **7**
OF **10**

100Yr Weir Calculations

V-Notch Weir		Highlighted	
Crest	= Sharp	Depth (ft)	= 2.39
Angle (Deg)	= 43	Q (cfs)	= 8.531
Total Depth (ft)	= 2.40	Area (sqft)	= 2.25
		Velocity (ft/s)	= 3.92
		Top Width (ft)	= 1.88
Calculations			
Weir Coeff. Cw	= 1.00		
Compute by:	Known Depth		
Known Depth (ft)	= 2.39		

50Yr Weir Calculations

V-Notch Weir		Highlighted	
Crest	= Sharp	Depth (ft)	= 2.20
Angle (Deg)	= 43	Q (cfs)	= 7.179
Total Depth (ft)	= 2.40	Area (sqft)	= 1.91
		Velocity (ft/s)	= 3.77
		Top Width (ft)	= 1.73
Calculations			
Weir Coeff. Cw	= 1.00		
Compute by:	Known Depth		
Known Depth (ft)	= 2.20		

25Yr Weir Calculations

V-Notch Weir		Highlighted	
Crest	= Sharp	Depth (ft)	= 2.00
Angle (Deg)	= 43	Q (cfs)	= 5.657
Total Depth (ft)	= 2.40	Area (sqft)	= 1.58
		Velocity (ft/s)	= 3.59
		Top Width (ft)	= 1.58
Calculations			
Weir Coeff. Cw	= 1.00		
Compute by:	Known Depth		
Known Depth (ft)	= 2.00		

10Yr Weir Calculations

V-Notch Weir		Highlighted	
Crest	= Sharp	Depth (ft)	= 1.80
Angle (Deg)	= 43	Q (cfs)	= 4.347
Total Depth (ft)	= 2.40	Area (sqft)	= 1.28
		Velocity (ft/s)	= 3.41
		Top Width (ft)	= 1.42
Calculations			
Weir Coeff. Cw	= 1.00		
Compute by:	Known Depth		
Known Depth (ft)	= 1.80		

5Yr Weir Calculations

V-Notch Weir		Highlighted	
Crest	= Sharp	Depth (ft)	= 1.70
Angle (Deg)	= 43	Q (cfs)	= 3.768
Total Depth (ft)	= 2.40	Area (sqft)	= 1.14
		Velocity (ft/s)	= 3.31
		Top Width (ft)	= 1.34
Calculations			
Weir Coeff. Cw	= 1.00		
Compute by:	Known Depth		
Known Depth (ft)	= 1.70		

revise all column labels (typ) C x Cf

100 Yr Modified Rational Method Detention Pond Design

Project Description: **Herd Addition E** Date: **11/9/2022**

Step		C	Rainfall Intensity, I Tc I (in/hr)	A (acres)	Q peak (cfs)	Qrelease (cfs)	Qpeak (cfs)
1	Exist. Cond.	0.44	15	7.91	2.80	9.75	8.88
2	Prop. Cond.	0.65	15	7.91	3.23	16.81	16.61

Time Step 3	Td Duration (min)	C	I (in/hr)	A (acres)	Q peak (cfs)	Volume (ft³)			Volume (acre-ft) Previous Col./43,560
						Inflow Td*Q*60	Outflow .5*(Tc+Td)*Qo*60	Req. Storage Inflow - Outflow	
1	10	0.65	9.24	3.23	19.40	11,640	6,656	4,983	0.11
2	20	0.65	6.96	3.23	14.61	17,535	9,319	8,216	0.19
3	30	0.65	5.66	3.23	11.88	21,390	11,981	9,408	0.22
4	40	0.65	4.82	3.23	10.12	24,287	14,644	9,643	0.22
5	50	0.65	4.22	3.23	8.86	26,580	17,306	9,273	0.21
6	60	0.65	3.77	3.23	7.92	28,494	19,969	8,525	0.20
7	70	0.65	3.41	3.23	7.17	30,086	22,632	7,455	0.17
8	80	0.65	3.13	3.23	6.57	31,538	25,294	6,234	0.14
9	90	0.65	2.89	3.23	6.07	32,805	27,957	4,848	0.11

Note: 1. The use of the Modified Rational Method for detention design, is limited to drainage basins with less than 200 acres.
2. The detention pond shall be designed using the 2, 10, 25, & 100-year storm peak flows.

Step 4. 100 Yr Max Required Storage (cf) **9643**

revise all column labels (typ) C x Cf

50 Yr Modified Rational Method Detention Pond Design

Project Description: **Herd Addition** Date: **11/17/2022**

Step		C	Rainfall Intensity, I Tc I (in/hr)	A (acres)	Q peak (cfs)	Qrelease (cfs)	Qpeak (cfs)
1	Exist. Cond.	0.42	15	7.14	2.80	8.40	7.64
2	Prop. Cond.	0.62	15	7.14	3.23	14.30	14.30

Time Step 3	Td Duration (min)	C	I (in/hr)	A (acres)	Q peak (cfs)	Volume (ft³)			Volume (acre-ft) Previous Col./43,560
						Inflow Td*Q*60	Outflow .5*(Tc+Td)*Qo*60	Req. Storage Inflow - Outflow	
1	10	0.62	8.36	3.23	16.74	10,045	5,727	4,318	0.10
2	20	0.62	6.27	3.23	12.56	15,068	8,018	7,049	0.16
3	30	0.62	5.09	3.23	10.19	18,348	10,309	8,038	0.18
4	40	0.62	4.32	3.23	8.65	20,763	12,600	8,163	0.19
5	50	0.62	3.77	3.23	7.55	22,649	14,891	7,758	0.18
6	60	0.62	3.36	3.23	6.73	24,223	17,182	7,041	0.16
7	70	0.62	3.04	3.23	6.10	25,600	19,473	6,127	0.14
8	80	0.62	2.79	3.23	5.58	26,782	21,764	5,018	0.12
9	90	0.62	2.57	3.23	5.15	27,834	24,055	3,778	0.09

Note: 1. The use of the Modified Rational Method for detention design, is limited to drainage basins with less than 200 acres.
2. The detention pond shall be designed using the 2, 10, 25, & 100-year storm peak flows.

Step 4. 50 Yr Max Required Storage (cf) **8163**

revise all column labels (typ) C x Cf

25 Yr Modified Rational Method Detention Pond Design

Project Description: **Herd Addition** Date: **11/17/2022**

Step		C	Rainfall Intensity, I Tc I (in/hr)	A (acres)	Q peak (cfs)	Qrelease (cfs)	Qpeak (cfs)
1	Exist. Cond.	0.39	15	6.41	2.80	6.91	6.29
2	Prop. Cond.	0.57	15	6.41	3.23	11.84	11.84

Time Step 3	Td Duration (min)	C	I (in/hr)	A (acres)	Q peak (cfs)	Volume (ft³)			Volume (acre-ft) Previous Col./43,560
						Inflow Td*Q*60	Outflow .5*(Tc+Td)*Qo*60	Req. Storage Inflow - Outflow	
1	10	0.57	7.55	3.23	13.96	8,373	4,717	3,656	0.08
2	20	0.57	5.60	3.23	10.34	12,411	6,604	5,807	0.13
3	30	0.57	4.51	3.23	8.34	15,015	8,491	6,524	0.15
4	40	0.57	3.82	3.23	7.05	16,926	10,378	6,548	0.15
5	50	0.57	3.33	3.23	6.15	18,436	12,265	6,171	0.14
6	60	0.57	2.96	3.23	5.47	19,685	14,152	5,533	0.13
7	70	0.57	2.67	3.23	4.94	20,753	16,039	4,713	0.11
8	80	0.57	2.45	3.23	4.52	21,686	17,926	3,760	0.09
9	90	0.57	2.26	3.23	4.17	22,517	19,813	2,703	0.06

Note: 1. The use of the Modified Rational Method for detention design, is limited to drainage basins with less than 200 acres.
2. The detention pond shall be designed using the 2, 10, 25, & 100-year storm peak flows.

Step 4. 25 Yr Max Required Storage (cf) **6548**

revise all column labels (typ) C x Cf

10 Yr Modified Rational Method Detention Pond Design

Project Description: **Herd Addition** Date: **11/17/2022**

Step		C	Rainfall Intensity, I Tc I (in/hr)	A (acres)	Q peak (cfs)	Qrelease (cfs)	Qpeak (cfs)
1	Exist. Cond.	0.35	15	5.50	2.80	5.39	4.90
2	Prop. Cond.	0.52	15	5.50	3.23	9.24	9.24

Time Step 3	Td Duration (min)	C	I (in/hr)	A (acres)	Q peak (cfs)	Volume (ft³)			Volume (acre-ft) Previous Col./43,560
						Inflow Td*Q*60	Outflow .5*(Tc+Td)*Qo*60	Req. Storage Inflow - Outflow	
1	10	0.52	6.50	3.23	10.92	6,550	3,675	2,875	0.07
2	20	0.52	4.79	3.23	8.04	9,653	5,145	4,508	0.10
3	30	0.52	3.85	3.23	6.46	11,630	6,615	5,015	0.12
4	40	0.52	3.24	3.23	5.44	13,068	8,085	4,983	0.11
5	50	0.52	2.82	3.23	4.73	14,196	9,555	4,641	0.11
6	60	0.52	2.50	3.23	4.20	15,124	11,025	4,099	0.09
7	70	0.52	2.26	3.23	3.79	15,913	12,495	3,418	0.08
8	80	0.52	2.06	3.23	3.46	16,600	13,965	2,635	0.06
9	90	0.52	1.90	3.23	3.19	17,209	15,435	1,774	0.04

Note: 1. The use of the Modified Rational Method for detention design, is limited to drainage basins with less than 200 acres.
2. The detention pond shall be designed using the 2, 10, 25, & 100-year storm peak flows.

Step 4. 10 Yr Max Required Storage (cf) **5015**

revise all column labels (typ) C x Cf

5 Yr Modified Rational Method Detention Pond Design

Project Description: **Herd Addition** Date: **11/17/2022**

Step		C	Rainfall Intensity, I Tc I (in/hr)	A (acres)	Q peak (cfs)	Qrelease (cfs)	Qpeak (cfs)
1	Exist. Cond.	0.35	15	4.85	2.80	4.75	4.32
2	Prop. Cond.	0.52	15	4.85	3.23	8.15	8.15

Time Step 3	Td Duration (min)	C	I (in/hr)	A (acres)	Q peak (cfs)	Volume (ft³)			Volume (acre-ft) Previous Col./43,560
						Inflow Td*Q*60	Outflow .5*(Tc+Td)*Qo*60	Req. Storage Inflow - Outflow	
1	10	0.52	5.75	3.23	9.66	5,795	3,242	2,552	0.06
2	20	0.52	4.21	3.23	7.07	8,485	4,539	3,946	0.09
3	30	0.52	3.37	3.23	5.66	10,188	5,836	4,352	0.10
4	40	0.52	2.83	3.23	4.75	11,408	7,133	4,275	0.10
5	50	0.52	2.45	3.23	4.12	12,345	8,430	3,915	0.09
6	60	0.52	2.17	3.23	3.64	13,121	9,727	3,394	0.08
7	70	0.52	1.96	3.23	3.28	13,797	11,024	2,773	0.06
8	80	0.52	1.78	3.23	2.99	14,367	12,321	2,047	0.05
9	90	0.52	1.64	3.23	2.75	14,871	13,617	1,254	0.03

Note: 1. The use of the Modified Rational Method for detention design, is limited to drainage basins with less than 200 acres.
2. The detention pond shall be designed using the 2, 10, 25, & 100-year storm peak flows.

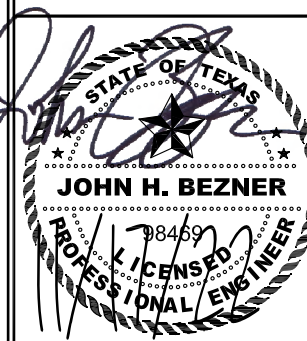
Step 4. 5 Yr Max Required Storage (cf) **4352**

9101 LBJ FREEWAY, STE 300
DALLAS, TX 75243
972-554-1100 (Office)
1-866-682-8129 (Fax)
TBPE Firm #: 9723

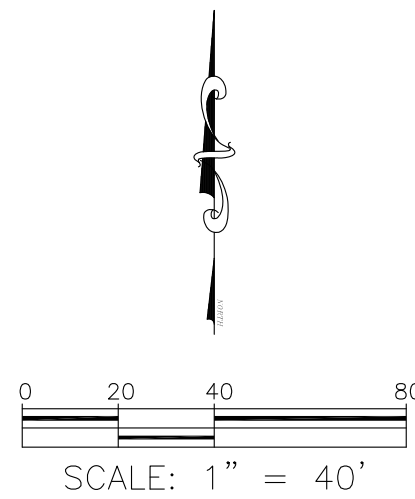
CIVIL POINT
ENGINEERS

PROJECT NAME: **HERD
ADDITION**
SHADY SHORES, TX

SHEET TITLE: **DETENTION POND
CALCULATIONS**



DATE **11-9-22**
SCALE **1" = 20'**
SHEET **8**
OF **10**



LEGEND

- SILT FENCE**
- EXISTING CONTOURS**
- PROPOSED CONTOURS**
- DRAINAGE FLOW DIRECTION**
- EROSION CONTROL LOG LOG DAM**

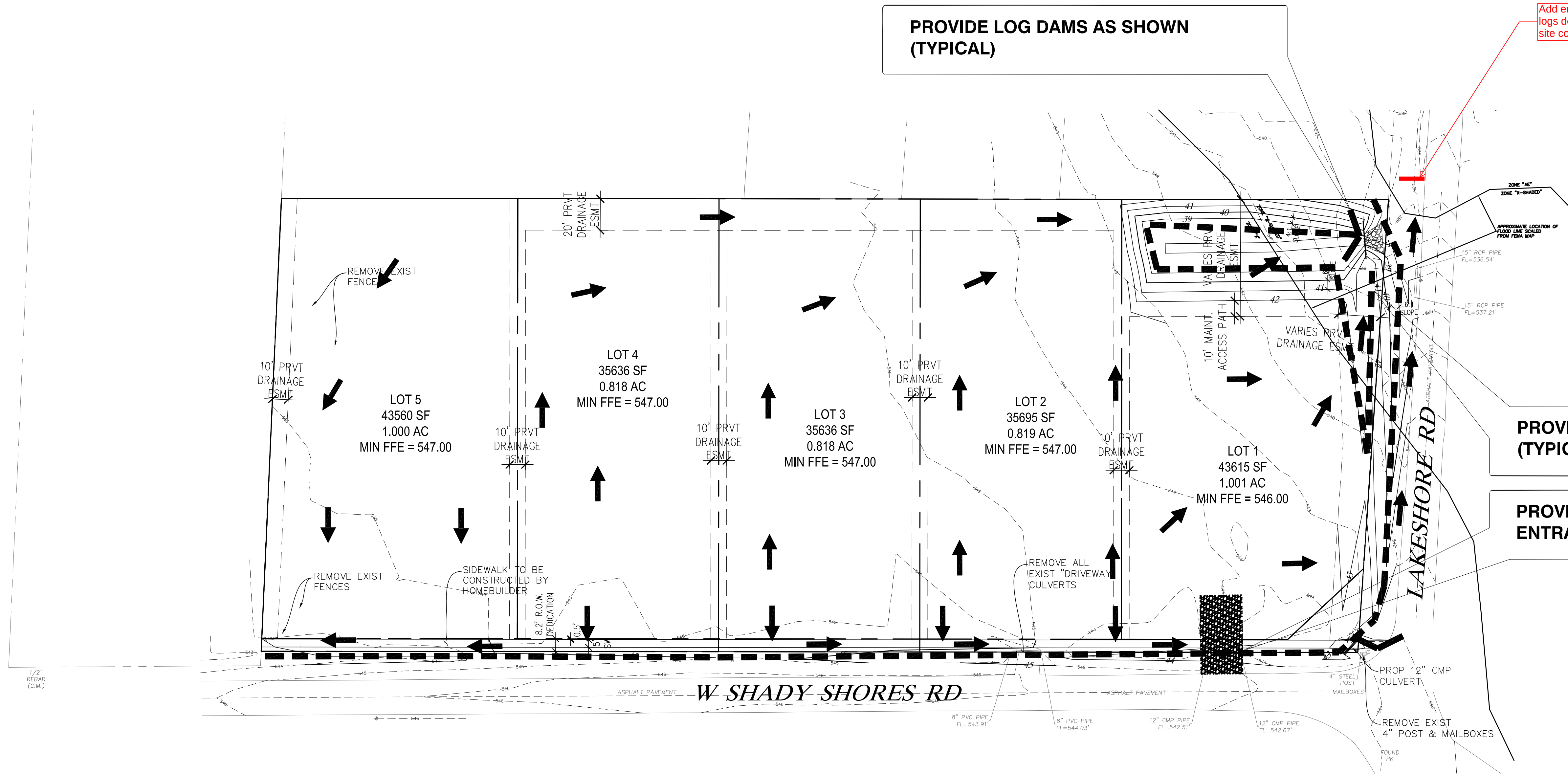
Add erosion control logs downstream of site construction

Revise symbol for e.c. log to better differentiate from silt fence linestyle.

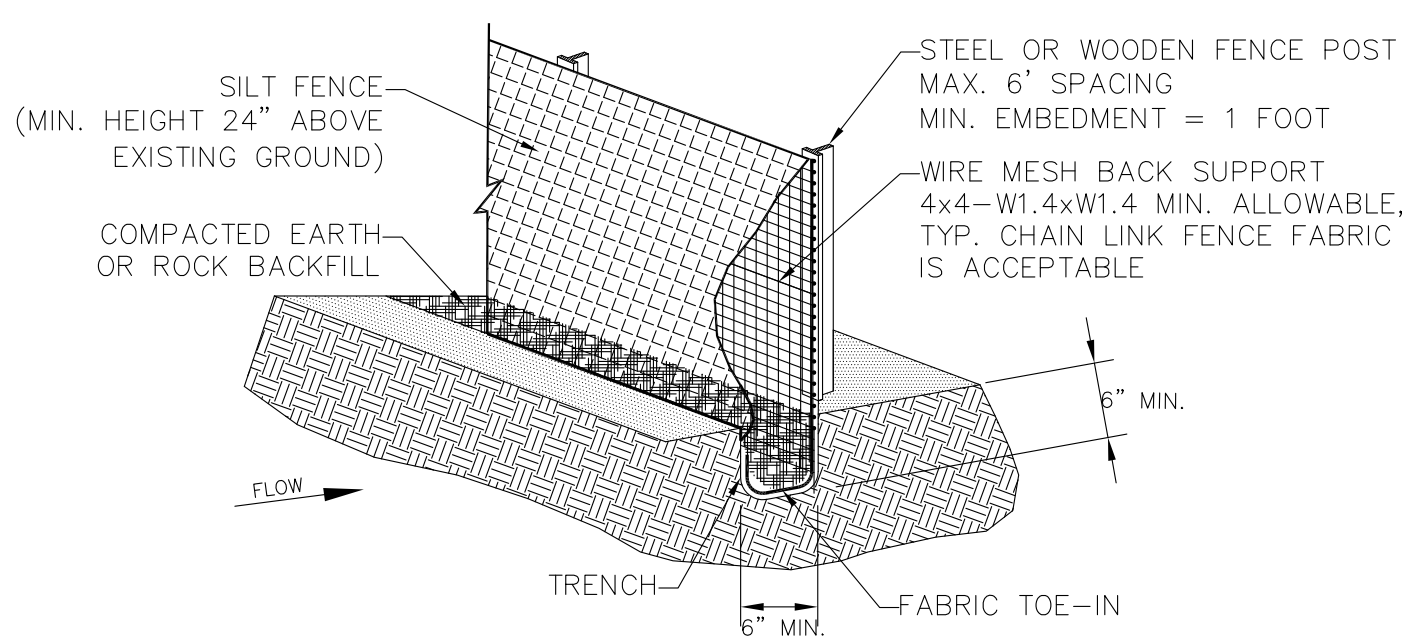
PROVIDE SILT FENCING ALONG AS SHOWN (TYPICAL)

PROVIDE TEMPORARY CONSTRUCTION ENTRANCE

PROVIDE LOG DAMS AS SHOWN (TYPICAL)



SILT FENCE
N.T.S.



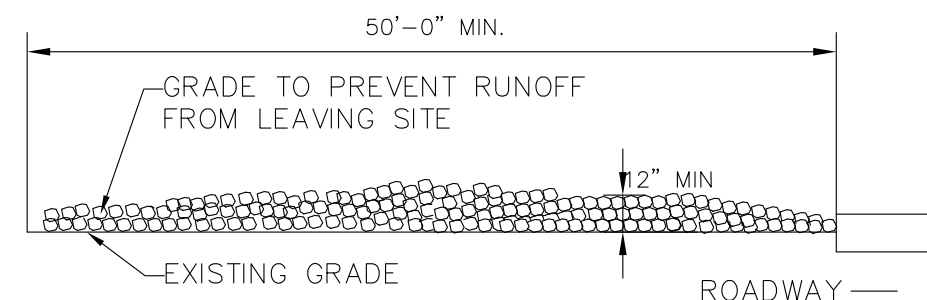
ISOMETRIC PLAN VIEW
N.T.S.

SILT FENCE GENERAL NOTES:

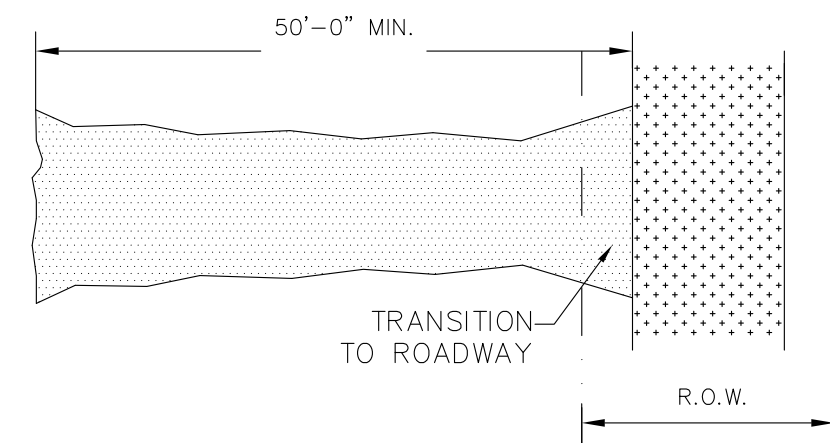
- STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF ONE FOOT.
- THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CAN NOT BE TREATED IN (e.g. pavement) WEIGHT FABRIC FLAP WITH WASHED GRAVEL ON UPHILL SIDE TO PREVENT FLOW UNDER FENCE.
- THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
- SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POSTS OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST.
- INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
- SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
- ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 INCHES. THE SILT SHALL BE DISPOSED OF IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.

- STONE SIZE- 3 TO 5 INCH OPEN GRADED ROCK NO CRUSH ROCK ALLOWED
- LENGTH- AS EFFECTIVE, BUT NOT LESS THAN 50 FEET.
- THICKNESS- NOT LESS THAN 12 INCHES.
- WIDTH- NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
- WASHING- WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED STRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH, OR WATERCOURSE USING APPROVED METHODS.
- MAINTENANCE- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
- DRAINAGE- ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

OWNER TO PROVIDE N.O.I. FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES AND PROVIDE A COPY TO THE CITY.

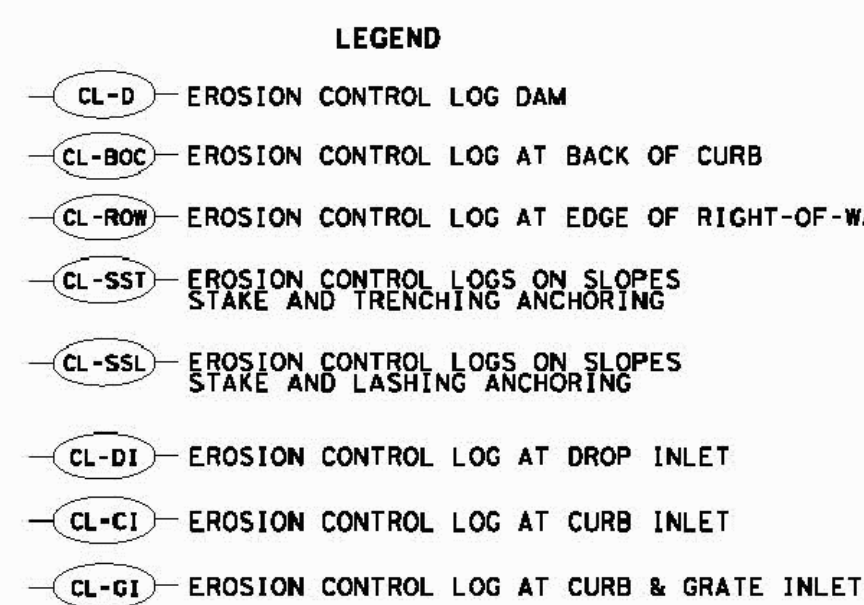


PROFILE



PLAN VIEW

STABILIZED CONSTRUCTION ENTRANCE/EXIT
N.T.S.



SEDIMENT BASIN & TRAP USAGE GUIDELINES

An erosion control log sediment trap may be used to filter sediment out of runoff draining from an unconsolidated area.

Log Traps: The drainage area for a log trap should be exposed 90 acres. The trap capacity should be 1800 CF/acre (0.5" over the drainage area).

Control logs should be placed in the following locations:

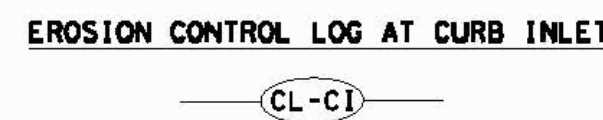
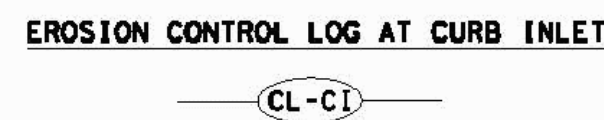
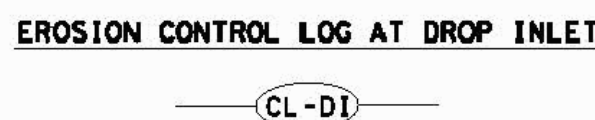
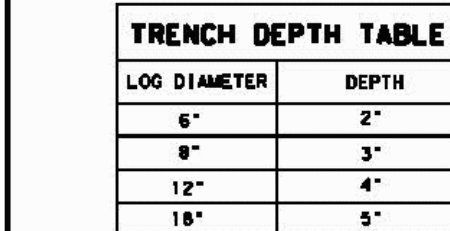
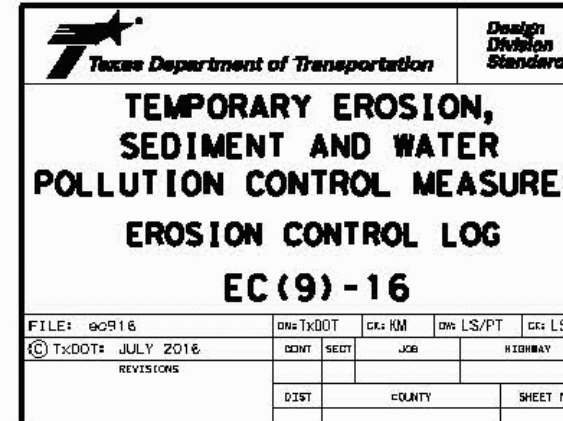
1. Upstream of ditches exposed as needed or also, 500' on center.
2. Immediately preceding drain inlets or drain inlets
3. Just before the drainage enters the water body
4. Just before the drainage leaves the right of way
5. Just before the drainage enters a ditch or water body

On lots where drainage flows away from the project, the trap should be cleaned when the sediment has accumulated to a depth of 1/2 inch or less.

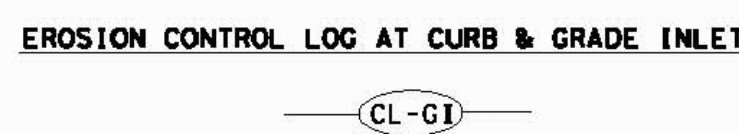
Cleaning and removal of accumulated sediment deposits is incidental and will not be paid for separately.



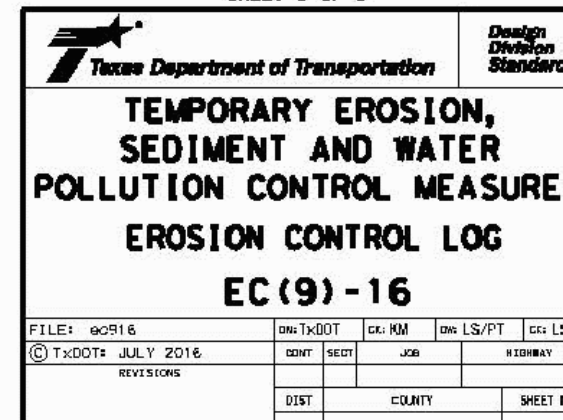
SHEET 1 OF 3



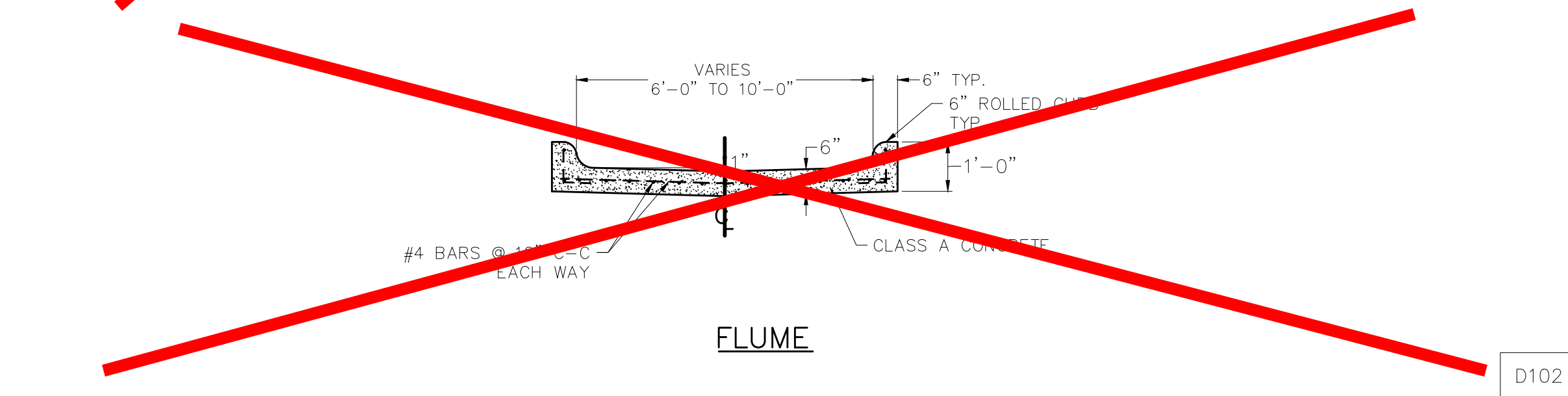
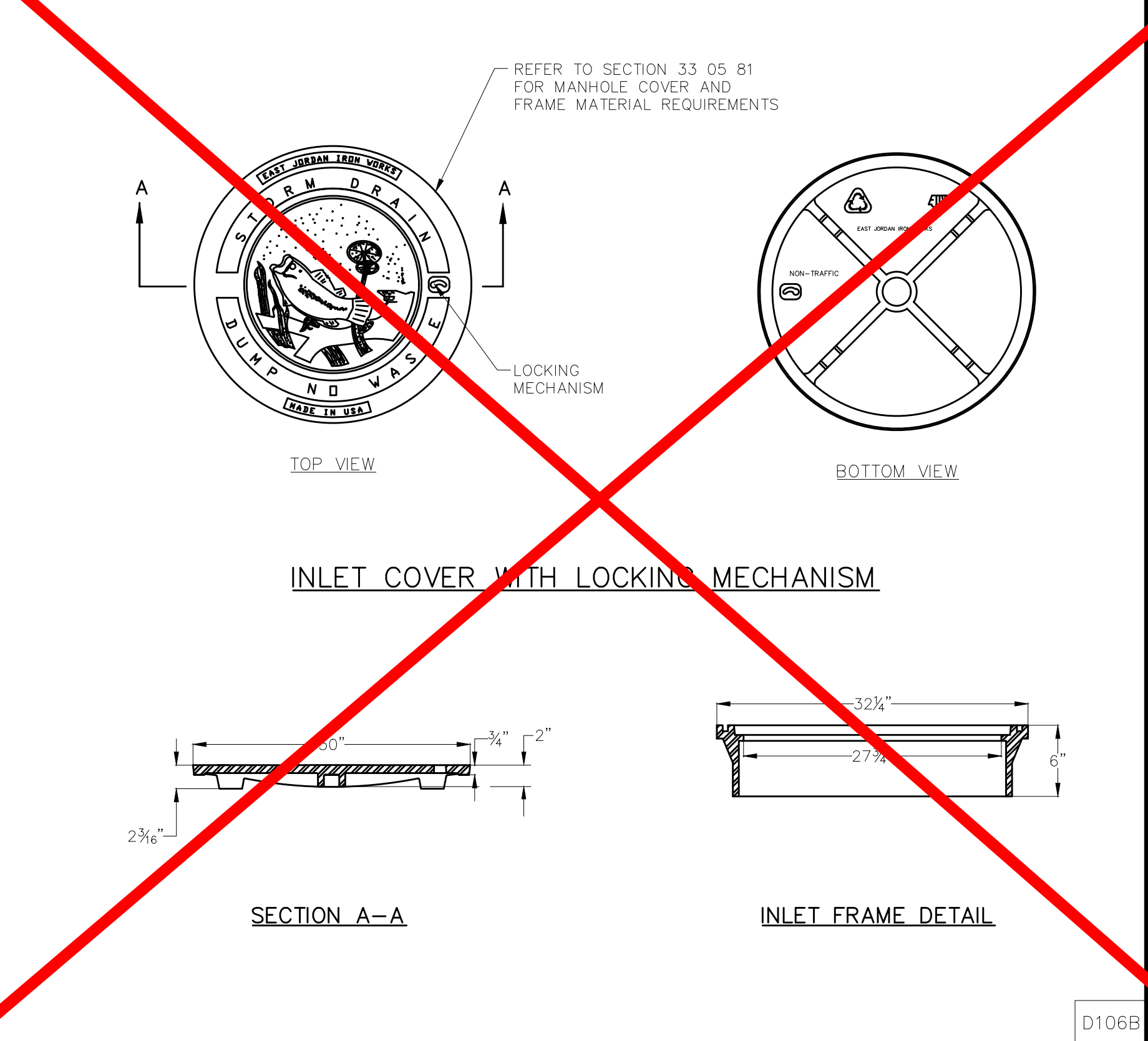
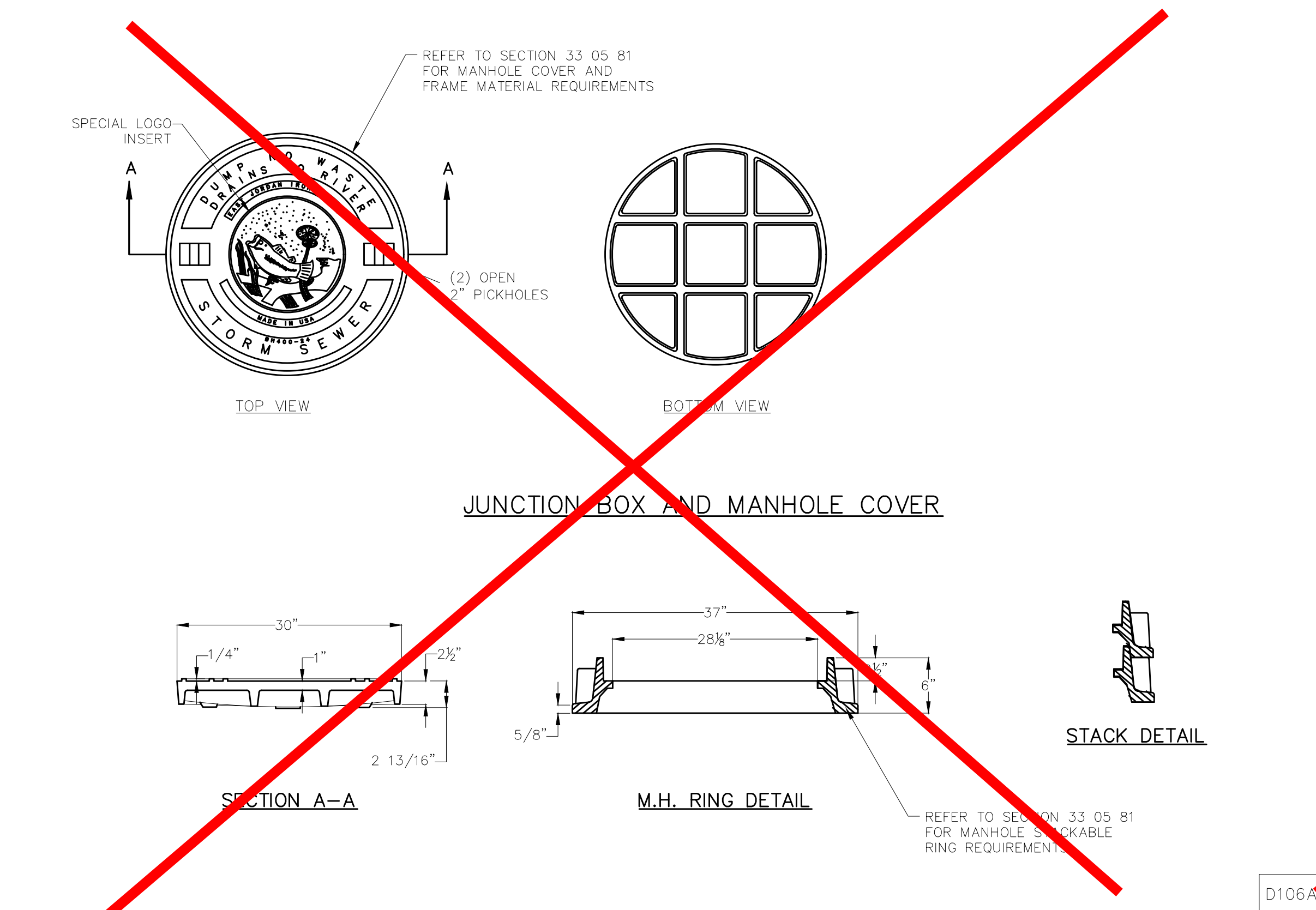
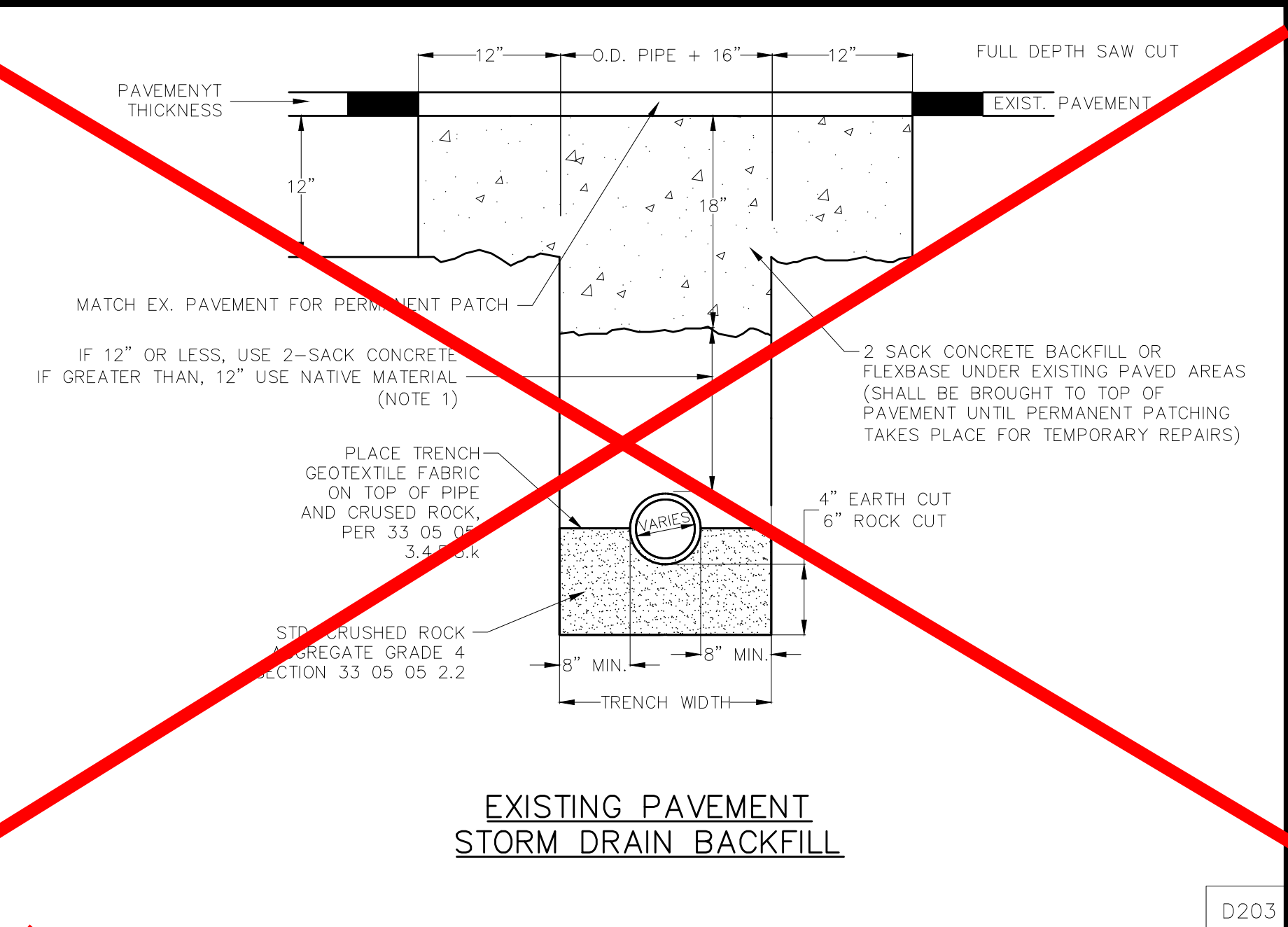
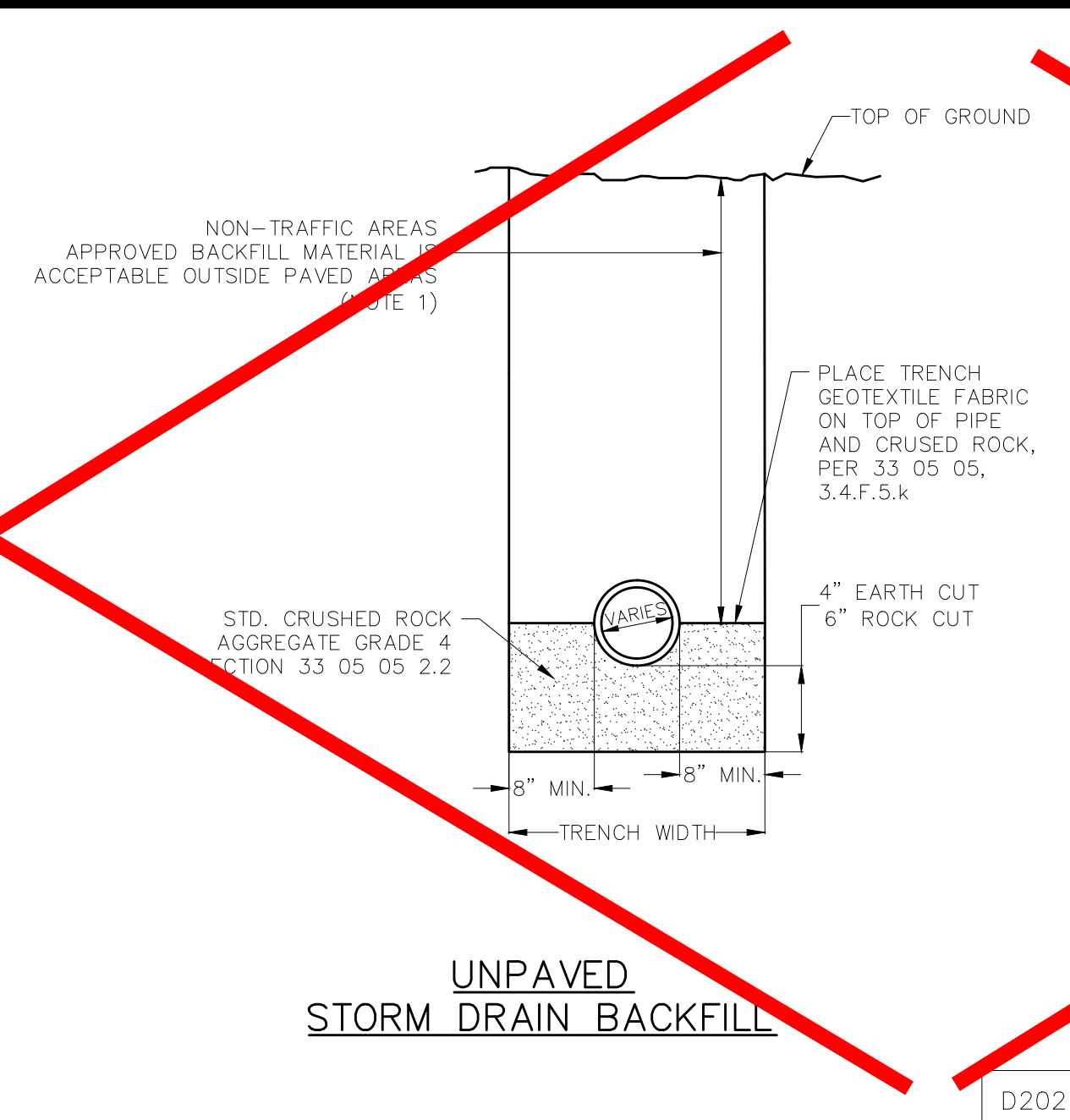
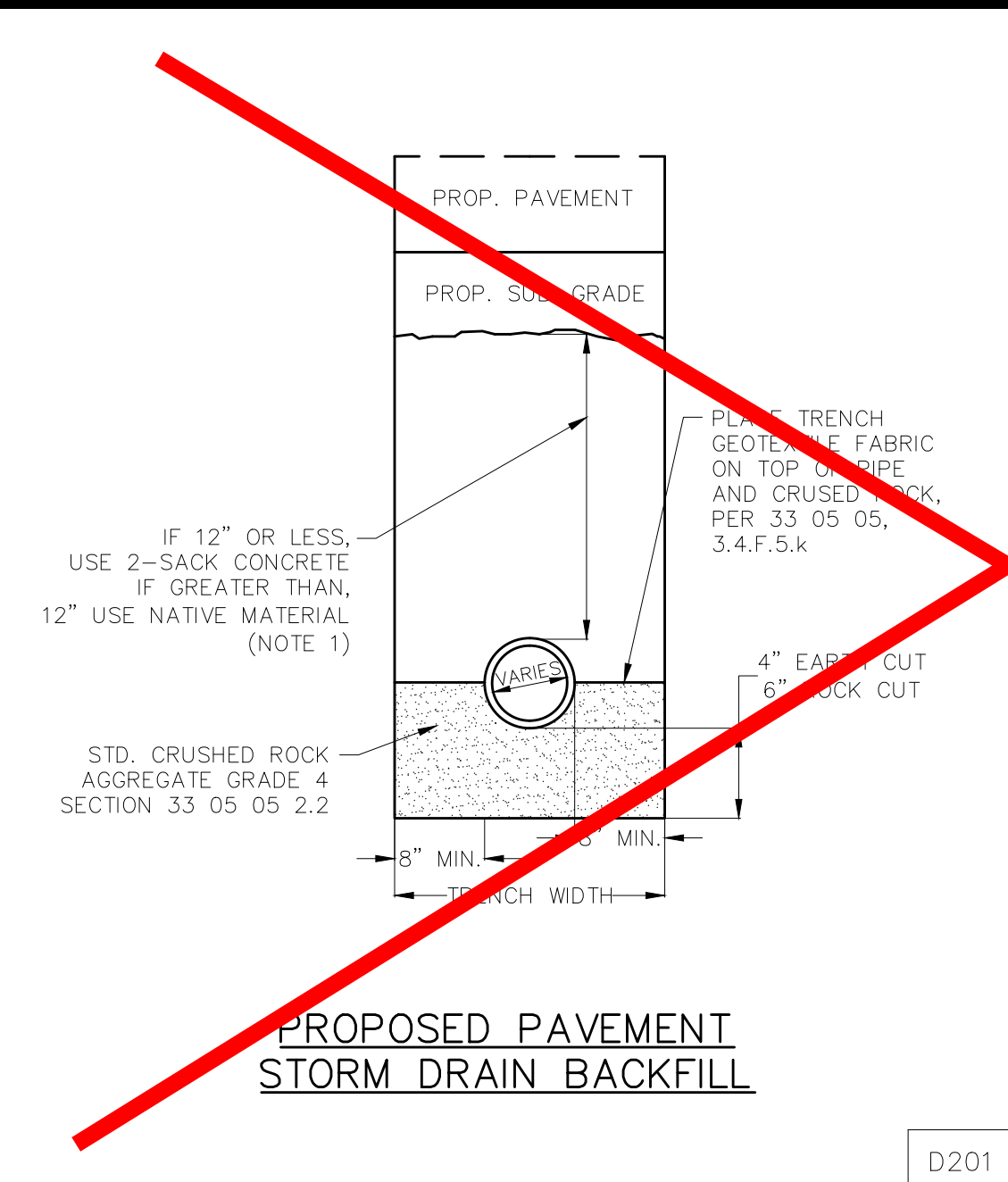
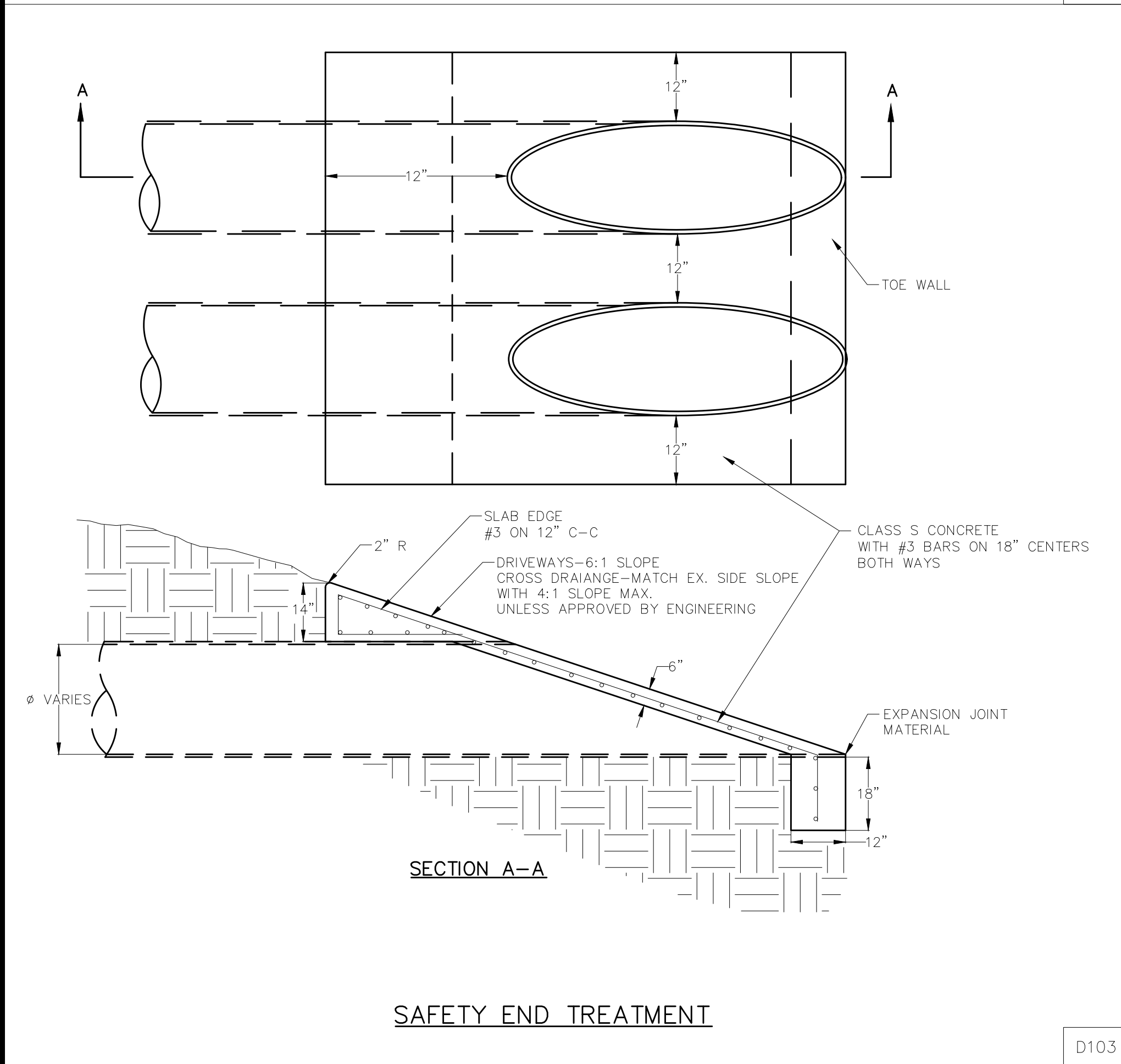
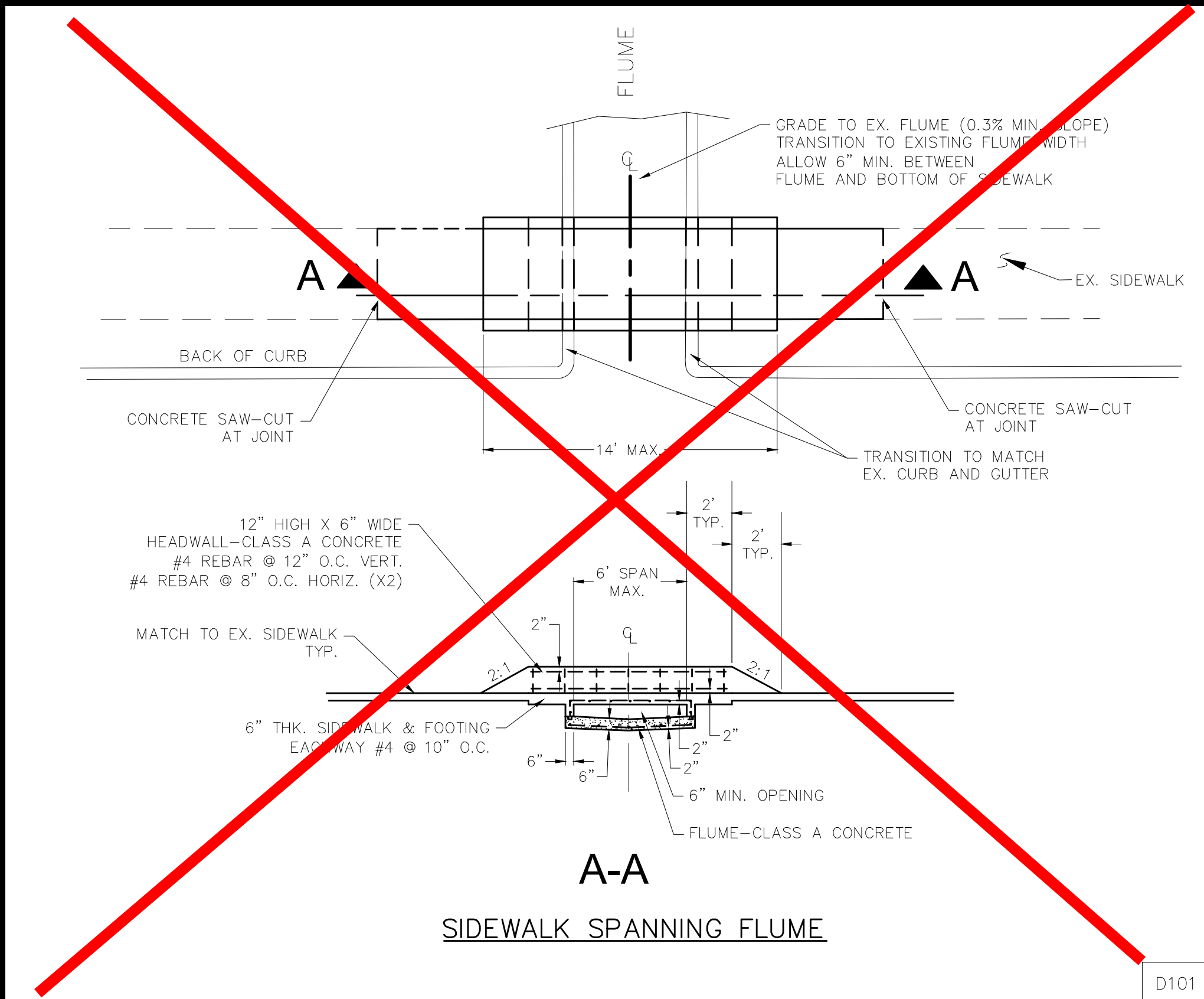
NOTE:
EROSION CONTROL LOGS USED AT CURB INLETS
SHOULD ONLY BE USED IF THEY WILL NOT IMPEDE
TRAFFIC OR FLOOD THE ROADWAY OR WHEN THE
STORM SEWER SYSTEM IS NOT FULLY FUNCTIONAL.



SHEET 3 OF 3



cross out details not applicable



- GENERAL NOTES:**
1. COMPACT BACKFILL MATERIAL TO MINIMUM 98% STANDARD PROCTOR DENSITY WITH A MOISTURE CONTENT FROM -2% TO +4% OF OPTIMUM - MAXIMUM 8" LOOSE LIFTS.
 2. HEAVY DUTY MANHOLE COVERS ON JUNCTION BOXES AND MANHOLES ARE REQUIRED IN ALL VEHICLE TRAFFIC AREAS.
 3. LIGHT DUTY INLET COVERS ON INLETS OUTSIDE OF VEHICLE TRAFFIC AREAS.
 4. PIPES SHALL BE RCP CLASS III WITH 2' OR GREATER COVER, RCP CLASS IV WITH 1' TO 2' COVER AND RCP CLASS V WITH LESS THAN 1' COVER. SEE TABLE 1 SECTION 33.42.11.

ENTERED BY	PROJECT #
DESIGNED BY	DATE
CHECKED BY	REVISION
PROJ. ENGR.	
PATH S:\Water Engineering\Engr\Design\Projects\Standard Details\Storm Sewer details\SHEET1.dwg	

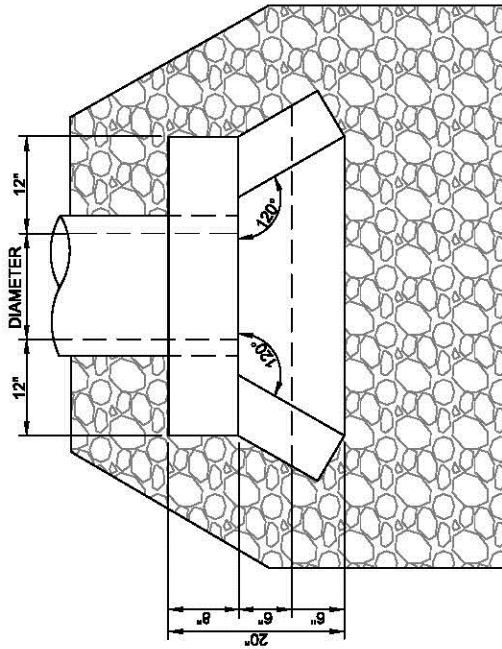


STANDARD DETAILS

STORM DRAINAGE DETAILS

DATE	SCALE
JAN. 2021	HOR 1"= N.T.S.
SHEET No.	VER 1"= N.T.S.
9 OF 20	

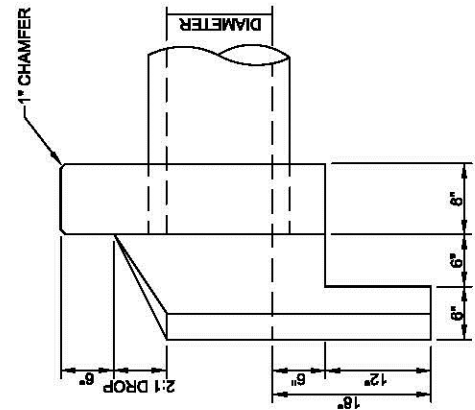
CERTIFICATION:
THIS CITY OF DENTON STANDARD
DETAIL SHEET IS AUTHORIZED FOR
USE IN THIS PROJECT BY THE
ENGINEER WHOSE SEAL APPEARS
HEREON, AND WHO CERTIFIES THE
CONTENT OF THE DETAILS AND NOTES
HEREIN HAVE NOT BEEN ALTERED
AND ASSUMES RESPONSIBILITY FOR
APPROPRIATE USE OF THE
STANDARDS WITHIN THIS SHEET.



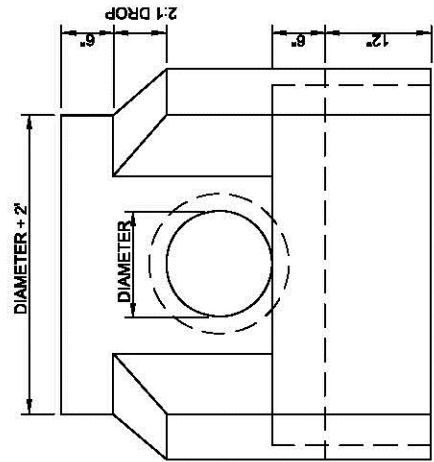
TYPE "B" HEADWALL

NOTES:

1. ALL CONCRETE TO BE 3600 PSI CONCRETE
2. ALL STEEL REINFORCEMENT TO BE GRADE 60 STEEL.
3. REFER TO TxDOT STANDARD DETAIL SET P-FW-0 FOR REINFORCEMENT SIZE AND SPACING FOR TYPE "B" HEADWALLS.
4. STORM OUTLET POINTS NEED TO HAVE ADEQUATE EROSION PROTECTION. THE LEVEL OF PROTECTION REQUIRED WILL BE DETERMINED BY THE CITY ENGINEER BASED UPON THE ANTICIPATED VELOCITY AND QUANTITY OF STORM WATER RUNOFF AT THE OUTLET.



SIDE VIEW



FRONT VIEW

TYPE "B" HEADWALL



AGENDA MEMORANDUM

DATE: December 6, 2022

TO: Planning and Zoning Commission

FROM: Wendy withers, Town Administrator

SUBJECT: **Action Regarding Public Hearing (Herd Replat)- Consider and act on a request made by Dennis Herd for a replat of the property legally known as Stephens Corner Addition Abstract M.E.P. & P.R.R Survey A-911, Lot 4 Block A.**

Shady Shores Town Council will consider and take action regarding the above request.

BACKGROUND/INFORMATION:

Consider and act on approval of the replat. The final plans are still being reviewed by the Town Engineer. Should the Planning and Zoning Commission choose to deny the request, the applicant may request an additional 30 days to resubmit the project for consideration.

FINANCIAL IMPLICATIONS:

RECOMMENDATION/ACTION DESIRED:

ATTACHMENTS/SUPPORTING DOCUMENTATION:

None

REVIEWED BY:



AGENDA MEMORANDUM

DATE: December 6, 2022

TO: Town Council

FROM: Wendy withers, Town Administrator

SUBJECT: **Public Hearing- Consider and act on approval of a preliminary plat for Hidden Valley Phase VI.**
A) Staff Report (David Francis)
B) Open Public Hearing
C) Applicant
D)Those in Favor
E)Those Opposed
F) Rebuttal if Desired
G) Close Public Hearing

BACKGROUND/INFORMATION:

Hidden Valley Phase VI was previously approved but never filed. The overall plan for the subdivision has changed, with the number of lots reduced from 16 to 10. The proposed plan has been submitted to the Town Engineer's office for approval. The applicant is seeking approval of the preliminary plat a this time even though the construction plans have been submitted and are currently under review.

FINANCIAL IMPLICATIONS:

None

RECOMMENDATION/ACTION DESIRED:

ATTACHMENTS/SUPPORTING DOCUMENTATION:

1. Application for Replat
2. final plat
3. HVAPhaseVIPlans2022-10-03

REVIEWED BY:

PLAT APPLICATION

APPLICANT

Name Steve Aughinbaugh
Company Hidden Valley Airpark, Inc.
Address 99 Hidden Valley Airpark
Town Shady Shores State TX
Zip 76208 Fax _____
Phone 9782-989-6770
E-mail steve@aughinbaugh.org

OWNER (if different from applicant)

Name _____
Company _____
Address _____
Town _____ State _____
Zip _____ Fax _____
Phone _____
E-mail _____

Action Requested (check one – please complete a new application for each action):

- ☐ Minor Plat (new subdivision of 4 or fewer lots with no new infrastructure)
☐ Minor Replat (existing subdivision to create 4 or fewer lots with no new infrastructure)
☐ Amending Plat (existing subdivision minor amendments and no new lots or infrastructure)
☒ Preliminary Plat or Replat (new subdivision of 5 or more lots or new infrastructure)
☐ Final Plat (following approval of preliminary plat and installation of new infrastructure)

Property Information:

Street address or location of property: Between 52 and 152 Hidden Valley Airpark, Shady Shores, TX

Legal description: Survey _____ Abstract A0330A W. DURHAM, TR 123A & 124A, 18.65 ACRES

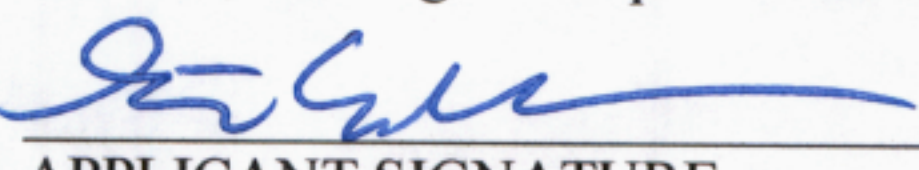
Lot _____ Block _____ Total Acreage 19.268

Attach a metes and bounds description.

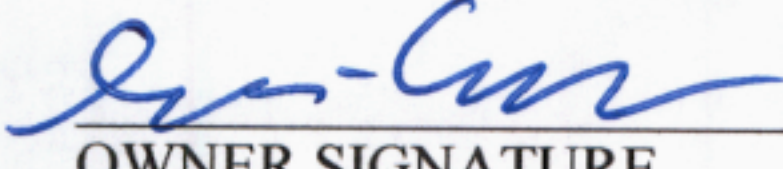
By signing this form, the applicant is acknowledging that:

No hearing will be scheduled nor will any reviews commence until required application fees are received by the town. Fees are non-refundable regardless of outcome of request.

I Steve Aughinbaugh (printed applicant name) hereby waive by rights to approval through lack of Town action on the above referenced plat application within the time frames set forth in Texas Government Code Section 212.009, and I agree the plat submitted will be approved only by affirmative Town Council action.


APPLICANT SIGNATURE

10-11-22
DATE

 SEC. HWAA, INC.
OWNER SIGNATURE

10-11-22
DATE

OFFICE USE ONLY BELOW

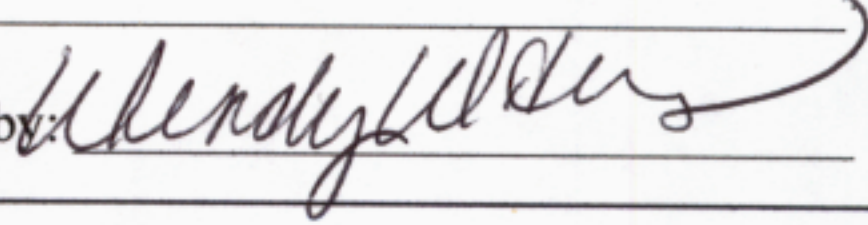
PRELIMINARY and MINOR PLATS/REPLATS

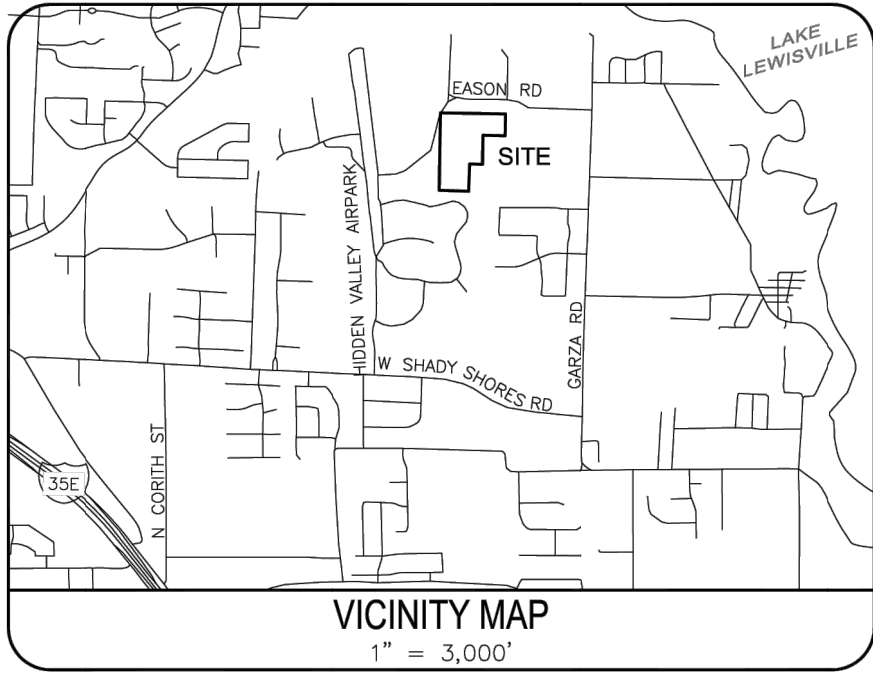
- ☐ Letters sent to property owners within 200-foot of subject property 10-days prior to meeting but no more than 20-days prior (P&Z meeting ONLY)

Date Received: 10/11/2022

Receipt #: _____

Check #: _____

Received by: 



NOTES

- ALL BEARINGS CONTAINED HEREIN ARE BASED ON THE TEXAS STATE PLANE COORDINATES SYSTEM, NAD 83, NORTH CENTRAL ZONE (4202), WITH A COMBINED SCALE FACTOR OF 1.000150630, DERIVED FROM GPS OBSERVATION AND DERIVED FROM AN ON-THE-GROUND SURVEY CONDUCTED ON MAY 3, 2022.
- THE PROPERTY SHOWN HEREON APPEARS TO BE LOCATED IN A DESIGNATED ZONE X AND DOES NOT APPEAR TO BE LOCATED IN A 100 OR 500 YEAR FLOOD AREA AS PLOTTED ON COMMUNITY PANEL # 481135 0391 H OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE OR FLOOD HAZARD BOUNDARY MAP BEARING A REVISED EFFECTIVE DATE OF JUNE 19, 2020..
- NOTICE: SELLING A PORTION OF THIS ADDITION BY METES AND BOUNDS IS A VIOLATION OF CITY SUBDIVISION ORDINANCE AND STATE PLATTING STATUTES AND IS SUBJECT TO FINES AND WITHHOLDING OF UTILITIES AND BUILDING CERTIFICATES.
- THE PURPOSE OF THIS PLAT IS TO CREATE 12 LOTS FROM A PREVIOUSLY UNPLATTED TRACT OF LAND.

LINE	BEARING	DISTANCE
L1	S 01°02'05" W	50.30'
L2	N 01°44'26" E	49.35'
L3	N 01°26'04" E	117.66'
L4	N 88°03'23" W	58.82'
L5	N 51°24'35" E	52.55'
L6	N 00°00'00" W	9.55'
L7	S 88°57'55" E	35.00'
L8	N 88°24'01" E	40.73'
L9	N 36°02'30" E	42.79'
L10	S 01°01'46" W	60.00'
L11	S 42°45'00" E	36.10'
L12	N 01°02'05" E	9.34'

CURVE	RADIUS	ARC LENGTH	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	250.00'	172.88'	39°37'13"	N 71°13'12" E	169.45'
C2	250.00'	103.97'	2°34'45"	N 79°06'56" E	103.23'
C3	275.00'	169.41'	35°17'48"	N 73°22'55" E	166.75'
C4	225.00'	8.48'	2°09'36"	N 89°57'00" E	8.48'
C5	225.00'	85.09'	21°40'09"	N 78°02'08" E	84.59'
C6	60.00'	65.04'	62°06'17"	N 30°01'22" W	61.90'
C7	275.00'	114.37'	2°34'45"	S 79°06'56" W	113.55'
C8	60.00'	26.58'	25°23'05"	S 61°49'04" E	26.37'
C9	60.00'	117.30'	112°00'47"	N 61°03'21" E	99.49'
C10	60.00'	66.99'	63°58'21"	S 30°57'06" E	63.57'
C11	225.00'	155.59'	39°37'13"	S 71°13'12" W	152.51'
C12	60.00'	106.83'	102°01'03"	S 67°54'58" W	93.27'

LOT AREA TABLE			
LOT	BLOCK	AREA (SF)	AREA (AC)
86	A	50,498	1.159
87	A	67,321	1.545
88	A	66,322	1.523
89	A	56,877	1.306
90	A	80,660	1.852
91	A	64,049	1.470
92	A	67,591	1.552
93	A	73,925	1.697
94	A	67,054	1.539
95	A	73,783	1.694

RECOMMENDED FOR APPROVAL BY THE PLANNING AND ZONING COMMISSION

Chairman: _____

Mayor: _____

Attested By: _____

Town Secretary: _____

Date of Approval: _____

LEGEND

--- PROPERTY LINE
--- EASEMENT LINE
--- ADJOINING PROPERTY LINE
--- CHAIN LINK FENCE
--- WOOD FENCE
--- BARBED WIRE FENCE
--- PIPE FENCE
--- OVERHEAD UTILITIES

● CAPPIED IRON ROD SET
MARKED "VAUGHNS CO"

⊙ IRON ROD FOUND

OW = CAPPIED IRON ROD FOUND

IRS = IRON ROD SET

D.R.D.C.T. = DEED RECORDS OF
DENTON COUNTY, TEXAS

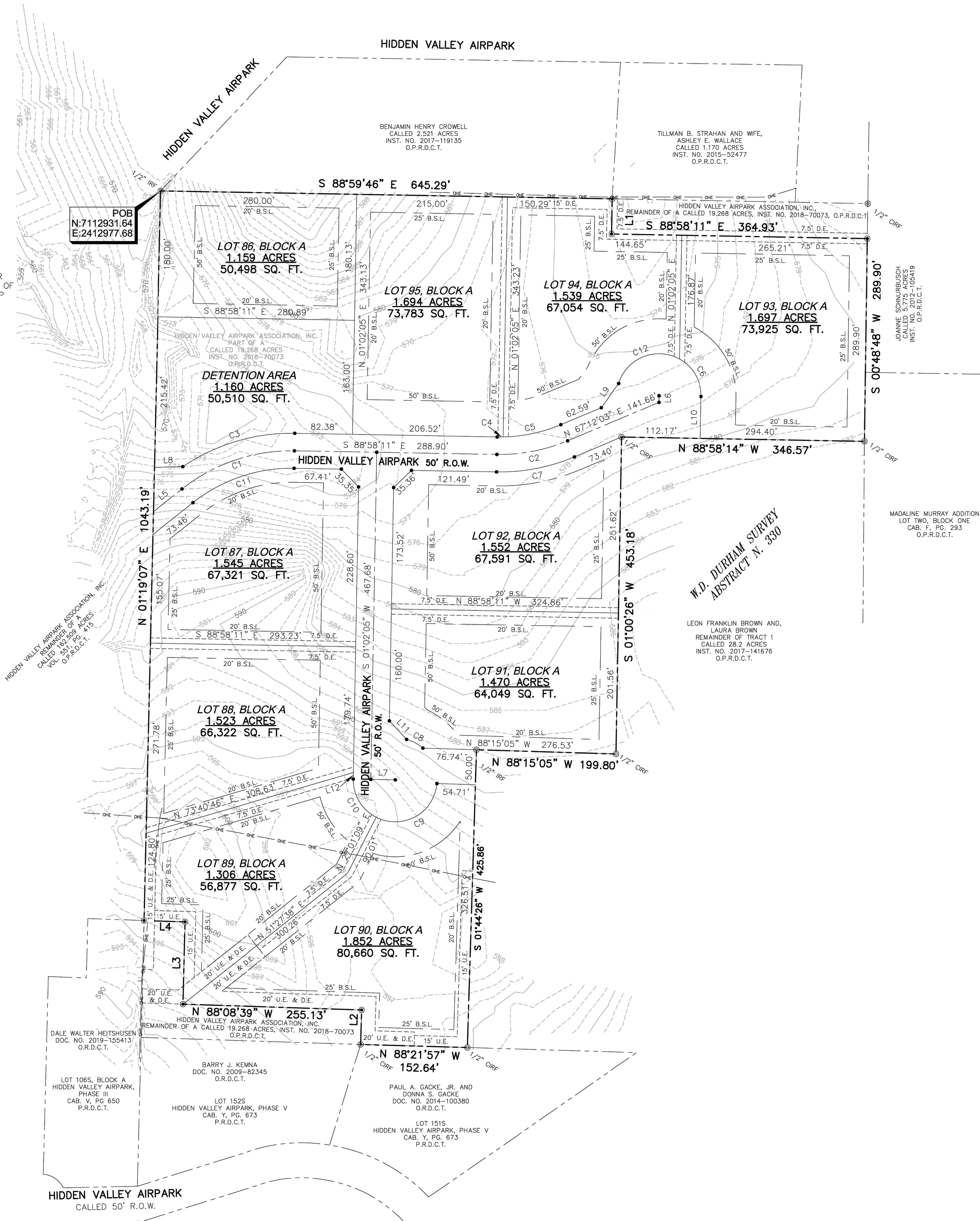
O.R.D.C.T. = OFFICIAL RECORDS OF
DENTON COUNTY, TEXAS

P.R.D.C.T. = PLAT RECORDS OF
DENTON COUNTY, TEXAS

NOTE:
LEGEND IS TYPICAL, NOT ALL ITEMS IN LEGEND
APPEAR IN DRAWING.

50 0 50 100
GRAPHIC SCALE IN FEET
SCALE: 1"=100'
PLEASE REFER TO BAR SCALE, DRAWING
MAY HAVE BEEN REDUCED OR ENLARGED.

DENTON COUNTY, TEXAS



STATE OF TEXAS §
COUNTY OF DENTON §

WHEREAS, Hidden Valley Airpark Association, Inc. and Fuel 4 Fun, LLC are the owners of a tract of land situated in the W. Durham Survey, Abstract No. 330, in the Town of Shady Shores, Denton County, Texas, being part of a called 19.268 acres tract of land described in Deed to Hidden Valley Airpark Association, Inc. and Fuel 4 Fun, L.L.C. as recorded in Instrument No. 2018-70073, Official Records, Denton County, Texas and being more particularly described herein as follows:

BEGINNING at a 1/2 inch iron rod found for the Northwest corner of said 19.268 acres tract and the Southwest corner of a called 2.521 acres tract of land described in Deed to Benjamin Henry Crowell as recorded in Instrument No. 2017-119135, said Official Records;

THENCE South 88 degrees 59 minutes 46 seconds East, with the North line of said 19.268 acres tract and the South line of said Crowell tract, a distance of 645.29 feet to a 5/8 inch iron rod found for the Southeast corner of said Crowell tract and the most Northerly Northeast corner of the herein described tract;

THENCE South 01 degrees 02 minutes 05 seconds West, with an East line of the herein described tract, severing said 19.268 acres tract, a distance of 50.30 feet to a 5/8 inch iron rod with plastic cap stamped "VAUGHNS CO" (typical) set for an interior corner of the herein described tract;

THENCE South 88 degrees 58 minutes 11 seconds East, with a North line of the herein described tract, severing said 19.268 acres tract, a distance of 364.93 feet to a 5/8 inch iron rod set in the East line of said 19.268 acres tract and the West line of a called 5.775 acres tract of land described in Deed to Joanne Schnurbusch as recorded in Instrument No. 2012-105419, said Official Records for the most Easterly Northeast corner of the herein described tract;

THENCE with the Easterly line of said 19.268 acres tract, the following five (5) courses and distances:

1. South 00 degrees 48 minutes 48 seconds West, with the West line of said 5.775 acres tract, passing the Southwest corner thereof and the northwest corner of Lot 2, Block One Madaline Murray Addition as recorded in Cabinet F, Page 293, Plat Records, Denton County, Texas, and continuing along said course, a distance of 289.90 feet to a 1/2 capped iron rod found for corner;

2. North 88 degrees 58 minutes 14 seconds West, a distance of 346.57 feet to a 1/2 capped iron rod found for corner;

3. South 01 degrees 00 minutes 26 seconds West, a distance of 453.18 feet to a 1/2 capped iron rod found for corner;

4. North 88 degrees 15 minutes 05 seconds West, a distance of 199.80 feet to a 1/2 capped iron rod found for corner;

5. South 01 degrees 44 minutes 26 seconds West, a distance of 425.86 feet to a 1/2 inch capped iron rod found in the North line of Lot 151S of the Hidden Valley Airpark, Phase V as recorded in Cabinet Y, Pg. 673, Plat Records, Denton County, Texas for the most Southerly Southeast corner of said 19.268 acres tract;

THENCE North 88 degrees 21 minutes 57 seconds West, with the South line of said 19.268 acres tract and the North line said Lot 151S, a distance of 152.64 feet to a 1/2 inch iron rod capped "COLEMAN RPLS 4001" found at the Northwest corner of said Lot 151S and at the Northeast corner of Lot 152S of said Hidden Valley Airpark, Phase V, for the most Southerly Southwest corner of the herein described tract;

THENCE with the Southerly line of the herein described tract, severing said 19.268 acres tract, the following four (4) courses and distances:

1. North 01 degrees 44 minutes 26 seconds East, a distance of 49.35 feet to a 5/8 inch iron rod set for corner;

2. North 88 degrees 08 minutes 39 seconds West, a distance of 225.13 feet to a 5/8 inch iron rod set for corner;

3. North 01 degrees 26 minutes 04 seconds East, a distance of 117.66 feet to a 5/8 inch iron rod set for corner;

4. North 88 degrees 03 minutes 23 seconds West, a distance of 58.82 feet to a 5/8 inch iron rod set in the West line of said 19.268 acres tract for the most Westerly Southwest corner of the herein described tract and being the Northeast corner of Lot 106S, Block A of Hidden Valley Airpark, Phase III as recorded in Cabinet V, Page 650, Plat Records, Denton County, Texas;

THENCE North 01 degrees 19 minutes 07 seconds East, with the West line of said 19.268 acres tract, a distance of 1,043.19 feet to the POINT OF BEGINNING and containing, within the metes and bounds herein recited, 18.277 acres of land, more or less.

NOW, THEREFORE, KNOW ALL MEN BY THESE PRESENTS

THAT HIDDEN VALLEY AIRPARK ASSOCIATION, INC. and Fuel 4 Fun, LLC the owners of land shown on this plat and whose name is subscribed hereto, and in person or through a duly authorized agent do hereby adopt this plat, designating the herein described property as Lots 86-95, Block A, Hidden Valley Airpark Phase VI, an addition to the Town of Shady Shores, Denton County, Texas and does hereby dedicate to the use of public forever all streets, unless shown as private, and all easements shown and for the purposes indicated on this plat. The drainage easements that serve to recognize the known and obvious drainage ways used as natural water courses for the purpose of accommodating drainage are dedicated to the use of the public forever. No buildings or other improvements shall be constructed or placed upon, over or across the easements as shown on this plat. Any public utility, including the Town of Shady Shores, shall have the right to move and keep moved all or part of any building, tree, shrub, other growth or improvements which in any way endanger, or interfere with the construction, maintenance, or efficiency of its respective systems on any of the easements shown on the plat; and they shall have the right at all times to ingress and egress upon said easements for the purpose of construction, reconstruction, inspection, maintaining and adding to or removing all or part of its respective systems without the necessity at any time of procuring the permission of anyone.

Signature _____

Printed Name _____

Title / Date _____

STATE OF TEXAS §
COUNTY OF DENTON §

BEFORE ME, the undersigned authority, a Notary Public in and for the State of Texas, on this day personally appeared _____, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that she executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this _____ day of _____, 20_____

Notary Public in and for the State of Texas _____

SURVEYOR'S CERTIFICATE

STATE OF TEXAS §
COUNTY OF DENTON §

THAT I, Joe C. Vaughn, Jr., do hereby certify that I prepared this plat from an actual and accurate survey of the land and that the corner monuments shown thereon were properly placed under my supervision. This plat was prepared in accordance with the subdivision rules and regulations of the Town of Little Elm, Denton County, Texas.

THIS DOCUMENT IS ISSUED FOR REVIEW PURPOSES
ONLY. IT SHALL NOT BE RECORDED FOR ANY PURPOSE
AND SHALL NOT BE USED, VIEWED, OR RELIED UPON AS
A FINAL SURVEY DOCUMENT.

JOE C. VAUGHN, JR.
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 5926
September 30, 2022
FIRM REGISTRATION NO. 10194786

SURVEYOR'S CERTIFICATE

STATE OF TEXAS §
COUNTY OF DENTON §

BEFORE ME, the undersigned authority, a Notary Public in and for the State of Texas, on this day personally appeared Joe C. Vaughn, Jr., known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that she executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this _____ day of _____, 20_____

Notary Public in and for the State of Texas _____

FINAL PLAT
HIDDEN VALLEY AIRPARK PHASE VI
BEING 18.241 ACRES
SITUATED IN THE W.D. DURHAM SURVEY
ABSTRACT NUMBER 330
TOWN OF SHADY SHORES
DENTON COUNTY, TEXAS

DATE OF PREPARATION: September 30, 2022

OWNER:
HIDDEN VALLEY AIRPARK ASSOCIATION, INC.
99 HIDDEN VALLEY AIRPARK
DENTON, TX 76208
(940) 988-6770

SURVEYOR:
JOE C. VAUGHN, JR.
TEXAS R.P.L.S. NO. 5926
VAUGHNS SURVEY CO.
(940) 808-1191
1228 S. U.S. HIGHWAY 377
PILOT POINT, TX 76260
FIRM REGISTRATION NO. 10194786

CONSTRUCTION PLANS
FOR

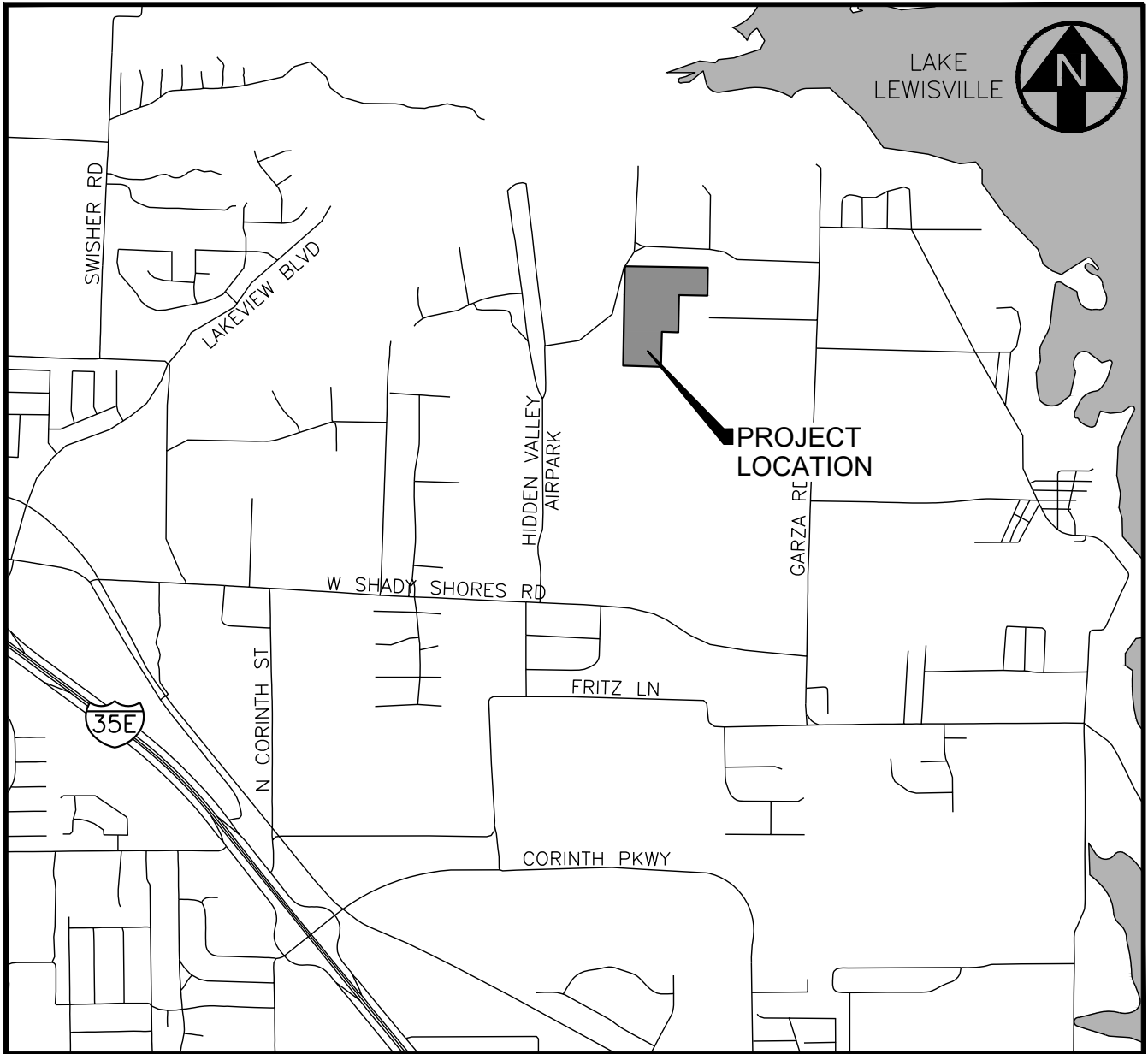
HIDDEN VALLEY AIRPARK
TOWN OF SHADY SHORES, DENTON COUNTY, TEXAS
OCTOBER 2022



ENGINEER:
ALLISON ENGINEERING GROUP
2415 N. ELM STREET
DENTON, TEXAS 76201
(940) 380-9453
TBPE FIRM REG #7898
CONTACT: LEE K. ALLISON, P.E.

OWNER:
HIDDEN VALLEY AIRPARK
99 HIDDEN VALLEY AIRPARK
SHADY SHORES, TEXAS 76208
(972) 345-9484
CONTACT: MARY MCDOWELL

SURVEYOR:
VAUGHN'S SURVEYING CO.
1228 S. U.S. HIGHWAY 377
PILOT POINT, TEXAS 76258
(940) 808-1191
CONTACT: JOE C. VAUGHN, JR.



VICINITY MAP
1" = 2000'

SHEET INDEX	
NO.	SHEET TITLE
00	COVER SHEET
01	FINAL PLAT
02	GENERAL NOTES
03	DEMOLITION PLAN
04	STREET A PLAN AND PROFILE
05	STREET B & C PLAN AND PROFILE
06	EXISTING CONDITIONS DRAINAGE ANALYSIS
07	PROPOSED CONDITIONS DRAINAGE ANALYSIS
08	PROPOSED DRAINAGE DETAILS
09	DRIVEWAY CULVERT ANALYSIS
10	DETENTION ANALYSIS
11	DETENTION POND GRADING PLAN
12	EROSION CONTROL PLAN
13	WATER PLAN
14	LCMUA STANDARD EMBEDMENT DETAILS
15	LCMUA STANDARD WATER DETAILS
16	EROSION CONTROL DETAILS
17	PAVING DETAILS
18	WATER DETAILS
19	CULVERT DETAILS 1
20	CULVERT DETAILS 2

THIS DOCUMENT IS RELEASED
FOR THE PURPOSE OF
INTERIM REVIEW UNDER THE
AUTHORITY OF
LEE K. ALLISON
P.E. 53647

IT IS NOT TO BE USED FOR
THE PURPOSES OF
CONSTRUCTION, BIDDING,
PERMITTING, ETC.

SUBMITTAL LOG

- | | |
|---------------|--|
| 1. 04/19/2022 | 1ST SUBMITTAL - FOR TOWN REVIEW ONLY |
| 2. 10/03/2022 | 2ND SUBMITTAL - FOR TOWN/LCMUA REVIEW ONLY |

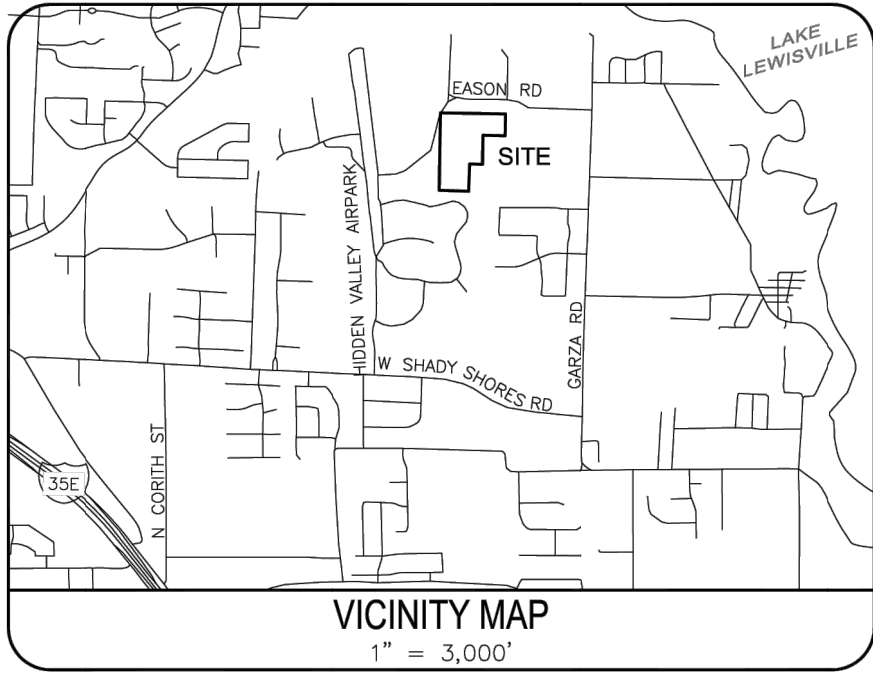
RECOMMENDED FOR APPROVAL

GENERAL MANAGER,
LAKE CITIES MUNICIPAL AUTHORITY

DATE



101 S. SHADY SHORES ROAD | SHADY SHORES, TX 76208 | (940) 498-0044



NOTES

- ALL BEARINGS CONTAINED HEREIN ARE BASED ON THE TEXAS STATE PLANE COORDINATES SYSTEM, NAD 83, NORTH CENTRAL ZONE (4202), WITH A COMBINED SCALE FACTOR OF 1.000150630, DERIVED FROM GPS OBSERVATION AND DERIVED FROM AN ON-THE-GROUND SURVEY CONDUCTED ON MAY 3, 2022.
- THE PROPERTY SHOWN HEREON APPEARS TO BE LOCATED IN A DESIGNATED ZONE X AND DOES NOT APPEAR TO BE LOCATED IN A 100 OR 500 YEAR FLOOD AREA AS PLOTTED ON COMMUNITY PANEL # 481135 0391 H OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE OR FLOOD HAZARD BOUNDARY MAP BEARING A REVISED EFFECTIVE DATE OF JUNE 19, 2020..
- NOTICE: SELLING A PORTION OF THIS ADDITION BY METES AND BOUNDS IS A VIOLATION OF CITY SUBDIVISION ORDINANCE AND STATE PLATTING STATUTES AND IS SUBJECT TO FINES AND WITHHOLDING OF UTILITIES AND BUILDING CERTIFICATES.
- THE PURPOSE OF THIS PLAT IS TO CREATE 10 LOTS FROM A PREVIOUSLY UNPLATTED TRACT OF LAND.

LINE	BEARING	DISTANCE
L1	S 01°02'05" W	50.30'
L2	N 01°44'26" E	49.35'
L3	N 01°26'04" E	117.66'
L4	N 88°03'23" W	58.82'
L5	N 51°24'35" E	52.55'
L6	N 00°00'00" W	9.55'
L7	S 88°57'55" E	35.00'
L8	N 88°24'01" E	40.73'
L9	N 36°02'30" E	42.79'
L10	S 01°01'46" W	60.00'
L11	S 42°45'00" E	36.10'
L12	N 01°02'05" E	9.34'

CURVE	RADIUS	ARC LENGTH	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	250.00'	172.88'	39°37'13"	N 71°13'12" E	169.45'
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95	A	73,783	1.694

RECOMMENDED FOR APPROVAL BY THE PLANNING AND ZONING COMMISSION

Chairman: _____

Mayor: _____

Attested By: _____

Town Secretary: _____

Date of Approval: _____

LEGEND

--- PROPERTY LINE

--- EASEMENT LINE

--- ADJOINING PROPERTY LINE

--- CHAIN LINK FENCE

--- WOOD FENCE

--- BARBED WIRE FENCE

--- PIPE FENCE

--- OVERHEAD UTILITIES

--- CAPPED IRON ROD SET MARKED "VAUGHNS CO"

--- IRON ROD FOUND

--- CAPPED IRON ROD FOUND

--- IRON ROD SET

D.R.D.C.T. = DEED RECORDS OF DENTON COUNTY, TEXAS

O.R.D.C.T. = OFFICIAL RECORDS OF DENTON COUNTY, TEXAS

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NOTE: LEGEND IS TYPICAL, NOT ALL ITEMS IN LEGEND APPEAR IN DRAWING.

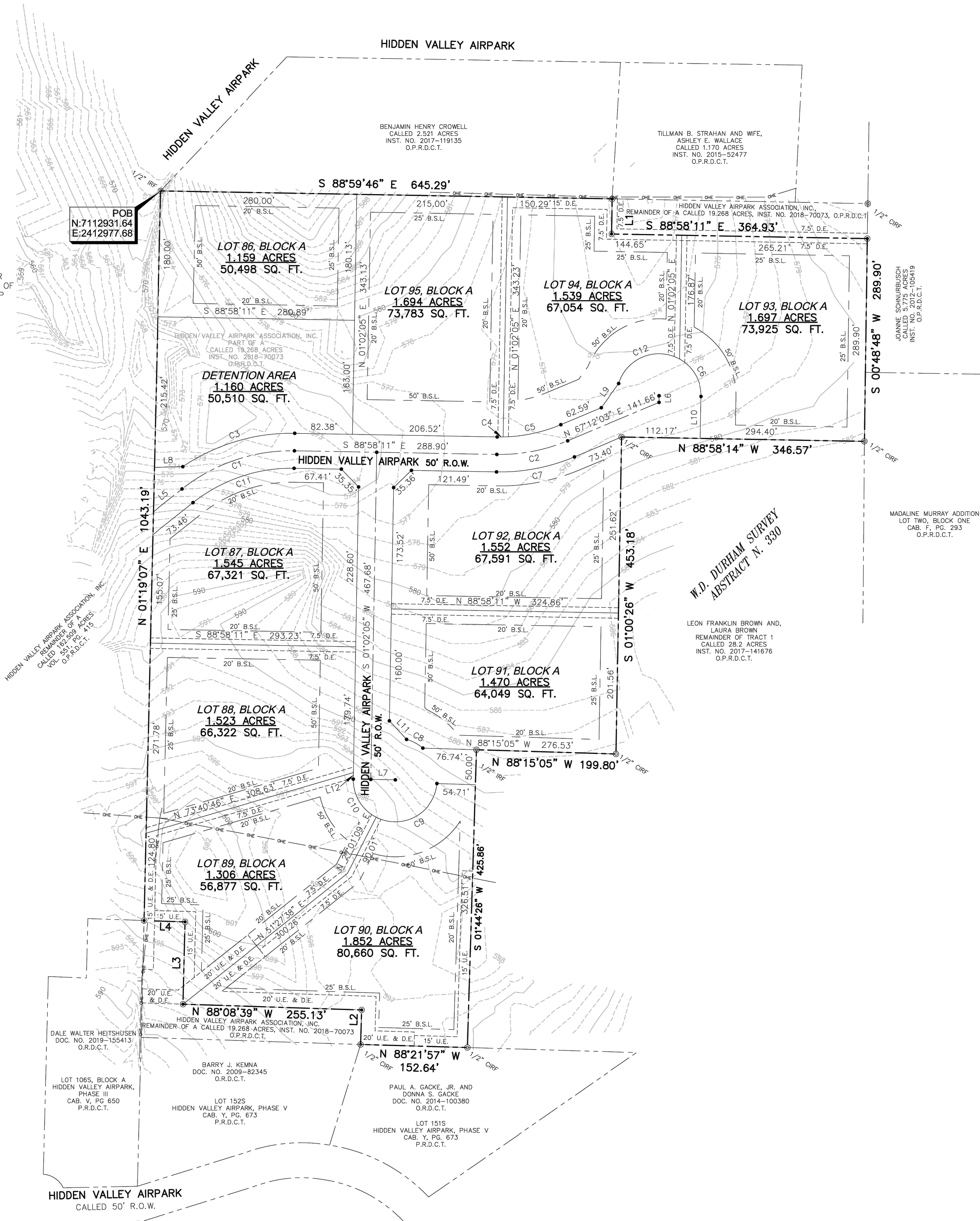
SCALE: 1"=100'

PLEASE REFER TO BAR SCALE. DRAWING MAY HAVE BEEN REDUCED OR ENLARGED.

GRAPHIC SCALE IN FEET

0 50 100

DENTON COUNTY, TEXAS



STATE OF TEXAS §
COUNTY OF DENTON §

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BEGINNING at a 1/2 inch iron rod found for the Northwest corner of said 19.268 acres tract and the Southwest corner of a called 2.521 acres tract of land described in Deed to Benjamin Henry Crowell as recorded in Instrument No. 2017-119135, said Official Records;

THENCE South 88 degrees 59 minutes 46 seconds East, with the North line of said 19.268 acres tract and the South line of said Crowell tract, a distance of 645.29 feet to a 5/8 inch iron rod found for the Southeast corner of said Crowell tract and the most Northerly Northeast corner of the herein described tract;

THENCE South 01 degrees 02 minutes 05 seconds West, with an East line of the herein described tract, severing said 19.268 acres tract, a distance of 50.30 feet to a 5/8 inch iron rod with plastic cap stamped "VAUGHNS CO" (typical) set for an interior corner of the herein described tract;

THENCE South 88 degrees 58 minutes 11 seconds East, with a North line of the herein described tract, severing said 19.268 acres tract, a distance of 364.93 feet to a 5/8 inch iron rod set in the East line of said 19.268 acres tract and the West line of a called 5.775 acres tract of land described in Deed to Joanne Schnurbusch as recorded in Instrument No. 2012-105419, said Official Records for the most Easterly Northeast corner of the herein described tract;

THENCE with the Easterly line of said 19.268 acres tract, the following five (5) courses and distances:

1. South 00 degrees 48 minutes 48 seconds West, with the West line of said 5.775 acres tract, passing the Southwest corner thereof and the northwest corner of Lot 2, Block One Madaline Murray Addition as recorded in Cabinet F, Page 293, Plat Records, Denton County, Texas, and continuing along said course, a distance of 289.90 feet to a 1/2 capped iron rod found for corner;

2. North 88 degrees 58 minutes 14 seconds West, a distance of 346.57 feet to a 1/2 capped iron rod found for corner;

3. South 01 degrees 00 minutes 26 seconds West, a distance of 453.18 feet to a 1/2 capped iron rod found for corner;

4. North 88 degrees 15 minutes 05 seconds West, a distance of 199.80 feet to a 1/2 capped iron rod found for corner;

5. South 01 degrees 44 minutes 26 seconds West, a distance of 425.86 feet to a 1/2 inch capped iron rod found in the North line of Lot 151S of the Hidden Valley Airpark, Phase V as recorded in Cabinet Y, Pg. 673, Plat Records, Denton County, Texas for the most Southerly Southeast corner of said 19.268 acres tract;

THENCE North 88 degrees 21 minutes 57 seconds West, with the South line of said 19.268 acres tract and the North line said Lot 151S, a distance of 152.64 feet to a 1/2 inch iron rod capped "COLEMAN RPLS 4001" found at the Northwest corner of said Lot 151S and at the Northeast corner of Lot 152S of said Hidden Valley Airpark, Phase V, for the most Southerly Southwest corner of the herein described tract;

THENCE with the Southerly line of the herein described tract, severing said 19.268 acres tract, the following four (4) courses and distances:

1. North 01 degrees 44 minutes 26 seconds East, a distance of 49.35 feet to a 5/8 inch iron rod set for corner;

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3. North 01 degrees 26 minutes 04 seconds East, a distance of 117.66 feet to a 5/8 inch iron rod set for corner;

4. North 88 degrees 03 minutes 23 seconds West, a distance of 58.82 feet to a 5/8 inch iron rod set in the West line of said 19.268 acres tract for the most Westerly Southwest corner of the herein described tract and being the Northeast corner of Lot 106S, Block A of Hidden Valley Airpark, Phase III as recorded in Cabinet V, Page 650, Plat Records, Denton County, Texas;

THENCE North 01 degrees 19 minutes 07 seconds East, with the West line of said 19.268 acres tract, a distance of 1,043.19 feet to the POINT OF BEGINNING and containing, within the metes and bounds herein recited, 18.277 acres of land, more or less.

NOW, THEREFORE, KNOW ALL MEN BY THESE PRESENTS

THAT HIDDEN VALLEY AIRPARK ASSOCIATION, INC. and Fuel 4 Fun, LLC the owners of land shown on this plat and whose name is subscribed hereto, and in person or through a duly authorized agent do hereby adopt this plat, designating the herein described property as Lots 86-95, Block A, Hidden Valley Airpark Phase VI, an addition to the Town of Shady Shores, Denton County, Texas and does hereby dedicate to the use of public forever all streets, unless shown as private, and all easements shown and for the purposes indicated on this plat. The drainage easements that serve to recognize the known and obvious drainage ways used as natural water courses for the purpose of accommodating drainage are dedicated to the use of the public forever. No buildings or other improvements shall be constructed or placed upon, over or across the easements as shown on this plat. Any public utility, including the Town of Shady Shores, shall have the right to move and keep moved all or part of any building, tree, shrub, other growth or improvements which in any way endanger, or interfere with the construction, maintenance, or efficiency of its respective systems on any of the easements shown on the plat; and they shall have the right at all times to ingress and egress upon said easements for the purpose of construction, reconstruction, inspection, maintaining and adding to or removing all or part of its respective systems without the necessity at any time of procuring the permission of anyone.

Signature _____

Printed Name _____

Title / Date _____

STATE OF TEXAS §
COUNTY OF DENTON §

BEFORE ME, the undersigned authority, a Notary Public in and for the State of Texas, on this day personally appeared _____, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that she executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this _____ day of _____, 20____

Notary Public in and for the State of Texas _____

SURVEYOR'S CERTIFICATE

STATE OF TEXAS §
COUNTY OF DENTON §

THAT I, Joe C. Vaughn, Jr., do hereby certify that I prepared this plat from an actual and accurate survey of the land and that the corner monuments shown thereon were properly placed under my supervision. This plat was prepared in accordance with the subdivision rules and regulations of the Town of Little Elm, Denton County, Texas.

THIS DOCUMENT IS ISSUED FOR REVIEW PURPOSES ONLY. IT SHALL NOT BE RECORDED FOR ANY PURPOSE AND SHALL NOT BE USED, VIEWED, OR RELIED UPON AS A FINAL SURVEY DOCUMENT.

JOE C. VAUGHN, JR.
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 5926
September 30, 2022
FIRM REGISTRATION NO. 10194786

SURVEYOR'S CERTIFICATE

STATE OF TEXAS §
COUNTY OF DENTON §

BEFORE ME, the undersigned authority, a Notary Public in and for the State of Texas, on this day personally appeared Joe C. Vaughn, Jr., known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that she executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this _____ day of _____, 20____

Notary Public in and for the State of Texas _____

FINAL PLAT
HIDDEN VALLEY AIRPARK PHASE VI
BEING 18.241 ACRES
SITUATED IN THE W.D. DURHAM SURVEY
ABSTRACT NUMBER 330
TOWN OF SHADY SHORES
DENTON COUNTY, TEXAS

DATE OF PREPARATION: September 30, 2022

OWNER:
HIDDEN VALLEY AIRPARK ASSOCIATION, INC.
99 HIDDEN VALLEY AIRPARK
DENTON, TX 76208
(940) 988-6770

SURVEYOR:
JOE C. VAUGHN, JR.
TEXAS R.P.L.S. NO. 5926
VAUGHNS SURVEY CO.
(940) 808-1191
1228 S. U.S. HIGHWAY 377
PILOT POINT, TX 76260
FIRM REGISTRATION NO. 10194786

GRADING NOTES

1.

THE TERM MUNICIPALITY REFERS TO THE TOWN OF SHADY SHORES.
2.

ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE MUNICIPALITY AND SHALL BE IN ACCORDANCE WITH MUNICIPAL STANDARD DETAILS AND SPECIFICATIONS FOR CONSTRUCTION. ALL WORK NOT COVERED IN THE CONTRACT DOCUMENTS AND MUNICIPAL STANDARD DETAILS AND SPECIFICATIONS FOR CONSTRUCTION SHALL BE GOVERNED BY THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
3.

EXISTING UTILITY LOCATIONS SHOWN ARE GENERALLY SCHEMATIC IN NATURE AND MAY NOT REFLECT THE SIZE AND LOCATION OF EACH PARTICULAR UTILITY. EXISTING UTILITIES HAVE BEEN BASED ON AVAILABLE RECORD DRAWINGS AND SURFACE APPURTENANCE FIELD TIES ONLY. SOME UTILITY LINES AND SURFACE LOCATIONS MAY NOT BE SHOWN. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR ACTUAL FIELD LOCATIONS AND PROTECTION OF EXISTING UTILITIES WHETHER SHOWN OR NOT. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR REPAIRS TO EXISTING UTILITIES WHETHER SHOWN OR NOT. DAMAGED BY THE CONTRACTOR'S ACTIVITIES. DIFFERENCES IN HORIZONTAL OR VERTICAL LOCATIONS OF EXISTING UTILITIES SHALL NOT BE BASIS FOR ADDITIONAL COMPENSATIONS TO THE CONTRACTOR.
4.

THE CONTRACTOR SHALL PROTECT EXISTING PROPERTY MONUMENTATION AND PRIMARY CONTROL. ANY SUCH POINTS WHICH THE CONTRACTOR BELIEVES WILL BE DESTROYED SHALL HAVE OFFSET POINTS ESTABLISHED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ANY MONUMENTATION DESTROYED BY THE CONTRACTOR SHALL BE REESTABLISHED AT CONTRACTOR'S EXPENSE BY A REGISTERED PROFESSIONAL LAND SURVEYOR.
5.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO A.) PREVENT ANY DAMAGES TO PRIVATE PROPERTY AND PROPERTY OWNER'S POLES, FENCES, SHRUBS, ETC. B.) PROTECT ALL UNDERGROUND UTILITIES C.) NOTIFY ALL UTILITY COMPANIES AT LEAST 48 HOURS PRIOR TO EXCAVATION IN ACCORDANCE WITH TEXAS LAW. D.) FIELD VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES IN THE VICINITY OF CONFLICTS THAT MAY EXIST BETWEEN THE EXISTING UTILITIES AND CONSTRUCTION PLANS.
6.

ANY DAMAGES THAT MAY OCCUR TO REAL PROPERTY OR EXISTING IMPROVEMENTS, INCLUDING EXISTING PRIVATE AND PUBLIC LANDSCAPE IRRIGATION SYSTEMS, SHALL BE RESTORED BY THE CONTRACTOR TO AT LEAST THE SAME CONDITION THAT THE REAL PROPERTY OR EXISTING IMPROVEMENT WERE IN PRIOR TO THE DAMAGES. THE CONTRACTOR WILL ALSO BE RESPONSIBLE FOR THE ADJUSTMENT OF SPRINKLER HEADS TO FINAL GRADE AND RELOCATION IF NECESSARY.
7.

THE CONTRACTOR SHALL MAINTAIN DRAINAGE AT ALL TIMES DURING CONSTRUCTION. THE PONDING OF WATER IN STREETS, DRIVES, TRENCHES, ETC, WILL NOT BE ALLOWED. THE CONTRACTOR SHALL MAINTAIN EXISTING DRIVEWAYS AT ALL TIME.
8.

THE CONTRACTOR SHALL MAINTAIN EXISTING SANITARY SEWER AND WATER SERVICES AT ALL TIMES DURING CONSTRUCTION.
9.

AREAS OF THE SITE THAT WILL UNDERLIE FILL SHALL BE SCARIFIED TO A DEPTH OF 8 INCHES. FILL SHALL BE PLACED IN LOOSE LIFTS NOT EXCEEDING 8 INCHES IN UNCOMPACTED THICKNESS. ALL MATERIAL SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY WITH A MOISTURE CONTENT FROM ~3% TO +1% OF OPTIMUM OR PER GEOTECH RECOMMENDATION. FIELD DENSITY TESTES PER MUNICIPAL REQUIREMENTS.
10.

THE CONTRACTOR SHALL ABIDE BY ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS GOVERNING EXCAVATION. THE CONTRACTOR SHALL PROVIDE DETAILED PLANS AND SPECIFICATION FOR TRENCH SAFETY SYSTEMS THAT COMPLY WITH APPLICABLE LAWS GOVERNING EXCAVATION. THESE PLANS SHALL BE SEALED BY AN ENGINEER EXPERIENCED IN THE DESIGN OF TRENCH SAFETY SYSTEM, REGISTERED IN THE STATE OF TEXAS. THE CONTRACTOR SHALL SUBMIT COMPLETED TRENCH SAFETY PLANS TO THE MUNICIPALITY PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL ASPECTS OF WORK RELATED TO EXCAVATION. ALL EXCAVATIONS, TRENCHING AND SHORING OPERATIONS SHALL COMPLY WITH THE REQUIREMENTS OF THE U.S. DEPARTMENT OF LABOR, OSHA, "CONSTRUCTION SAFETY AND HEALTH REGULATIONS".
11.

WORK MAY NOT BE BACKFILLED OR COVERED UNTIL IT HAS BEEN INSPECTED BY THE MUNICIPALITY.
12.

ALL EXCAVATION ON THE PROJECT IS UNCLASSIFIED.
13.

CONTRACTOR SHALL COORDINATE THE PROTECTION OF EXISTING FRANCHISE UTILITIES AND APPURTENANCES INCLUDING EXISTING UTILITY POLES IN THE VICINITY OF CONSTRUCTION OPERATIONS WHETHER UTILITIES ARE SHOWN OR NOT. ANY DAMAGE INCURRED TO EXISTING FRANCHISE UTILITIES, APPURTENANCES, UTILITY POLES, LIGHT STANDARDS ETC., BY CONSTRUCTION RELATED ACTIVITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
14.

THE CONTRACTOR SHALL LOCATE AND RECORD EXISTING IRRIGATION SYSTEMS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL TEMPORARILY REMOVE AND CAP IRRIGATION SYSTEM AS NECESSARY FOR CONSTRUCTION AND SHALL REPLACE THE PORTION REMOVED WITH EQUIVALENT SYSTEMS. CONTRACTOR SHALL COORDINATE ANY IRRIGATION WORK WITH THE MUNICIPALITY AND PROPERTY OWNER'S REPRESENTATIVES.
15.

CONTRACTOR MUST CEASE ALL CONSTRUCTION OPERATIONS IMMEDIATELY IF A SUSPECTED ARCHEOLOGICAL OBJECT/ ARTIFACT IS UNCOVERED DURING CONSTRUCTION. THE CONTRACTOR MUST IMMEDIATELY CONTACT HE TEXAS HISTORICAL COMMISSION AND MUNICIPALITY. PROJECT WORK WILL NOT COMMENCE UNTIL PROPER PERMITS ARE IN PLACE AND PROVIDED TO THE MUNICIPALITY.
16.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE COMPLIANCE WITH ALL HANDICAPPED ACCESSIBILITY REQUIREMENTS INCLUDING SIGNAGE, TEXTURES, COLORING, MARKINGS, AND SLOPES OF ADA/TAS 2012 ACCESSIBLE ROUTES & RAMPS, AND PARKING SPACES.
17.

ALL PIPE LENGTHS MEASURED FROM STATION TO STATION BASED ON THE CENTER OF STRUCTURE UNLESS OTHERWISE NOTED.
18.

CONTRACTOR SHALL NOTIFY ENGINEER IF ANY DISCREPANCIES ARISE.

GENERAL NOTES FOR LCMUA WATER IMPROVEMENTS

19.

IN ADDITION TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION FOR NORTH CENTRAL TEXAS, ALL MATERIALS AND WORKMANSHIP FOR UTILITY CONSTRUCTION SHALL CONFORM TO THE LAKE CITIES MUNICIPAL UTILITY AUTHORITY (LCMUA), GENERAL REQUIREMENTS FOR DEVELOPMENT, JANUARY 2008
20.

PRIOR TO THE START OF CONSTRUCTION, THE TOWN INSPECTOR, LCMUA WATER, LCMUA WASTEWATER REPRESENTATIVE AND THE CONTRACTOR SHALL MAKE A DRY RUN TO THE SYSTEM TO INSURE, TO THE EXTENT POSSIBLE, THAT THE UTILITY CAN BE FOUND AND SECURED. ANY ISSUES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD TO PROVIDE WRITTEN DIRECTION AND PROVIDE REVISED PLANS AS NEEDED.
21.

THE CONTRACTOR SHALL MAINTAIN THE EXISTING WATER MAINS AND SERVICES IN OPERATION WHEN INSTALLING THE PROPOSED WATER MAIN. THIS SHALL INCLUDE ANY TEMPORARY CONNECTIONS, IF REQUIRED.

22.

THE CONTRACTOR SHALL KEEP THE EXISTING FIRE HYDRANT(S) IN SERVICE AT ALL TIMES.
23.

LEAKS CAUSED BY THE CONTRACTOR SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. THE LCMUA WILL REPAIR ALL LEAKS IF THE CONTRACTOR IS NOT ON THE JOB-SITE (PRIMARY AFTER WORKING HOURS); IF THE LEAK IS DIRECTLY CAUSED BY THE CONTRACTOR AND NOT REPAIRED, ALL CHARGES INCURRED SHALL BE BILLED TO THE CONTRACTOR.
24.

THE CONTRACTOR MUST NOTIFY EACH PROPERTY OWNER A MINIMUM OF 24 HOURS PRIOR TO SHUTTING OFF WATER FOR CONNECTION TO NEW MAIN. THE CONTRACTOR SHALL NOTIFY THE TOWN ENGINEERING INSPECTOR AND LCMUA A MINIMUM OF 72 HOURS IN ADVANCE FOR ALL WATER OR WASTEWATER LOCATES OR SHUT OFFS OF WATER.
25.

THE CONTRACTOR SHALL CONTACT THE ASSIGNED INSPECTOR FOR THE OPERATION OF ALL WATER VALVES AND SCHEDULING OF SERVICES FROM WATER/WASTEWATER.
26.

PVC PIPE MATERIAL AND FITTINGS FOR WATER LINES SHALL CONFORM TO THE CURRENT SPECIFICATIONS OF AWWA C900, DR18, CLASS 150
27.

FITTINGS SHALL BE MECHANICAL JOINT TYPE, FLANGED WHERE APPLICABLE, AND BE MANUFACTURED BY US PIPE, AMERICAN, OR OTHER AS APPROVED BY LCMUA. CLASS 250. ALL FITTINGS SHALL BE RESTRAINED BY THE USE OF MEGA-LUGS RETAINER GLANDS AND CONCRETE THRUST BLOCKING.
28.

CONCRETE THRUST BLOCKING SHALL BE INSTALLED PER THRUST BLOCKING DETAIL, FIGURE W2, LCMUA STANDARD DETAILS.
29.

ALL WATER LINES SHALL BE LAID WITH A MINIMUM 42" COVER.
30.

WATER SERVICE LINES WHICH CROSS A BARROW DITCH SHALL HAVE A MINIMUM 30" COVER.
31.

PVC WATER LINE PIPE EMBEDMENT SHALL BE CLASS "B" CONSISTING OF A SIX (6) INCH LAYER OF CRUSHED ROCK ROUNDED GRAVEL BEDDING MATERIAL OR CUSHION SAND. TRENCH SHALL BE BACKFILLED, WITH A MINIMUM OF SIX (6) INCHES SAND ON THE SIDES AND TWELVE (12) INCHES OF LOOSE SAND OVER THE TOP OF THE PIPE. TRENCH BACKFILL SHALL BE PLACED IN THIS, LOOSE LIFTS, MOISTURE CONDITIONED TO A MINIMUM OF 2 PERCENTAGE POINTS ABOVE OPTIMUM MOISTURE CONTENT AND SHALL BE MECHANICALLY TAMPED AND COMPACTED TO A MINIMUM 95 PERCENT (95%) STANDARD PROCTOR (ASTM D 698) DENSITY AT ZERO PERCENT (0%) TO FOUR PERCENT (4%) ABOVE OPTIMUM MOISTURE. DETECTABLE TRACER TAPE, BLUE IN COLOR, SHALL BE INSTALLED IN THE BACKFILL MATERIALS OVER THE TOP OF ALL WATER MAINS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS
32.

FREQUENCY OF TRENCH COMPACTION TESTS SHALL NOT BE LESS THAN ONE (1) FOR ANY PIPE SECTION AND EVERY TWO HUNDRED LINEAR FEET (200') OF MAIN PIPE PER TWO FEET (2') OF LIFT UNTIL FINAL GRADE, STARTING AT TWO FEET (2') ABOVE THE TIP OF PIPE. EACH WATER SERVICE WHICH CROSSES THE PROPOSED RIGHT OF WAY SHALL BE TESTED, EACH HYDRANT LEAD THAT CROSSES THE EXISTING OR PROPOSED STREET, ALLEY OR FIRE-LANE SHALL ALSO RECEIVE AT LEAST ONE SET OF DENSITY TESTS.
33.

ALL VALVES SHALL BE M&H, MUELLER, CLOW, OR WATEROUS – 150 PSI TEST.
34.

ALL FITTINGS SHALL BE WRAPPED WITH 8-MIL POLYVINYL PLASTIC.
35.

VALVE BOXES SHALL BE FURNISHED AT THE REQUIRED LENGTH IN ORDER TO BE SET AT THE FINAL GRADE. ONCE FINAL GRADE IS ESTABLISHED, THE CONTRACTOR SHALL POUR A REINFORCED CONCRETE PAD THAT IS 24" X 24" X 6" AROUND ALL VALVE BOXES SO THAT THE VALVE BOX IS LEVEL WITH THE FINISHED GRADE.
36.

A M.J. AND FLANGED TEE WITH A FLANGED END TO M.J. GATE VALVE IS REQUIRED AT ALL FIRE HYDRANTS SO THAT THE GATE VALVE IS ANCHORED TO THE MAIN.
37.

FIRE HYDRANTS SHALL BE M&H, MUELLER, CLOW, OR WATEROUS THREE-WAY NATIONAL STANDARD THREAD WITH VALVE IN LEAD OR APPROVED OTHER. ALL MAIN STEAMER NOZZLES SHALL HAVE A MINIMAL INSIDE DIAMETER OF FOUR INCHES (4").
38.

FIRE HYDRANT NOZZLE AND BASE SHALL BE PAINTED AS FOLLOWS:
(A) HYDRANT BASES SHALL BE PAINTED WITH TNECMEC SERIES 530 ALUMINUM, TOW COATS AT 2.5 MILS EACH.
(B) HYDRANT NOZZLE SHALL BE PAINTED WITH TNECMEC 1028 GLOSS, TOW COATS AT 2.5 MILS EACH, AS FOLLOWS:
i. 6" MAIN SIZE RED
ii. 8" MAIN SIZE BLUE
iii. 10" TO 12" MAIN SIZE YELLOW
iv. 14" TO 16" SIZE GREEN
39.

ALL WATER SERVICES SHALL BE MINIMUM OF THREE-FOURTHS (¾") INCH. DOUBLE SERVICES WILL BE REQUIRED ON EVERY OTHER LOT LINE, CONSISTING OF A ONE (1") INCH CORPORATION AT THE MAIN, 1" TYPE "K" COPPER SERIES LINE, CURB STOP, U-BRANCH AND TWO (2) ANGLE STOPS, ALL TO BE BRASS ARE ACCEPTABLE. METER SHALL BE CENTERED IN THE METER VAULT AND ACCEPTABLE TO THE TOWN.
(A) THE METERS SHALL BE LOCATED AT A MINIMUM OF TWO (2') FEET BEHIND THE EDGE OF PAVEMENT WITH COVER AT AN ELEVATION NOT MORE THAN EIGHT (8") INCHES BELOW THE FINAL EDGE OF PAVEMENT GRADE. THE METER SHALL BE CENTERED IN THE VAULT AND ACCEPTABLE TO THE TOWN.
(B) WHERE SINGLE SERVICES ARE NECESSARY, THEY SHALL BE TEN (10') FEET UPSTREAM OF THE CENTER OF THE LOT. THE SINGLE SERVICES SHALL BE ONE (1") INCH DIAMETER FROM THE WATER MAIN THROUGH THE CURB STOP WITH A ONE INCH BY THREE-FOURTHS INCH (1" X ¾") ADAPTER PRIOR TO THE THREE-FOURTHS (¾") INCH ANGLE STOP.
40.

NEW WATER MAINS SHALL BE THOROUGHLY DISINFECTED IN ACCORDANCE WITH AWWA STANDARDS C651 AND THEN FLUSHED AND SAMPLED BEFORE BEING PLACED INTO SERVICE. SAMPLES SHALL BE COLLECTED FOR MICROBIOLOGICAL ANALYSIS TO CHECK THE EFFECTIVENESS OF THE DISINFECTION PROCEDURE. SAMPLING SHALL BE REPEATED IF CONTAMINATION PERSISTS. A MINIMUM OF ONE SAMPLE FOR EACH ONE THOUSAND FEET (1,000') OF COMPLETED WATERLINE WILL BE REQUIRED OR AT THE NEXT AVAILABLE SAMPLING POINT AS DESIGNATED BY THE DESIGN ENGINEER.
41.

WATER LINES CROSSING UNDER STORM DRAINS SHALL HAVE A MINIMUM 24" CLEARANCE BETWEEN OUTSIDE OF PIPES UNLESS OTHERWISE NOTED ON THE PLANS.
42.

THE MAXIMUM DEFLECTION OF PIPE JOINTS SHALL NOT EXCEED 80% OF RECOMMENDED BY THE PIPE MANUFACTURER. IF IT IS NECESSARY TO DEFLECT THE PIPE (GREATER THAN THIS AMOUNT) THE CONTRACTOR SHALL PROVIDE FITTINGS AS NEEDED.

GENERAL NOTES FOR PAVING IMPROVEMENTS

1.

THE SUB GRADE SHALL BE PROOF ROLLED AND OBSERVED BY THE CONSTRUCTION INSPECTOR PRIOR TO SUB-GRADE STABILIZATION.
2.

INDIVIDUAL WATER SERVICES AND WATER VALVES SHALL BE MARKED IN ACCORDANCE WITH LCMUA REQUIREMENTS.
3.

THE CONTRACTOR SHALL PROCEED WITH PAVING NO MORE THAN SEVENTY-TWO (72) HOURS AFTER DENSITY/MOISTURE TESTS HAVE BEEN TAKEN AND PASSED BY REGISTERED TESTING FIRM. COPIES OF THE TEST RESULTS SHALL BE FURNISHED TO THE MUNICIPALITY. IN THE EVENT PAVING OPERATIONS HAVE NOT COMMENCED WITHIN THE SEVENTY-TWO (72) HOUR LIMIT, A RETEST SHALL BE REQUIRED AT THE CONTRACTOR'S EXPENSE.
4.

MANHOLE RIM ELEVATIONS, CLEAN-OUTS, VALVE BOXES, FIRE HYDRANTS, ETC. SHALL BE ADJUSTED TO FINISHED GRADE BY THE PAVING CONTRACTOR AT THE TIME OF PAVING.
5.

THE PAVING CONTRACTOR SHALL INSTALL A BLUE REFLECTOR IN THE STREET OR FIRE LANE CENTERLINE AT THE LOCATION OF EACH FIRE HYDRANT.

PROJECT GENERAL NOTES

1.

THE LOCATION OF UNDERGROUND FACILITIES INDICATED ON THE PLANS IS TAKEN FROM PUBLIC RECORDS. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO MAKE ARRANGEMENTS WITH THE OWNERS OF SUCH UNDERGROUND FACILITIES PRIOR TO WORKING IN THE AREA TO CONFIRM THE EXACT LOCATION AND TO DETERMINE WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT. THE CONTRACTOR SHALL PRESERVE AND PROTECT ALL UNDERGROUND FACILITIES. IF THE EXISTING UNDERGROUND FACILITIES ARE DAMAGED, THE CONTRACTOR WILL BE RESPONSIBLE FOR THE COST OF REPAIRING THE UTILITY.
2.

WHERE EXISTING UTILITIES, SERVICE LINES OR IRRIGATION LINES ARE CUT, BROKEN, OR DAMAGED, THE CONTRACTOR SHALL REPLACE OR REPAIR THE UTILITIES, SERVICE LINES OR IRRIGATION LINES WITH THE SAME TYPE OR ORIGINAL MATERIAL AND CONSTRUCTION, OR BETTER, UNLESS OTHERWISE SHOWN OR NOTED ON THE PLANS, AT HIS OWN COST AND EXPENSE. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AR ONCE OF ANY CONFLICTS IN GRADES AND ALIGNMENTS.
3.

ALL EXCAVATIONS, TRENCHING AND SHORING OPERATIONS SHALL COMPLY WITH THE REQUIREMENTS OF THE U.S. DEPARTMENT OF LABOR, OSHA, "CONST. SAFETY AND HEALTH REGULATIONS" VOL. 29, SUBPART P. PG. 128-137, AND ANY AMENDMENTS THERETO. THE CONTRACTOR SHALL PREPARE AND IMPLEMENT A TRENCH SAFETY PLAN FOR THIS PROJECT.
4.

THE CONTRACTOR SHALL RESTORE ALL AREAS, ONSITE AND OFFSITE, DISTURBED BY CONSTRUCTION TO ORIGINAL CONDITION OR BETTER. RESTORED AREAS INCLUDE, BUT ARE NOT LIMITED TO: TRENCH BACKFILL, SIDE SLOPES, FENCES, CULVERT PIPES, DRAINAGE SWALES, STAGING AREAS, DRIVEWAYS, PRIVATE YARDS AND ROADWAYS. UNLESS OTHERWISE DIRECTED BY THE LANDSCAPE DRAWINGS, RESTORATION SHALL INCLUDE HYDROMULCHING ALL DISTURBED AREAS WITH A SLOPE OF LESS THAN 20% (1:5) AND SODDING AREAS WITH A SLOPE OF 20% (1:5) OR GREATER. ESTABLISHMENT OF GRASS THROUGH PROPER WATERING IS LEFT UP TO THE CONTRACTOR'S MEANS AND METHODS.
5.

THE CONTRACTOR SHALL KEEP RECORDS FOR AS-BUILTS DRAWINGS AND SHALL SUBMIT MARK-UPS TO THE MUNICIPALITY INSPECTOR PRIOR TO SCHEDULING A FINAL WALK-THROUGH INSPECTION.
6.

PRIOR TO CONSTRUCTION, A PRE-CONSTRUCTION MEETING SHALL BE HELD WITH REPRESENTATIVES FROM ALL CONTRACTORS, THE ENGINEER, AND THE MUNICIPALITY.
7.

ALL CONSTRUCTION MUST ADHERE TO THE TREE PRESERVATION REQUIREMENTS OF THE MUNICIPALITY.
8.

THE CONTRACTOR AND HIS AGENTS AND SUB-CONTRACTOR ARE COMPLETELY RESPONSIBLE OF THE VERIFICATION OF THE ACCURACY OF THE DIMENSION CONTROL FURNISHED HEREIN. THE OWNER, ENGINEER, AND THEIR AGENTS ARE NOT RESPONSIBLE FOR THE ACCURACY OF THE COORDINATES FURNISHED. THE CONTRACTOR IS REQUIRED TO VERIFY ALL COORDINATES FOR ACCURACY AND CONFIRM THE LOCATIONS OF ALL UTILITIES TO BE CONSTRUCTED, BOTH HORIZONTAL AND VERTICALLY. DISCREPANCIES FOUND BY THE CONTRACTOR SHALL BE REPORTED, IN WRITING, TO THE OWNER IMMEDIATELY FOR RECONCILIATION.
9.
10.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMPLEMENTATION OF STORM WATER POLLUTION PREVENTION PLAN (SWPPP) REQUIRED FOR THIS PROJECT IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL PREPARE, IMPLEMENT AND MAINTAIN THE SWPPP IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT TCEQ AND NPDES GENERAL PERMIT AS DESCRIBED IN THE FEDERAL REGISTER, PAGES 36489 THROUGH 36519.
11.

THE TOWN OF SHADY SHORES HAS ADOPTED THE SPECIFICATIONS OUTLINED IN THE PUBLIC WORKS CONSTRUCTION STANDARDS PUBLISHED BY THE NCTCOG (2017).
12.

ALL TESTING REQUIRED BY SPECIFICATIONS SHALL BE AT THE EXPENSE OF THE CONTRACTOR AND PERFORMED BY AN INDEPENDENT TESTING LAB APPROVED BY THE TOWN.

TOWN OF SHADY SHORES UTILITY CONTACTS

BUILDING PERMIT	(940) 498-0044
FIRE DEPARTMENT	(940) 279-4590
LAKE CITIES MUNICIPAL UTILITY AUTHORITY	(940) 497-2999
ONCOR	(888) 313-6862
CO-SERV	(940) 321-7800
TXU	(972) 791-2828
VERIZON	(972) 318-0264
AT&T	(800) 924-9420
SPECTRUM	(844) 569-0435
CENTURY LINK	(877) 862-9343
GRANDE COMMUNICATIONS	(877) 238-6891
ATMOS ENERGY	(888) 286-6700
WASTE MANAGEMENT	(972) 315-5400
DIG T.E.S.S.	811



REV. 1
REV. 2
REV. 3
REV. 4
REV. 5

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Checked by: LKA

HIDDEN VALLEY ASSOCIATION
CONSTRUCTION PLANS
HIDDEN VALLEY AIRPARK
TOWN OF SHADY SHORES, DENTON COUNTY, TEXAS

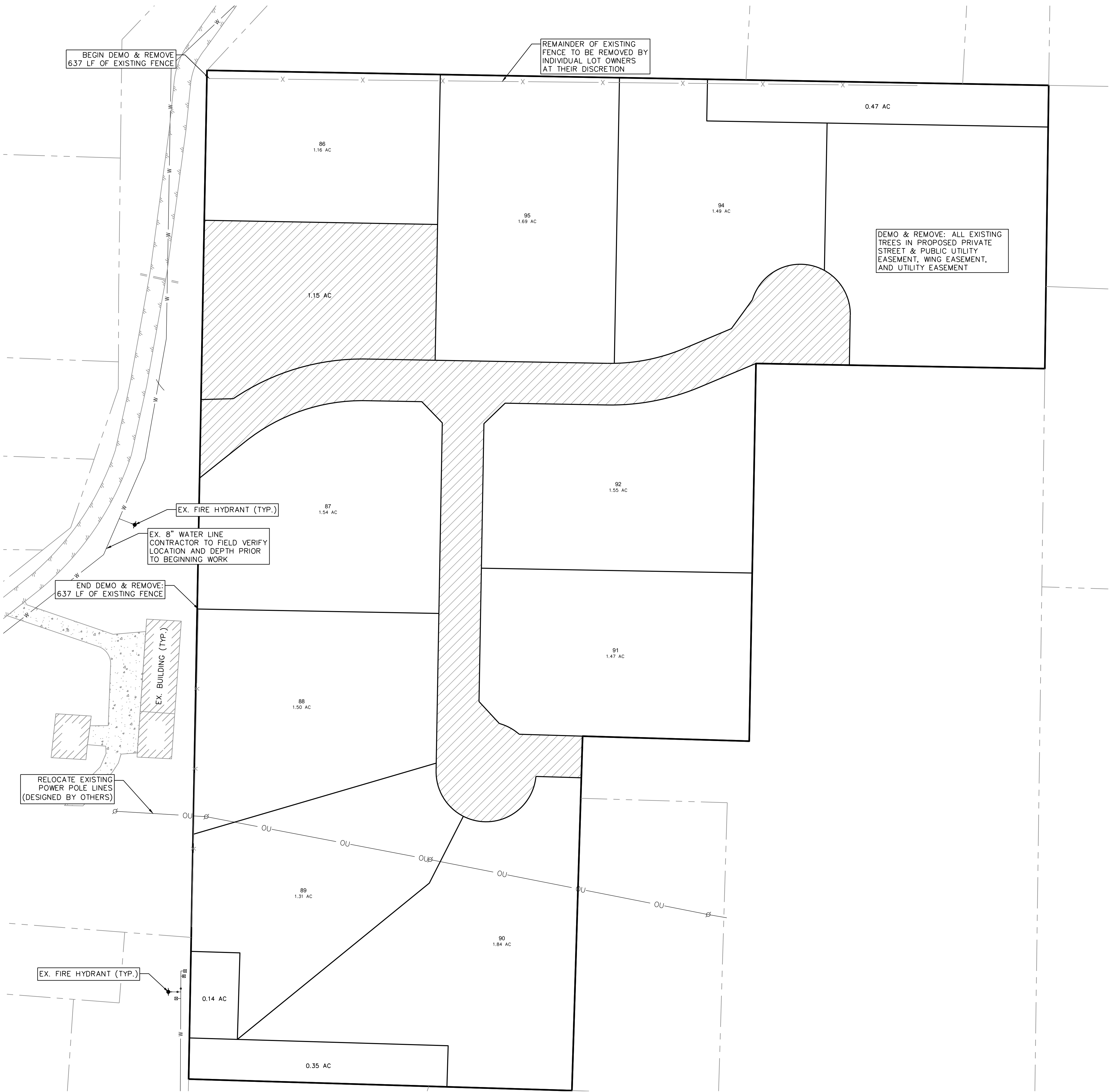
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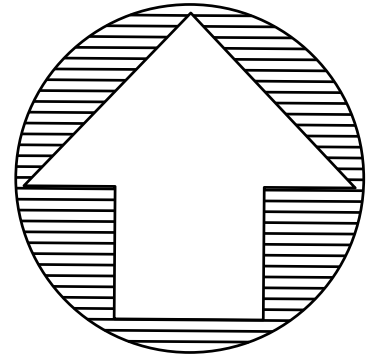
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Plotted By: Courtney Vannan
Plot Date: Monday, October 3, 2022 6:43:41 PM



CAUTION!! 

EXISTING UNDERGROUND UTILITIES. CONTRACTOR TO FIELD VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO START OF ANY CONSTRUCTION AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONFLICTS DISCOVERED. CONTRACTOR RESPONSIBLE FOR COORDINATING UTILITY RELOCATION WHERE NECESSARY AND PROTECTING EXISTING UTILITIES (SHOWN OR NOT SHOWN). IF ANY EXISTING UTILITIES ARE DAMAGED, THE CONTRACTOR SHALL REPLACE THEM AT THEIR OWN EXPENSE.



0 40 80 160
SCALE: 1"=80'

LEGEND

- PROPERTY BOUNDARY (TYP.)
- EXISTING FENCE
- EXISTING WATER LINE
- EXISTING ASPHALT
- EXISTING OVERHEAD UTILITY
- ADJOINING PROPERTY LINES
- LIMITS OF LAND DISTURBING ACTIVITIES

REV. 1
REV. 2
REV. 3
REV. 4
REV. 5

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TOWN OF SHADY SHORES, DENTON COUNTY, TEXAS

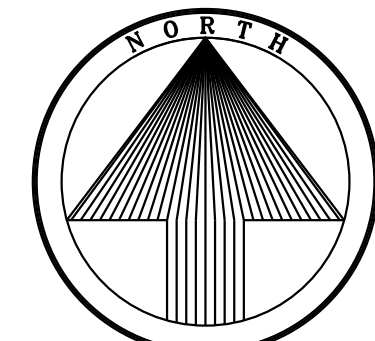
DEMOLITION PLAN

Job: HVA2101
**SHEET
03**

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0 20 40 80
SCALE: 1"=40' (H)
1"=4' (V)

LEGEND

- PROPERTY BOUNDARY
- ADJOINING PROPERTY LINES
- INTERIOR LOT LINE
- PROPOSED EASEMENT
- PAVEMENT CENTERLINE
- EXISTING ASPHALT
- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING OVERHEAD UTILITY
- EXISTING WATER LINE
- PROPOSED WATER LINE

6" 3,600 PSI CONC. PAVEMENT
W/ #3 BARS @ 18" O.C.E.W. OR
6" STABILIZED SUBGRADE OR
PER GEOTECH REPORT

VERTICAL BENCHMARKS:

PK NAIL SET APPROX. ± 207' SOUTH OF NORTH
PROPERTY LINE. APPROX. ± 3' WEST OF THE EASTERN
EDGE OF EXISTING PAVEMENT.
ELEV. = 568.25

600 NAIL FOUND IN POWER POLE APPROX. ±94' WEST
OF THE WESTERN PROPERTY LINE AND APPROX. ±320'
NORTH OF THE SOUTH PROPERTY LINE.
ELEV. = 598.47

HORIZONTAL BENCHMARKS:

NORTHEAST PROPERTY CORNER
N: 7113991.7
E: 2413337.5

SOUTHWEST PROPERTY CORNER
N: 7112767.2
E: 2413775.3

REV. 1
REV. 2
REV. 3
REV. 4
REV. 5

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Planning Communities - Designing the Systems That Serve Them

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CONSTRUCTION PLANS
HIDDEN VALLEY AIRPARK
TOWN OF SHADY SHORES, DENTON COUNTY, TEXAS

STREET A PLAN AND PROFILE

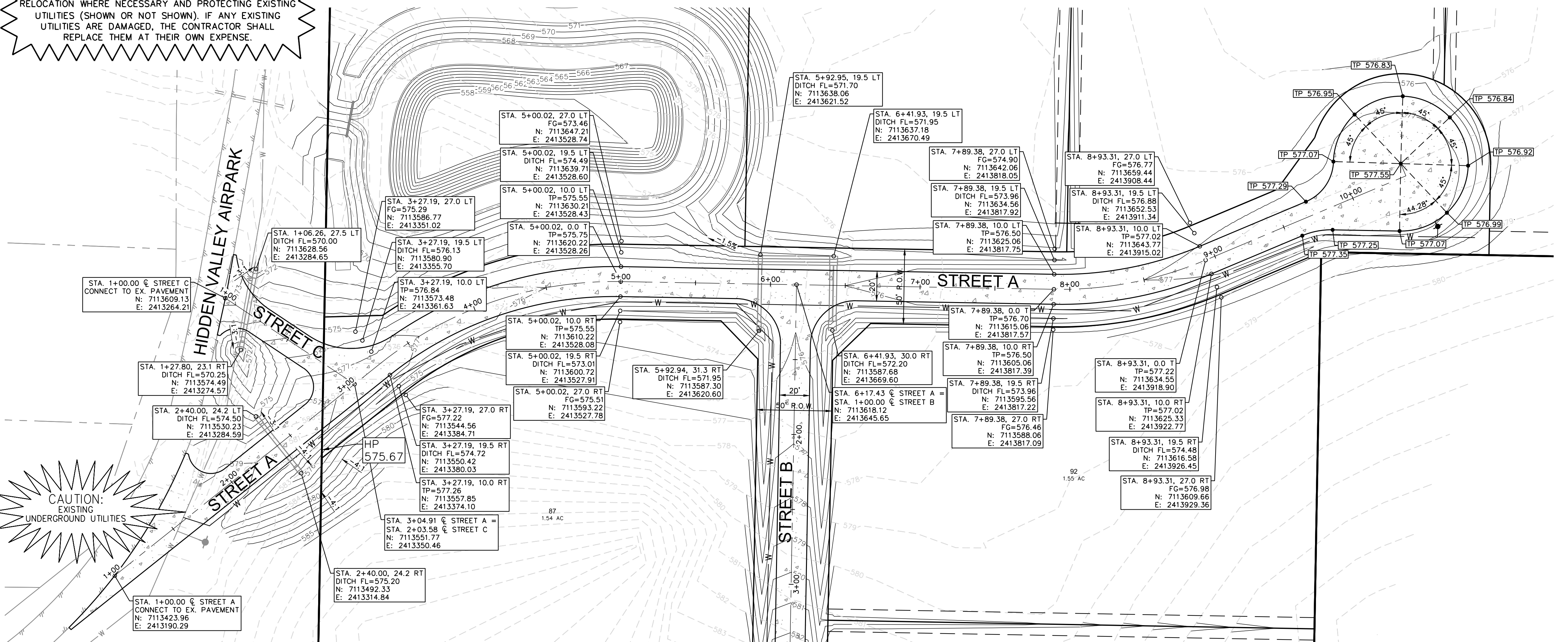
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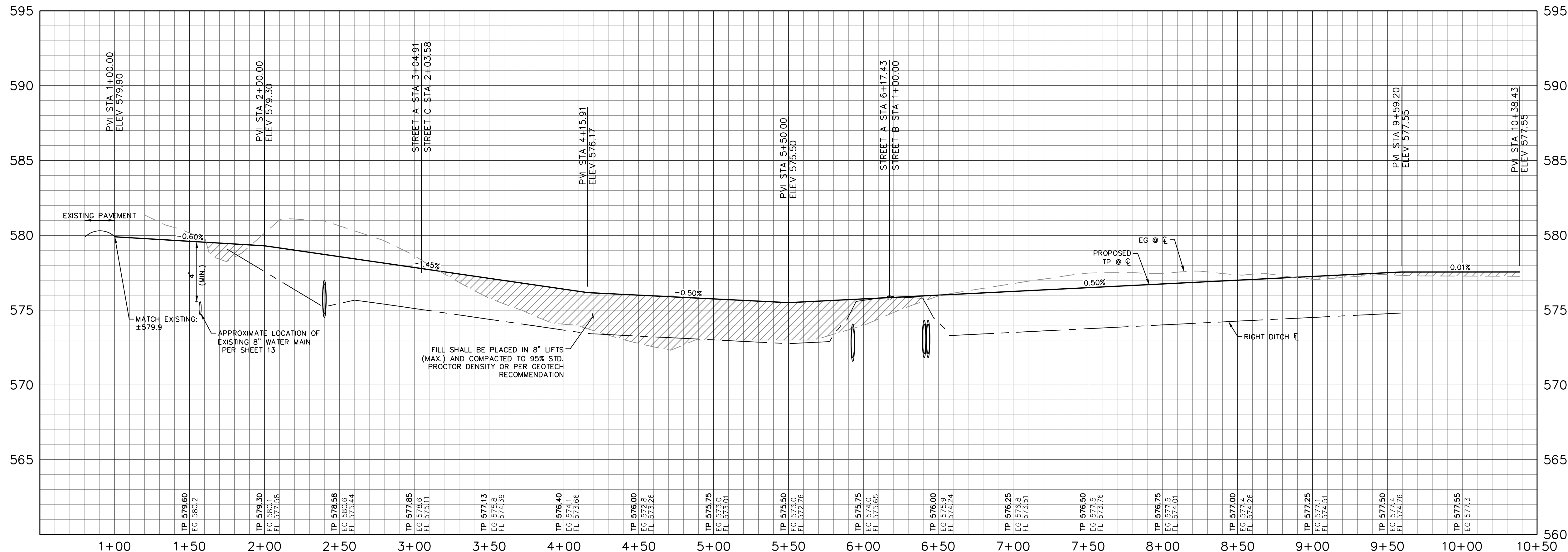
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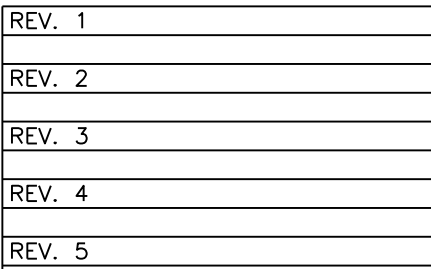
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Plotted By: Courtney Vannan
Plot Date: Monday, October 3, 2022 8:43:57 PM

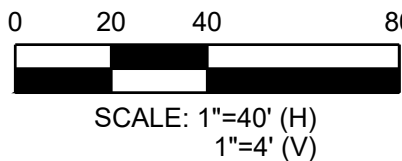


"STREET A"





EXISTING UNDERGROUND UTILITIES, CONTRACTOR TO FIELD
VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO
START OF ANY CONSTRUCTION AND SHALL IMMEDIATELY
NOTIFY THE ENGINEER OF ANY CONFLICTS DISCOVERED.
CONTRACTOR RESPONSIBLE FOR COORDINATING UTILITY
RELOCATION WHERE NECESSARY AND PROTECTING EXISTING
UTILITIES (SHOWN OR NOT SHOWN). IF ANY EXISTING
UTILITIES ARE DAMAGED, THE CONTRACTOR SHALL
REPLACE THEM AT THEIR OWN EXPENSE.



	PROPERTY BOUNDARY
	ADJOINING PROPERTY LINES
	INTERIOR LOT LINE
	PROPOSED EASEMENT
	PAVEMENT CENTERLINE
	EXISTING ASPHALT
	EXISTING CONTOUR
	PROPOSED CONTOUR
	EXISTING OVERHEAD UTILITY
	EXISTING WATER LINE
	PROPOSED WATER LINE

6" 3,600 PSI CONC. PAVEMENT
W/ #3 BARS @ 18" O.C.E.W. ON
6" STABILIZED SUBGRADE OR
PER GEOTECH REPORT

VERTICAL BENCHMARKS:

PK NAIL SET APPROX. $\pm$ 207' SOUTH OF NORTH
PROPERTY LINE. APPROX. $\pm$ 3' WEST OF THE EASTERN
EDGE OF EXISTING PAVEMENT.
ELEV. = 568.25

600 NAIL FOUND IN POWER POLE APPROX. $\pm 94'$ WEST
OF THE WESTERN PROPERTY LINE AND APPROX. $\pm 320'$
NORTH OF THE SOUTH PROPERTY LINE.
ELEV. = 598.47

HORIZONTAL BENCHMARKS:
NORTHEAST PROPERTY CORNER
N: 7113991.7
E: 2413337.5

SOUTHWEST PROPERTY CORNER
N: 7112767.2
E: 2413775.3

2415 N. ELM STREET
DENTON, TEXAS 76201
Phone (940) 380-9455
FAX (940) 380-9431

Texas Board of
Professional Engineers
Registration Number: F-78

info@ae-grp.com



Planning Communities - Designing the Systems That Serve Them

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Drawn by: DJJ
Checked by: LKA

HIDDEN VALLEY ASSOCIATION
CONSTRUCTION PLANS
HIDDEN VALLEY AIRPARK
TOWN OF SHADY SHORES, DENTON COUNTY, TEXAS

STREET B & C PIAN AND PROJ E

Job: HVA2101

SHEET

05

Job: HVA2101

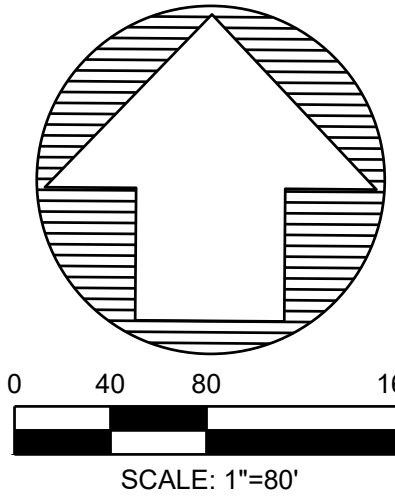
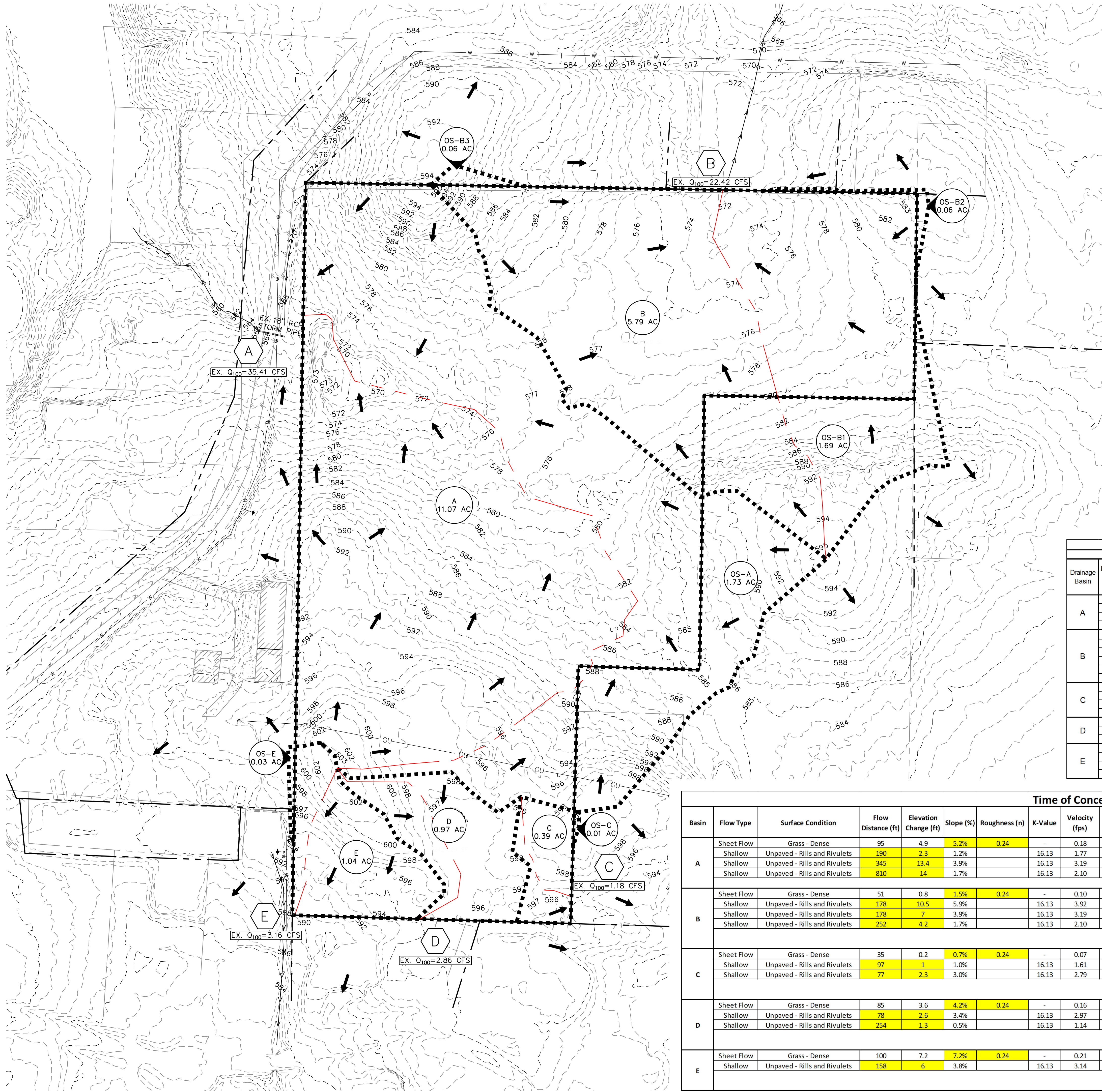
SHEET
05

File Name: P:\Projects\HVA2101 - Hidden Valley Airport\DWG\XDM.dwg

Save Date: Monday, October 3, 2022 5:22:11 PM

Plot Style: Table: Allison.ctb

Plotted By: Courtney Vannan
Plot Date: Monday, October 3, 2022 6:44:20 PM



LEGEND

- PROPERTY BOUNDARY (TYP.)
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- TIME OF CONCENTRATION
- DRAINAGE AREA BOUNDARY
- CHANNELIZED FLOW PATH
- ADJOINING PROPERTY LINES
- DRAINAGE AREA LABEL
- FLOW ARROW

- NOTES:
- TOPOGRAPHY BASED ON DENTON COUNTY LIDAR.
 - MINIMUM TIME OF CONCENTRATION FOR RESIDENTIAL DEVELOPMENT OF 15 MINUTES PER NCTCOG WAS USED FOR TIMES OF CONCENTRATION LESS THAN MINIMUM.

Existing Drainage Calculations																
Drainage Basin	Drainage Area No.	Area (Ac.)	"C"	Time of Conc. (min.)	1 Yr				25 Yr				100 Yr			
					Freq. Factor "T"	Runoff Coeff. "C"	Intensity I (in./hr.)	Q 1 (c.f.s.)	Freq. Factor "T"	Runoff Coeff. "C"	Intensity I (in./hr.)	Q 25 (c.f.s.)	Freq. Factor "T"	Runoff Coeff. "C"	Intensity I (in./hr.)	Q 100 (c.f.s.)
A	OS-A	1.73	0.30	18.8	1.00	0.30	3.140	1.63	1.10	0.33	6.026	3.44	1.25	0.38	7.378	4.79
	A	11.07	0.30	18.8	1.00	0.30	3.140	10.43	1.10	0.33	6.026	22.01	1.25	0.38	7.378	30.63
		12.80						12.06				25.45				35.41
B	OS-B1	1.69	0.30	15	1.00	0.30	3.344	1.70	1.10	0.33	6.424	3.58	1.25	0.38	7.868	4.99
	OS-B2	0.06	0.30	15	1.00	0.30	3.344	0.06	1.10	0.33	6.424	0.13	1.25	0.38	7.868	0.18
	OS-B3	0.06	0.30	15	1.00	0.30	3.344	0.06	1.10	0.33	6.424	0.13	1.25	0.38	7.868	0.18
	B	5.79	0.30	15	1.00	0.30	3.344	5.81	1.10	0.33	6.424	12.27	1.25	0.38	7.868	17.08
		7.60						7.62				16.11				22.42
C	OS-C	0.01	0.30	15	1.00	0.30	3.344	0.01	1.10	0.33	6.424	0.02	1.25	0.38	7.868	0.03
	C	0.39	0.30	15	1.00	0.30	3.344	0.39	1.10	0.33	6.424	0.83	1.25	0.38	7.868	1.15
		0.40						0.40				0.85				1.18
D	D	0.97	0.30	15	1.00	0.30	3.344	0.97	1.10	0.33	6.424	2.06	1.25	0.38	7.868	2.86
		0.97						0.97				2.06				2.86
E	OS-E	0.03	0.30	15	1.00	0.30	3.344	0.03	1.10	0.33	6.424	0.06	1.25	0.38	7.868	0.09
	E	1.04	0.30	15	1.00	0.30	3.344	1.04	1.10	0.33	6.424	2.20	1.25	0.38	7.868	3.07
		1.07						1.07				2.27				3.16

Time of Concentration																	
Basin	Flow Type	Surface Condition	Flow Distance (ft)	Elevation Change (ft)	Slope (%)	Roughness (n)	K-Value	Velocity (fps)	Channel Depth (ft)	Channel Bottom Length (ft)	Channel Angle of Embankment	Radians	Cross Sectional Area	Side Slopes (x:1)	Wetted Perimeter	Hydraulic Radius (ft)	Tc (min)
A	Sheet Flow	Grass - Dense	95	4.9	5.2%	0.24	-	0.18	-	-						-	8.8
	Shallow	Unpaved - Rills and Rivulets	190	2.3	1.2%		16.13	1.77	-	-						-	1.79
	Shallow	Unpaved - Rills and Rivulets	345	13.4	3.9%		16.13	3.19	-	-						-	1.81
	Shallow	Unpaved - Rills and Rivulets	810	14	1.7%		16.13	2.10	-	-						-	6.42
B																Total	18.8
	Sheet Flow	Grass - Dense	51	0.8	1.5%	0.24	-	0.10	-	-						-	8.8
	Shallow	Unpaved - Rills and Rivulets	178	10.5	5.9%		16.13	3.92	-	-						-	0.76
	Shallow	Unpaved - Rills and Rivulets	178	7	3.9%		16.13	3.19	-	-						-	0.93
	Shallow	Unpaved - Rills and Rivulets	252	4.2	1.7%		16.13	2.10	-	-						-	2.00
																Total	12.5
																Minimum	15.0
C	Sheet Flow	Grass - Dense	35	0.2	0.7%	0.24	-	0.07	-	-						-	8.8
	Shallow	Unpaved - Rills and Rivulets	97	1	1.0%		16.13	1.61	-	-						-	1.00
	Shallow	Unpaved - Rills and Rivulets	77	2.3	3.0%		16.13	2.79	-	-						-	0.46
																Total	10.2
D																Minimum	15.0
	Sheet Flow	Grass - Dense	85	3.6	4.2%	0.24	-	0.16	-	-						-	8.8
	Shallow	Unpaved - Rills and Rivulets	78	2.6	3.4%		16.13	2.97	-	-						-	0.43
	Shallow	Unpaved - Rills and Rivulets	254	1.3	0.5%		16.13	1.14	-	-						-	3.71
																Total	9.2
E	Sheet Flow	Grass - Dense	100	7.2	7.2%	0.24	-	0.21	-	-						-	8.0
	Shallow	Unpaved - Rills and Rivulets	158	6	3.8%		16.13	3.14	-	-						-	0.84
																Total	8.9
																Minimum	15.0

REV. 1
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REV. 3
REV. 4
REV. 5

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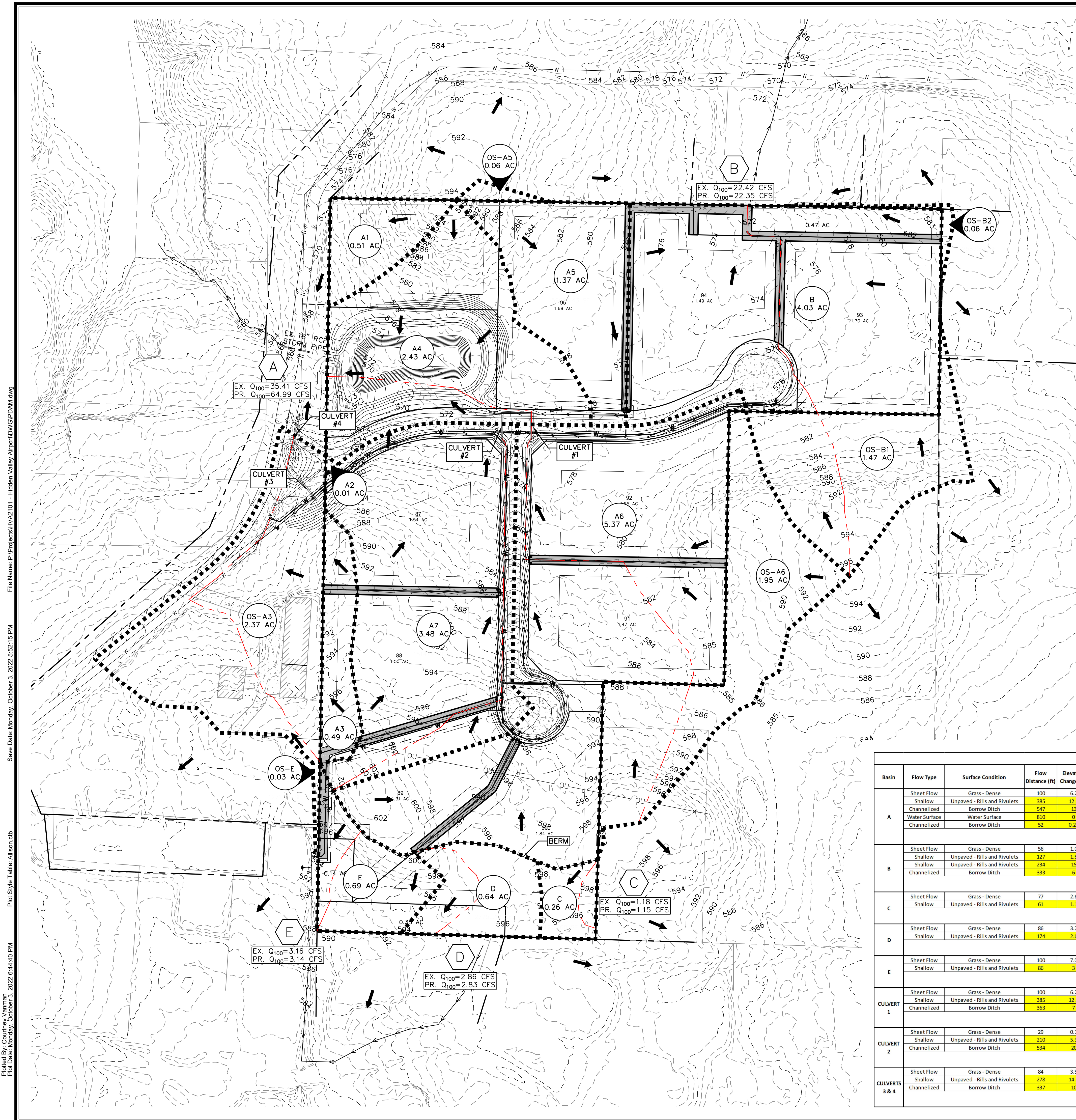
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CONSTRUCTION PLANS
HIDDEN VALLEY AIRPARK
TOWN OF SHADY SHORES, DENTON COUNTY, TEXAS

Job: HVA2101
SHEET
06

EXISTING CONDITIONS DRAINAGE ANALYSIS



NOTES:

1. TOPOGRAPHY BASED ON DENTON COUNTY LIDAR
2. PROPOSED GRADING IS SHOWN ALONG STREETS, BERMS, SWALES, AND POND.
3. MINIMUM TIME OF CONCENTRATION FOR RESIDENTIAL DEVELOPMENT OF 15 MINUTES PER NCTCOG WAS USED FOR TIMES OF CONCENTRATION LESS THAN MINIMUM.

LEGEND

Surface	C Factor	Area (SF)
Open Space	0.30	73,997
Pavement	0.95	29,447
Total Area		103,444
Weighted 'C Factor'		0.49

Proposed Drainage Calculations																
		1 Yr					25 Yr					100 Yr				
Drainage Basin	Drainage Area No.	Area (Ac.)	C	Time of Conc. (min)	Freq. Factor "C"	Runoff Coeff "C"	Intensity (in./hr.)	I (C 1.5)	Freq. Factor "C"	Runoff Coeff "C"	Intensity (in./hr.)	Q (C 1.5)	Freq. Factor "C"	Runoff Coeff "C"	Intensity (in./hr.)	Q (C 1.5)
A	A1	0.51	0.45	15	1.00	0.45	3.344	0.77	1.10	0.50	6.424	1.62	1.25	0.56	7.668	2.32
	A2	0.91	0.95	15	1.00	0.95	3.344	0.93	1.10	0.50	6.424	0.96	1.25	1.00	7.668	0.91
	A3	0.49	0.45	15	1.00	0.45	3.344	0.74	1.10	0.50	6.424	1.58	1.25	0.56	7.668	2.17
	A4	2.24	0.39	15	1.00	0.39	3.344	3.17	1.10	0.43	6.424	6.70	1.25	0.49	7.668	9.32
	CS-A5	0.08	0.30	15	1.00	0.30	3.344	0.98	1.10	0.33	6.424	0.86	1.25	0.38	7.668	0.08
	A5	1.37	0.45	15	1.00	0.45	3.344	2.06	1.10	0.50	6.424	4.38	1.25	0.56	7.668	0.66
	CS-A6	1.99	0.30	15	1.00	0.30	3.344	0.98	1.10	0.33	6.424	0.86	1.25	0.38	7.668	1.99
B	A7	0.53	0.45	15	1.00	0.45	3.344	0.80	1.10	0.50	6.424	17.08	1.25	0.56	7.668	23.77
	A8	3.48	0.45	15	1.00	0.45	3.344	5.24	1.10	0.50	6.424	11.07	1.25	0.56	7.668	15.40
		15.67					22.10				46.70				64.90	
C	OS-B1	1.47	0.30	15	1.00	0.30	3.344	1.47	1.10	0.33	6.424	3.12	1.25	0.38	7.668	3.44
	OS-B2	0.92	0.30	15	1.00	0.30	3.344	0.98	1.10	0.33	6.424	0.86	1.25	0.38	7.668	0.91
	B	4.03	0.45	15	1.00	0.45	3.344	8.06	1.10	0.50	6.424	12.81	1.25	0.56	7.668	17.34
D		5.56					7.60				16.06				22.35	
	C	0.26	0.45	15	1.00	0.45	3.344	0.58	1.10	0.50	6.424	0.83	1.25	0.56	7.668	1.15
		0.26					0.39				0.83				1.15	
E	D	0.64	0.45	15	1.00	0.45	3.344	0.96	1.10	0.50	6.424	2.04	1.25	0.56	7.668	2.83
		0.64					0.96				2.04				2.83	
	CS-E	0.93	0.30	15	1.00	0.30	3.344	0.93	1.10	0.33	6.424	0.93	1.25	0.38	7.668	0.99
F	E	0.69	0.45	15	1.00	0.45	3.344	0.64	1.10	0.50	6.424	2.19	1.25	0.56	7.668	3.05
		0.72					0.72				2.26				3.14	
		0.72					0.72				2.26				3.14	
BYPASS	A1	0.51	0.45	15	1.00	0.45	3.344	0.77	1.10	0.50	6.424	1.62	1.25	0.56	7.668	2.32
	A2	0.91	0.95	15	1.00	0.95	3.344	0.93	1.10	0.50	6.424	0.96	1.25	1.00	7.668	0.98
	A3	0.49	0.45	15	1.00	0.45	3.344	0.74	1.10	0.50	6.424	1.58	1.25	0.56	7.668	2.17
CULVERT 1		1.61					1.54				3.15				3.43	
	OS-A8	1.99	0.30	15	1.00	0.30	3.344	1.96	1.10	0.33	6.424	4.13	1.25	0.38	7.668	5.79
	A8	7.32					10.04				21.21				29.52	
CULVERT 2	A7	3.48	0.45	15	1.00	0.45	3.344	5.24	1.10	0.50	6.424	11.07	1.25	0.56	7.668	15.40
		3.48					5.24				11.07				15.40	
							5.24				11.07				15.40	
CULVERTS 3 & 4	A2	0.10	0.95	15	1.00	0.95	3.344	0.92	1.10	0.50	6.424	0.64	1.25	1.00	7.668	0.97
	CS-A3	0.23	0.49	15	1.00	0.49	3.344	3.89	1.10	0.54	6.424	8.21	1.25	0.61	7.668	11.42
	A3	2.96					4.74				10.41				14.38	
		2.96					4.74				10.41				14.38	

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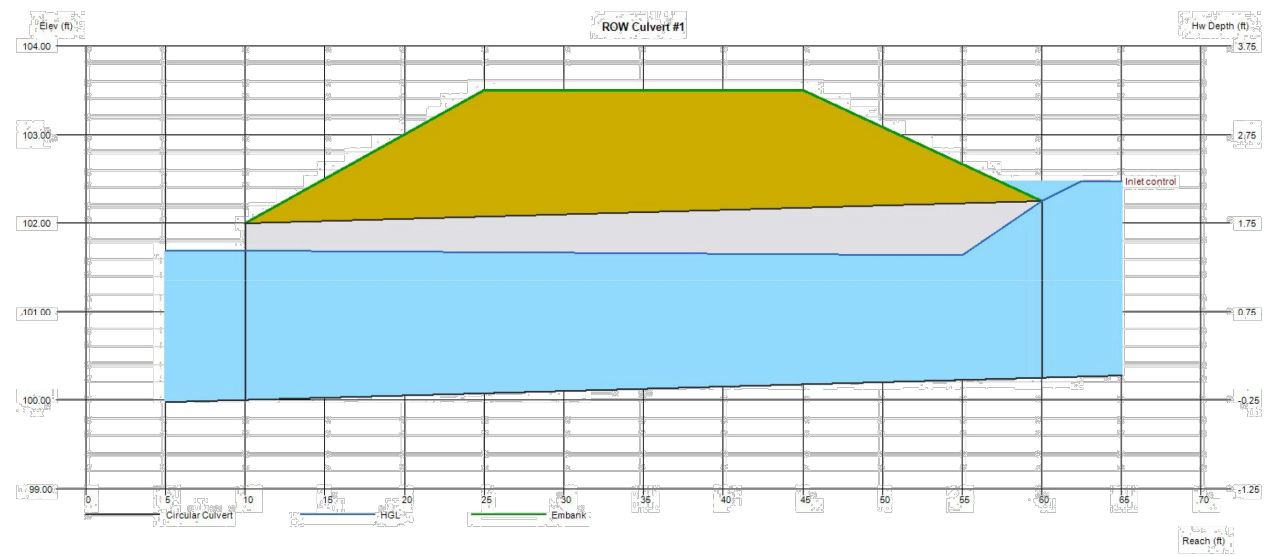
Culvert Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc.

Wednesday, Sep 28 2022

ROW Culvert #1

Invert Elev Dn (ft)	= 100.00	Calculations	
Pipe Length (ft)	= 50.00	Qmin (cfs)	= 29.52
Slope (%)	= 0.50	Qmax (cfs)	= 29.52
Invert Elev Up (ft)	= 100.25	Tailwater Elev (ft)	= (dc+D)/2
Rise (in)	= 24.0		
Shape	= Circular	Highlighted	
Span (in)	= 24.0	Qtotal (cfs)	= 29.52
No. Barrels	= 2	Qpipe (cfs)	= 29.52
n-Value	= 0.013	Qovertop (cfs)	= 0.00
Culvert Type	= Circular Concrete	Veloc Dn (ft/s)	= 5.21
Culvert Entrance	= Square edge w/headwall (C)	Veloc Up (ft/s)	= 6.37
Coeff. K,M,c,Y,k	= 0.0098, 2, 0.0398, 0.67, 0.5	HGL Dn (ft)	= 101.69
		HGL Up (ft)	= 101.63
		Hw Elev (ft)	= 102.47
Embankment		Hw/D (ft)	= 1.11
Top Elevation (ft)	= 103.50	Flow Regime	= Inlet Control
Top Width (ft)	= 20.00		
Crest Width (ft)	= 1.00		



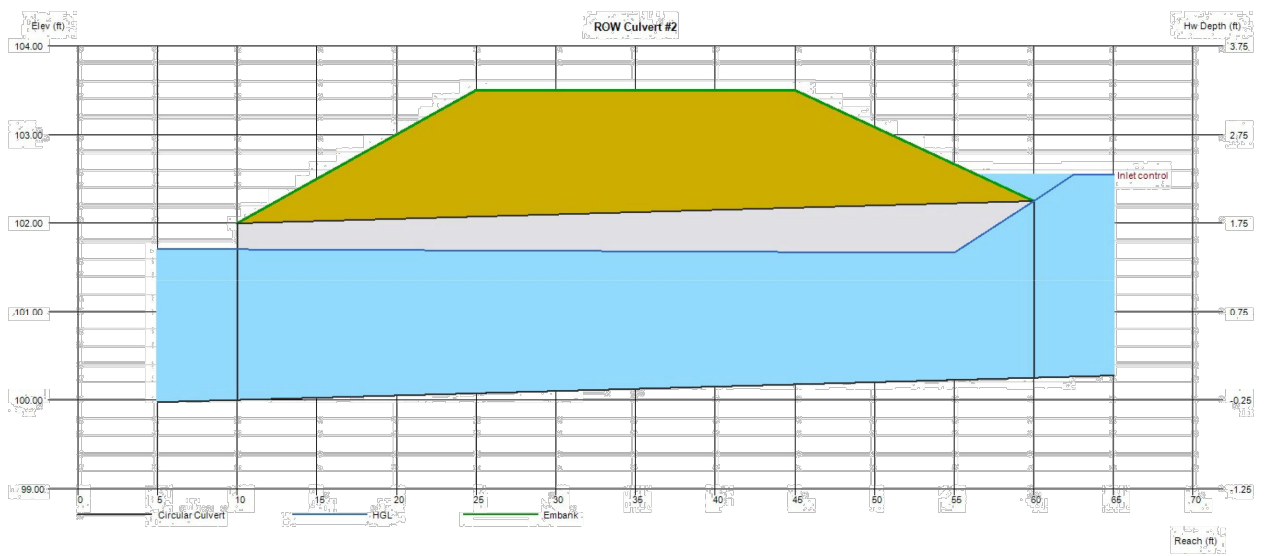
Culvert Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc.

Wednesday, Sep 28 2022

ROW Culvert #2

Invert Elev Dn (ft)	= 100.00	Calculations	
Pipe Length (ft)	= 50.00	Qmin (cfs)	= 15.40
Slope (%)	= 0.50	Qmax (cfs)	= 15.40
Invert Elev Up (ft)	= 100.25	Tailwater Elev (ft)	= (dc+D)/2
Rise (in)	= 24.0		
Shape	= Circular	Highlighted	
Span (in)	= 24.0	Qtotal (cfs)	= 15.40
No. Barrels	= 1	Qpipe (cfs)	= 15.40
n-Value	= 0.013	Qovertop (cfs)	= 0.00
Culvert Type	= Circular Concrete	Veloc Dn (ft/s)	= 5.39
Culvert Entrance	= Square edge w/headwall (C)	Veloc Up (ft/s)	= 6.49
Coeff. K,M,c,Y,k	= 0.0098, 2, 0.0398, 0.67, 0.5	HGL Dn (ft)	= 101.71
		HGL Up (ft)	= 101.66
		Hw Elev (ft)	= 102.55
Embankment		Hw/D (ft)	= 1.15
Top Elevation (ft)	= 103.50	Flow Regime	= Inlet Control
Top Width (ft)	= 20.00		
Crest Width (ft)	= 1.00		



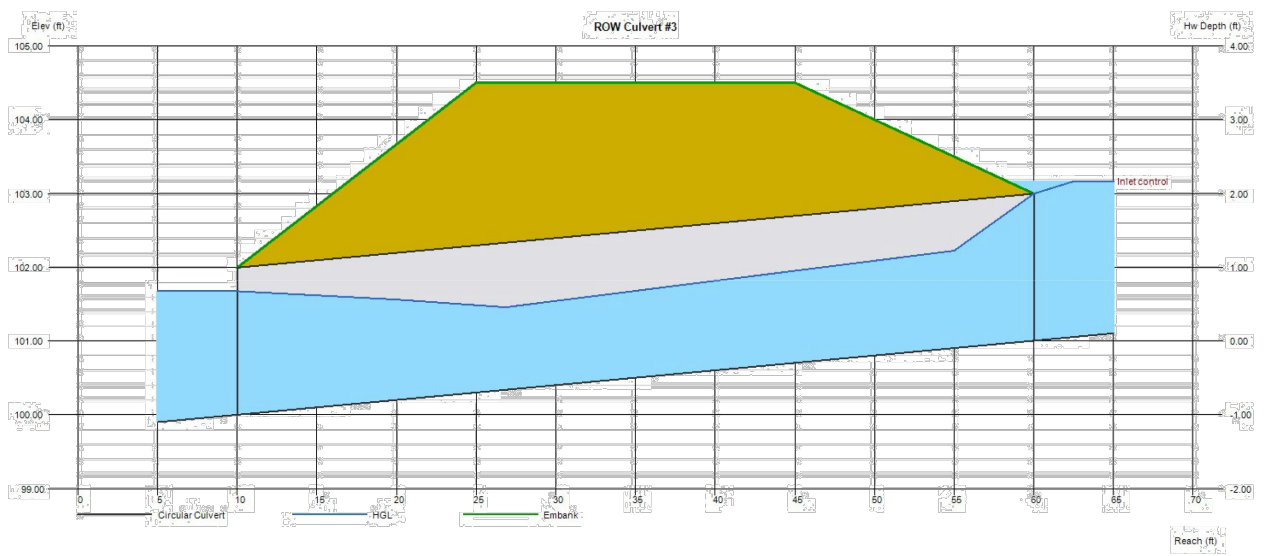
Culvert Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc.

Friday, Sep 30 2022

ROW Culvert #3

Invert Elev Dn (ft)	= 100.00	Calculations	
Pipe Length (ft)	= 50.00	Qmin (cfs)	= 14.38
Slope (%)	= 2.00	Qmax (cfs)	= 14.38
Invert Elev Up (ft)	= 101.00	Tailwater Elev (ft)	= (dc+D)/2
Rise (in)	= 24.0		
Shape	= Circular	Highlighted	
Span (in)	= 24.0	Qtotal (cfs)	= 14.38
No. Barrels	= 1	Qpipe (cfs)	= 14.38
n-Value	= 0.013	Qovertop (cfs)	= 0.00
Culvert Type	= Circular Concrete	Veloc Dn (ft/s)	= 5.10
Culvert Entrance	= Square edge w/headwall (C)	Veloc Up (ft/s)	= 6.30
Coeff. K,M,c,Y,k	= 0.0098, 2, 0.0398, 0.67, 0.5	HGL Dn (ft)	= 101.68
		HGL Up (ft)	= 102.37
		Hw Elev (ft)	= 103.17
Embankment		Hw/D (ft)	= 1.08
Top Elevation (ft)	= 104.50	Flow Regime	= Inlet Control
Top Width (ft)	= 20.00		
Crest Width (ft)	= 1.00		



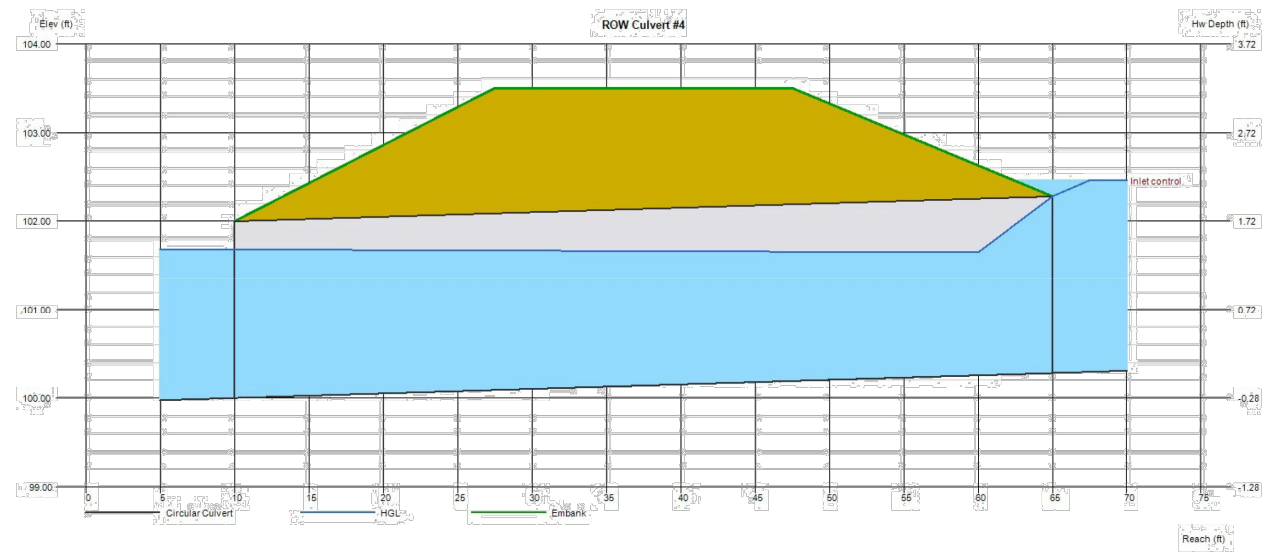
Culvert Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc.

Wednesday, Sep 28 2022

ROW Culvert #4

Invert Elev Dn (ft)	= 100.00	Calculations	
Pipe Length (ft)	= 55.00	Qmin (cfs)	= 14.38
Slope (%)	= 0.51	Qmax (cfs)	= 14.38
Invert Elev Up (ft)	= 100.28	Tailwater Elev (ft)	= (dc+D)/2
Rise (in)	= 24.0		
Shape	= Circular	Highlighted	
Span (in)	= 24.0	Qtotal (cfs)	= 14.38
No. Barrels	= 1	Qpipe (cfs)	= 14.38
n-Value	= 0.013	Qovertop (cfs)	= 0.00
Culvert Type	= Circular Concrete	Veloc Dn (ft/s)	= 5.10
Culvert Entrance	= Square edge w/headwall (C)	Veloc Up (ft/s)	= 6.30
Coeff. K,M,c,Y,k	= 0.0098, 2, 0.0398, 0.67, 0.5	HGL Dn (ft)	= 101.68
		HGL Up (ft)	= 101.65
		Hw Elev (ft)	= 102.46
Embankment		Hw/D (ft)	= 1.09
Top Elevation (ft)	= 103.50	Flow Regime	= Inlet Control
Top Width (ft)	= 20.00		
Crest Width (ft)	= 1.00		



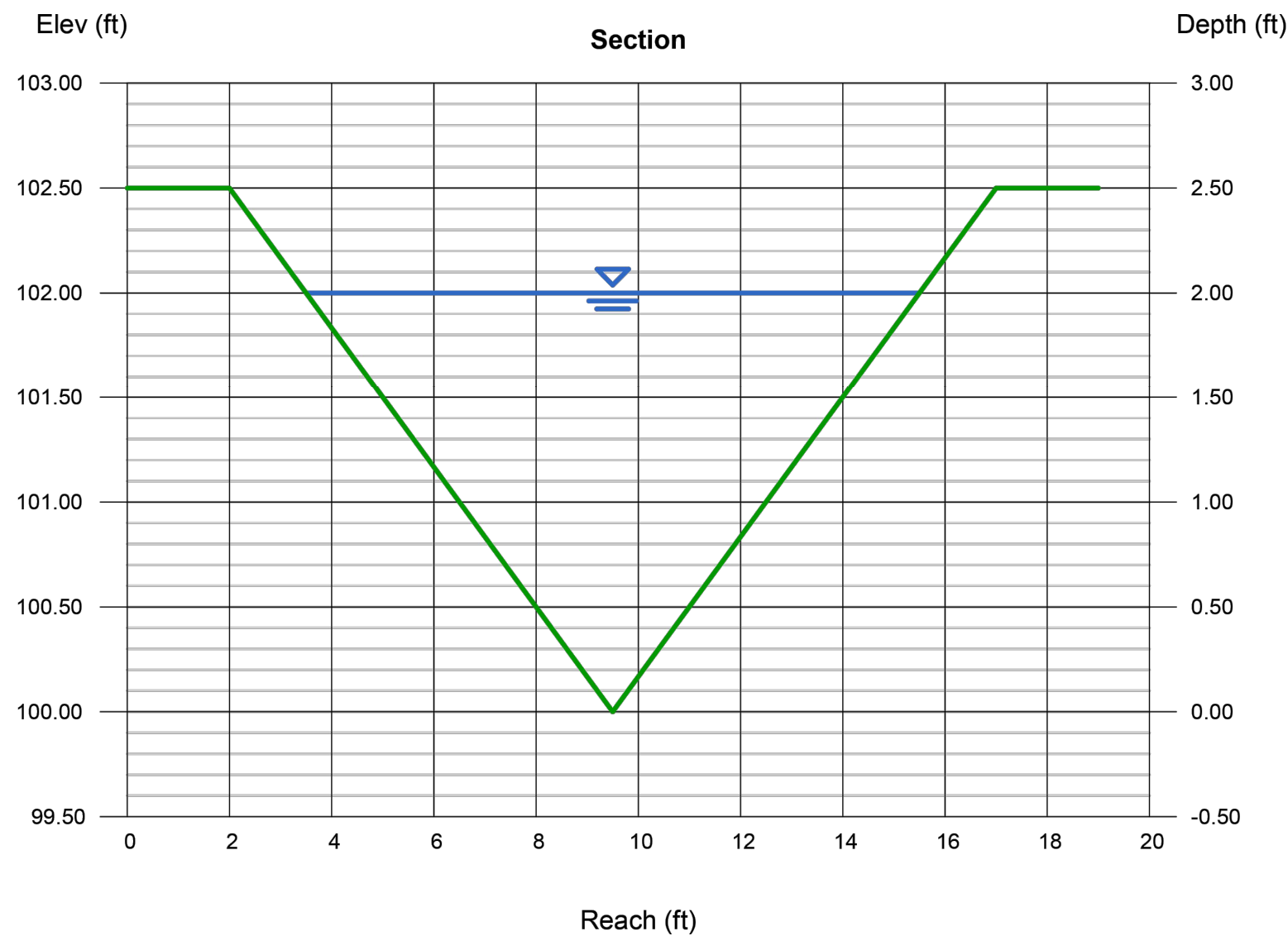
Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc.

Wednesday, Sep 28 2022

Typical Channel Section

Triangular		Highlighted	
Side Slopes (z:1)	= 3.00, 3.00	Depth (ft)	= 2.00
Total Depth (ft)	= 2.50	Q (cfs)	= 34.78
		Area (sqft)	= 12.00
Invert Elev (ft)	= 100.00	Velocity (ft/s)	= 2.90
Slope (%)	= 0.50	Wetted Perim (ft)	= 12.65
N-Value	= 0.035	Crit Depth, Yc (ft)	= 1.53
		Top Width (ft)	= 12.00
		EGL (ft)	= 2.13
Calculations			
Compute by:	Known Depth		
Known Depth (ft)	= 2.00		



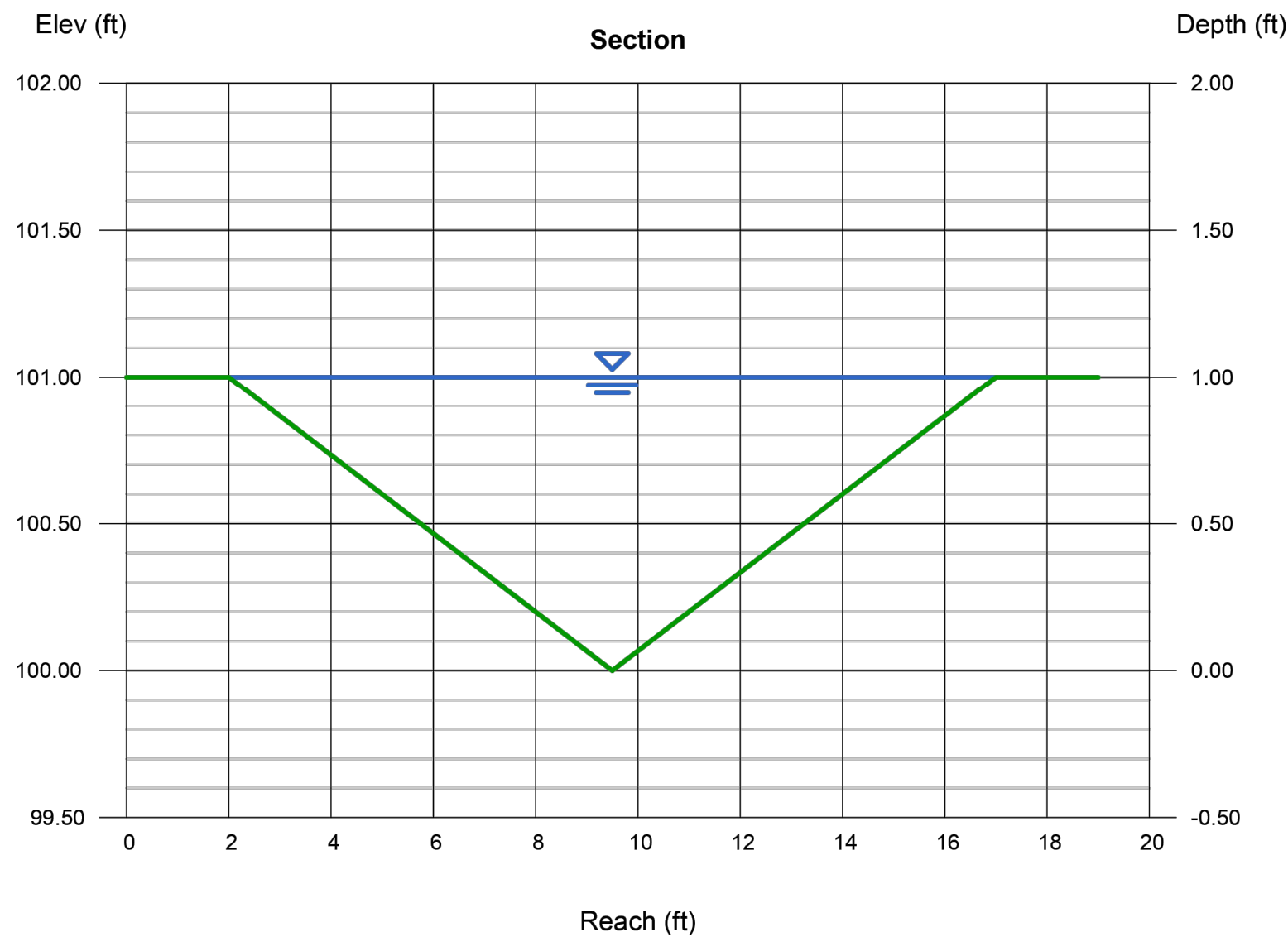
Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc.

Wednesday, Sep 28 2022

Typical Side Yard Swale

Triangular		Highlighted	
Side Slopes (z:1)	= 7.50, 7.50	Depth (ft)	= 1.00
Total Depth (ft)	= 1.00	Q (cfs)	= 14.10
		Area (sqft)	= 7.50
Invert Elev (ft)	= 100.00	Velocity (ft/s)	= 1.88
Slope (%)	= 0.50	Wetted Perim (ft)	= 15.13
N-Value	= 0.035	Crit Depth, Yc (ft)	= 0.74
		Top Width (ft)	= 15.00
		EGL (ft)	= 1.05
Calculations			
Compute by:	Known Depth		
Known Depth (ft)	= 1.00		



REV. 1

REV. 2

REV. 3

REV. 4

REV. 5

3415 N. ELM STREET
DENTON, TEXAS 76201
Phone (940) 380-9453
FAX (940) 380-9431
Texas Board of
Professional Engineers
Registration Number: F-7898
info@ae-grp.com



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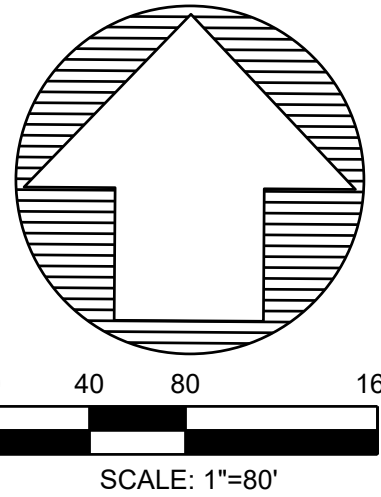
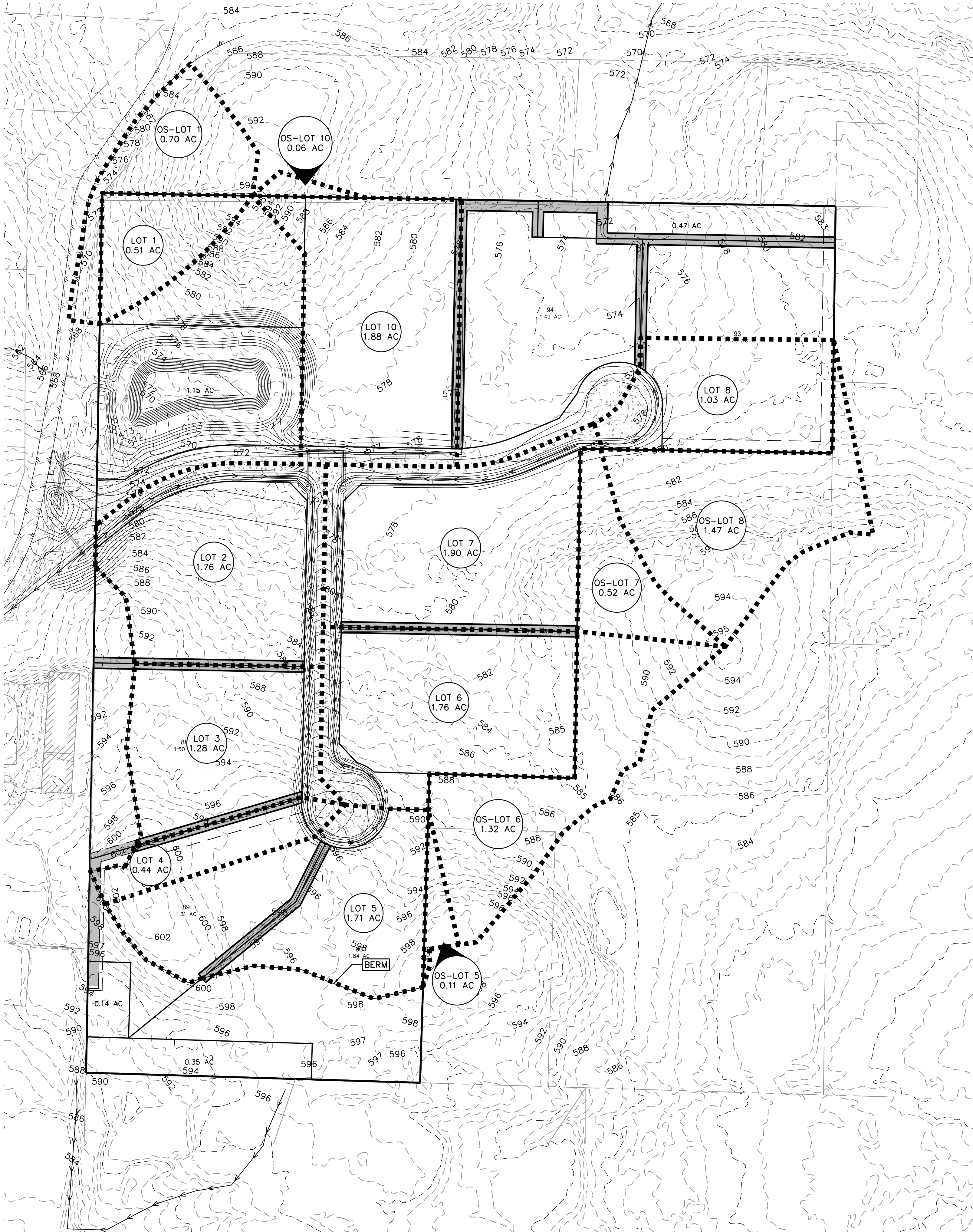
Drawn by:CEV
Checked by:LKA

HIDDEN VALLEY ASSOCIATION
CONSTRUCTION PLANS
HIDDEN VALLEY AIRPARK
TOWN OF SHADY SHORES, DENTON COUNTY, TEXAS

PROPOSED DRAINAGE DETAILS

Job: HVA2101

SHEET
08



LEGEND

- PROPERTY BOUNDARY (TYP.)
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED CONTOUR
- DRAINAGE AREA BOUNDARY
- CHANNELIZED FLOW PATH
- ADJOINING PROPERTY LINES
- 15' DRAINAGE EASEMENT
- DRAINAGE AREA LABEL
- FLOW ARROW

Proposed Drainage Calculations									
Lot Number	Drainage Area No.	Area (Ac.)	"C"	Time of Conc. (min.)	Freq. Factor "I"	100 Yr			
						Runoff Coeff. "C"	Intensity I (in./hr.)	Q 100 (c.f.s.)	
1	OS-LOT 1	0.70	0.45	15	1.25	0.56	7.868	3.10	
	LOT 1	0.51	0.45	15	1.25	0.56	7.868	2.26	
		1.21						5.36	
2	LOT 2	1.76	0.45	15	1.25	0.56	7.868	7.79	
	LOT 3	1.28	0.45	15	1.25	0.56	7.868	5.66	
	LOT 4	0.44	0.45	15	1.25	0.56	7.868	1.95	
		3.48						15.40	
3	LOT 3	1.28	0.45	15	1.25	0.56	7.868	5.66	
	LOT 4	0.44	0.45	15	1.25	0.56	7.868	1.95	
		1.72						7.61	
4	LOT 4	0.44	0.45	15	1.25	0.56	7.868	1.95	
		0.44						1.95	
5	OS-LOT 5	0.11	0.30	15	1.25	0.38	7.868	0.32	
	LOT 5	1.71	0.45	15	1.25	0.56	7.868	7.57	
		1.82						7.89	
6	OS-LOT 5	0.11	0.30	15	1.25	0.38	7.868	0.32	
	OS-LOT 6	1.32	0.30	15	1.25	0.38	7.868	3.89	
	LOT 5	1.71	0.45	15	1.25	0.56	7.868	7.57	
	LOT 6	1.76	0.45	15	1.25	0.56	7.868	7.79	
		4.90						19.58	
7	OS-LOT 5	0.11	0.30	15	1.25	0.38	7.868	0.32	
	OS-LOT 6	1.32	0.30	15	1.25	0.38	7.868	3.89	
	OS-LOT 7	0.52	0.30	15	1.25	0.38	7.868	1.53	
	LOT 5	1.71	0.45	15	1.25	0.56	7.868	7.57	
	LOT 6	1.76	0.45	15	1.25	0.56	7.868	7.79	
	LOT 7	1.90	0.45	15	1.25	0.56	7.868	8.41	
8	OS-LOT 8	1.47	0.30	15	1.25	0.38	7.868	4.34	
	LOT 8	1.03	0.45	15	1.25	0.56	7.868	4.56	
		2.50						8.90	
10	OS-LOT 10	0.06	0.45	15	1.25	0.56	7.868	0.27	
	LOT 10	1.88	0.45	15	1.25	0.56	7.868	8.32	
		1.94						8.59	

Driveway Culvert Schedule		
Lot Number	Flow (C.F.S.)	Culvert Schedule
1	5.36	1 18" Barrel
2	15.40	2 18" Barrels
3	7.61	1 18" Barrel
4	1.95	1 18" Barrel
5	7.89	1 18" Barrel
6	19.58	2 24" Barrels
7	29.52	3 24" Barrels
8	8.90	1 18" Barrel
9	—	
10	8.59	1 18" Barrel

- NOTES:
- TOPOGRAPHY BASED ON DENTON COUNTY LIDAR
 - PROPOSED GRADING IS SHOWN ALONG STREETS, BERMS, SWALES, AND POND.
 - NO CULVERT ANALYSIS FOR LOT 9 IS SHOWN BECAUSE LOT 9 SHEET FLOWS OFF OF THE BACK OF THE LOT AND NO FLOW IS CONTAINED IN DITCH.

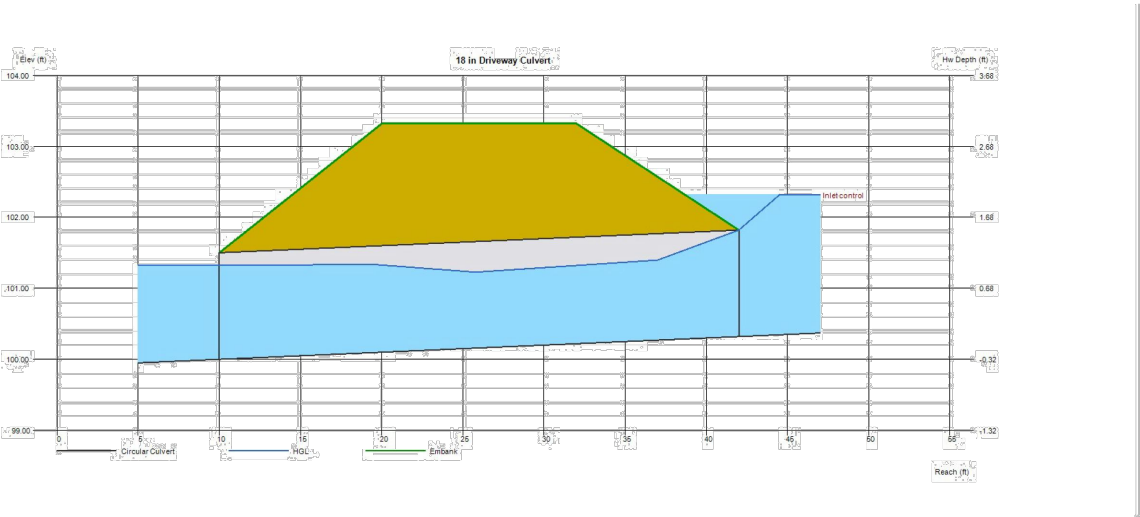
Culvert Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc.

Monday, Aug 29 2022

18 in Driveway Culvert

Invert Elev Dn (ft)	= 100.00	Calculations	
Pipe Length (ft)	= 32.00	Qmin (cfs)	= 8.85
Slope (%)	= 1.00	Qmax (cfs)	= 8.85
Invert Elev Up (ft)	= 100.32	Tailwater Elev (ft)	= (dc+D)/2
Rise (in)	= 18.0		
Shape	= Circular	Highlighted	
Span (in)	= 18.0	Qtotal (cfs)	= 8.85
No. Barrels	= 1	Qpipe (cfs)	= 8.85
n-Value	= 0.013	Qovertop (cfs)	= 0.00
Culvert Type	= Circular Concrete	Veloc Dn (ft/s)	= 5.36
Culvert Entrance	= Square edge w/headwall (C)	Veloc Up (ft/s)	= 6.07
Coeff. K,M,c,Y,k	= 0.0098, 2, 0.0398, 0.67, 0.5	HGL Dn (ft)	= 101.33
		HGL Up (ft)	= 101.47
		Hw Elev (ft)	= 102.32
Embankment		Hw/D (ft)	= 1.33
Top Elevation (ft)	= 103.32	Flow Regime	= Inlet Control
Top Width (ft)	= 12.00		
Crest Width (ft)	= 1.00		



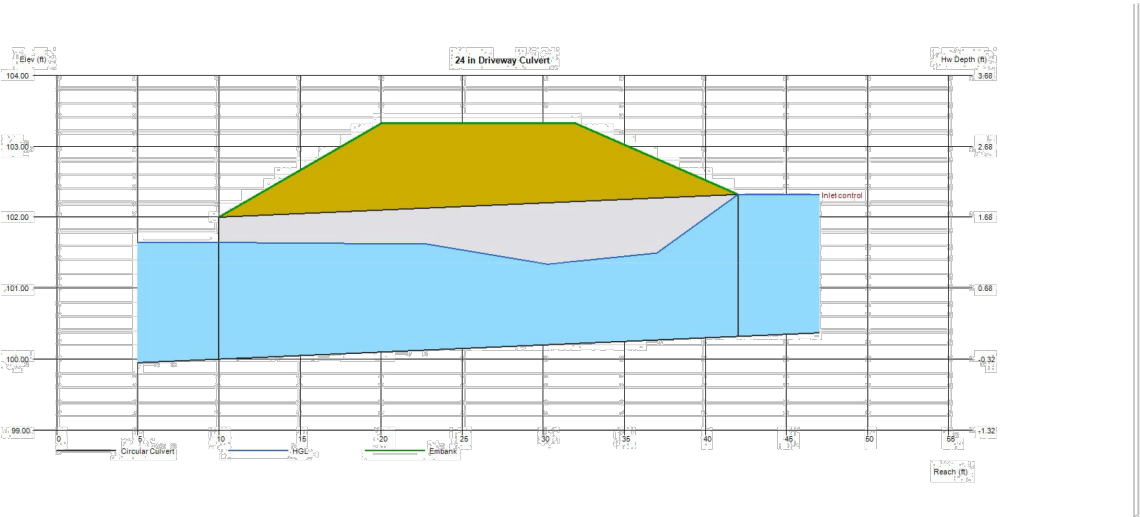
Culvert Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc.

Monday, Aug 29 2022

24 in Driveway Culvert

Invert Elev Dn (ft)	= 100.00	Calculations	
Pipe Length (ft)	= 32.00	Qmin (cfs)	= 12.80
Slope (%)	= 1.00	Qmax (cfs)	= 12.80
Invert Elev Up (ft)	= 100.32	Tailwater Elev (ft)	= (dc+D)/2
Rise (in)	= 24.0		
Shape	= Circular	Highlighted	
Span (in)	= 24.0	Qtotal (cfs)	= 12.80
No. Barrels	= 1	Qpipe (cfs)	= 12.80
n-Value	= 0.013	Qovertop (cfs)	= 0.00
Culvert Type	= Circular Concrete	Veloc Dn (ft/s)	= 4.64
Culvert Entrance	= Square edge w/headwall (C)	Veloc Up (ft/s)	= 5.97
Coeff. K,M,c,Y,k	= 0.0098, 2, 0.0398, 0.67, 0.5	HGL Dn (ft)	= 101.64
		HGL Up (ft)	= 101.81
		Hw Elev (ft)	= 102.32
Embankment		Hw/D (ft)	= 1.00
Top Elevation (ft)	= 103.32	Flow Regime	= Inlet Control
Top Width (ft)	= 12.00		
Crest Width (ft)	= 1.00		



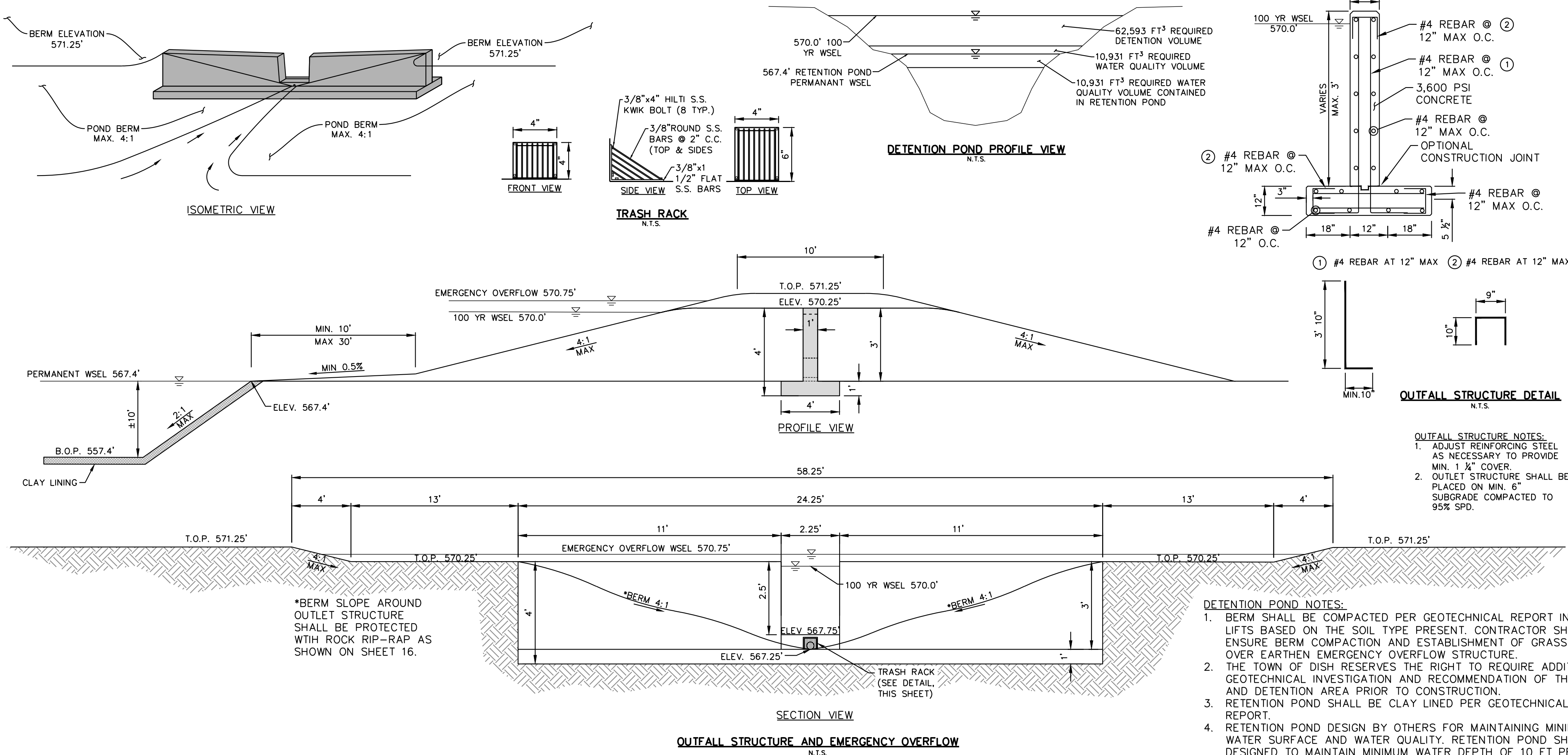
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 Wednesday, 09 / 21 / 2022

Stage / Storage Table			
Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)
0.00	567.25	22,881	0
0.50	567.75	24,169	11,763
1.00	568.25	25,596	12,439
1.50	568.75	26,425	11,207
3.00	570.25	31,372	29,899
4.00	571.25	34,443	32,908

Table: Server/Drive/CPU off hours are analyzed under I/O (c) and output (cc) control. We insert checks for error conditions (cc) and emergence (s).												
Stage / Storage / Discharge			Table									
Stage ft	Storage cft	Elevation ft	Cv A cfs	Cv B cfs	Cv C cfs	PrRr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Dr C cfs	Exfl cfs	Total cfs
0.00	0	567.25	0.00	0.00	---	---	0.00	---	---	---	---	0.000
0.50	11.763	567.75	0.08 oc	0.00	---	---	0.00	---	---	---	---	0.079
1.00	24.201	568.25	0.11 oc	0.00	---	---	2.74	---	---	---	---	2.856
2.00	51.207	569.25	0.16 oc	0.00	---	---	14.26	---	---	---	---	14.42
3.00	81.205	570.25	0.19 oc	0.00	---	---	30.68	---	---	---	---	30.88
4.00	114.013	571.25	0.22 oc	0.00	---	---	50.83	---	---	---	---	51.05

PRELIMINARY MODIFIED RATIONAL DESIGN CALCULATION					
Return Interval		1	25	100 yr	
t = 1 hr					
Allowable Release					
1.26	Total basin C _{max} (1 hr)	12.06	25.45	35.41 cfs	
	Peak flow	1.54	3.41	4.90 cfs	
	Pass-through	0	0	0 cfs	
	Allowable Release	10.52	22.04	30.51 cfs	
Critical Duration of Storm					
1.27	td = [Σ(C _{max} Δt) / Q _{max}]	28.61	37.21	39.96 min	
	Developed C _{max}	80.52	22.21	30.51 cfs	
	Peak flow	97.58	248.54	358.77 cfs	
		13.78	22.04	15.67 acres	
		13.78	22.04	24.82	
Preliminary Storage Volume					
V _{req'd} = [Σ(C _{max} Δt) - (ΣC _{max} Δt) ₂₅] / (1 - 0.70) ^{0.7}		14,477	31,616	35,521 cu ft	
	P ₂₅ =			13.5 min	
	Developed C _{max}			0.61	
	Peak flow	97.58	248.54	358.77 cfs	
		13.78	22.04	24.82	
		13.78	22.04	36.67 acres	
	Peak flow	105.52	22.21	62.91 cfs	
Required Storage Volume					
1.28b	V _{max} = [prelim V _{req'd} / 0.85]	16,913	52,568	69,931 cu ft	
	P ₁₀₀ = [1.85 V _{max} ^{0.25}]	14,477	31,616	55.82 min	
	P100 H ₁₀₀ = [1.85 V _{max} ^{0.25}]	2.04	4.66	5.82 ft	
	P100 H ₁₀₀ = [1.85 V _{max} ^{0.25}]	0.68	3.97	7.73 m/yr	
	P ₁₀₀ H ₁₀₀ = [1.85 V _{max} ^{0.25}]	1.31	2.52	3.00 ft	
	P ₁₀₀ H ₁₀₀ = [1.85 V _{max} ^{0.25}]	2.37	4.46	5.45 ft	
TOTAL	Pond Storage Volume Required	36,857	69,931	73,541 cu ft	

Water Quality Protection Volume Calculation		
Water Quality Volume (WQ _v)	Percent of Impervious Cover	25.00 %
	$R_p = 0.05 + 0.009(I)$	0.275
	A (acres)	14.60 Acres
	$WQ_v = 1.5R_pA/12$	0.50 Acre-Ft
	$WQ_v = 1.5R_pA/12^{*}43,560$	21861.7 cft
Outlet Pipe Size	$WQ_v = 1.5(R_p)$	0.41 Inch
	Detention Time	24 hrs
	Avg. Discharge Rate	0.253 cfs
	Max. Discharge Rate	0.506 cfs
	WQ_v Pond Depth	3 ft
	Weir Coefficient, C	0.6
	Outlet Area = $Q/[C(2gH)^{0.5}]$	0.047 sq
Pipe Diameter	2.94 Inches	

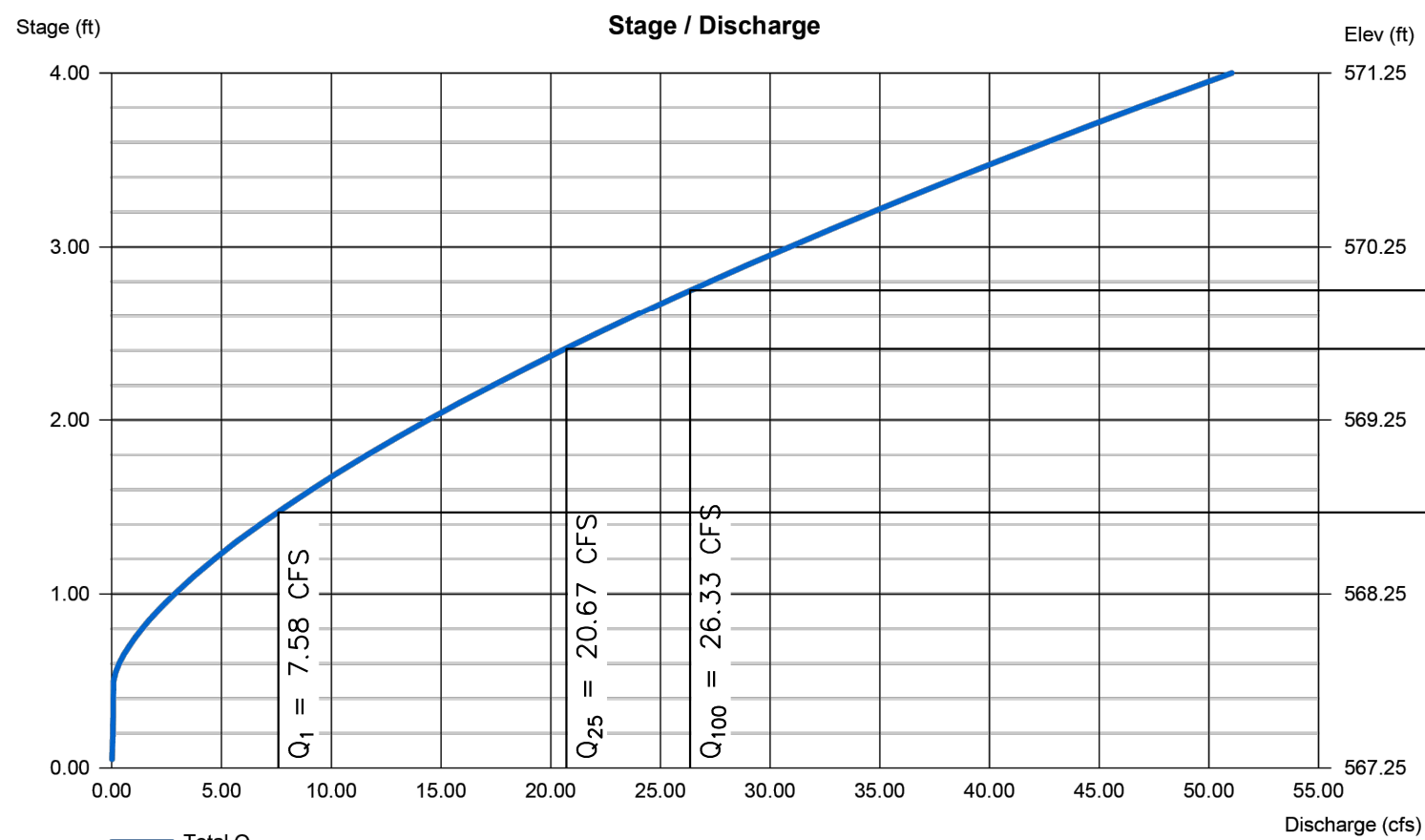


- DEFENTION POND NOTES:**
1. BERM SHALL BE COMPACTED PER GEOTECHNICAL REPORT IN 8" LFSURE BASED ON THE SOIL TYPE PRESENT. CONTRACTOR SHALL ENSURE BERM COMPACTION AND ESTABLISHMENT OF GRASS COVER OVER WITHIN 90 DAYS OF COMPLETION OF EROSION STRUCTURE.
 2. THE TOWN OF DISH RESERVES THE RIGHT TO REQUIRE ADDITIONAL GEOTECHNICAL INVESTIGATION AND RECOMMENDATION OF THE BERM AND DETENTION AREA PRIOR TO CONSTRUCTION.
 3. RETENTION POND SHALL BE CLAY LINED PER GEOTECHNICAL REPORT.
 4. RETENTION POND DESIGN BY OTHERS FOR MAINTAINING MINIMUM WATER SURFACE AND WATER QUALITY. RETENTION POND SHALL BE DESIGNED TO MAINTAIN MINIMUM WATER DEPTH OF 10 FT PER CITY OF DENTON STANDARDS.

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 Wednesday, 09 / 21 / 2022

Stage / Storage Table				
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1.00	568.25	25,596	12,439	24,201
2.00	569.25	28,026	27,006	51,207
3.00	570.25	31,372	29,899	81,105
4.00	571.25	34,443	32,908	114,013

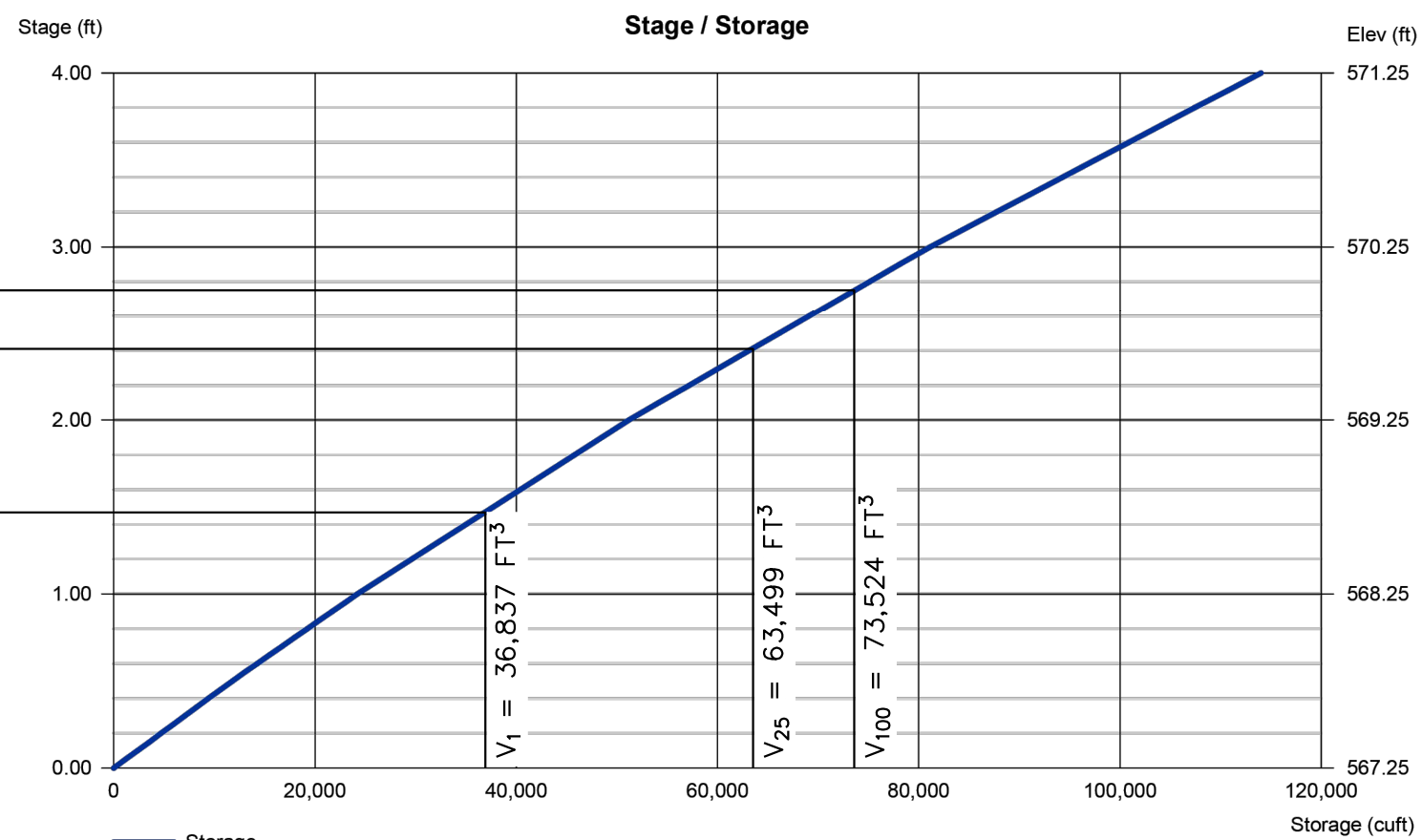
Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 Wednesday, 09 / 21 / 2022

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2.00	569.25	28,426	27,006	51,207
3.00	570.25	31,372	29,899	81,105
4.00	571.25	34,443	32,908	114,013

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Wednesday, Sep 21 2022

Trapezoidal Weir		Highlighted	
Crest	= Sharp	Depth (ft)	= 0.50
Bottom Length (ft)	= 58.25	Q (cfs)	= 65.60
Total Depth (ft)	= 1.00	Area (sqft)	= 30.13
Side Slope (z:1)	= 4.00	Velocity (ft/s)	= 2.18
		Top Width (ft)	= 62.25

Detention/Emergency Overflow Structure

Depth (ft)

2.00

1.50

1.00

0.50

0.00

-0.50

0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80

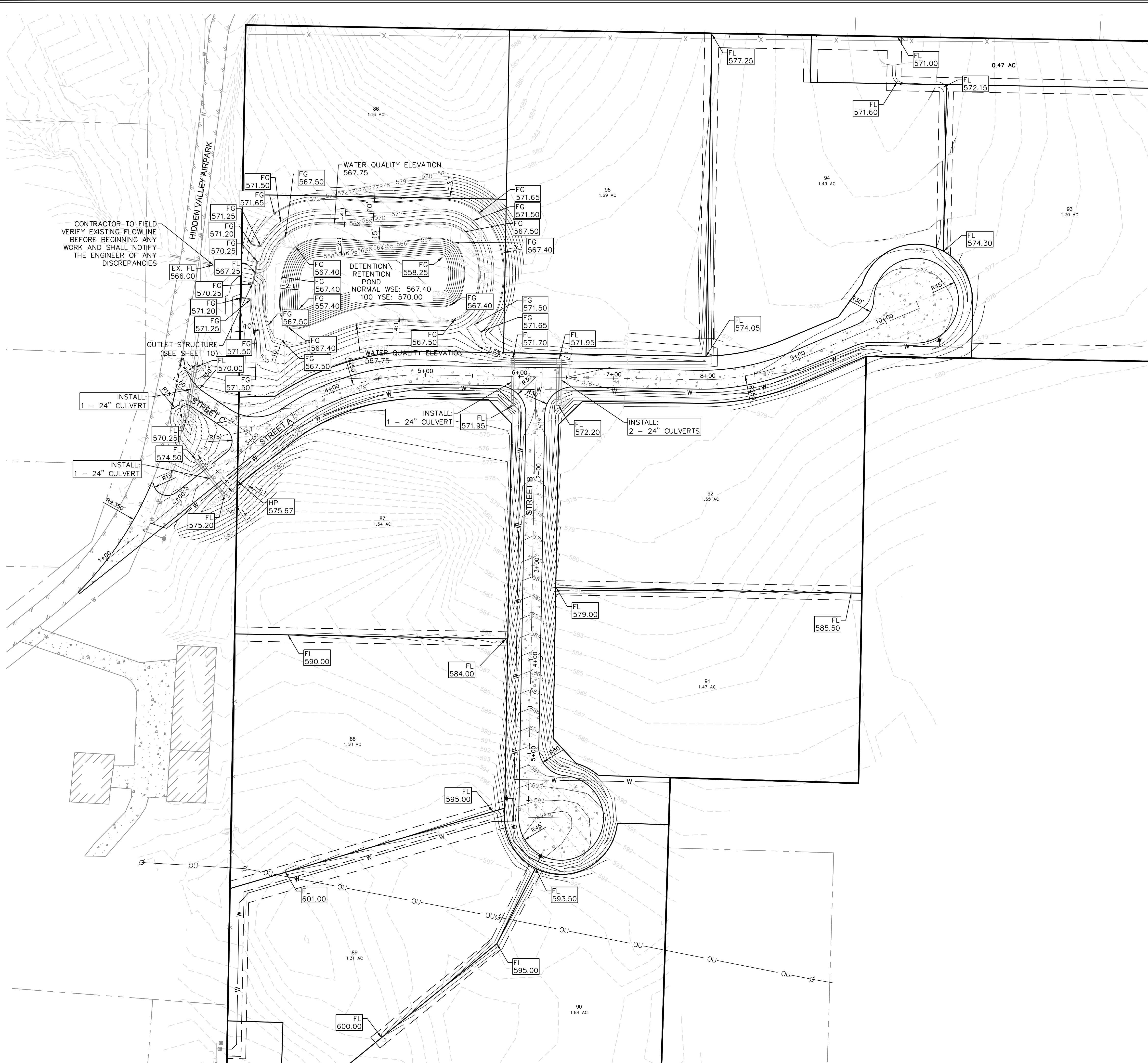
Length (ft)

— Weir

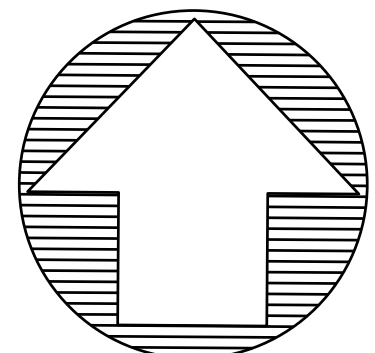
— W.S.

- EMERGENCY OVERFLOW STRUCTURE
RELEASE IS GREATER THAN PROPOSED
CONDITIONS 100 YR STORM EVENT.

Plotted By: Courtney Yarnall
Plot Date: Monday, October 3, 2022 6:45:38 PM
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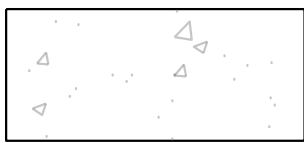


CAUTION!! 
EXISTING UNDERGROUND UTILITIES. CONTRACTOR TO FIELD VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO START OF ANY CONSTRUCTION AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONFLICTS DISCOVERED. CONTRACTOR RESPONSIBLE FOR COORDINATING UTILITY RELOCATION WHERE NECESSARY AND PROTECTING EXISTING UTILITIES (SHOWN OR NOT SHOWN). IF ANY EXISTING UTILITIES ARE DAMAGED, THE CONTRACTOR SHALL REPLACE THEM AT THEIR OWN EXPENSE.



LEGEND

- PROPERTY BOUNDARY (TYP.)
- X — EXISTING FENCE
- W — EXISTING WATER LINE
- EXISTING ASPHALT
- - - 650 - - - EXISTING CONTOUR
- - - 650 - - - PROPOSED CONTOUR
- - - DETENTION POND BOUNDARIES
- - - WATER QUALITY ELEVATION



6" 3,600 PSI CONC. PAVEMENT
W/ #3 BARS @ 18" O.C.E.W. ON
6" STABILIZED SUBGRADE OR
PER GEOTECH REPORT

VERTICAL BENCHMARKS:

PK NAIL SET APPROX. ± 207' SOUTH OF NORTH
PROPERTY LINE. APPROX. ± 3' WEST OF THE EASTERN
EDGE OF EXISTING PAVEMENT.
ELEV. = 568.25

600 NAIL FOUND IN POWER POLE APPROX. ±94' WEST
OF THE WESTERN PROPERTY LINE AND APPROX. ±320'
NORTH OF THE SOUTH PROPERTY LINE.
ELEV. = 598.47

HORIZONTAL BENCHMARKS:

NORTHEAST PROPERTY CORNER
N: 7113991.7
E: 2413337.5

SOUTHWEST PROPERTY CORNER
N: 7112767.2
E: 2413775.3

REV. 1
REV. 2
REV. 3
REV. 4
REV. 5

3445 N. ELM STREET
DENTON, TEXAS 76201
Phone (940) 380-9453
FAX (940) 380-9431

Texas Board of
Professional Engineers
Registration Number: F-7898
info@ae-grp.com



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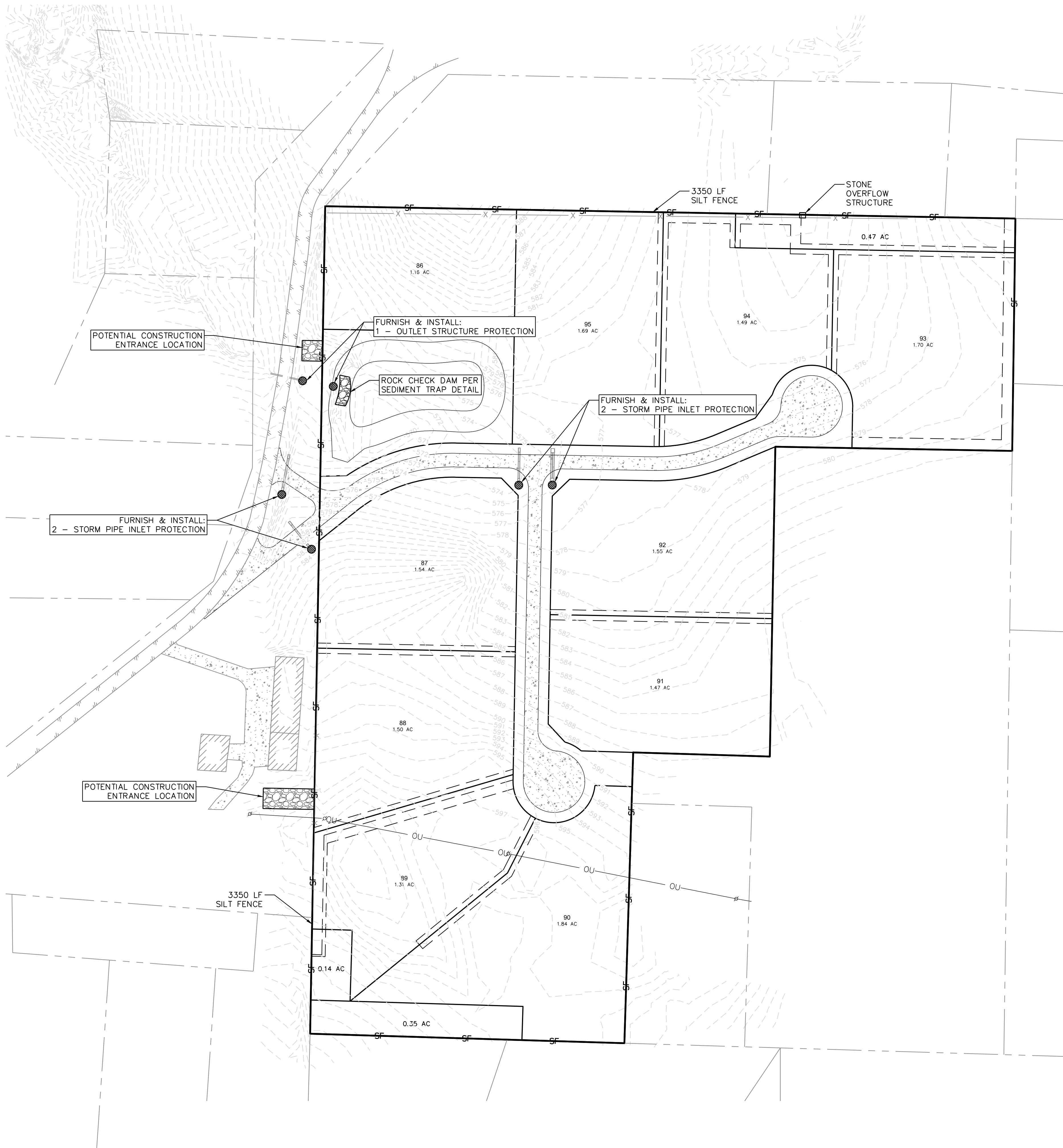
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Drawn by: CEV
Checked by: LKA

HIDDEN VALLEY ASSOCIATION
CONSTRUCTION PLANS
HIDDEN VALLEY AIRPARK
TOWN OF SHADY SHORES, DENTON COUNTY, TEXAS

DETENTION POND GRADING PLAN

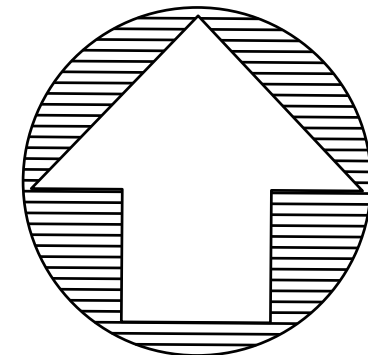
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CAUTION!!



EXISTING UNDERGROUND UTILITIES. CONTRACTOR TO FIELD VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO START OF ANY CONSTRUCTION AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONFLICTS DISCOVERED. CONTRACTOR RESPONSIBLE FOR COORDINATING UTILITY RELOCATION WHERE NECESSARY AND PROTECTING EXISTING UTILITIES (SHOWN OR NOT SHOWN). IF ANY EXISTING UTILITIES ARE DAMAGED, THE CONTRACTOR SHALL REPLACE THEM AT THEIR OWN EXPENSE.



0 40 80 160
SCALE: 1"=80'

LEGEND

- | | |
|--|--------------------------|
| | PROPERTY BOUNDARY (TYP.) |
| | EXISTING MAJOR CONTOUR |
| | EXISTING MINOR CONTOUR |
| | ADJOINING PROPERTY LINES |
| | SILT FENCE |
| | INLET PROTECTION |

- EROSION CONTROL MATTING SHALL BE PLACED ON ANY SLOPE 4:1 OR GREATER.
- THE CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF CONSTRUCTION AND TAKES RISK OF UNKNOWN CONDITIONS.
- REFER TO LANDSCAPE PLAN FOR TEMPORARY OR PERMANENT VEGETATION.
- ALL EROSION CONTROL DEVICES AS SHOWN ON THE EROSION CONTROL PLAN FOR THE PROJECT SHALL BE INSTALLED PRIOR TO THE START OF LAND DISTURBING ACTIVITIES ON THE PROJECT.
- EROSION CONTROL DEVICES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PUBLIC WORKS CONSTRUCTION STANDARDS, NORTH CENTRAL TEXAS, LATEST EDITION, AND TCEQ GENERAL PERMIT. (TPDES GENERAL PERMIT TCR150000).
- IF THE EROSION CONTROL PLAN AS APPROVED CANNOT CONTROL EROSION AND OFF-SITE SEDIMENTATION FROM THE PROJECT, THE EROSION CONTROL PLAN WILL BE REQUIRED TO BE REVISED AND/OR ADDITIONAL EROSION CONTROL DEVICES WILL BE REQUIRED.
- SINCE DRAINAGE AREA IS OVER 10 ACRES, A TEMPORARY SEDIMENTATION POND IS REQUIRED PER TCEQ. THE PROPOSED DETENTION POND MAY BE USED, BUT IT SHOULD CONSTRUCTED (INCLUDING ANY TEMPORARY OR PERMANENT OUTLET CONTROL STRUCTURE) AND STABILIZED AS THE FIRST STEP IN CONSTRUCTION SO THAT IT MAY BE USED AS SUCH.

REV. 1
REV. 2
REV. 3
REV. 4
REV. 5

3416 N. ELM STREET
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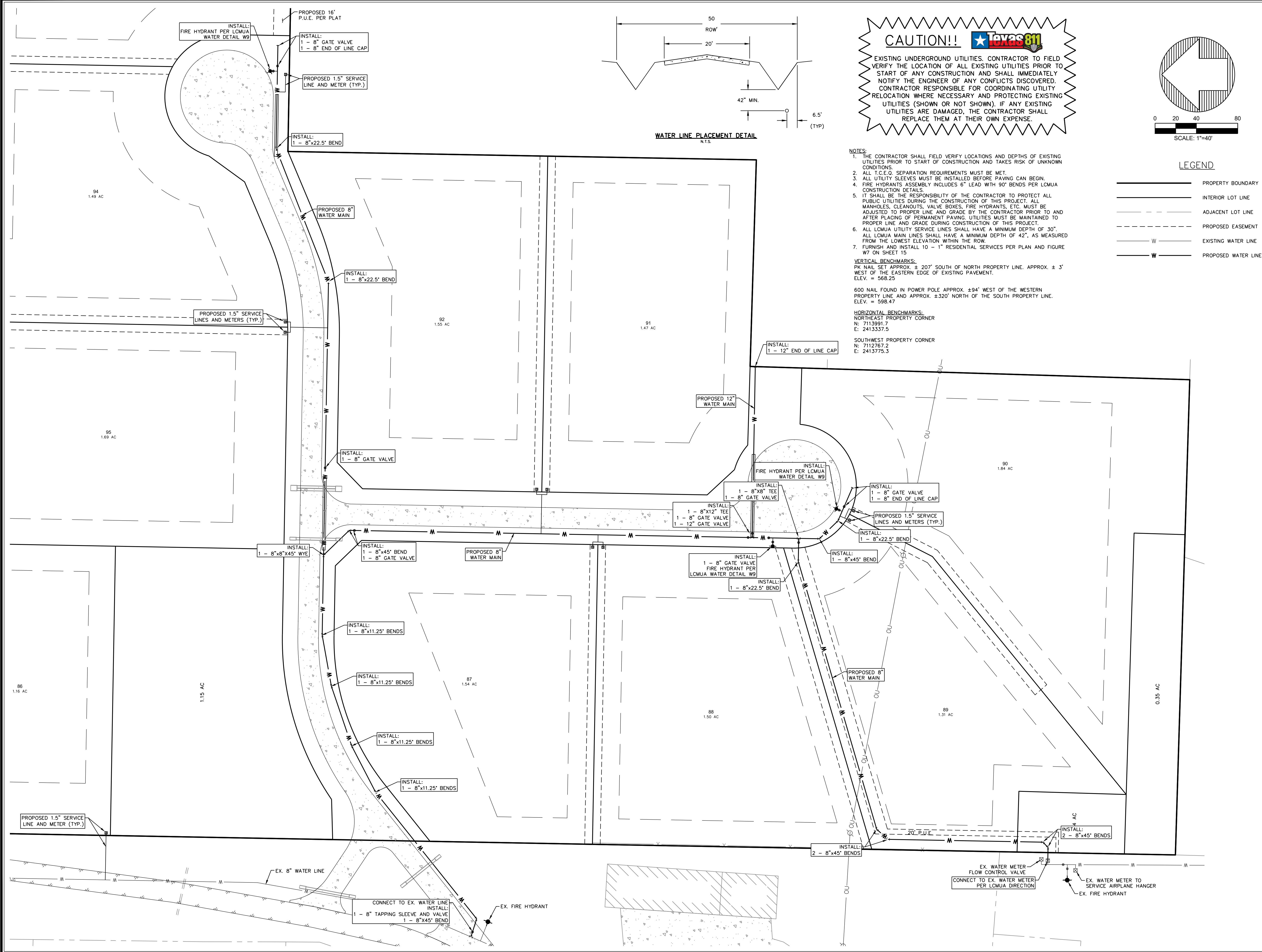
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CONSTRUCTION PLANS
HIDDEN VALLEY AIRPARK
TOWN OF SHADY SHORES, DENTON COUNTY, TEXAS

EROSION CONTROL PLAN

Job: HVA2101

SHEET
12

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REV. 4
REV. 5

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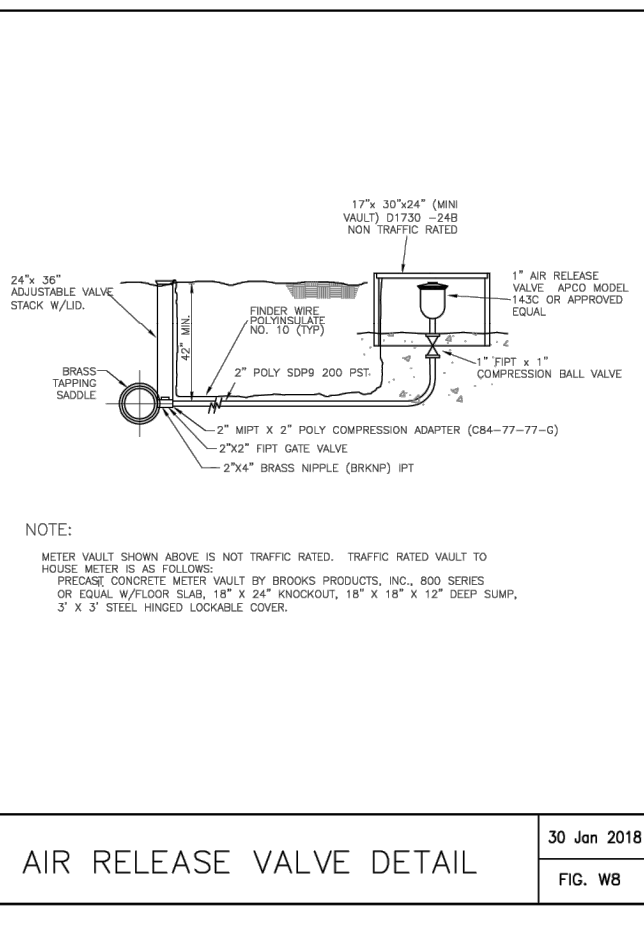
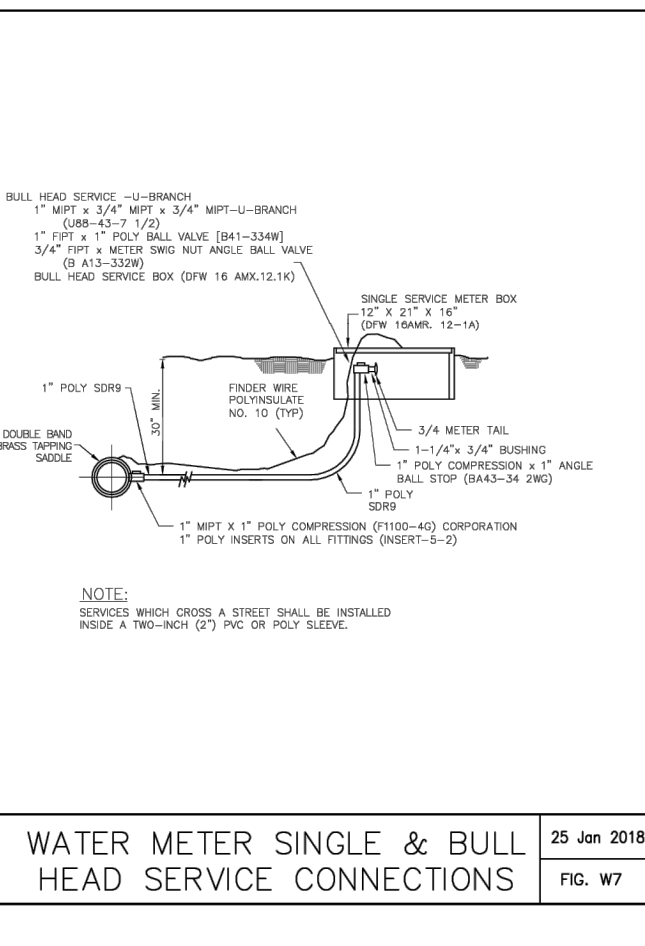
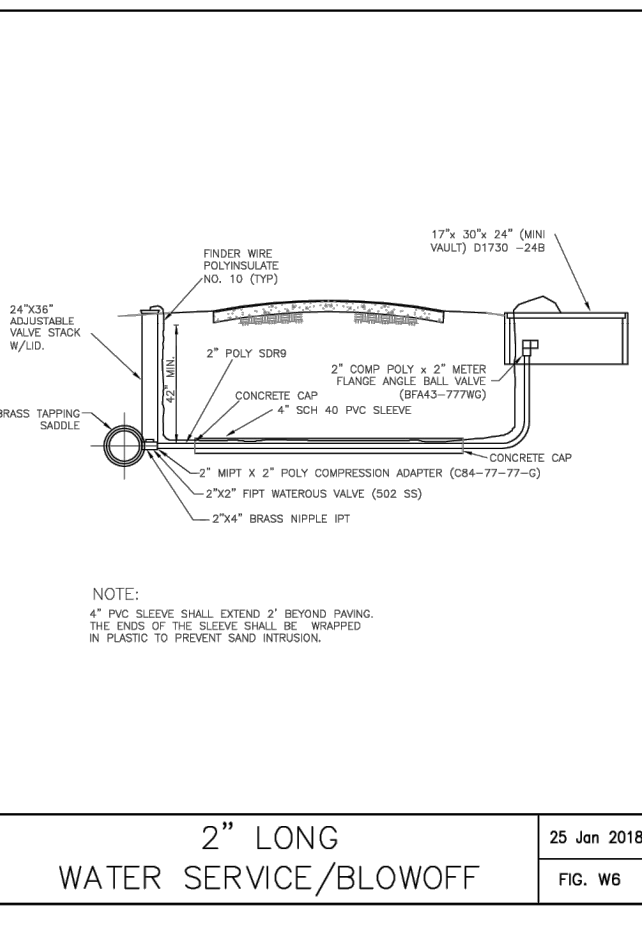
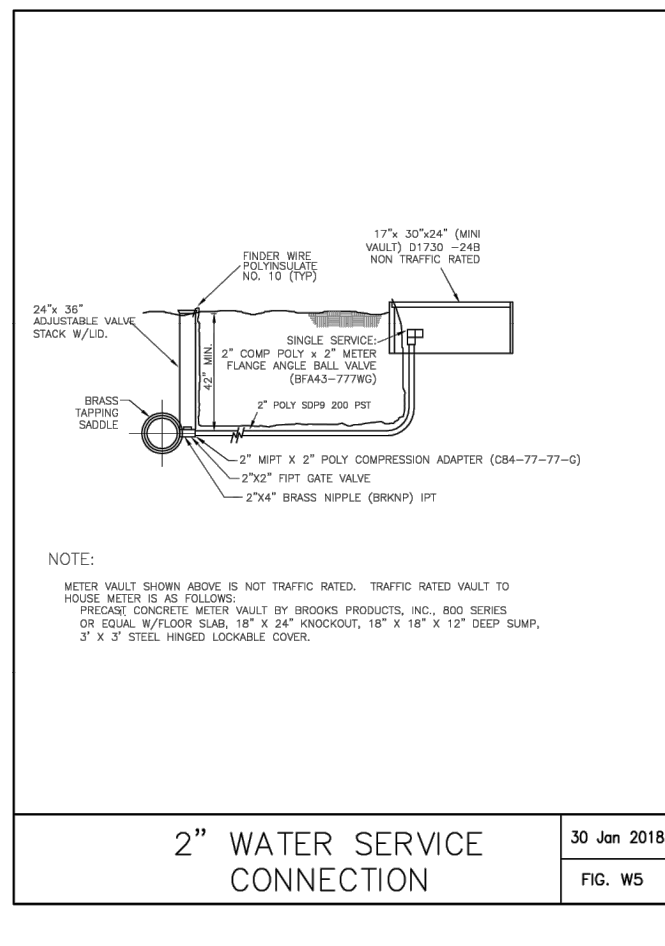
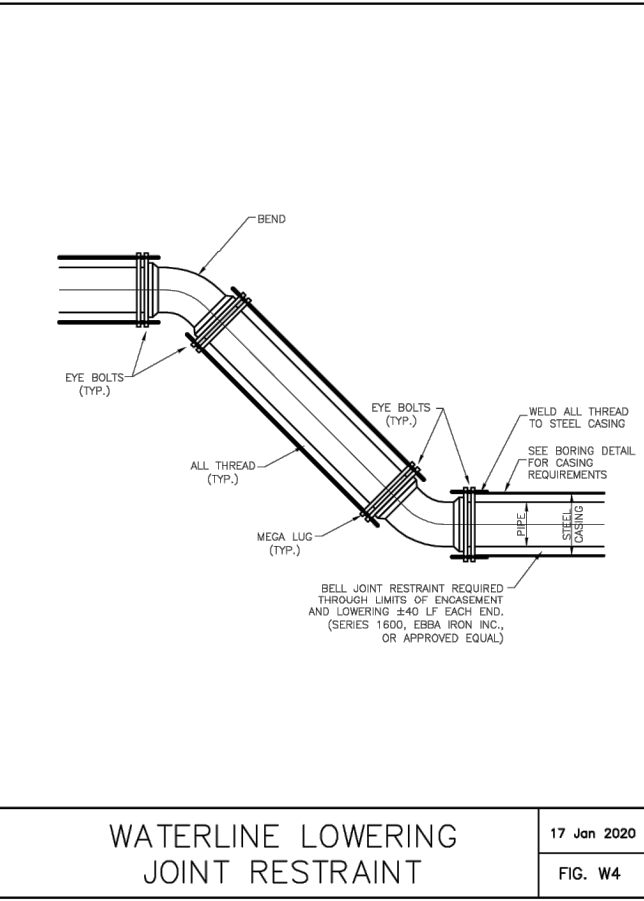
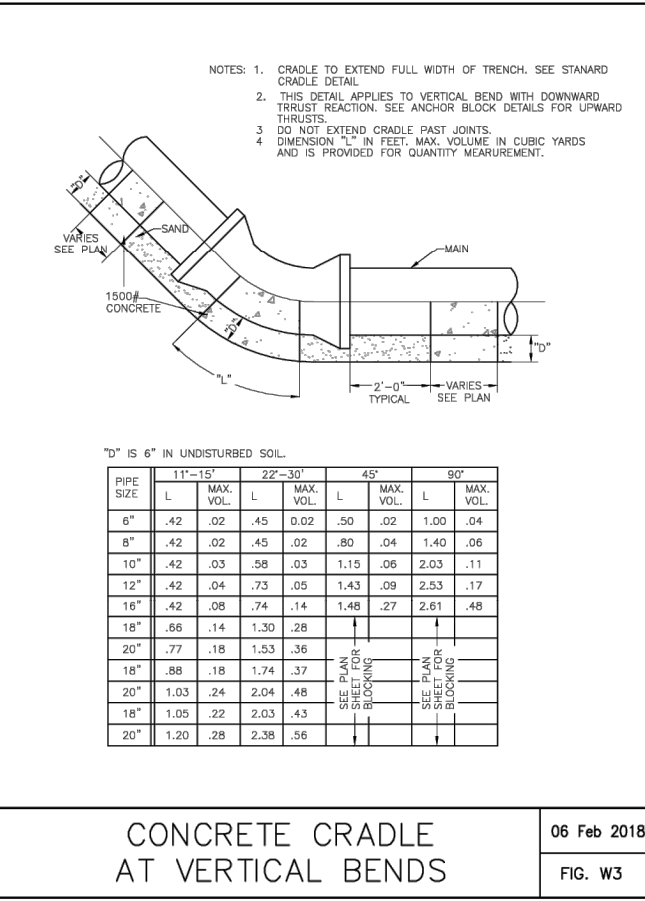
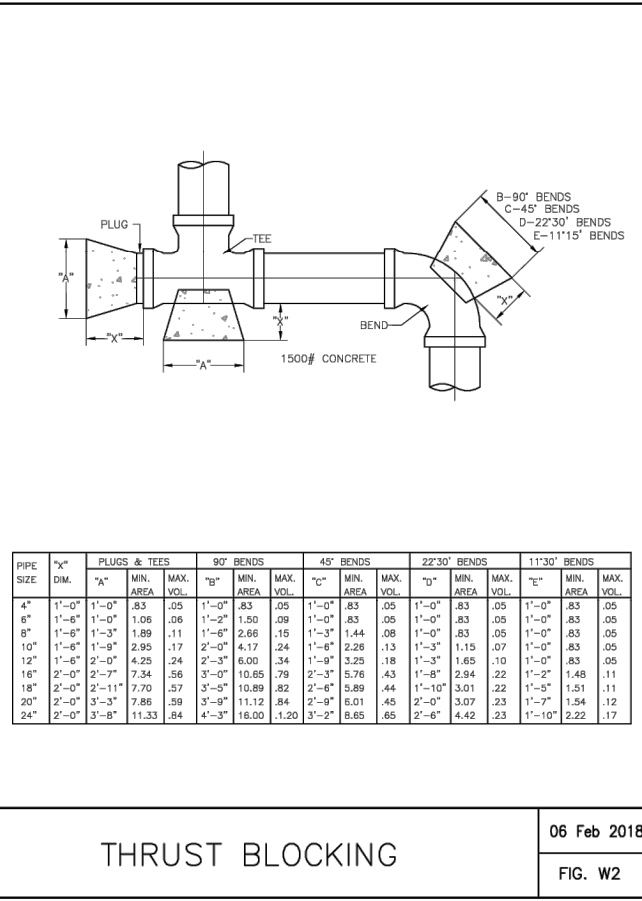
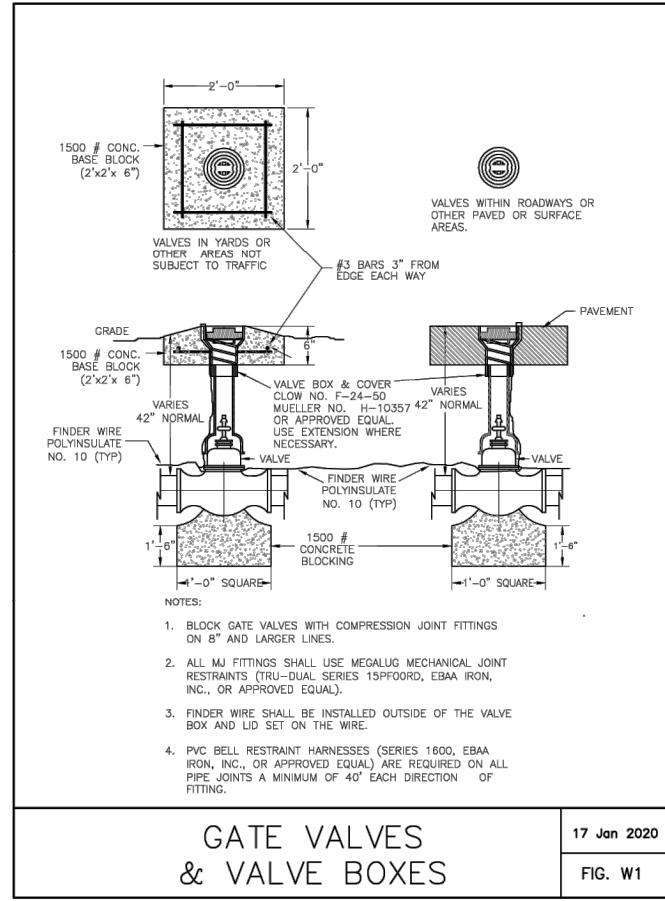
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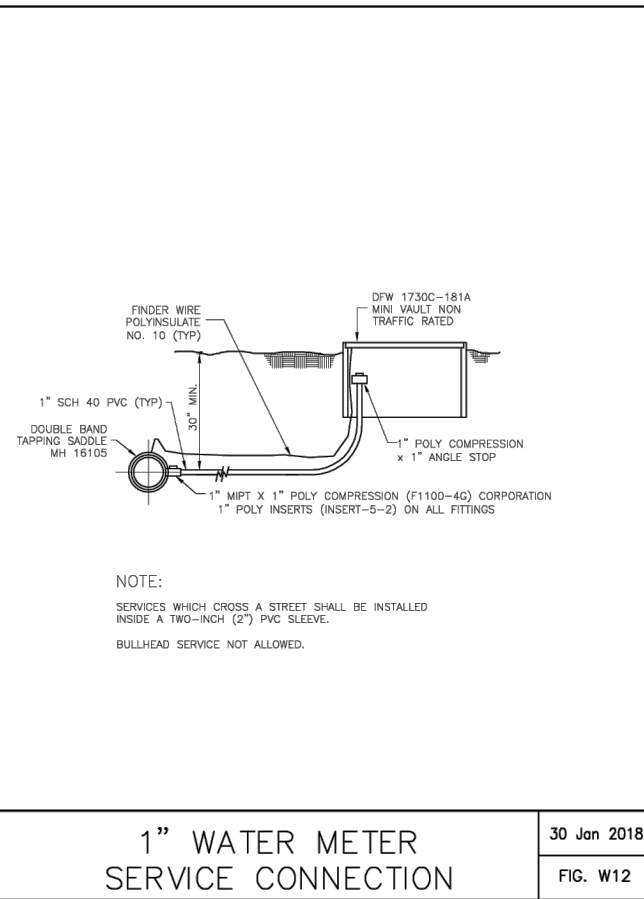
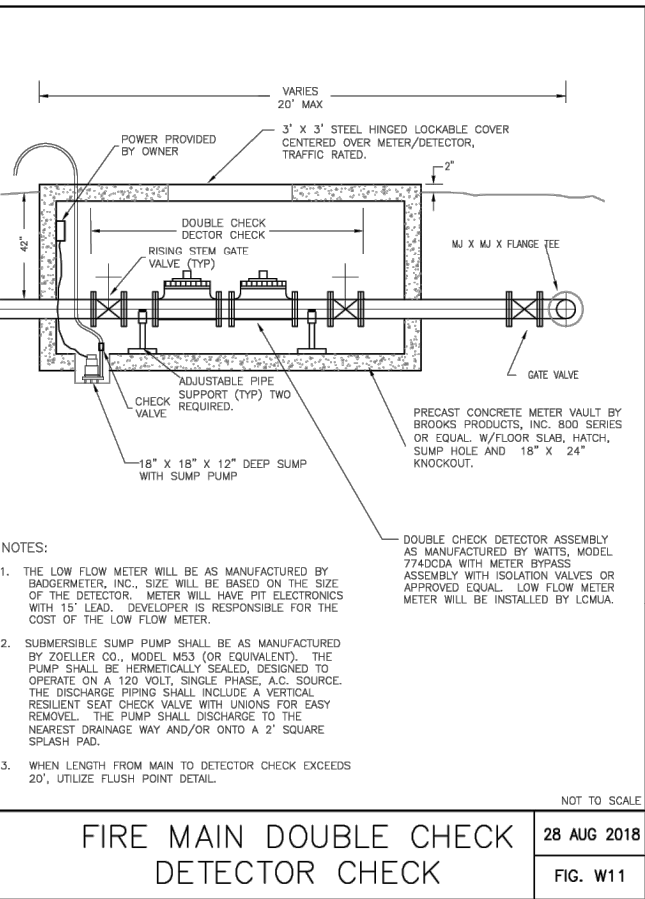
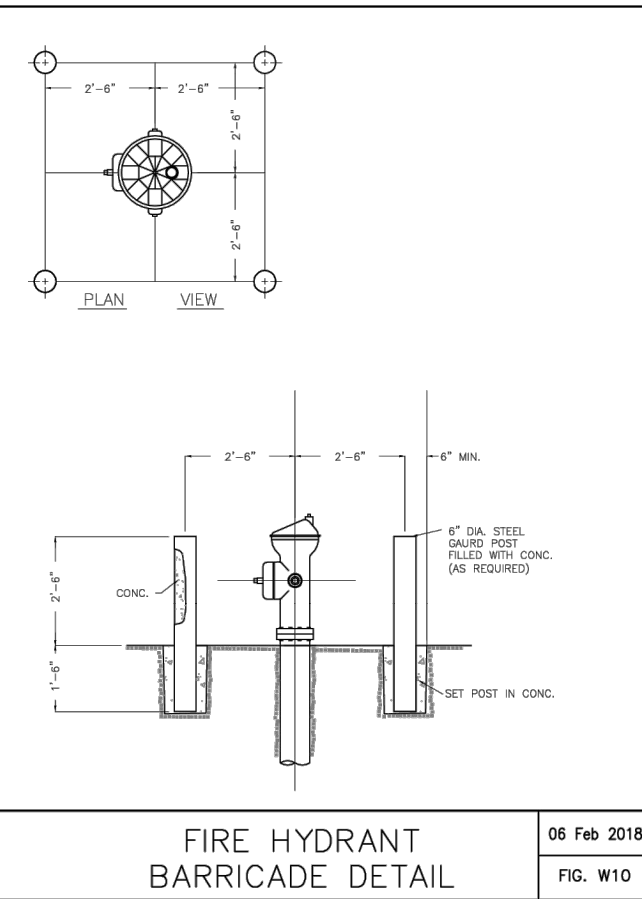
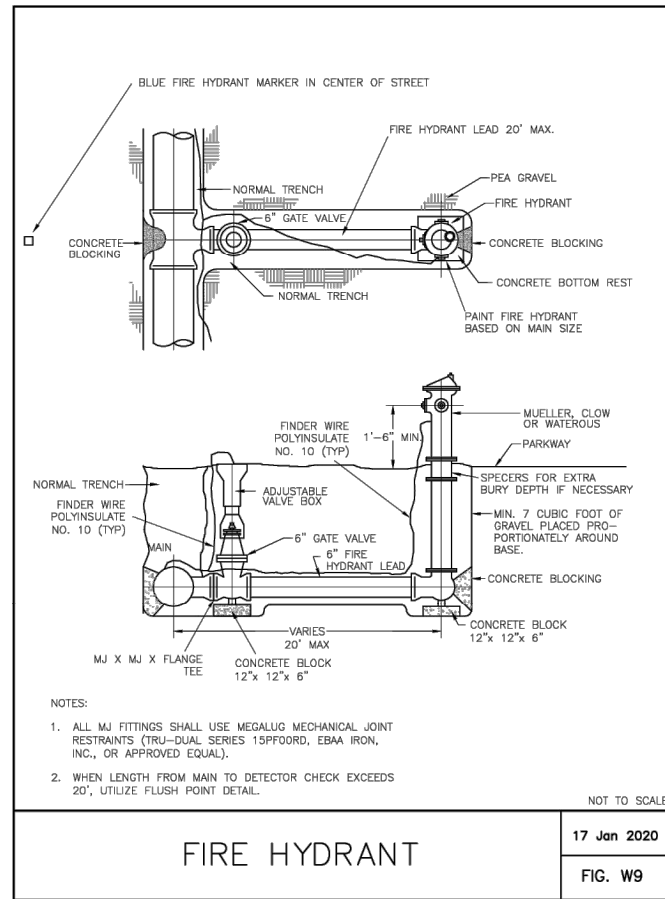
WATER PLAN

Job: HVA2101
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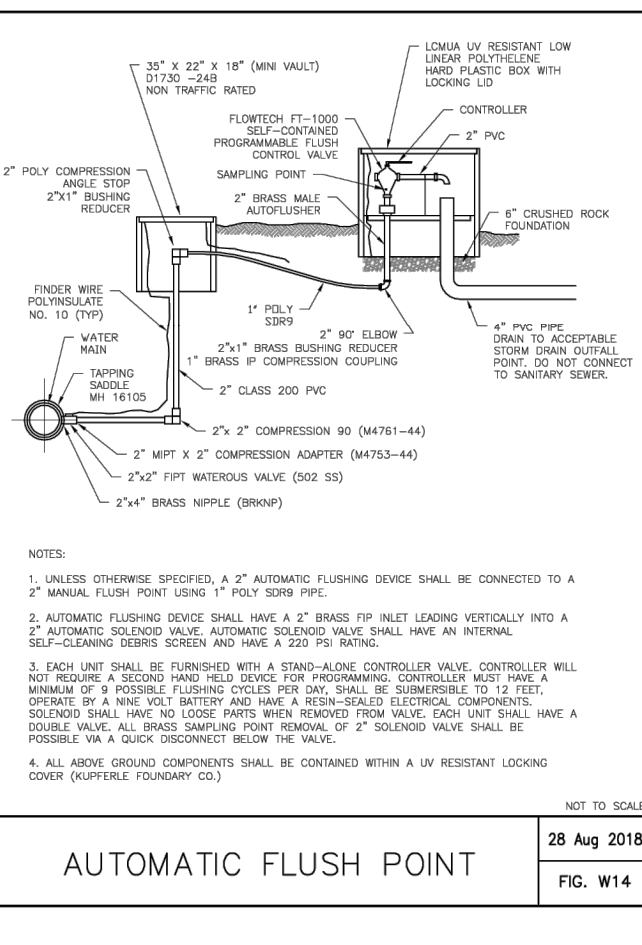
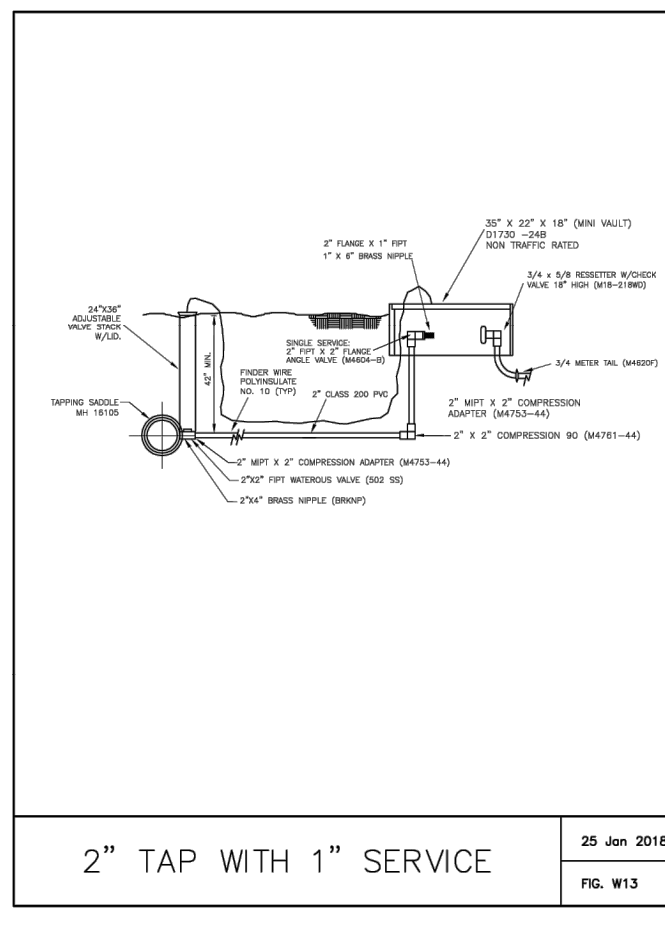
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WATER DETAILS SHEET 1



WATER DETAILS SHEET 2



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LCMUA STANDARD WATER DETAILS

Job: HVA2101

SHEET
15

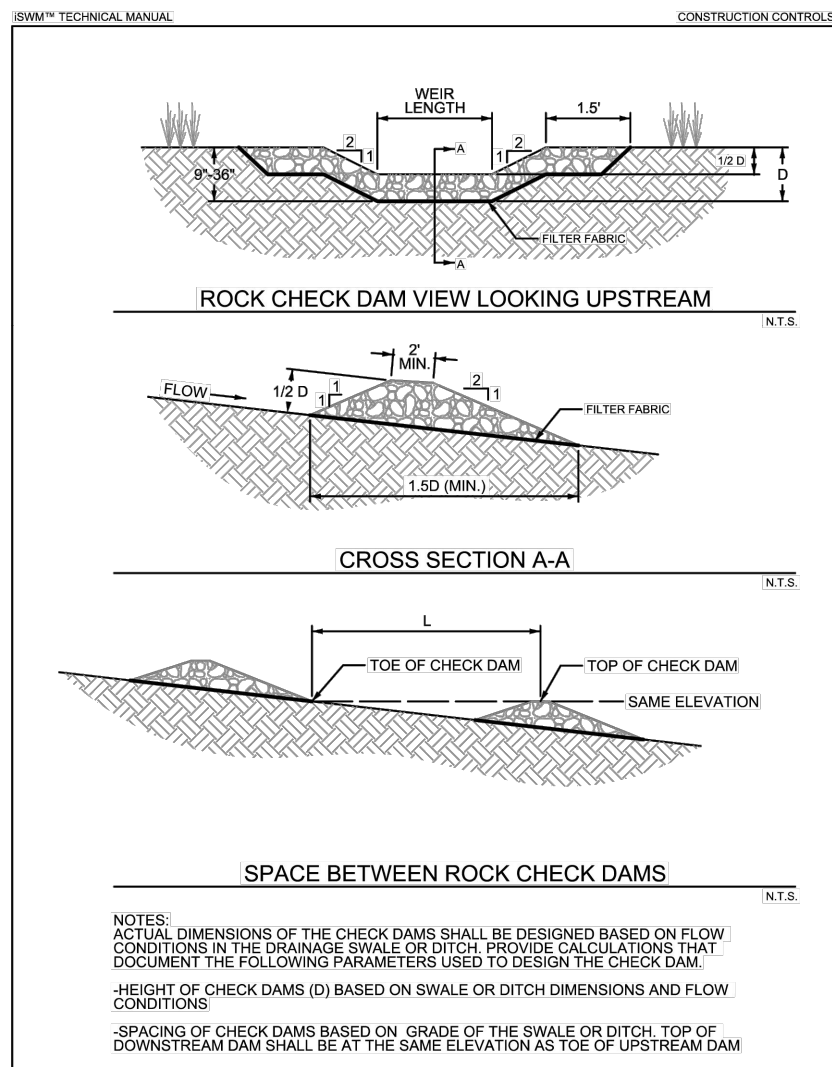


FIGURE 2.1 STANDARD CONSTRUCTION DETAIL - ROCK CHECK DAMS (1 OF 2)

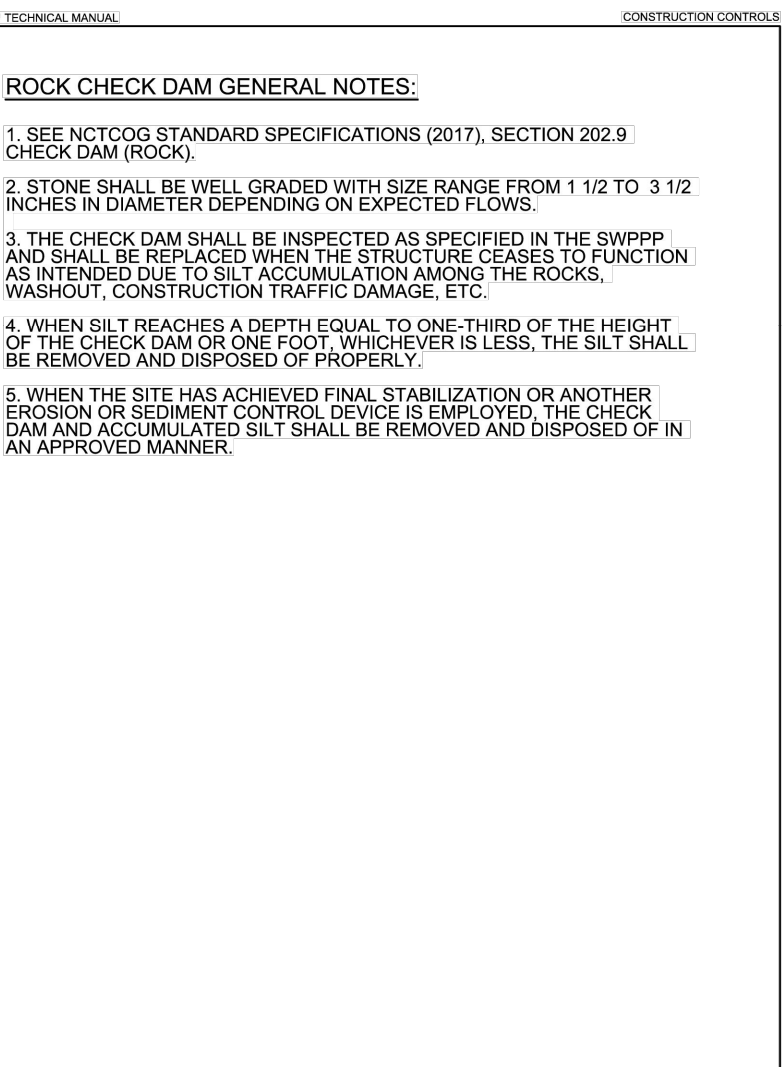


FIGURE 2.1 NOTES ON ROCK CHECK DAM (2 OF 2)

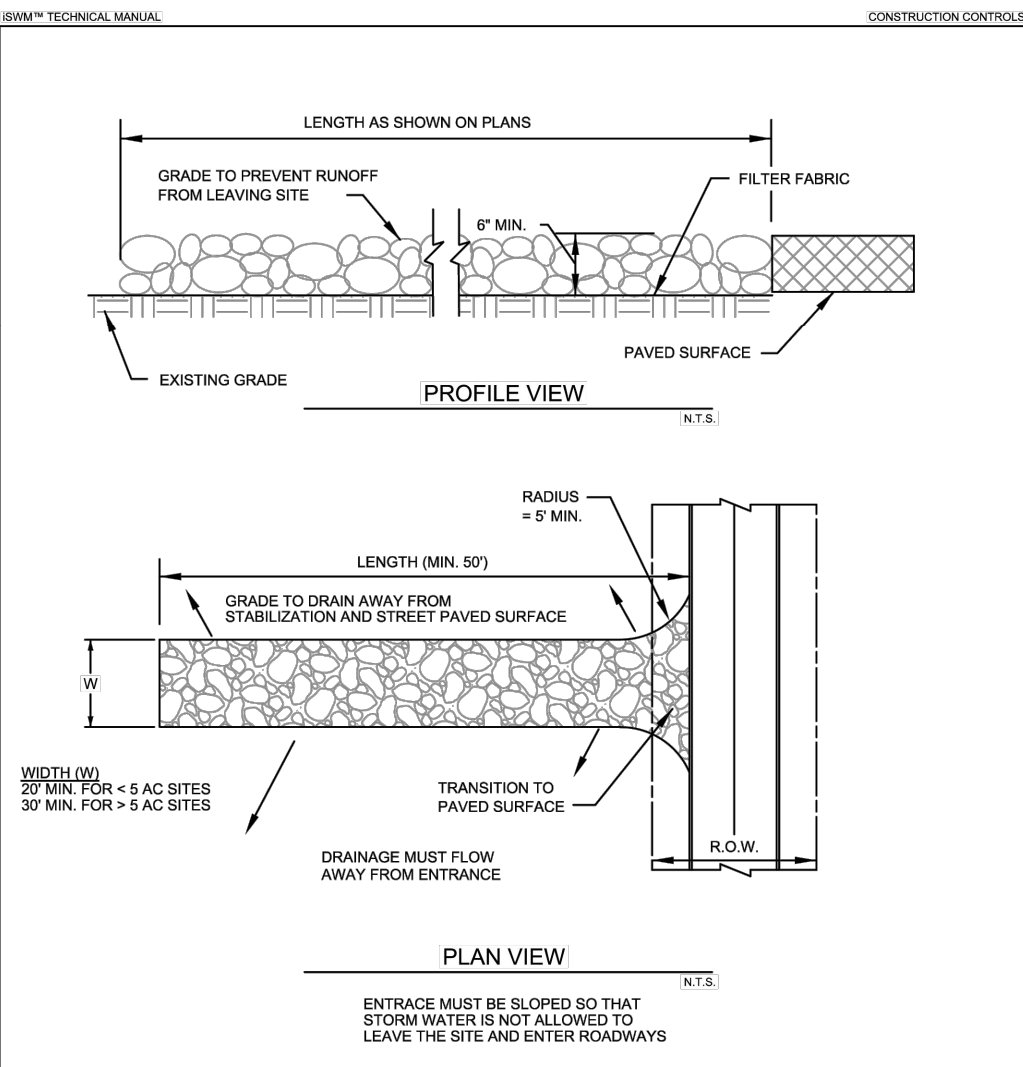


FIGURE 3.29 STANDARD CONSTRUCTION DETAIL - STABILIZED CONSTRUCTION EXIT (1 OF 2)

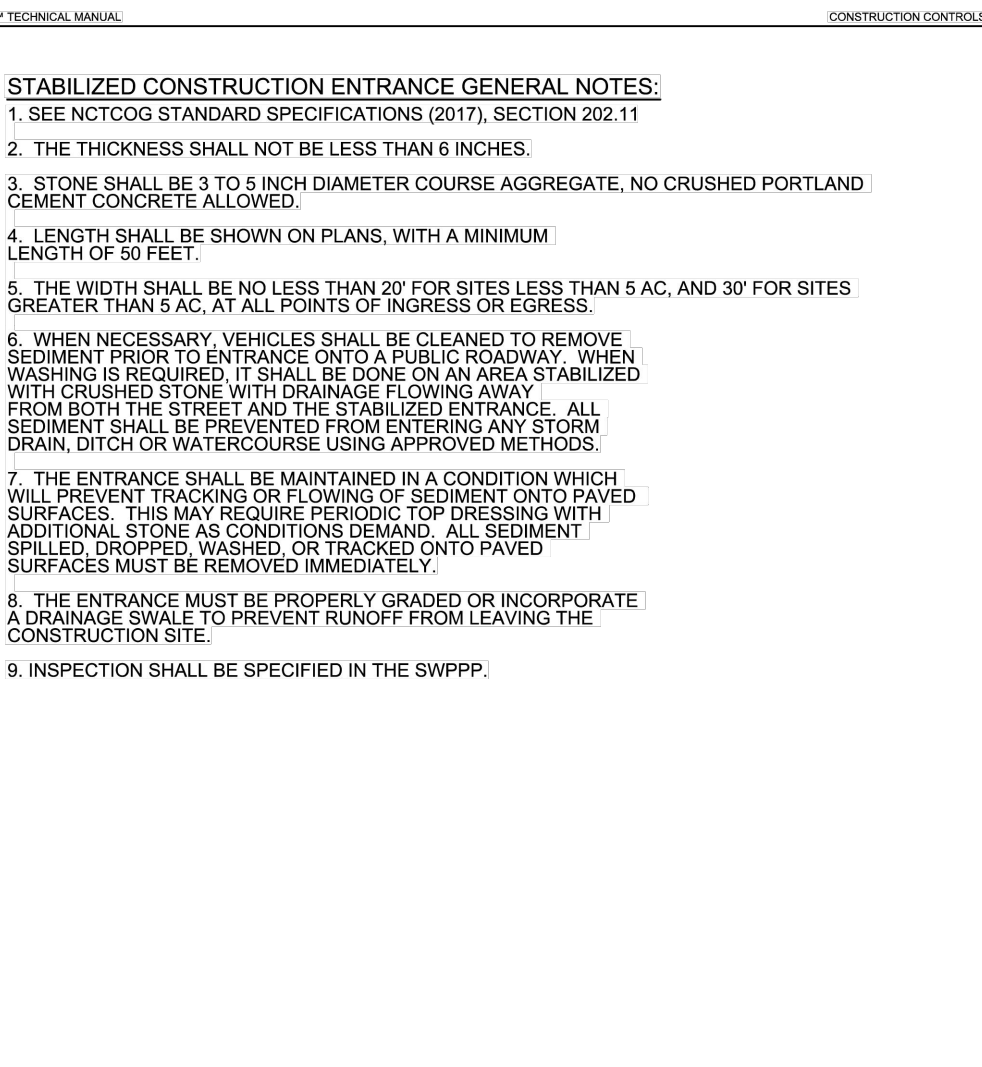


FIGURE 3.29 NOTES FOR STABILIZED CONSTRUCTION EXIT (2 OF 2)

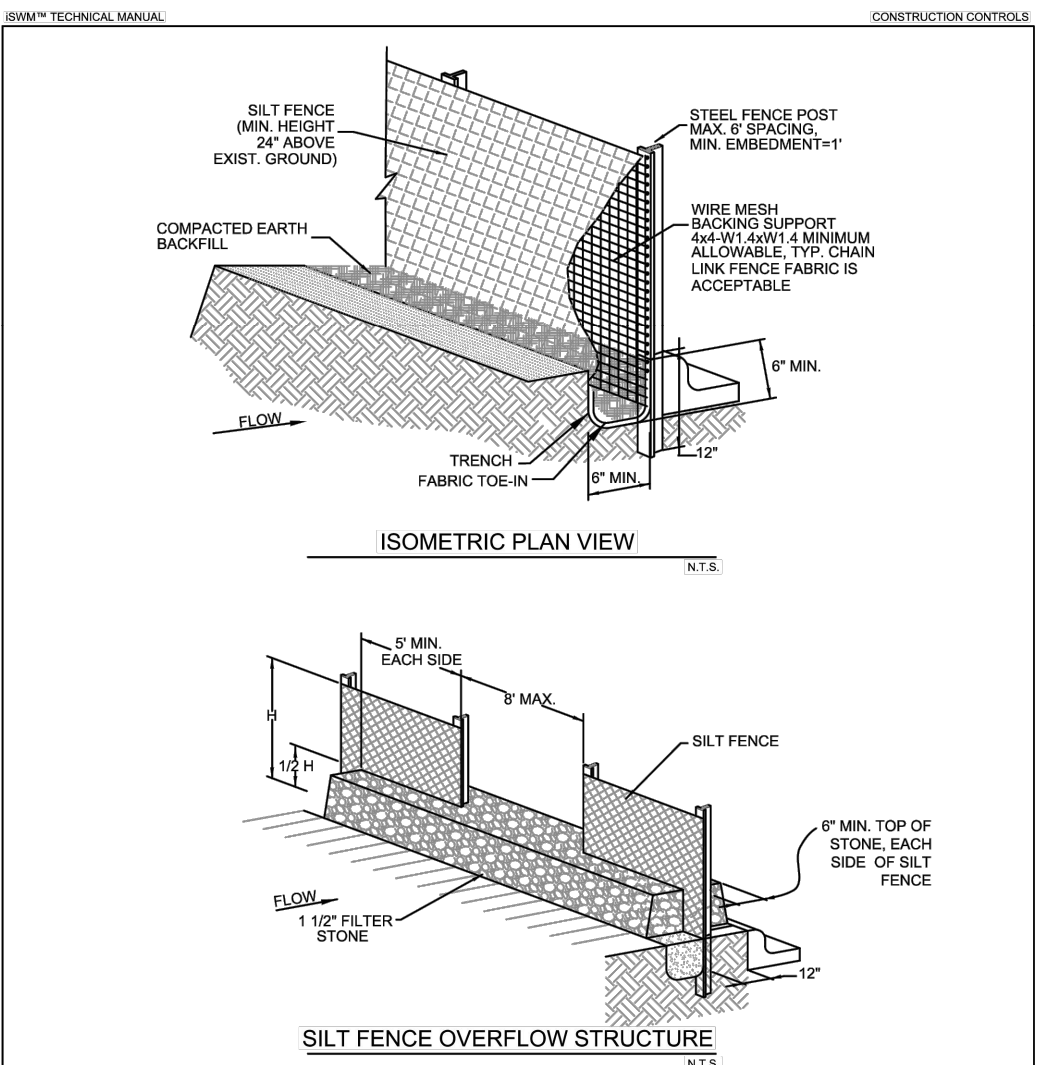


FIGURE 3.28 STANDARD CONSTRUCTION DETAIL - FOR SILT FENCE (1 OF 2)

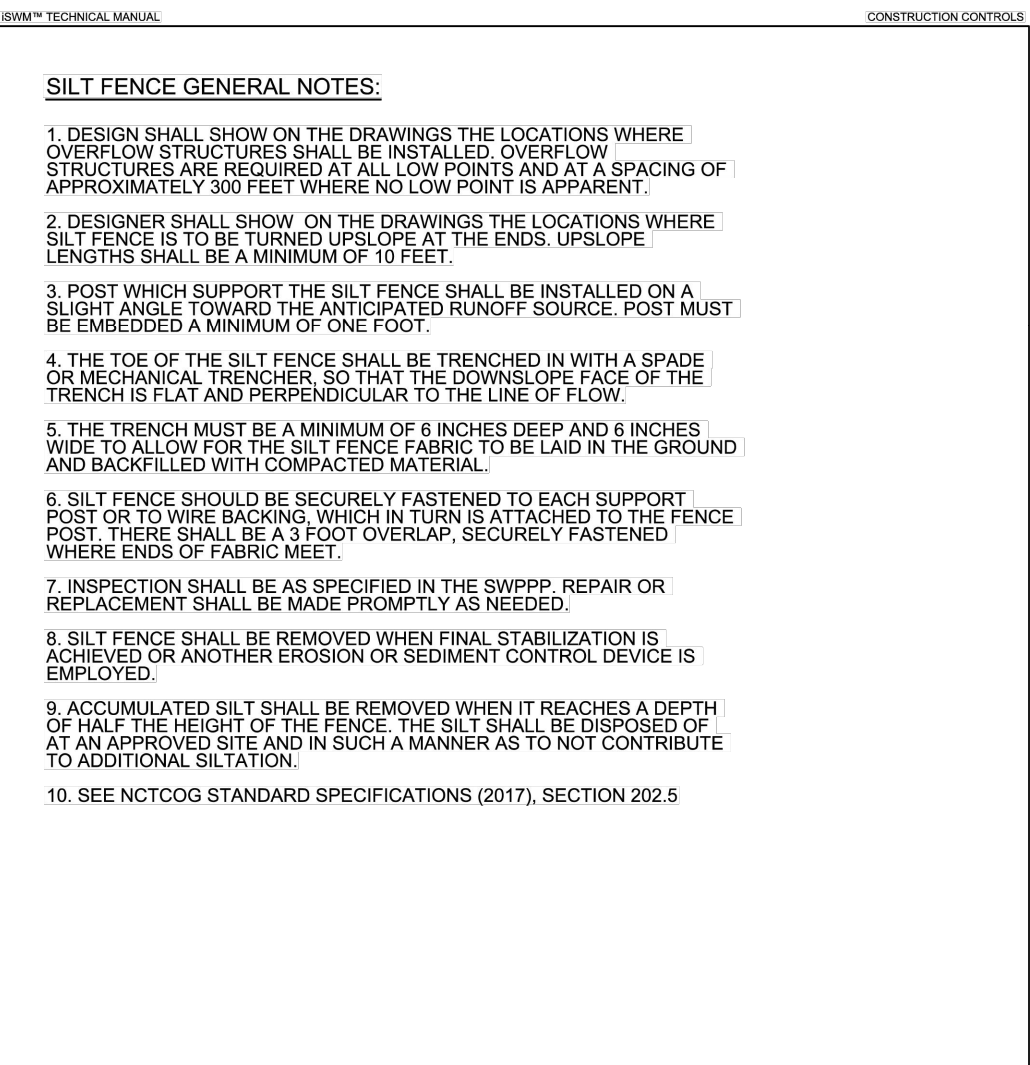


FIGURE 3.28 NOTES FOR SILT FENCE (2 OF 2)

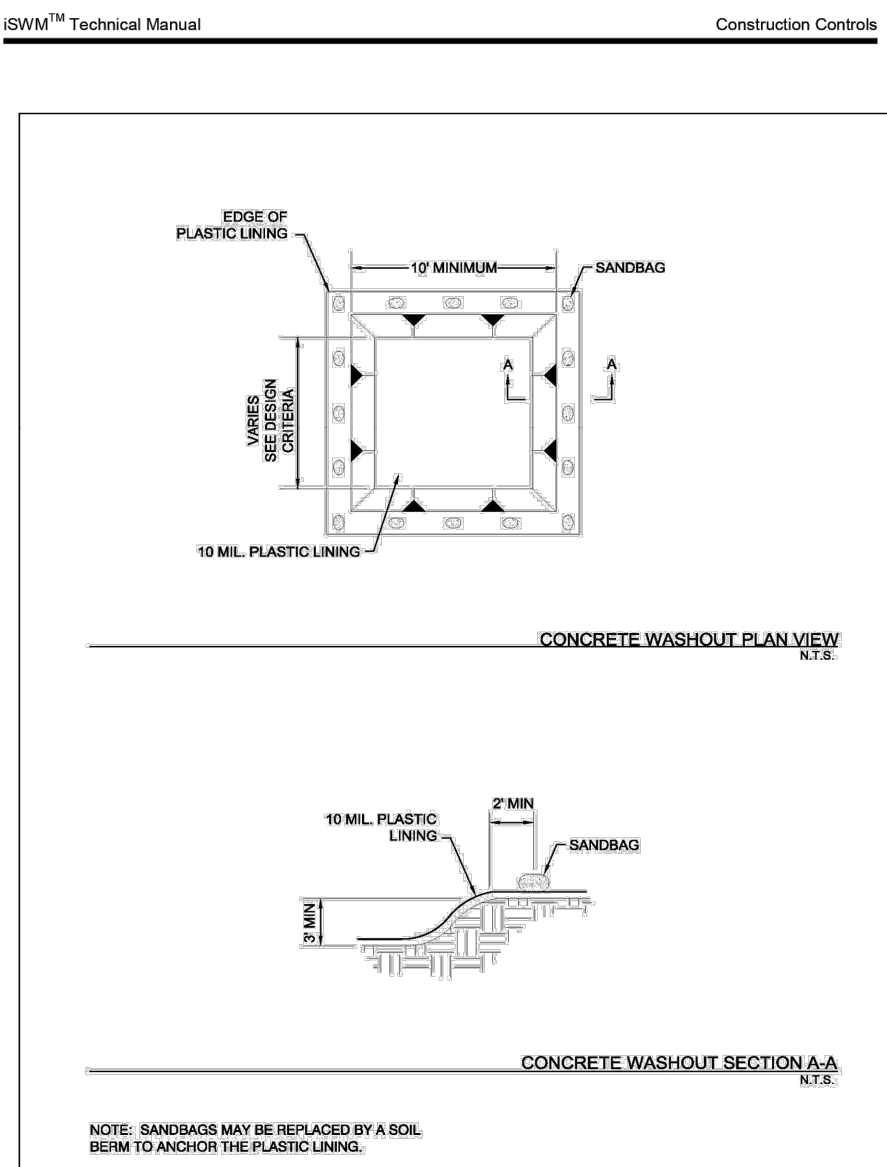


Figure 4.1 Schematics of Concrete Washout Containment

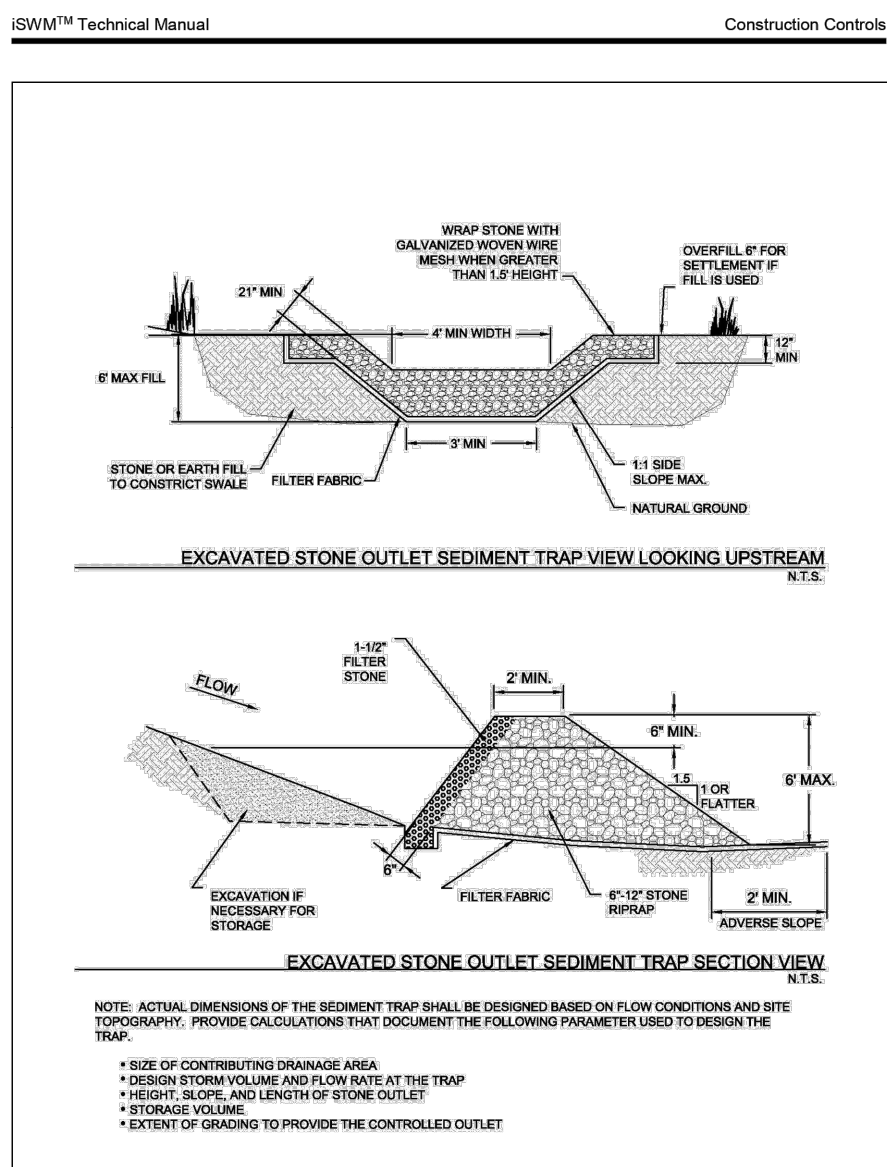


Figure 3.30 Schematics of Excavated Stone Outlet Sediment Trap

NOTE:
DETAILS ARE FROM ISWM MANUAL. SIZE AND
PLACEMENT MUST BE IN ACCORDANCE WITH ANY TOWN
SPECIFICATIONS AND THE INTENT OF THE ISWM MANUAL.

CAUTION!!

EXISTING UNDERGROUND UTILITIES. CONTRACTOR TO FIELD VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO START OF ANY CONSTRUCTION AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONFLICTS DISCOVERED. CONTRACTOR RESPONSIBLE FOR COORDINATING UTILITY RELOCATION WHERE NECESSARY AND PROTECTING EXISTING UTILITIES (SHOWN OR NOT SHOWN). IF ANY EXISTING UTILITIES ARE DAMAGED, THE CONTRACTOR SHALL REPLACE THEM AT THEIR OWN EXPENSE.

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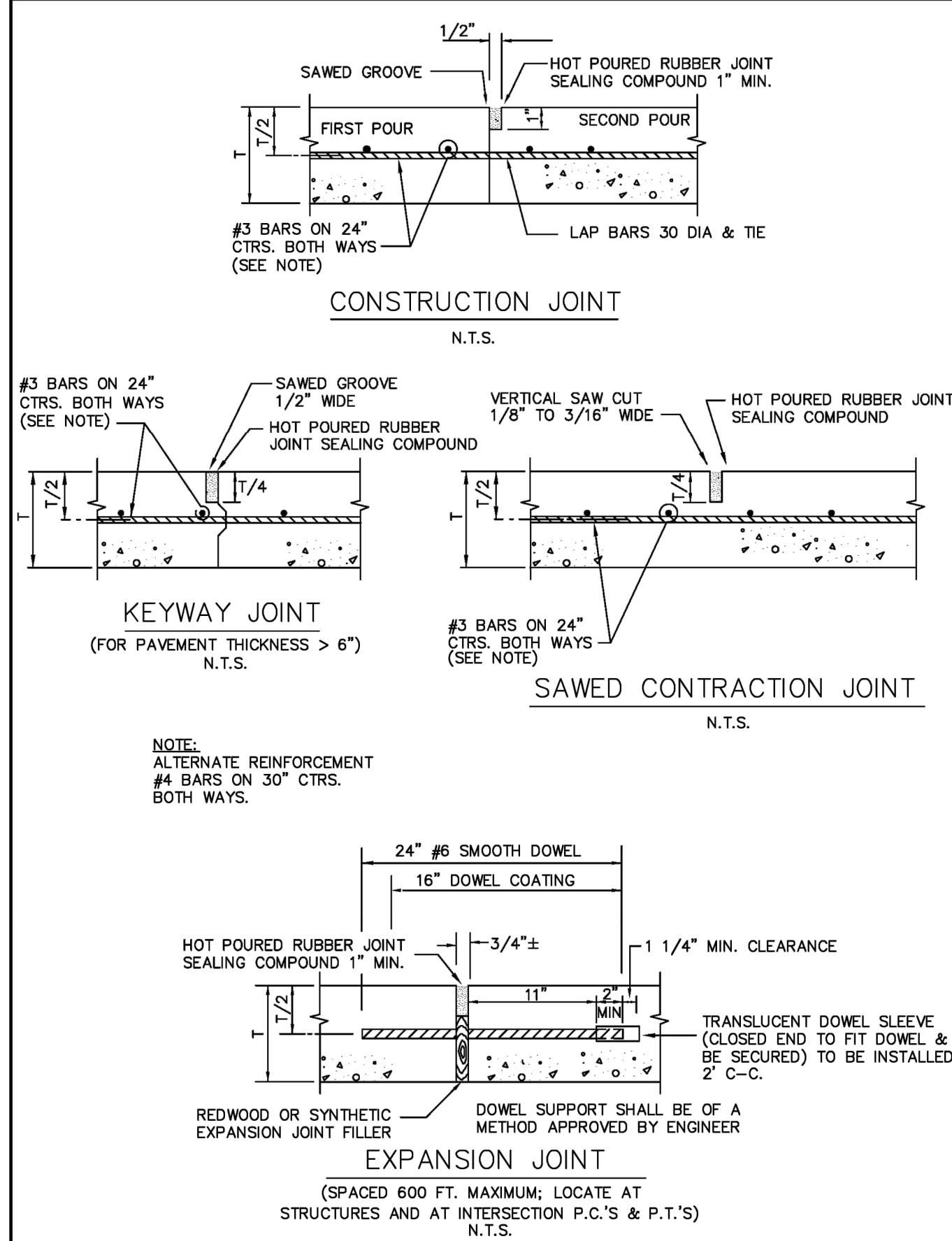
EROSION CONTROL DETAILS

GENERAL NOTES:

- REINFORCED CONCRETE PAVEMENT:
 - ALL CURBS SHALL BE PLACED INTEGRAL WITH PAVEMENT UNLESS OTHERWISE APPROVED BY THE OWNER.
 - CURBS SHALL MEET THE SAME COMPRESSIVE STRENGTH AS SPECIFIED FOR THE PAVEMENT.
 - BAR LAPS SHALL BE 30 DIAMETERS.
 - REINFORCING BARS SHALL BE SUPPORTED BY CHAIRS OR OTHER DEVICES APPROVED BY THE OWNER.
- SUBGRADE: (UNLESS OTHERWISE SPECIFIED BY OWNER)
 - SUBGRADE UNDER ALL PAVEMENTS SHALL BE STABILIZED TO A MINIMUM DEPTH OF 6" WITH HYDRATED LIME OR CEMENT WHEN THE P.I. OF THE INPLACE MATERIAL IS GREATER THAN 15. LABORATORY TESTS MUST BE PERFORMED TO DETERMINE THE AMOUNT OF LIME OR CEMENT REQUIRED TO LOWER THE P.I. TO 15 OR BELOW. SATURATION P.I. (PH $\geq$ 12.4) WILL BE THE LIMIT WHEN A SOIL'S P.I. CANNOT BE BROUGHT TO 15 OR LOWER.
 - WHERE THE INPLACE MATERIAL HAS A P.I. OF LESS THAN 15, THE SUBGRADE SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 6" AND RECOMPACTED.
- IF THE ROADWAY IS A DESIGNATED BIKE ROUTE OR BIKE USAGE IS ANTICIPATED, REFER TO NCTCOG'S REGIONAL BICYCLE AND PEDESTRIAN FACILITIES DESIGN MANUAL FOR DESIGN GUIDANCE.

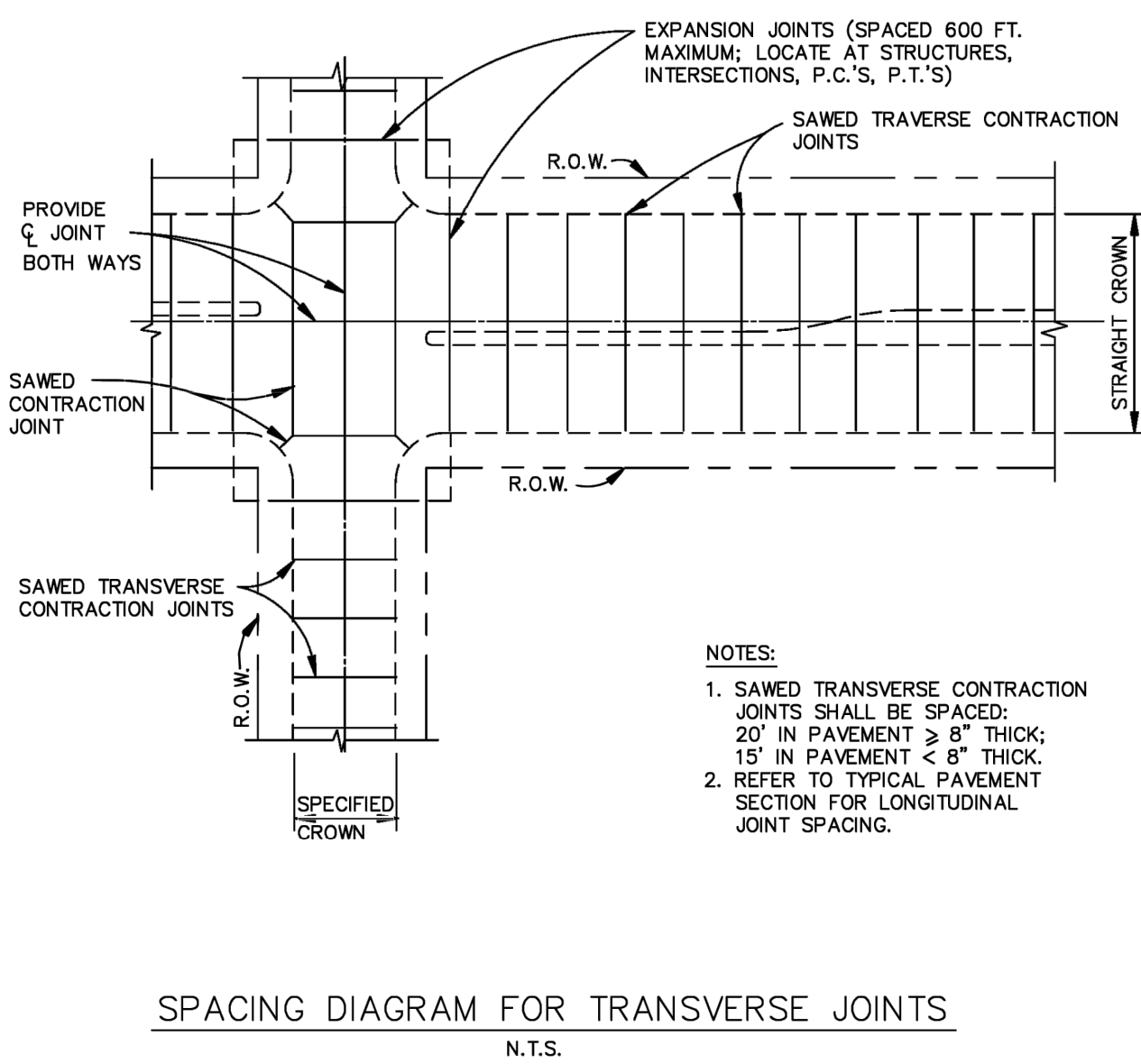
PAVEMENT SYSTEMS
GENERAL NOTES

North Central Texas Council of Governments		STANDARD SPECIFICATION REFERENCE	
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DATE	OCT. '04	STANDARD DRAWING NO.	2190



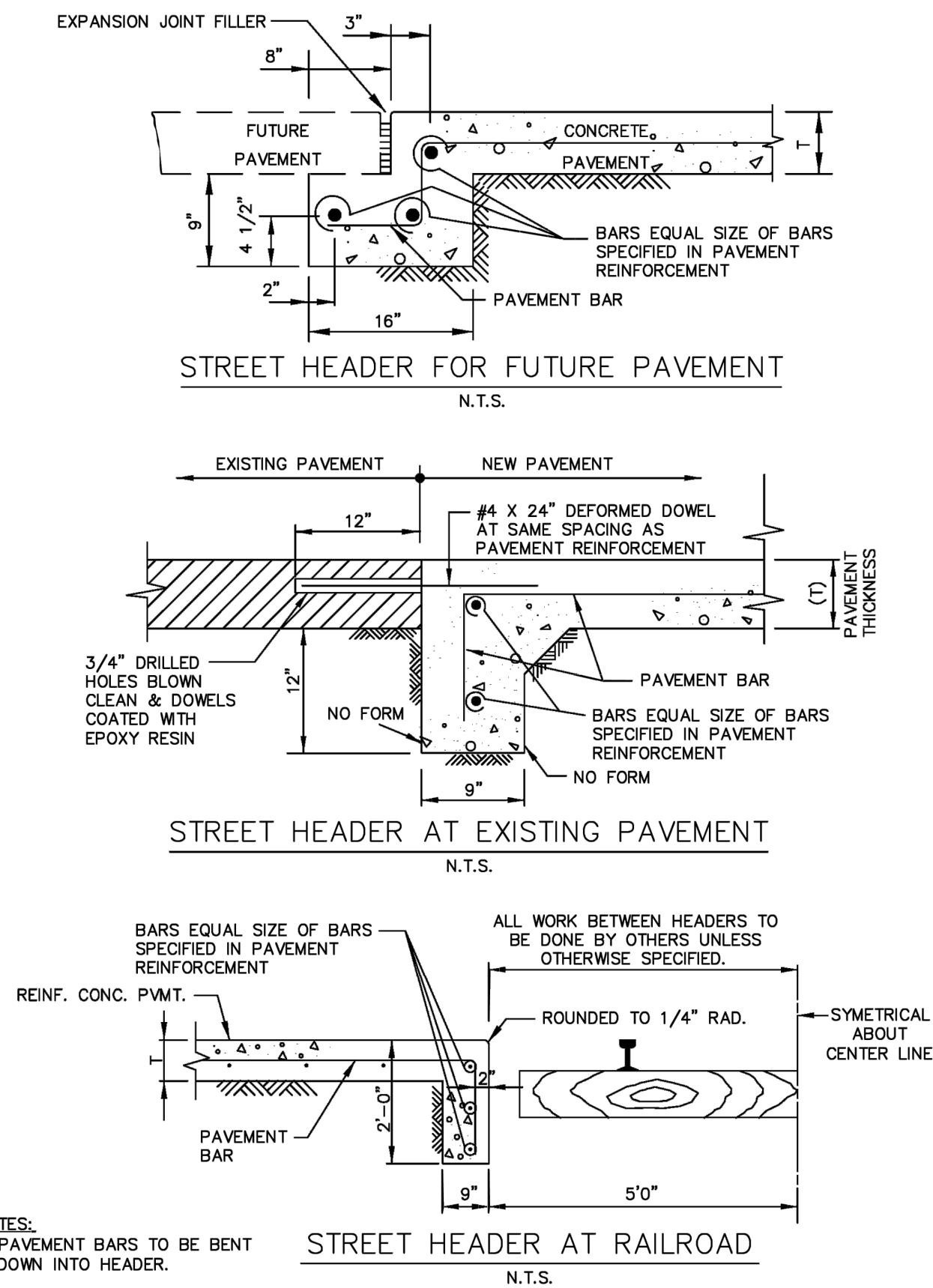
REINFORCED CONCRETE PAVEMENT
JOINTS

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DATE	OCT. '04	STANDARD DRAWING NO.	2050



REINFORCED CONCRETE PAVEMENT
TRANSVERSE JOINT SPACING

North Central Texas Council of Governments		STANDARD SPECIFICATION REFERENCE	
		303.5.4.	
DATE	OCT. '04	STANDARD DRAWING NO.	2060



REINFORCED CONCRETE PAVEMENT
STREET HEADERS

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		305.4	
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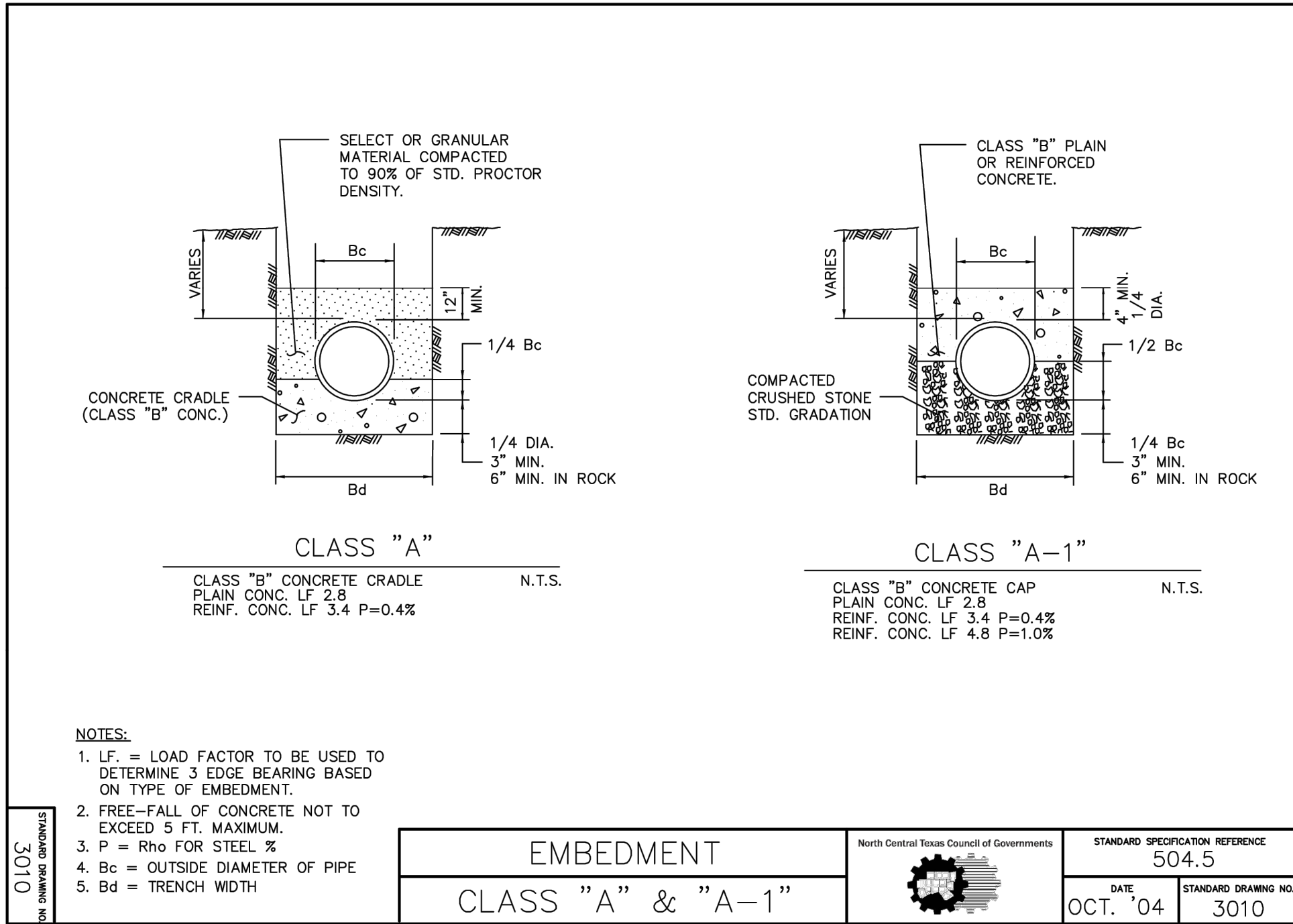
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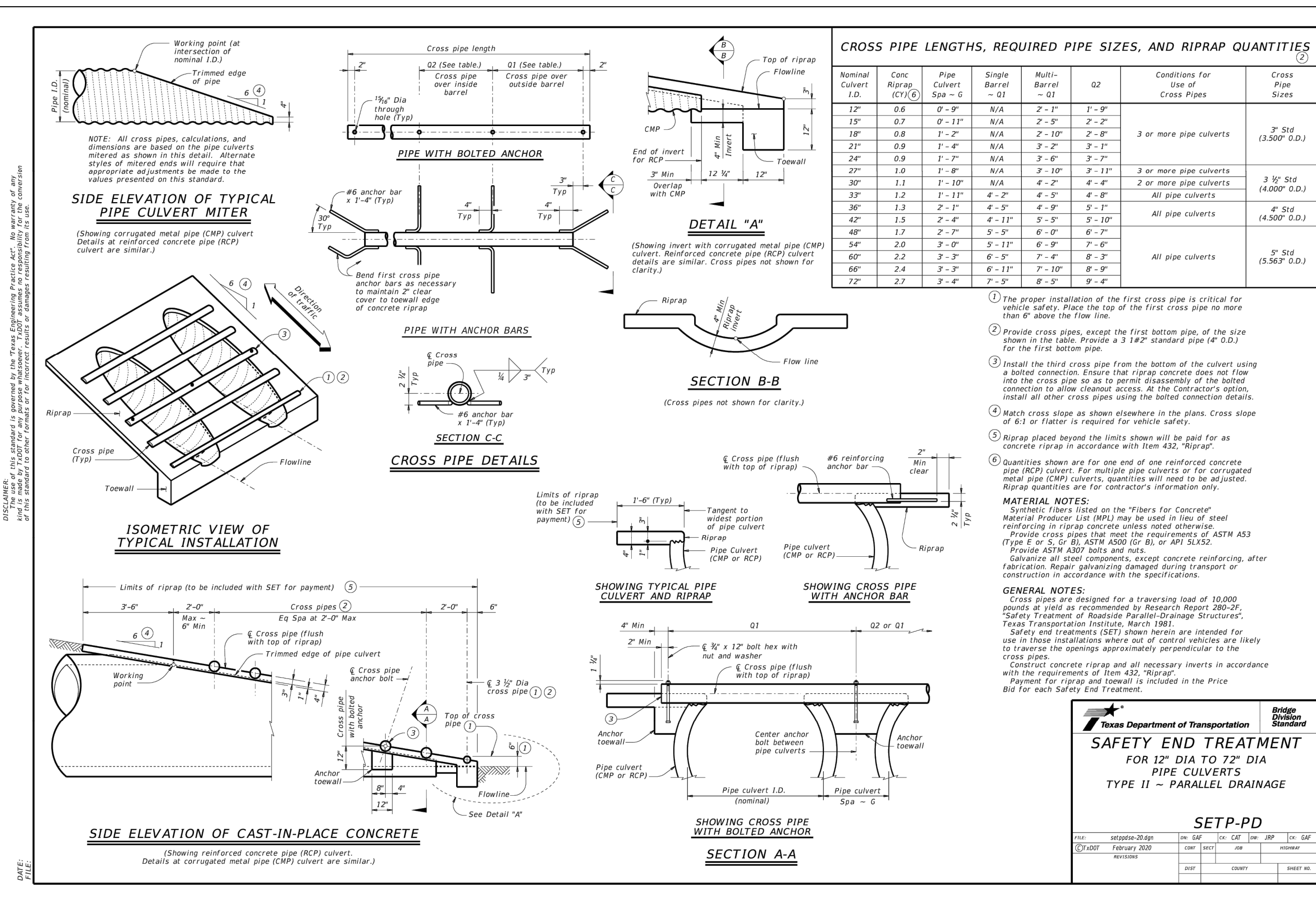
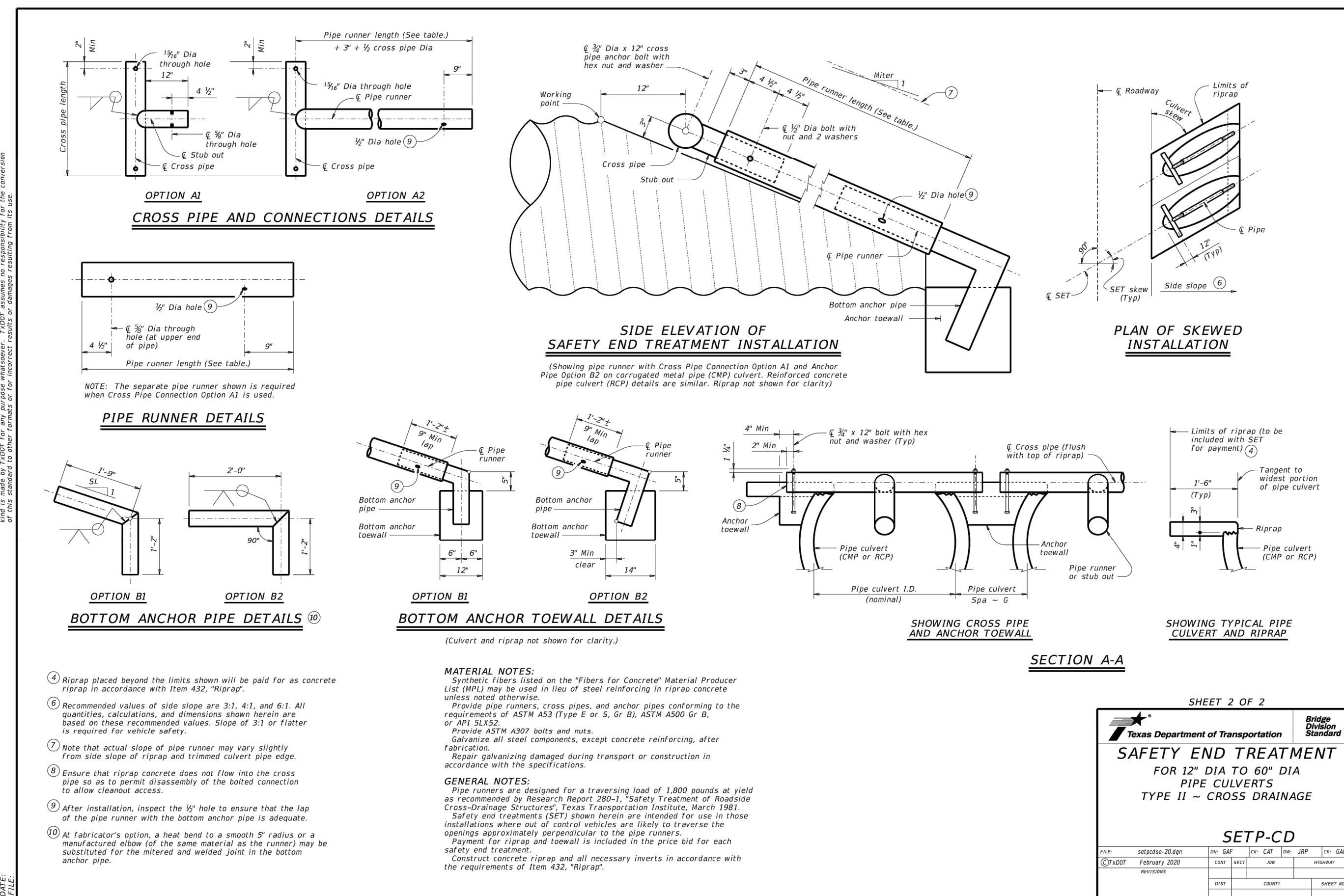
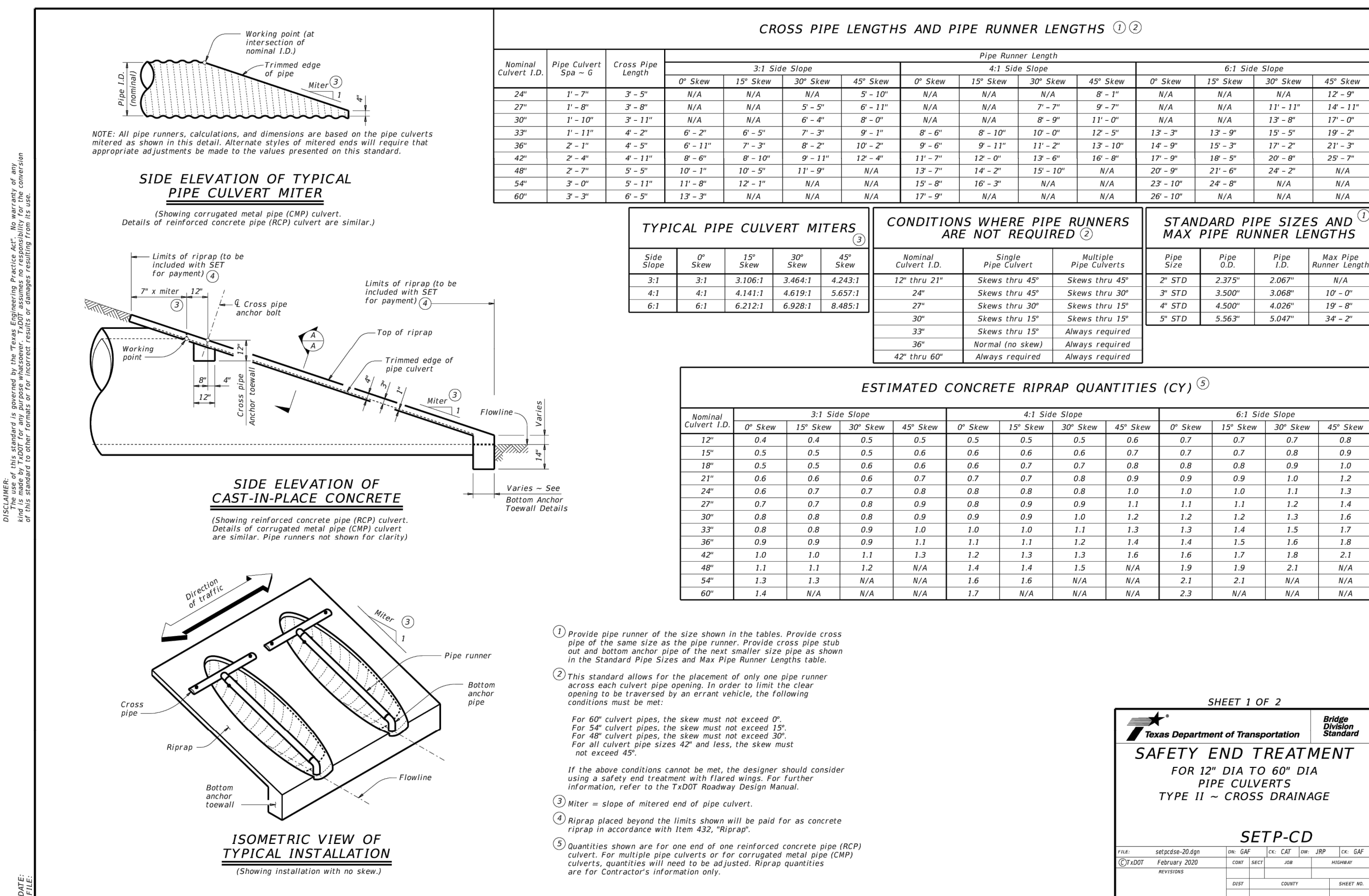
PAVING DETAILS

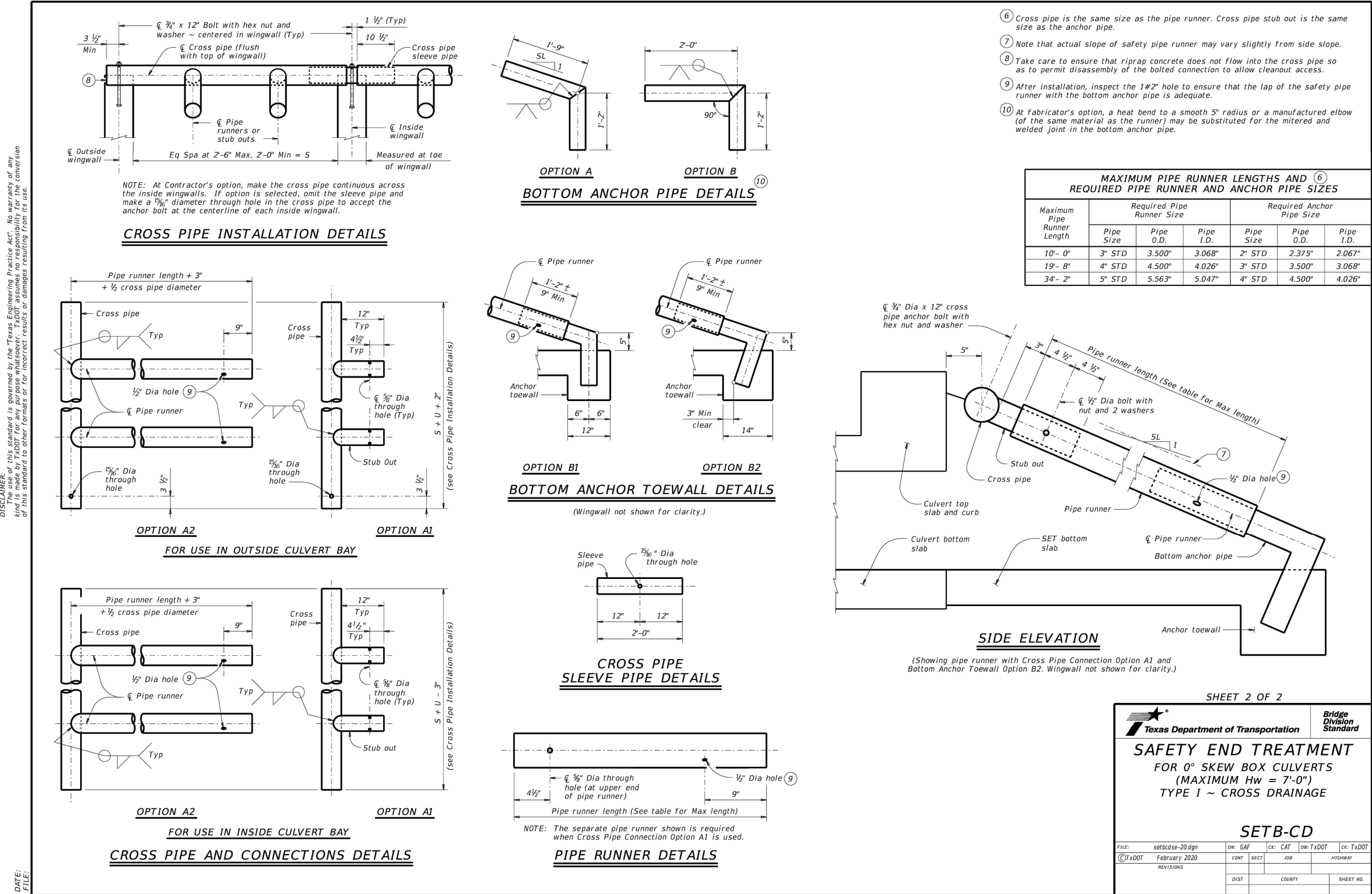
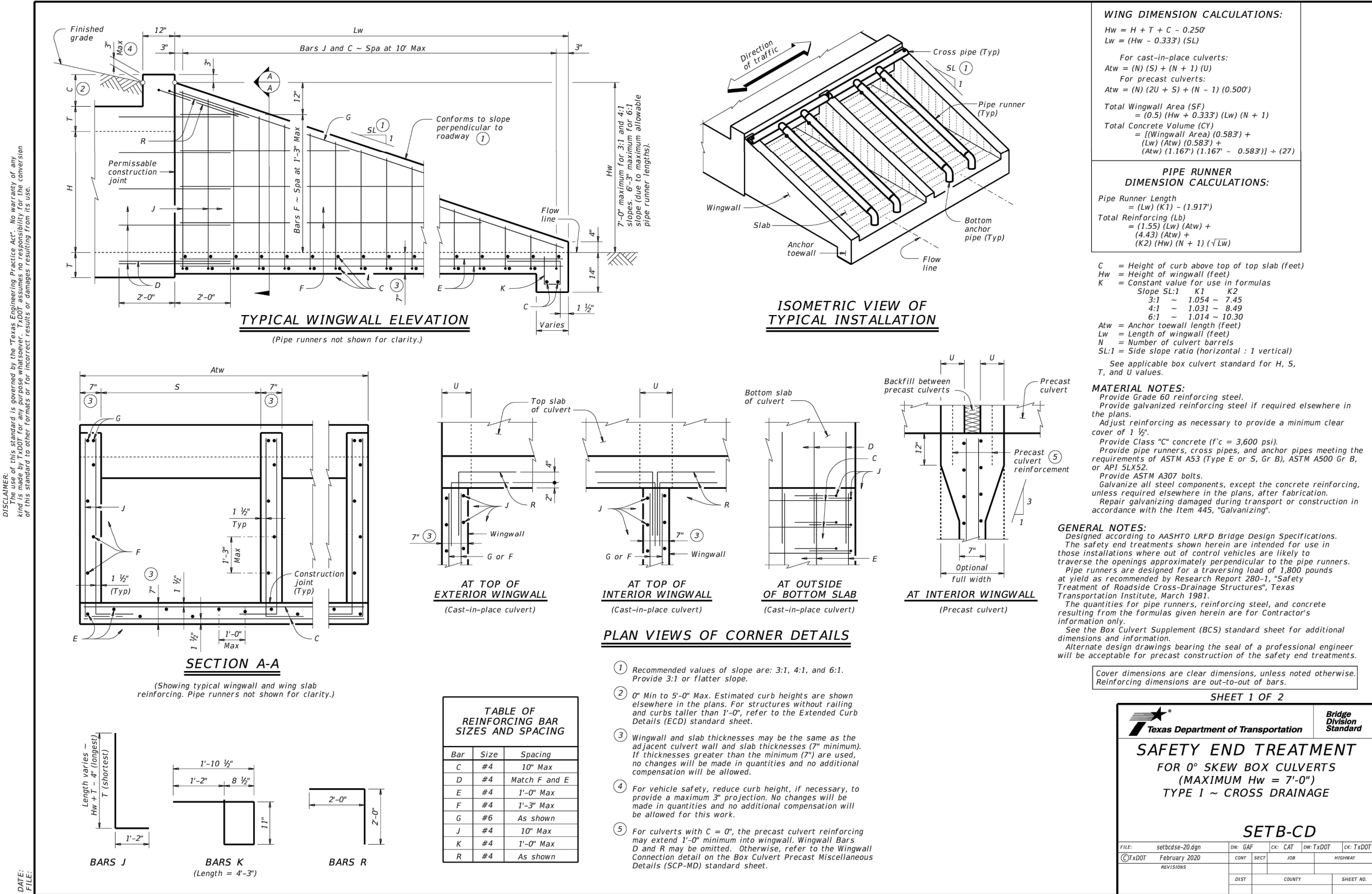
Job: HVA2101

SHEET
17

THRUST BLOCK		
GENERAL NOTES		
GENERAL NOTES FOR ALL THRUST BLOCKS:		
1. CONCRETE FOR BLOCKING SHALL BE CLASS "B".		
2. ALL CALCULATIONS ARE BASED ON INTERNAL PRESSURE OF 200 PSI FOR DUCTILE IRON, P.V.C., AND 150 PSI FOR CONCRETE PIPE.		
3. VOLUMES OF THRUST BLOCKS ARE NET VOLUMES OF CONCRETE TO BE FURNISHED. THE CORRESPONDING WEIGHT OF THE CONCRETE (CLASS "B") IS EQUAL TO OR GREATER THAN THE VERTICAL COMPONENT OF THE THRUST ON THE VERTICAL BEND.		
4. WALL THICKNESS (T) ASSUMED HERE FOR ESTIMATING PURPOSES ONLY.		
5. POUR CONCRETE FOR BLOCK AGAINST UNDISTURBED EARTH.		
6. DIMENSIONS MAY BE VARIED AS REQUIRED BY FIELD CONDITIONS WHERE AND AS DIRECTED BY THE ENGINEER. THE VOLUME OF CONCRETE BLOCKING SHALL NOT BE LESS THAN SHOWN HERE.		
7. THE SOIL BEARING PRESSURES ARE BASED ON 1000 LBS./S.F. IN SOIL AND 2000 LBS./S.F. IN ROCK.		
8. USE POLYETHYLENE WRAP OR EQUAL BETWEEN CONCRETE AND BEND, TEE, OR PLUG TO PREVENT THE CONCRETE FROM STICKING TO IT.		
9. CONCRETE SHALL NOT EXTEND BEYOND JOINTS.		
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502.4		
DATE		
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TOWN OF SHADY SHORES, DENTON COUNTY, TEXAS

Job: HVA2101
**SHEET
20**

CULVERT DETAILS 2



AGENDA MEMORANDUM

DATE: December 6, 2022

TO: Town Council

FROM: Wendy withers, Town Administrator

SUBJECT: **Action Regarding Public Hearing-**
Shady Shores Planning and Zoning Commission consider and act on approval of the preliminary plat for Hidden Valley Phase VI.
Shady Shores Town Council consider and act on approval of the preliminary plat for Hidden Valley Phase VI. .

BACKGROUND/INFORMATION:

FINANCIAL IMPLICATIONS:

RECOMMENDATION/ACTION DESIRED:

ATTACHMENTS/SUPPORTING DOCUMENTATION:

None

REVIEWED BY: