



**Planning and Zoning Commission
Regular Meeting
212 Main Street
City of Lake Dallas, Texas 75065
Thursday, July 21, 2022 at 6:00 p.m.
Agenda**

1. Call to Order and Determination of Quorum

2. Pledges of Allegiance

3. Citizen Agenda & Public Comment

An opportunity for citizens to address the Planning & Zoning Commission on matters which are not scheduled for consideration by the Planning & Zoning Commission. Speakers will be limited to five (5) minutes each. The Texas Open Meeting Act prohibits deliberation by the Planning & Zoning Commission of any subject which is not on the posted agenda, therefore the Planning & Zoning Commission will not be able to discuss or take any action on items brought up during the citizen presentations that are not on the agenda.

4. Conduct a public hearing and consider a Detailed Site Plan for Lake Dallas Storage located on Lot 2-A, Block A, Gatlin Addition as authorized by Special use Permit Ordinance 2021-17, generally located north of Carlisle Drive and east of the DCTA Rail Trail.

5. Announcements

6. Adjourn.

I certify that the above notice of this meeting was posted on the bulletin board at City Hall of the City of Lake Dallas, Texas on or before July 18, 2022 at 4:30 p.m.

Codi Delcambre, City Secretary

If you plan to attend this public meeting and you have a disability that requires special arrangements at this meeting, please contact City Secretary's Office at (940) 497-2226 ext. 102 or fax (940) 497-4485 at least two (2) working days prior to the meeting so that appropriate arrangements can be made.



**CITY COUNCIL
AGENDA MEMO**

Prepared By: David R. Gattis, FAICP, Consulting Planner

July 21, 2022

Detailed Site Plan –Lot 2-A, Block A, Gatlin Addition

DESCRIPTION

Conduct a public hearing and consider a Site Plan request for Lake Dallas Storage, a 4.767-acre project on lot 2-A, Block A, Gatlin Addition, generally located north of Carlisle Drive and east of the DCTA Rail Trail.

EXISTING CONDITIONS

The property is zoned C-1 Retail and is currently undeveloped, consisting of open pasture with clusters of mature trees scattered throughout the site. The property is not within the 100-year floodplain.

ADJACENT LAND USES

North: Single-family residences zoned C-1 Retail

East: Single-family residences zoned R-1-6000-Single Family Dwelling District

South: The Children’s Learning Center zoned C-1-Retail

West: Undeveloped parcel zoned C-1 Retail

BACKGROUND INFORMATION

The applicant and owner, Ms. MaryKay Smith, applied for and received a Specific Use Permit to allow a “storage facility” on Lot 2-A, Block A, Gatlin Addition, a 4.767-acre tract near the corner of Carlisle drive and the DCTA rail corridor. The City Council granted the Specific Use Permit by Ordinance 2021-17 in November 2021. The ordinance included eight conditions as summarized below:

1. The Ordinance shall be amended adopting a detailed site plan and any other conditions,
2. No commercial vehicles shall be parked or stored on the Property,
3. No semitrailers or pole trailers shall be parked or stored on the property
4. No sales, business or any other activity other than storage is allowed (an on-site office associated with the storage facility is allowed),
5. Residential use is prohibited,
6. Storage of boats and recreational vehicles is allowed,
7. All screening may consist of an 8-foot wood fence matching the existing fence, and
8. The open storage area may consist of a permeable hard surface, but gravel is not allowed.

The applicant originally submitted a detailed site plan for both Lots 2-A and 3-A, Block A, Gatlin Addition and staff reviewed the enlarged project. There was some confusion about the zoning classification of Lot 3-A, so the applicant revised their application to reflect only Lot 2-A. The revised application arrived on Friday, July 15th, and has not been reviewed by the entire DRC.

PLANNING ANALYSIS

The Amended Site Plan shows three covered storage buildings, containing 33 spaces, and 263 uncovered storage spaces (Note that the numbers in the Site Data Summary Table are incorrect, and will need to be corrected.) The metes and bounds description includes both Lots 2-A and 3-A. It should be revised to include only Lot 2-A and the portion of Lot 3-A necessary for the access drive and the South Pond. The Vicinity Map should also be revised. The C-1-Retail zoning district requires a 25-foot rear yard setback, but the three covered parking structures are within 10 feet of the adjacent property lines. The structures should be relocated to meet the 25-foot rear yard setback line.

The access will be through Lot 3-A, so an access easement will be required on that lot. Entry will be controlled by a gate approximately 100 feet from the Carlisle Street right-of-way. The internal drives are shown to be 24-foot-wide asphalt fire lanes with an 85,000-pound load capacity, while the remainder of the site is shown to be decomposed granite with pavers. The Subdivision Ordinance requires that fire lanes be concrete, rather than asphalt. There appears to be confusion between the City Engineer (24-foot radius) and Fire Marshall (26-foot radius) regarding the fire lane turning radius, which should be resolved. The City Engineer will need to approve the pavement design prior to construction. The asphalt paving should be extended to include access to the dumpster location, including under the dumpster location itself.

The fire lanes appear to meet the requirements of the Fire Department (24-foot-wide, 85,000-pound load capacity, etc.) with the exception that the far west end of the covered building adjacent to the West pond is more than 150 feet from the fire lane. The Fire Marshall should verify whether this will be acceptable, or whether the fire lane should be extended with an approved turn-around. The applicant is proposing no fire hydrants or building sprinklers, other than the existing fire hydrant in Carlisle Drive. The Fire Marshall will need to determine whether this is acceptable.

The City Engineer has reviewed the drainage plans and still has some review comments that have not been addressed. The West and East detention ponds drain onto adjacent private property, and offsite drainage easements will be required.

The applicant is proposing to retain all existing trees and build around them. The Special Use Permit provides that the only screening required is an 8-foot wood fence, which is shown to be provided five feet off of the property line. The only landscaping proposed is two Live Oak trees, three Red Yucca plants, six Mexican Feather Grass clumps and turf grass along Carlisle Street. The applicant should show what is planned for the five-foot area outside of the screening fence.

RECOMMENDATION

After conducting the public hearing, City staff recommends the following motion:

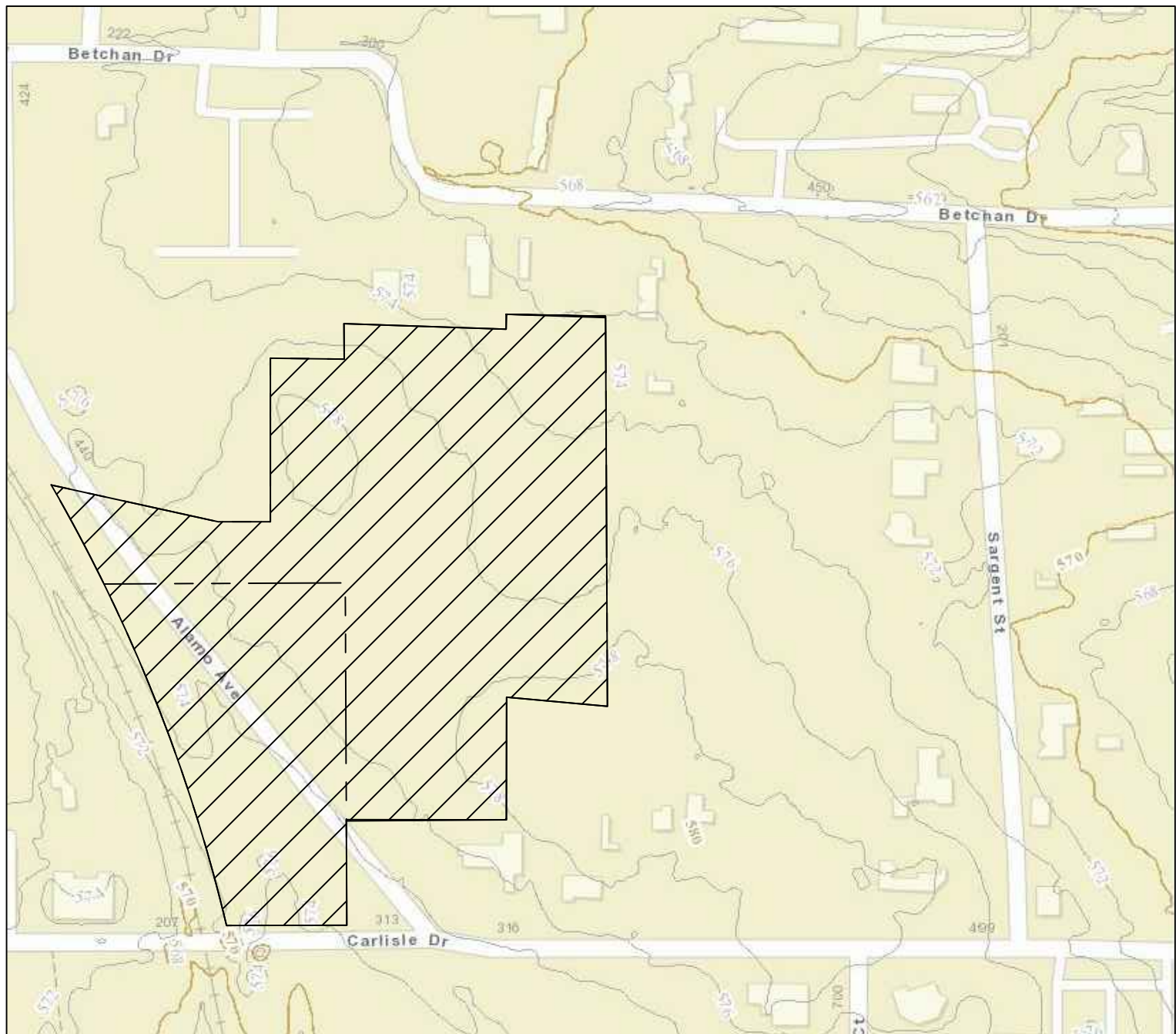
I move to recommend City Council **APPROVE/DENY** the Detailed Site Plan for Lake Dallas Storage (lot 2-A, Block A, Gatlin Addition, subject to the following conditions:

1. Conditions 2 through 6 from ordinance 2021-17 should be added to the Notes on the Amended Site Plan
2. Revise the Metes and Bounds Description and Vicinity map to show only Lot 2-A and the portion of Lot 3-A necessary to include the access drive and South pond.
3. Provide a public access easement across lot 3-A to accommodate the entry drive and fencing.
4. Correct the numbers in the Site Data Summary Table.
5. Move covered parking structures to meet 25-foot rear yard setback requirement.
6. Approval of the pavement design by the City Engineer.
7. Approval of the Fire Lane configuration and fire hydrant locations by the Fire Department.
8. Approval of the drainage plans by the City Engineer.
9. Provision of off-site drainage easement to receive outfall from West and East ponds.
10. Show what is planned for the five-foot area outside of the wood screening fence.

ATTACHMENTS:

1. Ordinance 2021-17, Special Use Permit
2. Original Concept Plan
3. Amended Site Plan for Lake Dallas Storage

Site & Drainage Plan
for
Lake Dallas Storage
City of Lake Dallas, Denton County



V i c i n i t y M a p
n . t . s .

Drawing Sheet Index

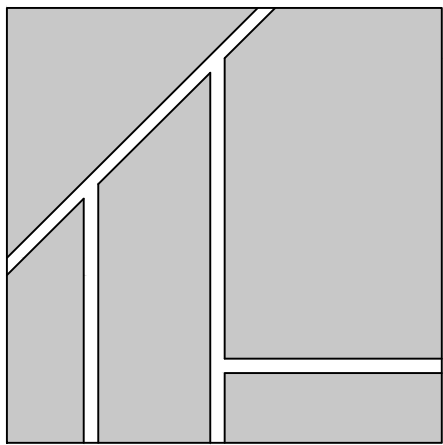
00	Cover Sheet
01	Site Plan
02	Existing Drainage Area Map
03	Proposed Drainage Area Map
04	West Detention Pond
05	East Detention Pond
06	South Detention Pond
07	Grading Plan
08	Erosion Control Plan

**FOR PRELIMINARY
REVIEW ONLY**

THIS DOCUMENT IS RELEASED FOR THE
PURPOSE
OF INTERIM REVIEW UNDER THE AUTHORITY
OF
JEFF D. CRANNELL, PE#50800 ON
07/14/22

IT IS NOT TO BE USED FOR
CONSTRUCTION PURPOSES.

Engineer:



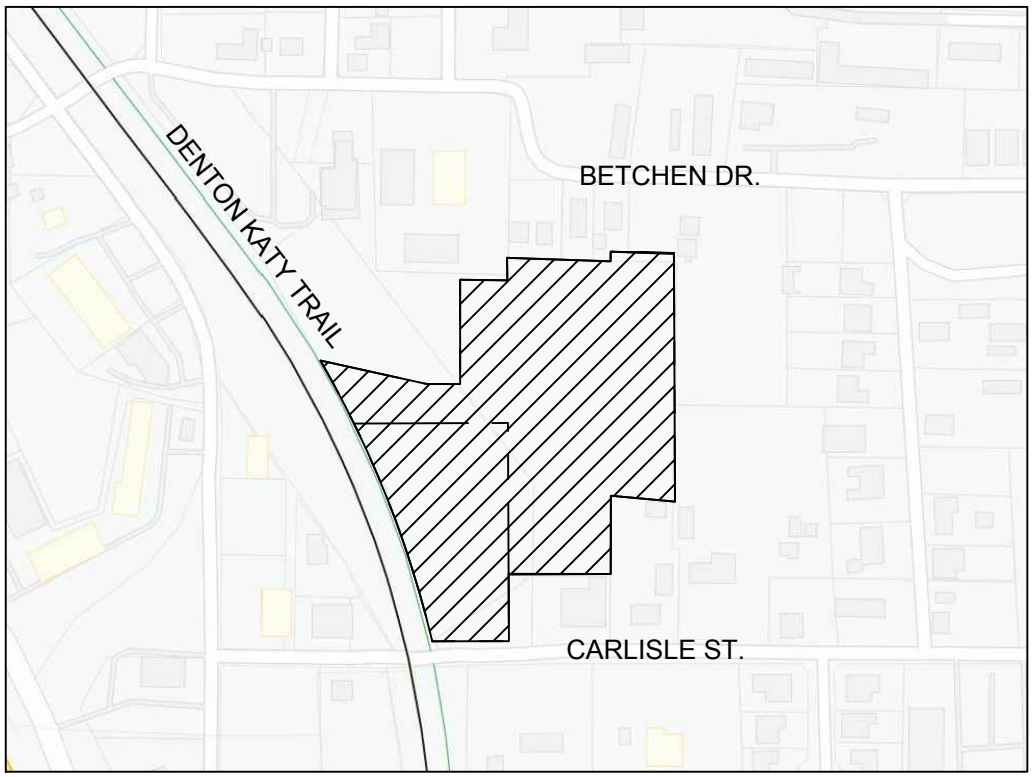
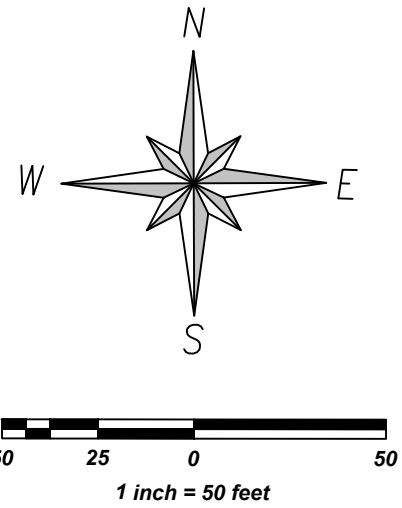
CCM Engineering

2570 FM 407, Suite 209
Highland Village, Texas 75077
Ph: 972. 691.6633
Fax: 972.691.6628
TBPE FIRM #605

July, 2022

NOTES:

1. PROPOSED DRIVE AISLES WILL BE CONSTRUCTED OF 6" ALL-WEATHER ASPHALT, WITH 85,000 LB LOAD BEARING CAPACITY
2. NO TREES COVERED BY SECTION 122-1161 THROUGH 122.1168 WILL BE REMOVED.
3. FRONT GATE MUST BE CONSTRUCTED WITH TWO METHODS OF ACCESS (MANUAL AND AUTOMATIC).
4. NO ENCLOSED BUILDINGS ARE PROPOSED WITH THIS PHASE OF DEVELOPMENT.



LEGEND

- S.I.R. SET IRON ROD
F.I.R. FOUND IRON ROD
TRAFFIC FLOW ARROW
PROPOSED PERMEABLE SURFACE (DECOMPOSED GRANITE WITH PAVERS)
PROPOSED FIRE LANE
EXISTING PAVEMENT
PROPOSED DETENTION PONDS
PROPOSED 8' WOOD FENCE (TO BE OFF-SET 5' FROM PROPERTY LINE)

SITE DATA SUMMARY TABLE		
ZONING	EXISTING	PROPOSED
USAGE	C-3	C-3
BUILDING AREA	N/A	N/A
STRUCTURE HEIGHT (MAX)	N/A	16'
IMPERVIOUS SURFACE (AREA)	0%	27.40%
TOTAL PARKING SPACES	0	42
REQUIRED PARKING SPACES	N/A (NO BUILDINGS PROPOSED WITH THIS PHASE OF DEVELOPMENT)	
REQUIRED HANDICAPPED PARKING SPACES	1	
TOTAL UNCOVERED STORAGE (28')	33	
TOTAL UNCOVERED STORAGE (45')	299	
TOTAL COVERED STORAGE (20'x10')	20	
TOTAL COVERED STORAGE (40'x15')	13	
TOTAL SITE ACREAGE	6.77 ACRE	
PERCENT OF ACREAGE IMPERVIOUS	25.1%	

DEVELOPER/OWNER:

RER, LLC
PO Box 254 Lake Dallas, Tx 75065
(940) 453-4969

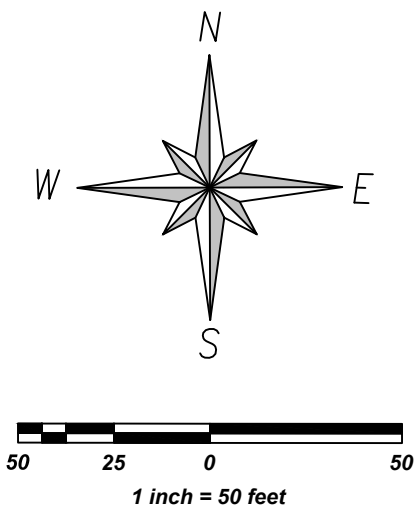
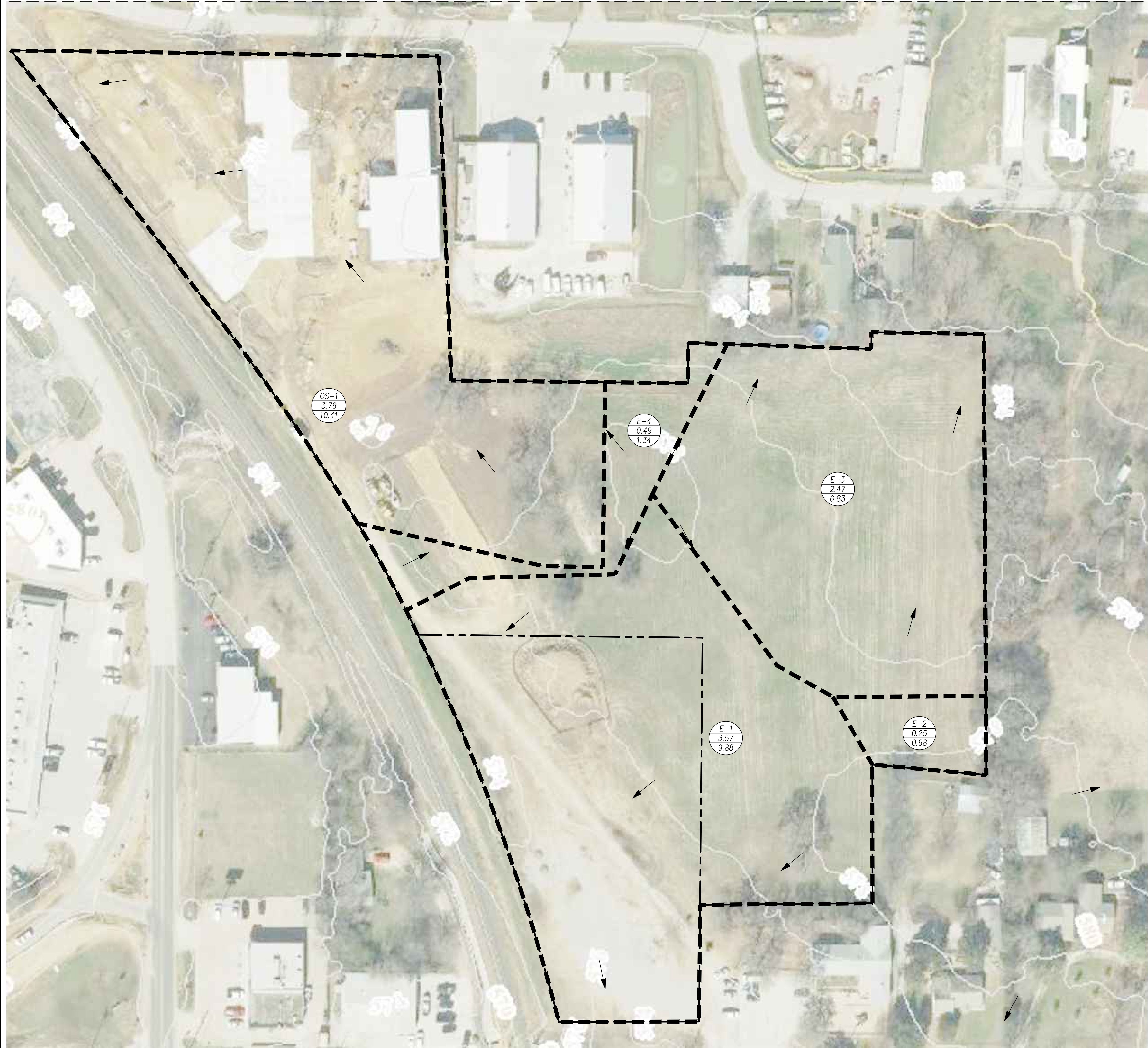
PREPARED BY:

CCM ENGINEERING
2570 JUSTIN ROAD #209 - HIGHLAND VILLAGE, TX
(972) 691-6633

FOR CITY USE ONLY

AMENDED SITE PLAN
FOR
LAKE DALLAS STORAGE
LAKE DALLAS, DENTON COUNTY, TX
BEING 4.767 ACRES IN THE
M. WRIGHT SURVEY A-1355
LOT 2-A, BLOCK A, GATLIN ADDITION
DOC. #2019-83 P.R.D.C.T.

July 15th, 2022 SHEET1 OF 6 1" = 50'



LEGEND

Area No.
Area (Ac.)
Q100 (cfs)

Drainage Divide

Flow Arrows

EXISTING DRAINAGE AREAS					
AREA	TOC	C	I100	A	Q100
E-1	15.00	0.35	7.91	3.57	9.88
E-2	15.00	0.35	7.91	0.25	0.68
E-3	15.00	0.35	7.91	2.47	6.83
E-4	15.00	0.35	7.91	0.49	1.34
OS-1	15.00	0.35	7.91	3.76	10.41

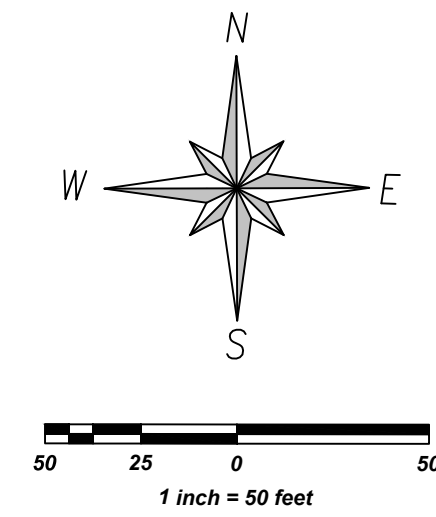
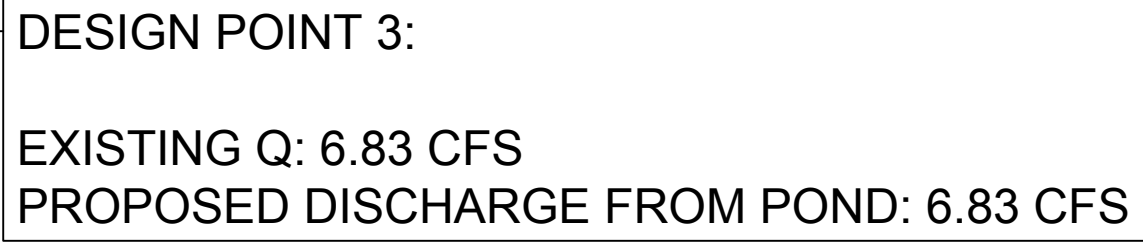
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7/15/22

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REVISIONS

DESIGN: CCM
DRAWN: CCM
DATE: 7/15/2022
SCALE:
NOTES:
FILE:



DESIGN POINT 3:
EXISTING Q: 6.83 CFS
PROPOSED DISCHARGE FROM POND: 6.83 CFS

EXISTING DRAINAGE AREAS						
AREA	TOC	C	I100	A	Q100	Notes:
P-1	10.00	0.60	9.24	2.72	15.08	To South Pond
P-2	10.00	0.50	9.24	1.51	6.99	To West Pond
P-3	10.00	0.56	9.24	3.19	16.50	To East Pond

LEGEND

Area No.
Area (Ac.)
Q100 (cfs)

Drainage Divide

Flow Arrows

DESIGN POINT 1:

EXISTING Q: 9.88 CFS
PROPOSED POND DISCHARGE: 9.88 CFS

CCM Engineering

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Lake Dallas Storage
City of Lake Dallas,
Denton County

PROPOSED DAM

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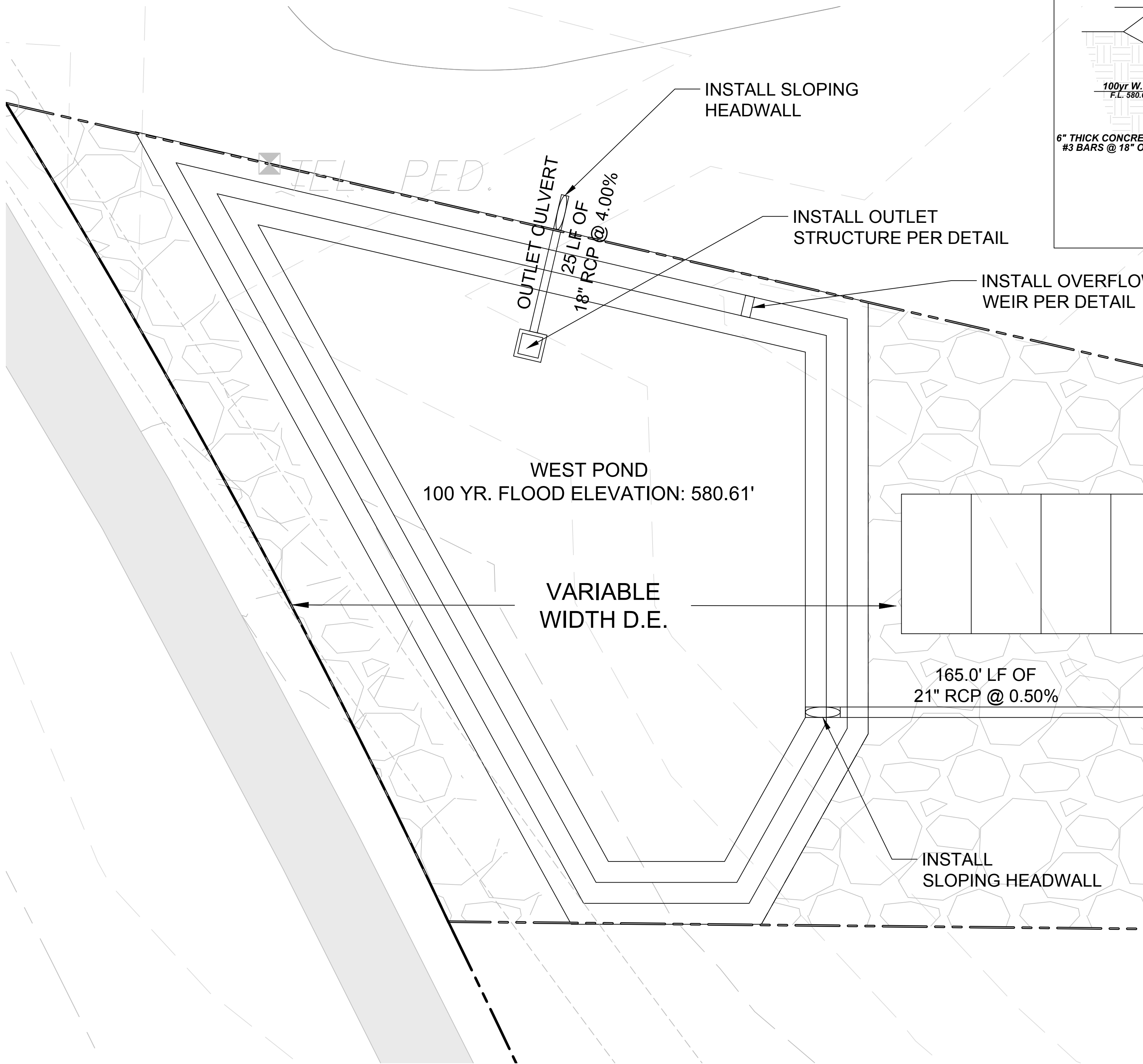
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DATE: 7/15/2022

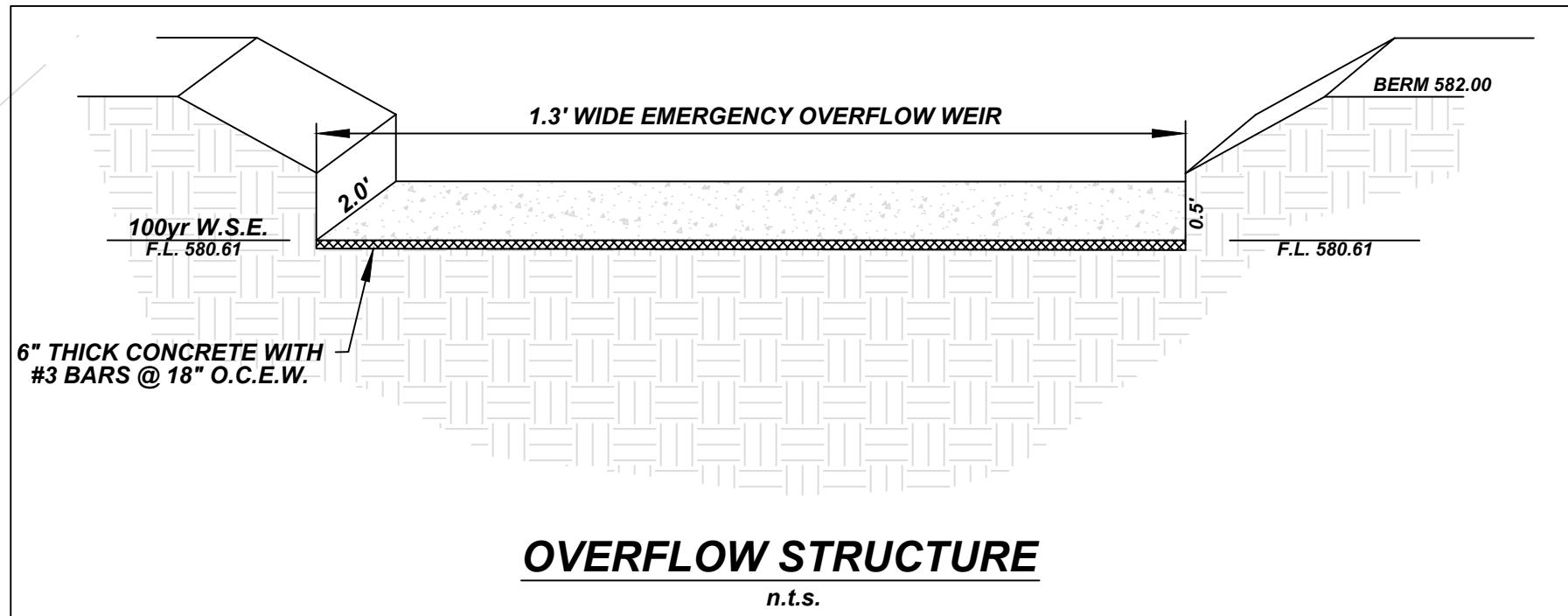
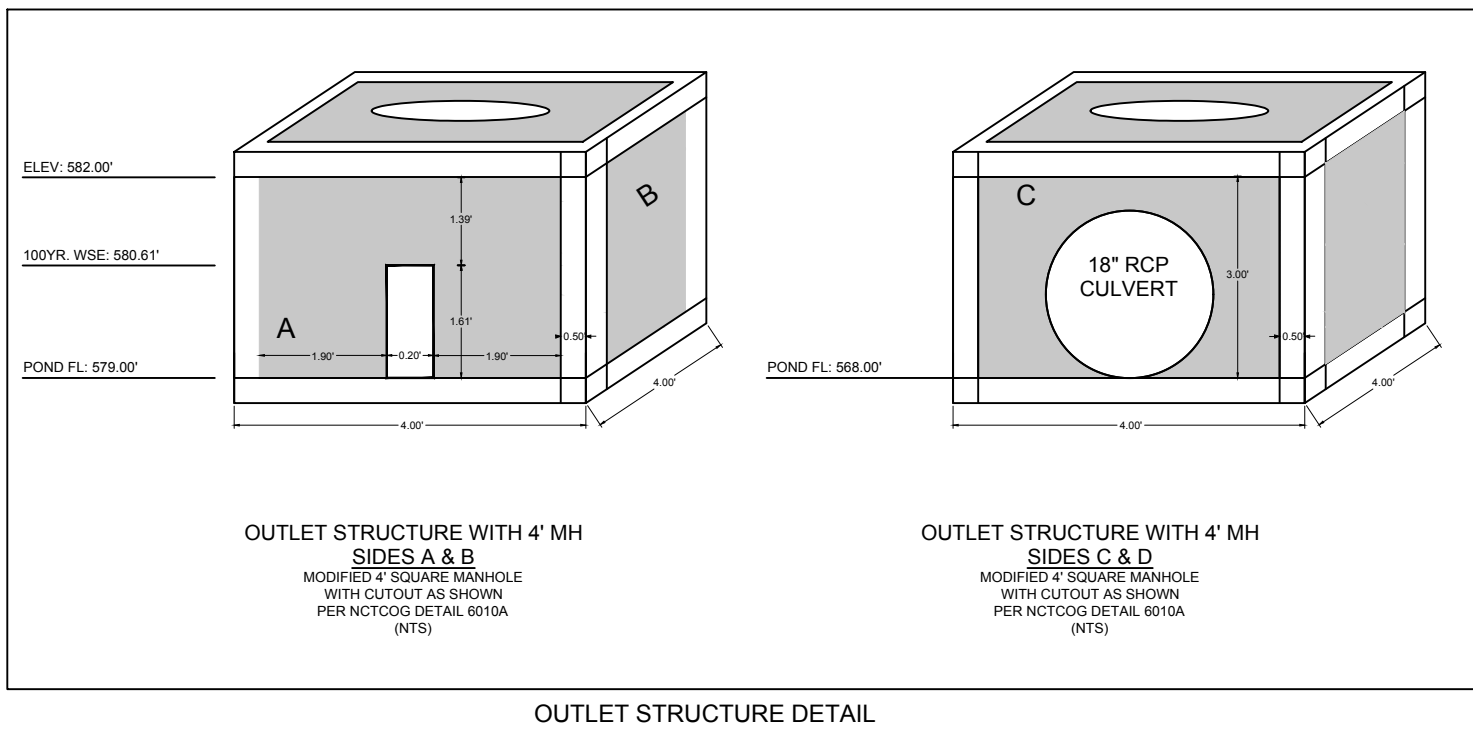
SCALE:

NOTES:

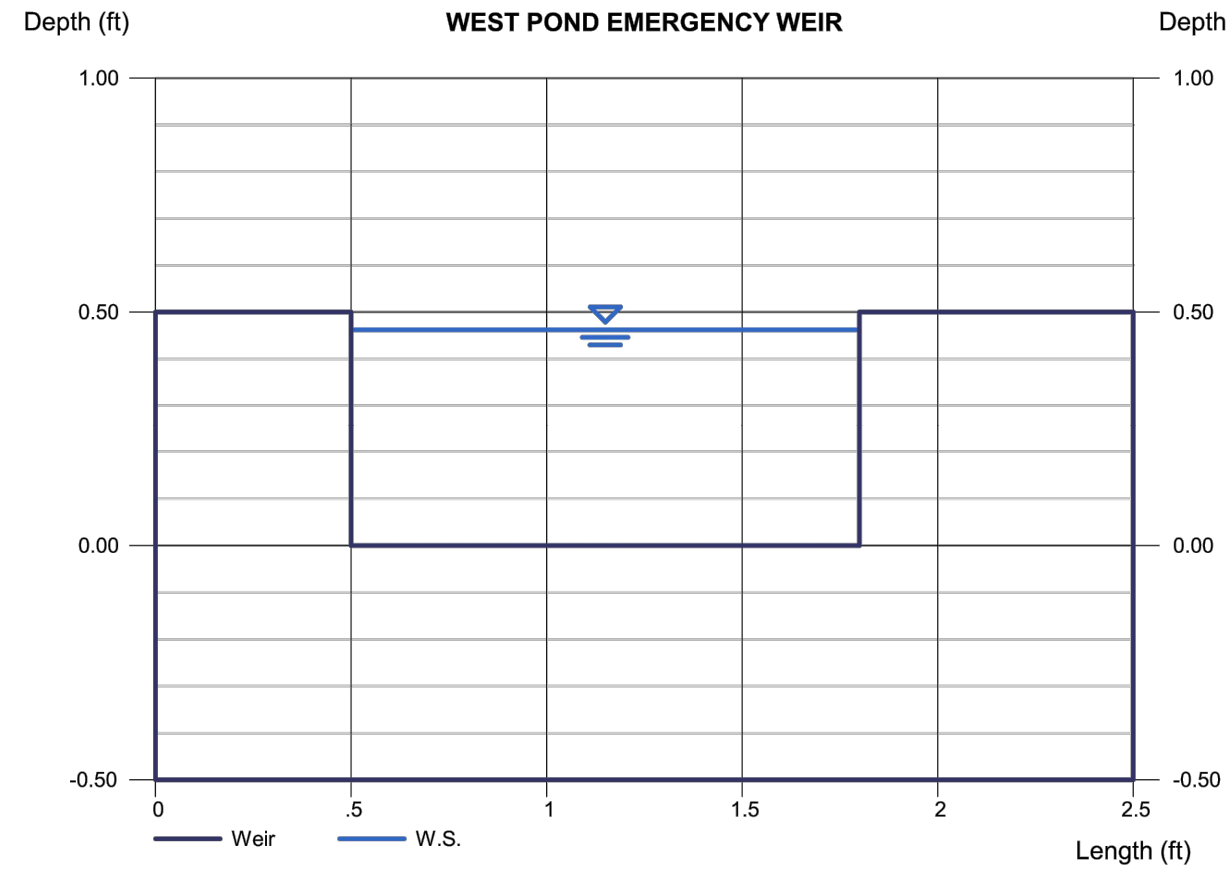
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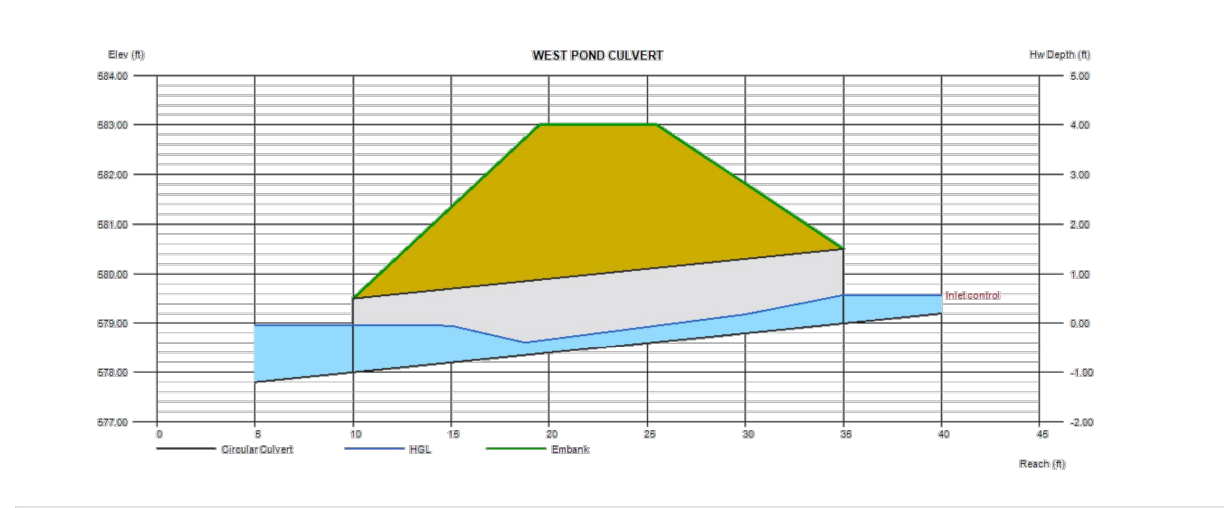
STAGE STORAGE TABLE						
ELEV	AREA (sq. ft.)	DEPT H (ft)	AVG END INC. VOL. (cu. ft.)	AVG END TOTAL VOL. (cu. ft.)	CONIC INC. VOL. (cu. ft.)	CONIC TOTAL VOL. (cu. ft.)
579.00	4,028.58	N/A	N/A	0.00	N/A	0.00
580.00	4,900.63	1.00	4464.60	4464.60	4457.49	4457.49
581.00	5,853.21	1.00	5376.92	9841.53	5369.88	9827.37
582.00	6,886.33	1.00	6369.77	16211.30	6362.78	16190.15



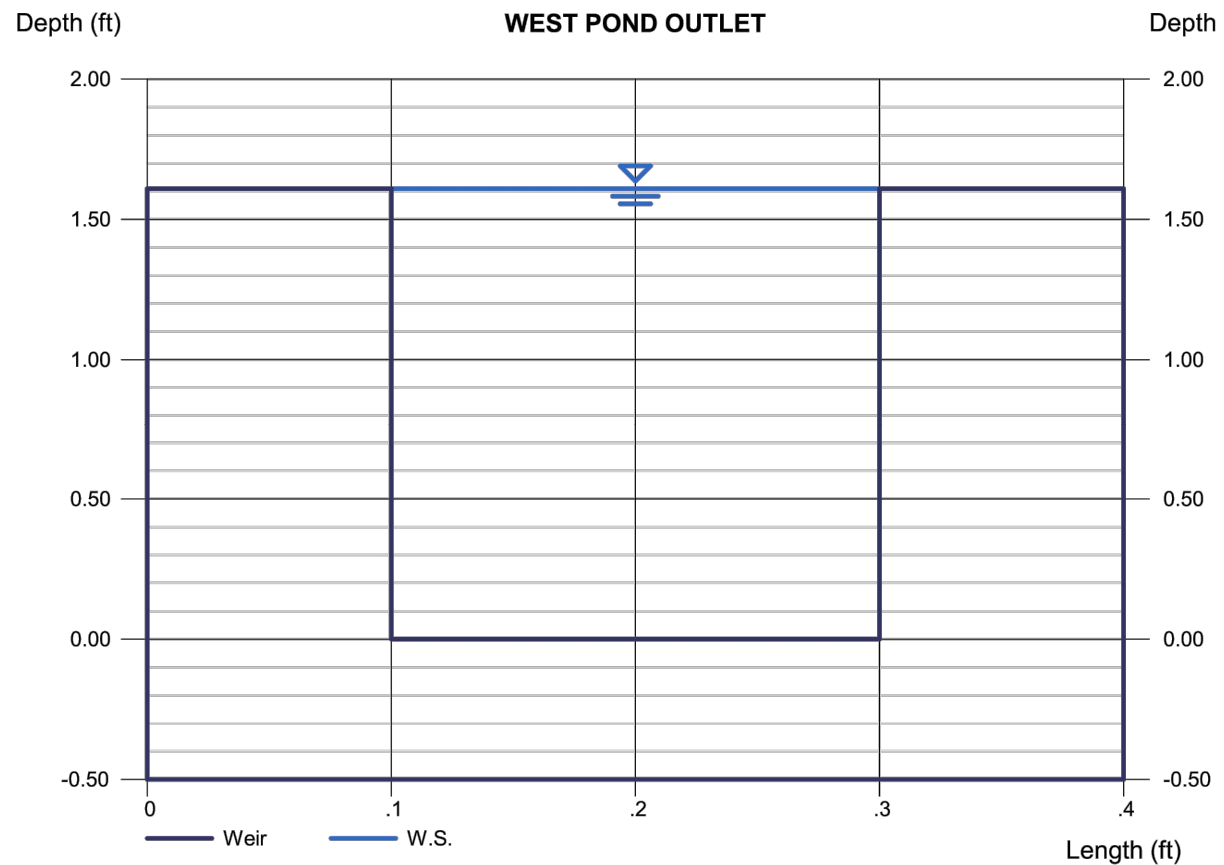
Weir Report			
Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Monday, Jun 13 2022			
WEST POND EMERGENCY WEIR			
Rectangular Weir	= Sharp	Highlighted	
Crest	= 1.30	Depth (ft)	= 0.46
Bottom Length (ft)	= 0.50	Q (cfs)	= 1.360
Total Depth (ft)	= 0.50	Area (sqft)	= 0.60
Calculations		Velocity (ft/s)	= 2.26
Weir Coeff. Cw	= 3.33	Top Width (ft)	= 1.30
Compute by:	Known Q		
Known Q (cfs)	= 1.36		



Culvert Report			
Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Monday, Jun 13 2022			
WEST POND CULVERT			
Invert Elev Dn (ft)	= 578.00	Calculations	
Pipe Length (ft)	= 25.00	Qmin (cfs)	= 1.36
Slope (%)	= 4.00	Qmax (cfs)	= 1.36
Invert Elev Up (ft)	= 579.00	Tailwater Elev (ft)	= (dc+D)/2
Rise (in)	= 18.0		
Shape	= Circular	Highlighted	
Span (in)	= 18.0	Qtotal (cfs)	= 1.36
No. Barrels	= 1	Qpipe (cfs)	= 1.36
n-Value	= 0.012	Qinvert (cfs)	= 0.00
Culvert Type	= Circular Concrete	Veloc Dn (ft/s)	= 1.13
Culvert Entrance	= Square edge w/headwall (C)	Veloc Up (ft/s)	= 3.18
Coeff. K,M,c,Y,k	= 0.0098, 2, 0.0398, 0.67, 0.5	HGL Dn (ft)	= 578.97
Embankment		HGL Up (ft)	= 579.44
Top Elevation (ft)	= 583.00	Hw Elev (ft)	= 579.57
Top Width (ft)	= 6.00	Hw/D (ft)	= 0.38
Crest Width (ft)	= 25.00	Flow Regime	= Inlet Control



Weir Report			
Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Monday, Jun 13 2022			
WEST POND OUTLET			
Rectangular Weir	= Sharp	Highlighted	
Crest	= 1.30	Depth (ft)	= 1.61
Bottom Length (ft)	= 0.20	Q (cfs)	= 1.360
Total Depth (ft)	= 1.61	Area (sqft)	= 0.32
Calculations		Velocity (ft/s)	= 4.22
Weir Coeff. Cw	= 3.33	Top Width (ft)	= 0.20
Compute by:	Known Q		
Known Q (cfs)	= 1.36		



Lake Dallas Storage WEST DETENTION POND - DESIGN (100 yr.Storm)

PRESENT CONDITIONS									
C	0.35			b=	95.776				
C1XA	1.00			d=	12				
i 100	7.91			e=	0.7566				
Tc	15.00								
Area (ac)	0.49								
Q100	1.36								
FUTURE CONDITIONS									
C	0.50	[COMPOSITE]							
C1XA	1.00								
i 100	9.24								
Tc	10.00								
Area (ac)	1.51								
Q100	6.97								
STORM DURATIONS									
Minutes	I100	Q100(cfs)							
20	6.96	5.25							
30	5.66	4.28							
40	4.82	3.64							
50	4.22	3.18							
60	3.77	2.84							
70	3.41	2.58							
80	3.13	2.36							
90	2.89	2.19							
100	2.70	2.04							
120	2.38	1.80							
180	1.79	1.35							
240	1.46	1.10							
MAXIMUM STORAGE									
Inflow	10	6.97	60		=	4,184.83			
Outflow	0.5	20.00	1.36	60	=	614.15			
Storage				60	=	3,370.68			
Inflow	20	5.25	60		=	6,303.60			
Outflow	0.5	30.00	1.36	60	=	1,221.22			
Storage				60	=	5,082.38			
Inflow	30	4.28	60		=	7,697.08			
Outflow	0.5	40.00	1.36	60	=	1,628.29			
Storage				60	=	6,068.78			
Inflow	40	3.64	60		=	8,731.46			
Outflow	0.5	50.00	1.36	60	=	2,035.36			
Storage				60	=	6,696.09			
Inflow	50	3.18	60		=	9,554.35			
Outflow	0.5	60.00	1.36	60	=	2,442.44			
Storage				60	=	7,111.92			
Inflow	60	2.84	60		=	10,238.78			
Outflow	0.5	70.00	1.36	60	=	2,849.51			
Storage				60	=	7,389.27			
Inflow	70	2.58	60		=	10,825.83			
Outflow	0.5	80.00	1.36	60	=	3,256.58			
Storage				60	=	7,569.25			
Inflow	80	2.36	60		=	11,340.78			
Outflow	0.5	90.00	1.36	60	=	3,663.66			
Storage				60	=	7,677.13			
Inflow	90	2.19	60		=	11,800.23			
Outflow	0.5	100.00	1.36	60	=	4,070.73			
Storage				60	=	7,729.50			
Inflow	120	1.80	60		=	12,945.23			
Outflow	0.5	130.00	1.36	60	=	5,291.95			
Storage				60	=	7,653.29			

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WEST POND

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Weir Report

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

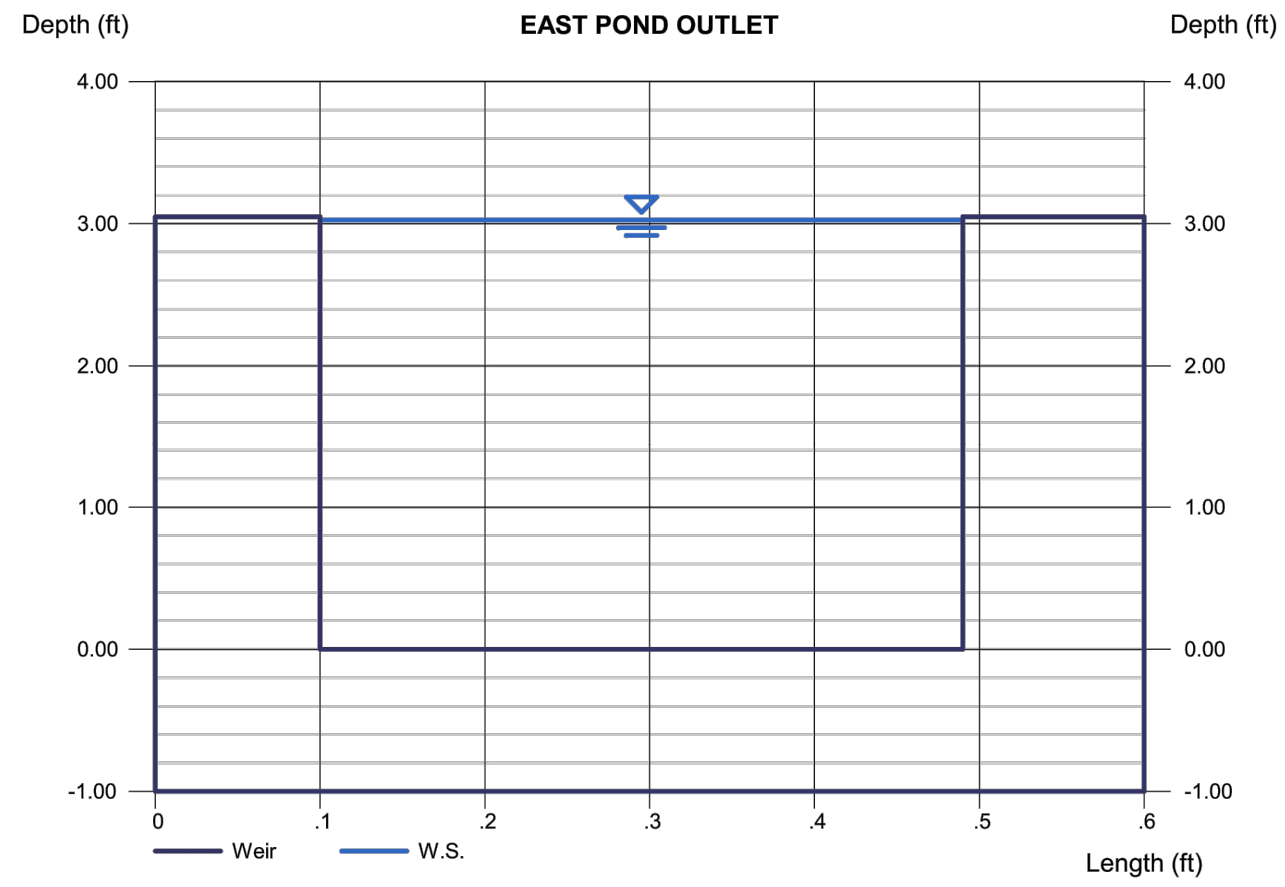
Wednesday, May 25 2022

EAST POND OUTLET

Rectangular Weir
Crest = Sharp
Bottom Length (ft) = 0.39
Total Depth (ft) = 3.05

Highlighted
Depth (ft) = 3.03
Q (cfs) = 6.830
Area (sqft) = 1.18
Velocity (ft/s) = 5.79
Top Width (ft) = 0.39

Calculations
Weir Coeff. Cw = 3.33
Compute by: Known Q
Known Q (cfs) = 6.83



Culvert Report

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

Wednesday, May 25 2022

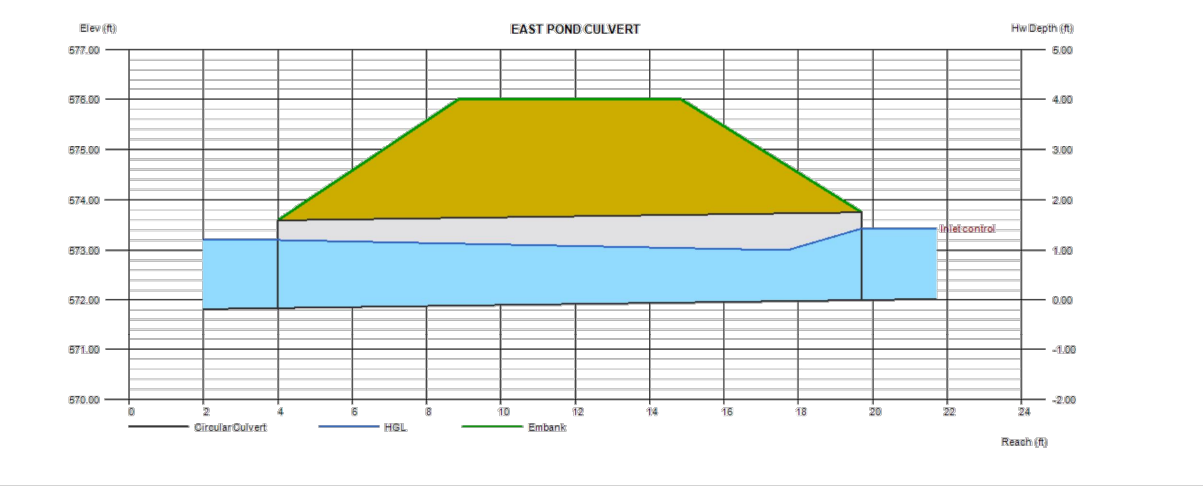
EAST POND CULVERT

Invert Elev Dn (ft) = 571.84
Pipe Length (ft) = 15.70
Slope (%) = 1.02
Invert Elev Up (ft) = 572.00
Rise (in) = 21.0
Shape = Circular
Span (in) = 21.0
No. Barrels = 1
n-Value = 0.012
Culvert Type = Circular Concrete
Culvert Entrance = Square edge w/headwall (C)
Coeff. K,M,c,Y,k = 0.0098, 2, 0.0398, 0.67, 0.5

Calculations
Qtotal (cfs) = 6.83
Qmin (cfs) = 6.83
Qmax (cfs) = 6.83
Tailwater Elev (ft) = (dc+D)/2 = 6.83

Highlighted
Qtotal (cfs) = 6.83
Qpipe (cfs) = 6.83
Qovertop (cfs) = 0.00
Veloc Dn (ft/s) = 3.41
Veloc Up (ft/s) = 5.02
HGL Dn (ft) = 573.20
HGL Up (ft) = 572.97
Hw Elev (ft) = 573.43
Hw/D (ft) = 0.82
Flow Regime = Inlet Control

Embankment
Top Elevation (ft) = 576.00
Top Width (ft) = 6.00
Crest Width (ft) = 25.00



Weir Report

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

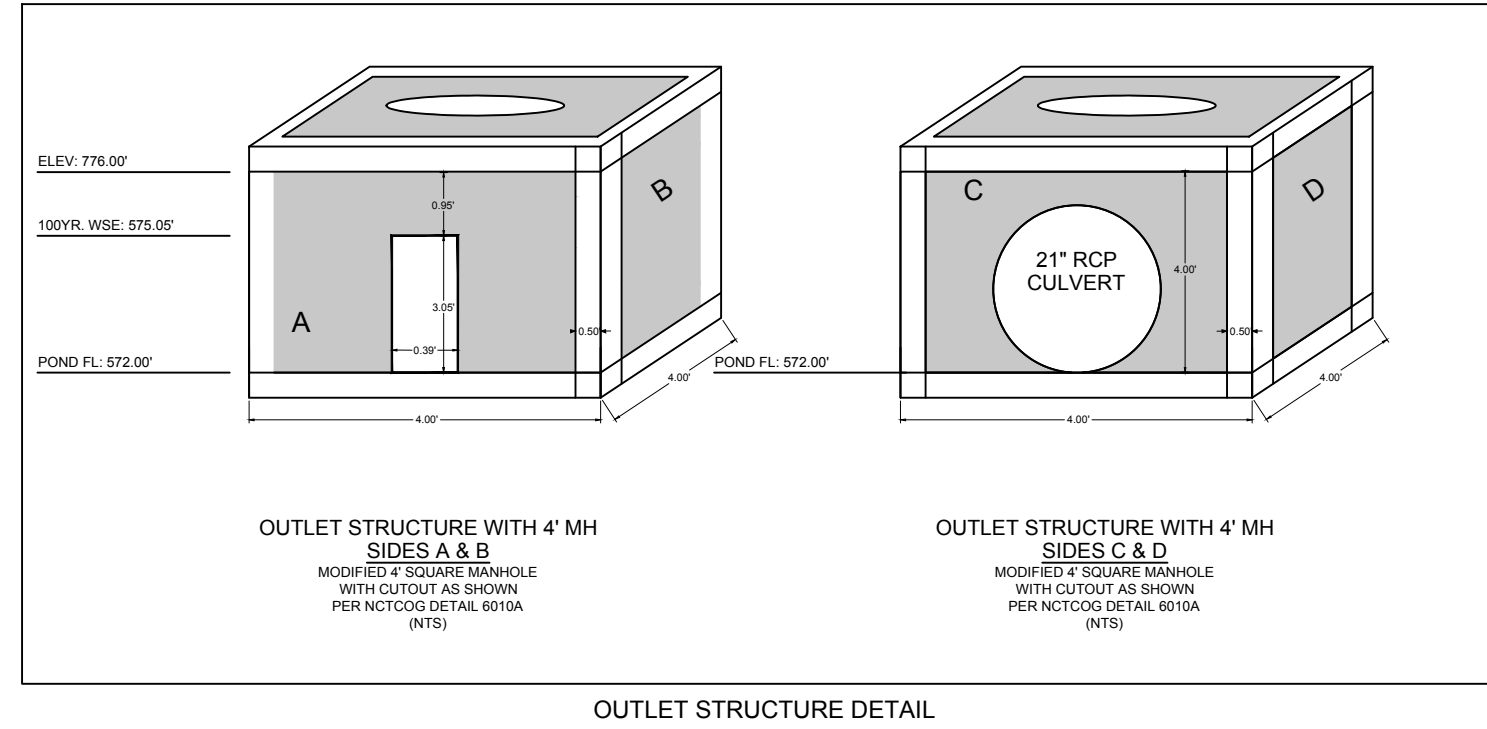
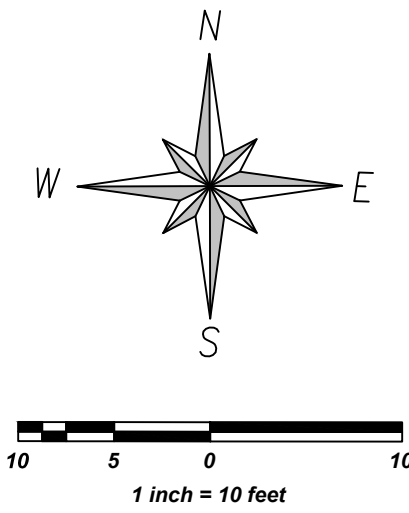
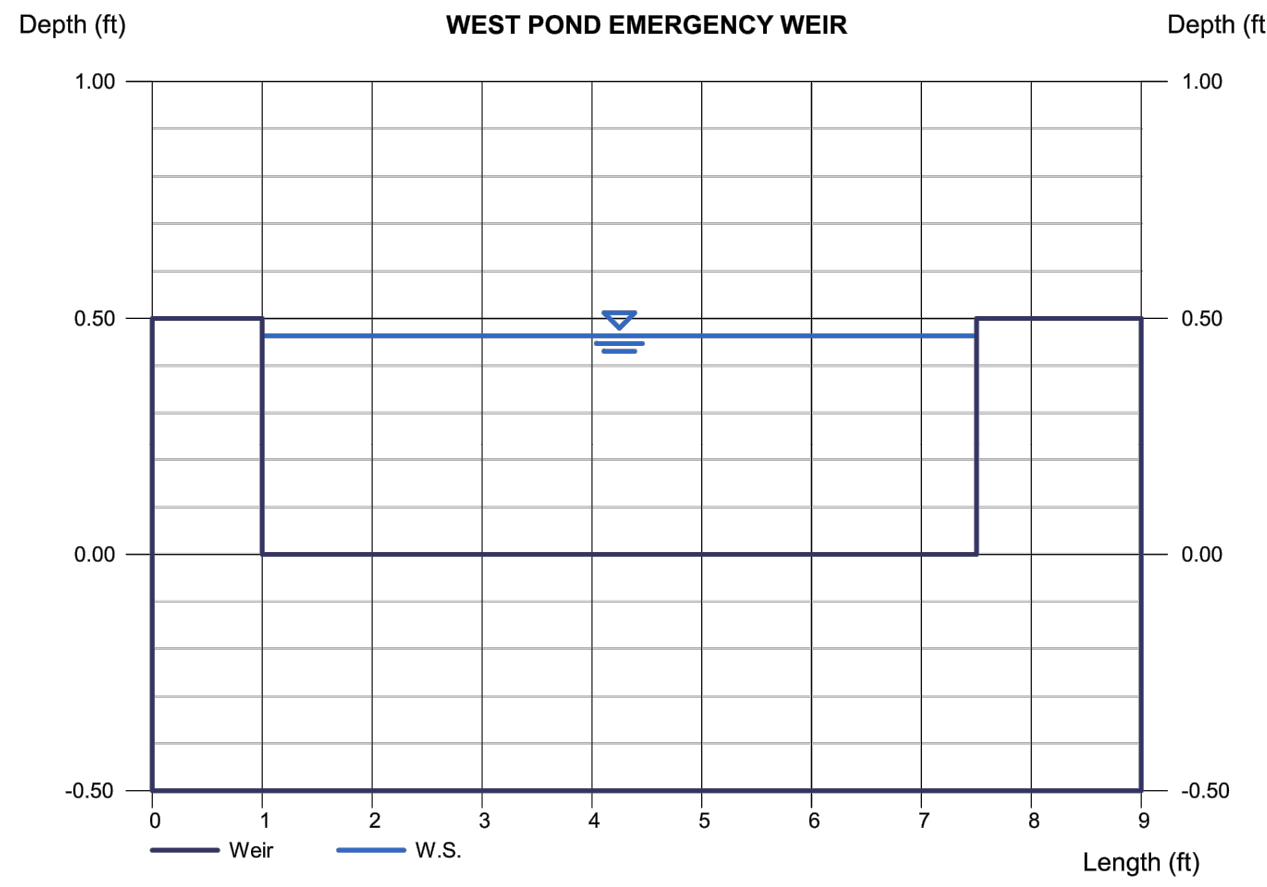
Monday, Jun 13 2022

WEST POND EMERGENCY WEIR

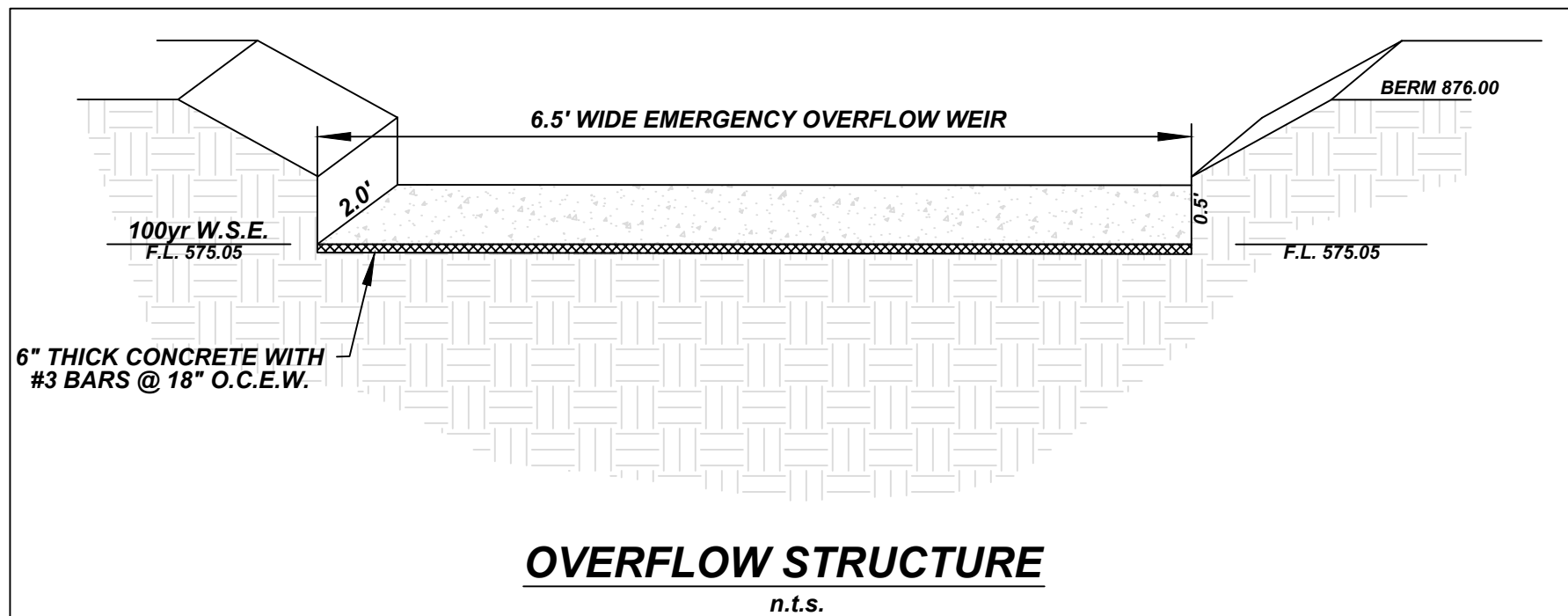
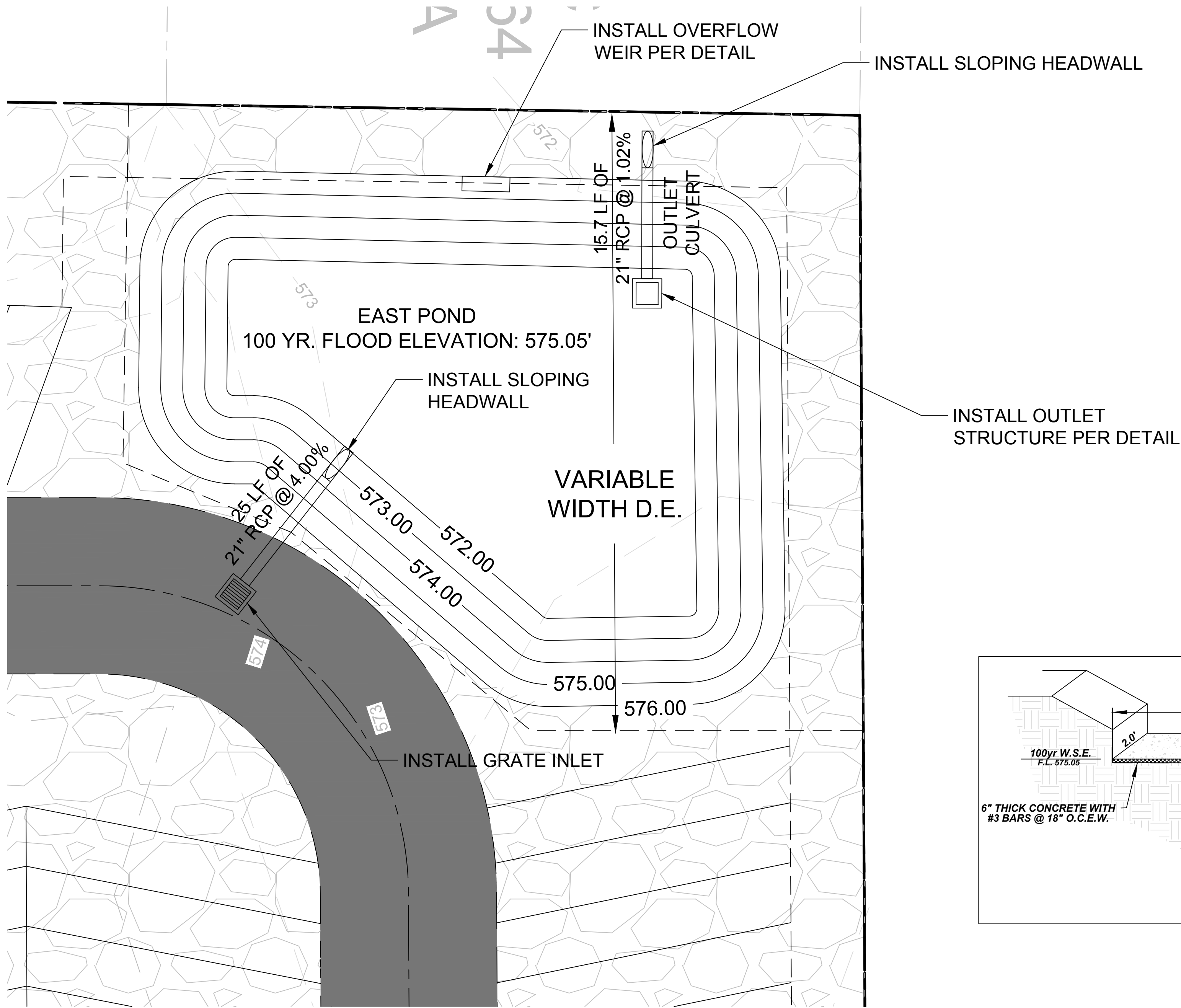
Rectangular Weir
Crest = Sharp
Bottom Length (ft) = 6.50
Total Depth (ft) = 0.50

Highlighted
Depth (ft) = 0.46
Q (cfs) = 6.830
Area (sqft) = 3.01
Velocity (ft/s) = 2.27
Top Width (ft) = 6.50

Calculations
Weir Coeff. Cw = 3.33
Compute by: Known Q
Known Q (cfs) = 6.83



STAGE STORAGE TABLE						
ELEV	AREA (sq. ft.)	DEPT H (ft)	AVG END INC. VOL. (cu. ft.)	AVG END TOTAL VOL. (cu. ft.)	CONIC INC. VOL. (cu. ft.)	CONIC TOTAL VOL. (cu. ft.)
572.00	2,289.79	N/A	N/A	0.00	N/A	0.00
573.00	2,908.47	1.00	2599.13	2599.13	2592.97	2592.97
574.00	3,590.18	1.00	3249.32	5848.45	3243.35	5836.32
575.00	4,323.54	1.00	3956.86	9805.31	3951.19	9787.50
576.00	5,140.66	1.00	2179.21	11984.52	1582.25	11389.76



Lake Dallas Storage DETENTION POND - DESIGN (100 yr.Storm)

PRESENT CONDITIONS						
C	0.35			b=	95.776	
C1XA	1.00			d=	12	
i 100	7.91			e=	0.7566	
Tc	15.00					
Area (ac)	2.47					
Q100	6.84					
FUTURE CONDITIONS						
C	0.56	[COMPOSITE]				
C1XA	1.00					
i 100	9.24					
Tc	10.00					
Area (ac)	3.19					
Q100	16.52					
STORM DURATIONS						
Minutes	100	Q100(cfs)				
20	6.96	12.44				
30	5.66	10.13				
40	4.82	8.62				
50	4.22	7.54				
60	3.77	6.74				
70	3.41	6.10				
80	3.13	5.60				
90	2.89	5.18				
100	2.70	4.82				
120	2.38	4.26				
180	1.79	3.21				
240	1.46	2.61				
MAXIMUM STORAGE						
	Inflow	10	16.52	60	=	9,911.31
	Outflow	0.5	20.00	6.84	60	= 4,103.96
	Storage				=	5,807.35
10 min. Storm	Inflow	20	12.44	60	=	14,929.37
	Outflow	0.5	30.00	6.84	60	= 6,155.94
	Storage				=	8,773.43
20 min. Storm	Inflow	30	10.13	60	=	18,228.67
	Outflow	0.5	40.00	6.84	60	= 8,207.92
	Storage				=	10,021.75
30 min. Storm	Inflow	40	8.62	60	=	20,679.49
	Outflow	0.5	50.00	6.84	60	= 10,259.90
	Storage				=	10,419.59 max pond
40 min. Storm	Inflow	50	7.54	60	=	22,628.43
	Outflow	0.5	60.00	6.84	60	= 12,311.88
	Storage				=	10,316.55
50 min. Storm	Inflow	60	6.74	60	=	24,249.43
	Outflow	0.5	70.00	6.84	60	= 14,363.86
	Storage				=	9,885.57
60 min. Storm	Inflow	70	6.10	60	=	25,639.79
	Outflow	0.5	80.00	6.84	60	= 16,415.84
	Storage				=	9,223.95
70 min. Storm	Inflow	80	5.60	60	=	26,859.39
	Outflow	0.5	90.00	6.84	60	= 18,467.82
	Storage				=	8,391.57
80 min. Storm	Inflow	90	5.18	60	=	27,947.54
	Outflow	0.5	100.00	6.84	60	= 20,519.80
	Storage				=	7,427.74
90 min. Storm	Inflow	120	4.26	60	=	30,659.36
	Outflow	0.5	130.00	6.84	60	= 26,675.74
	Storage				=	3,983.62

CCM Engineering

2570 FM 407, Suite 209
Highland Village, Texas 75077
Ph: 972.691.6633
Fax: 972.691.6628
TBPE FIRM #605

Lake Dallas Storage
City of Lake Dallas,
Denton County

EAST POND

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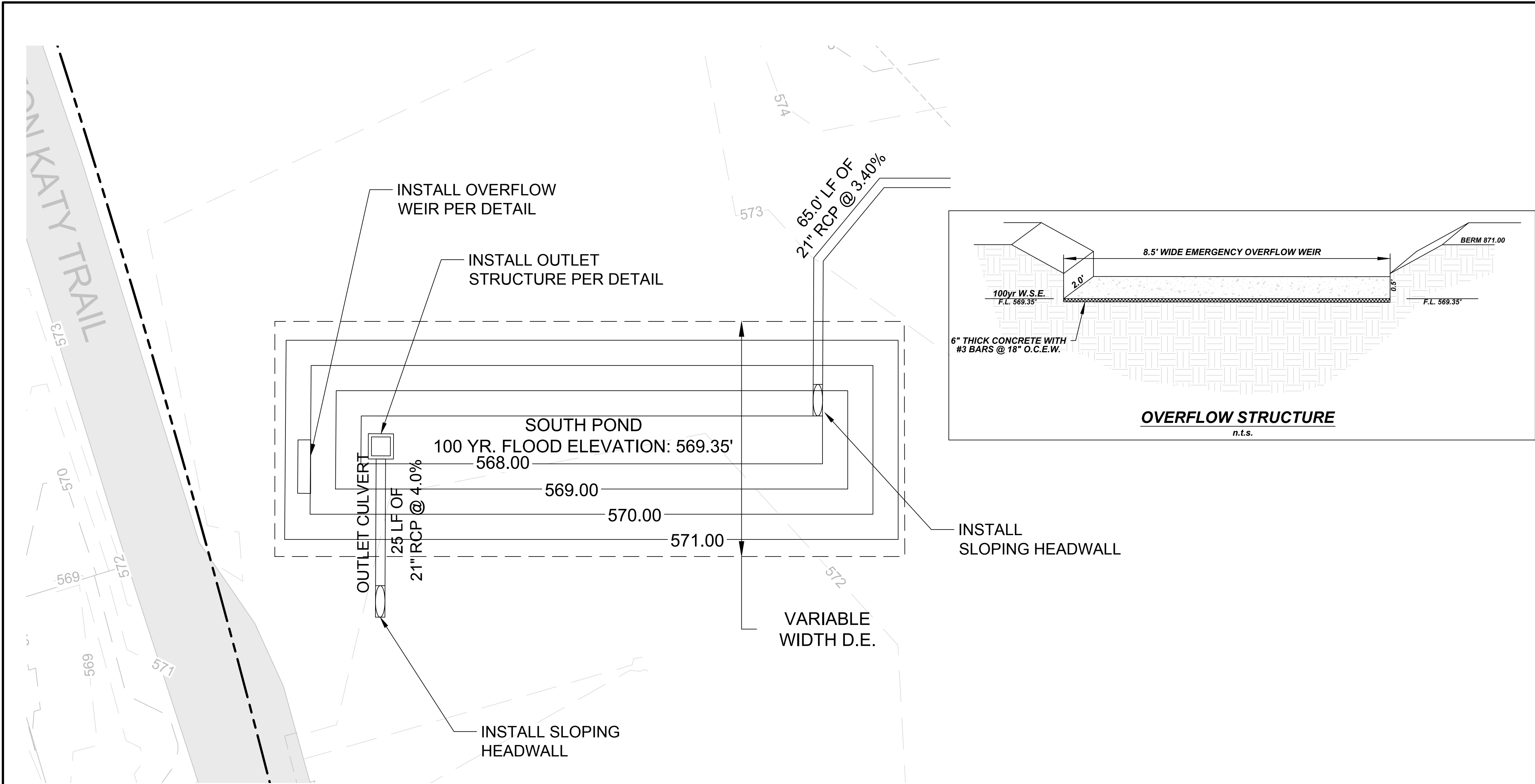
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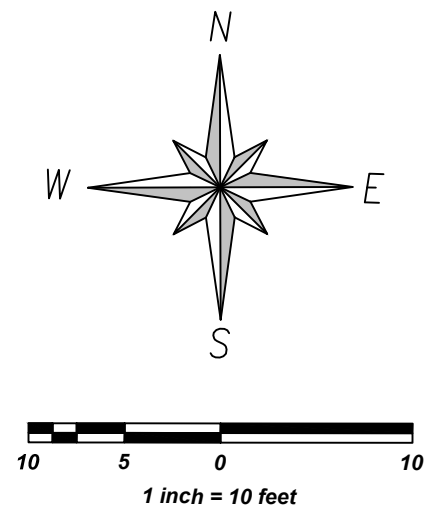
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Sheet 5 of 8

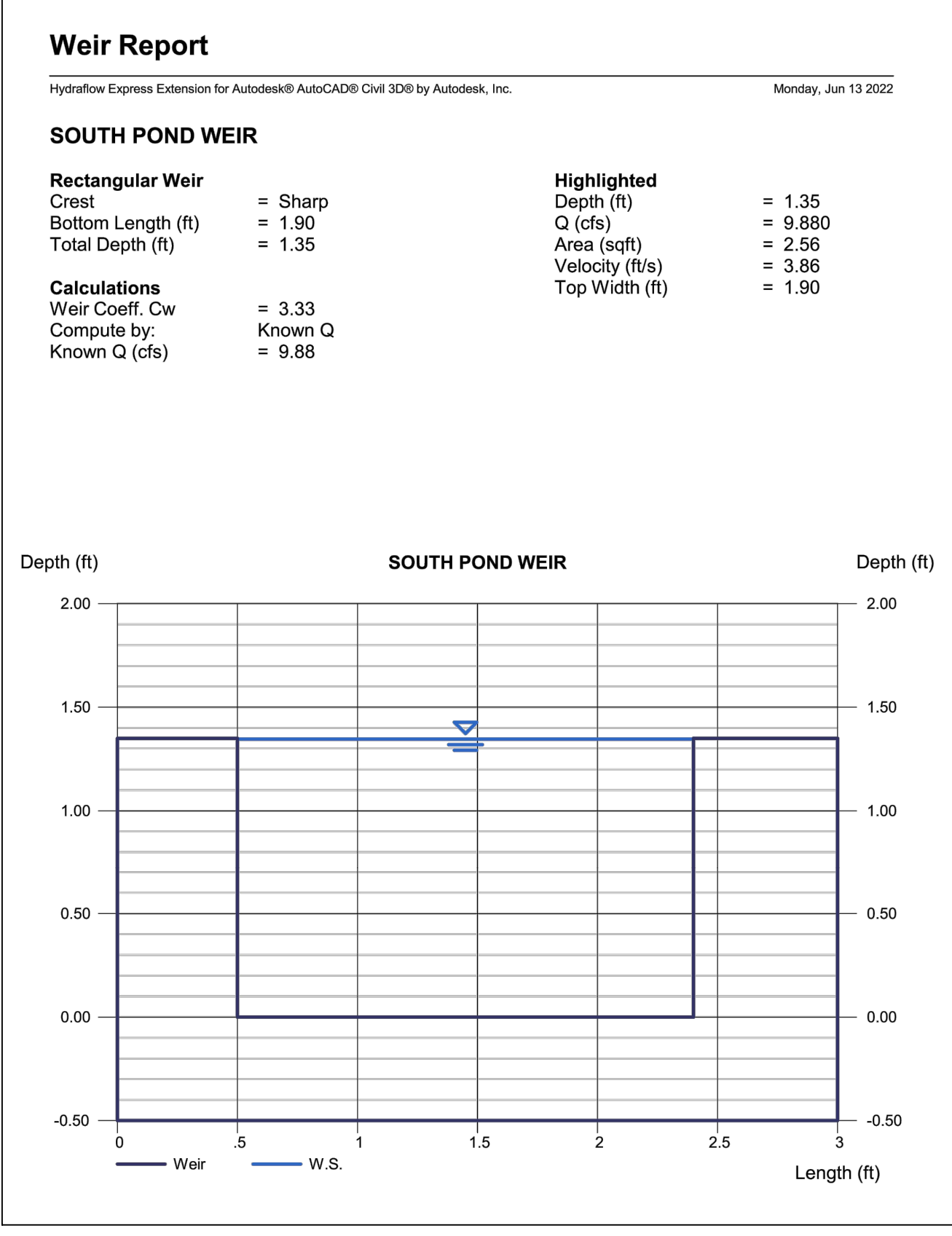
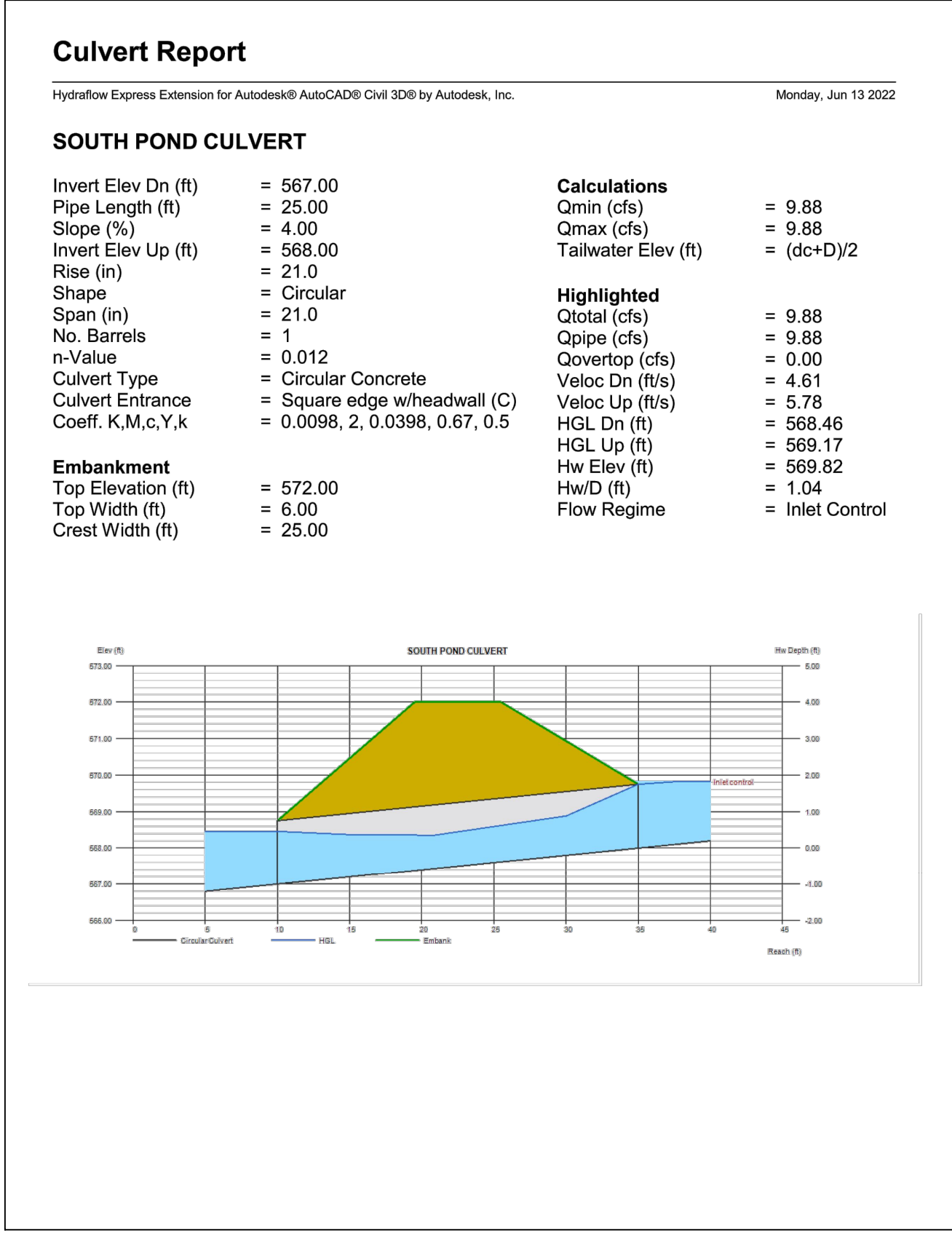
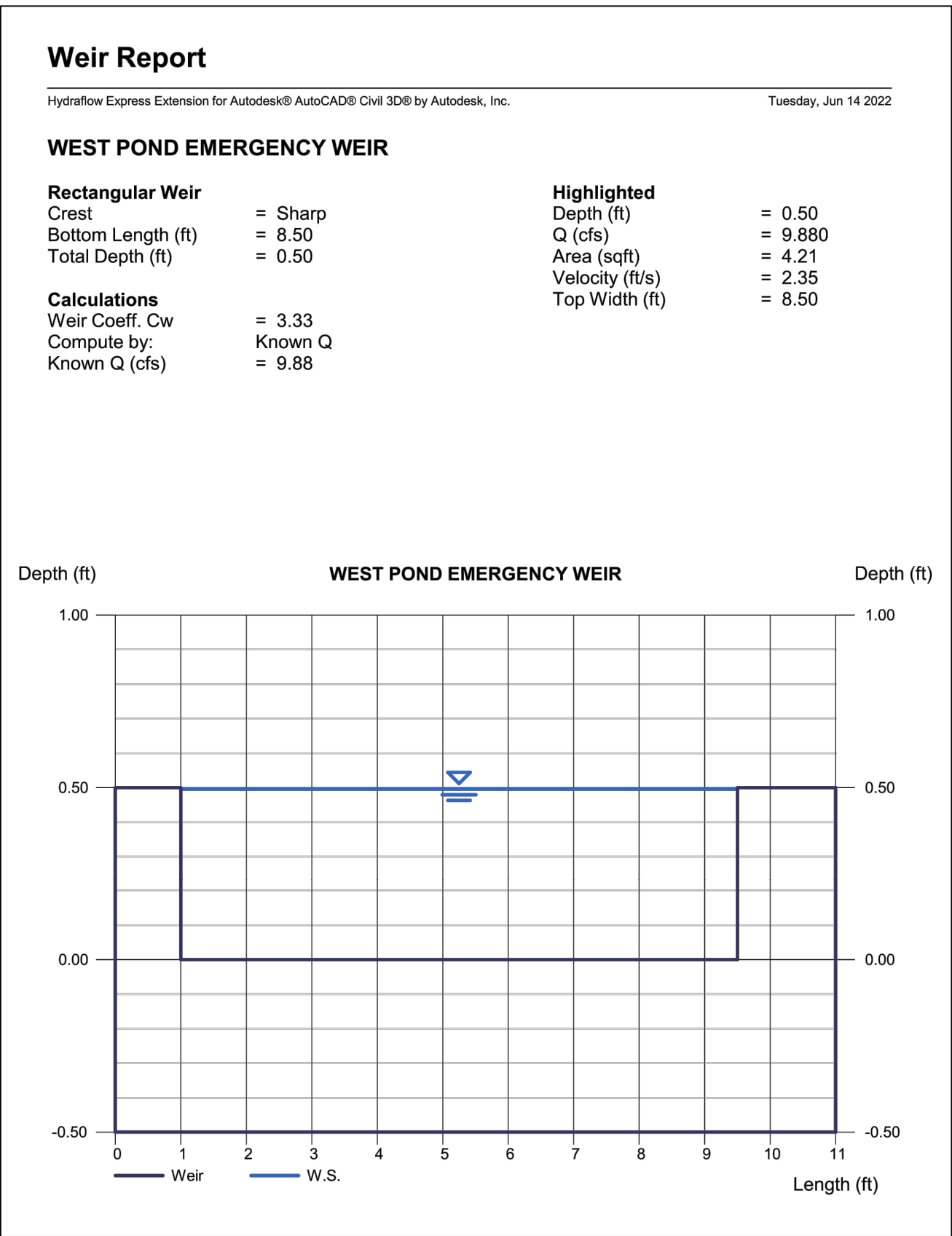
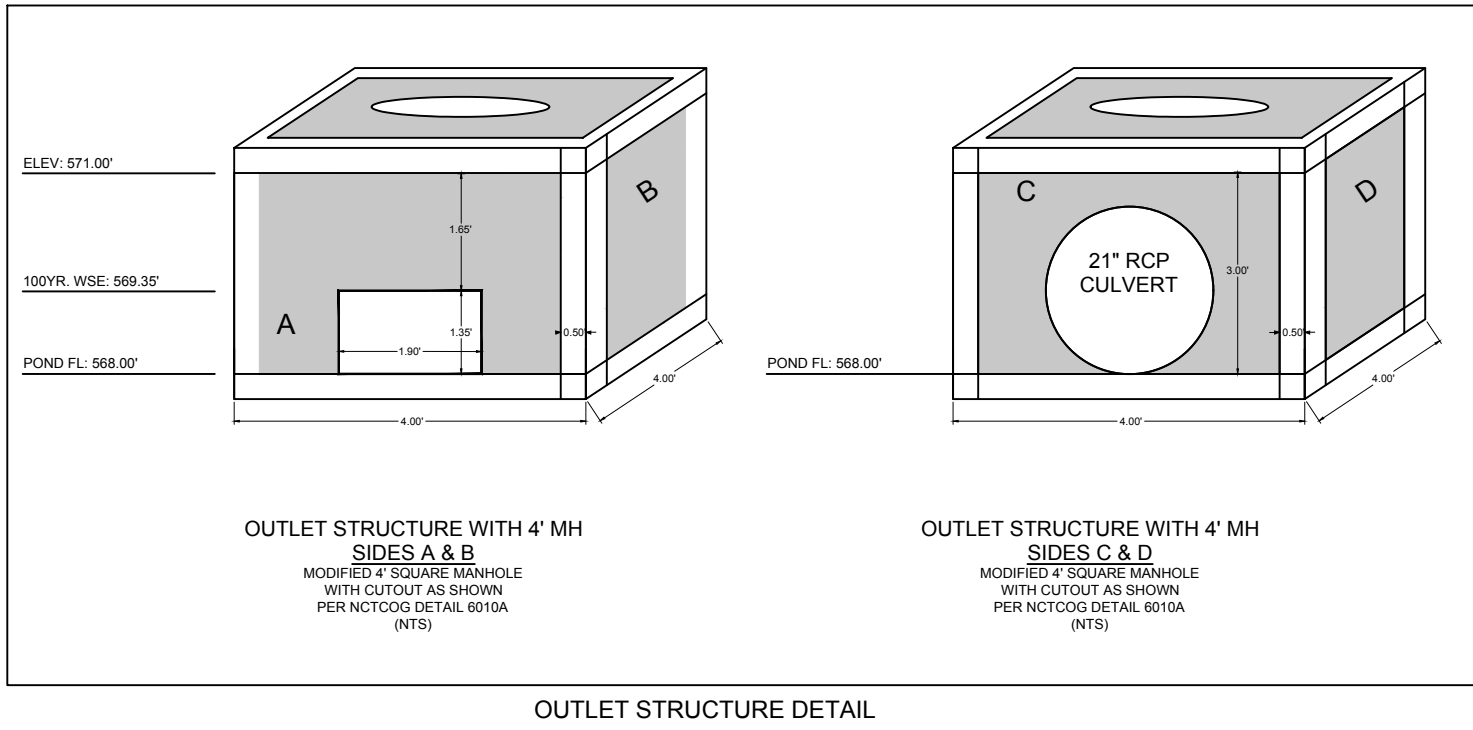


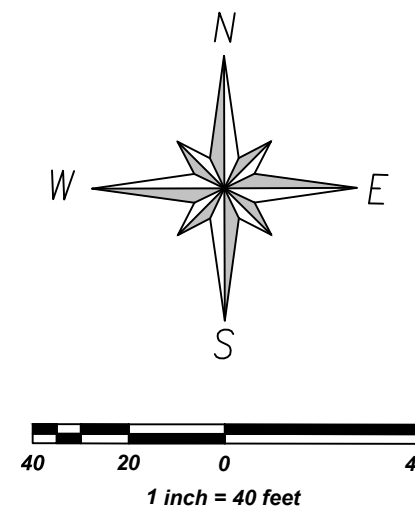
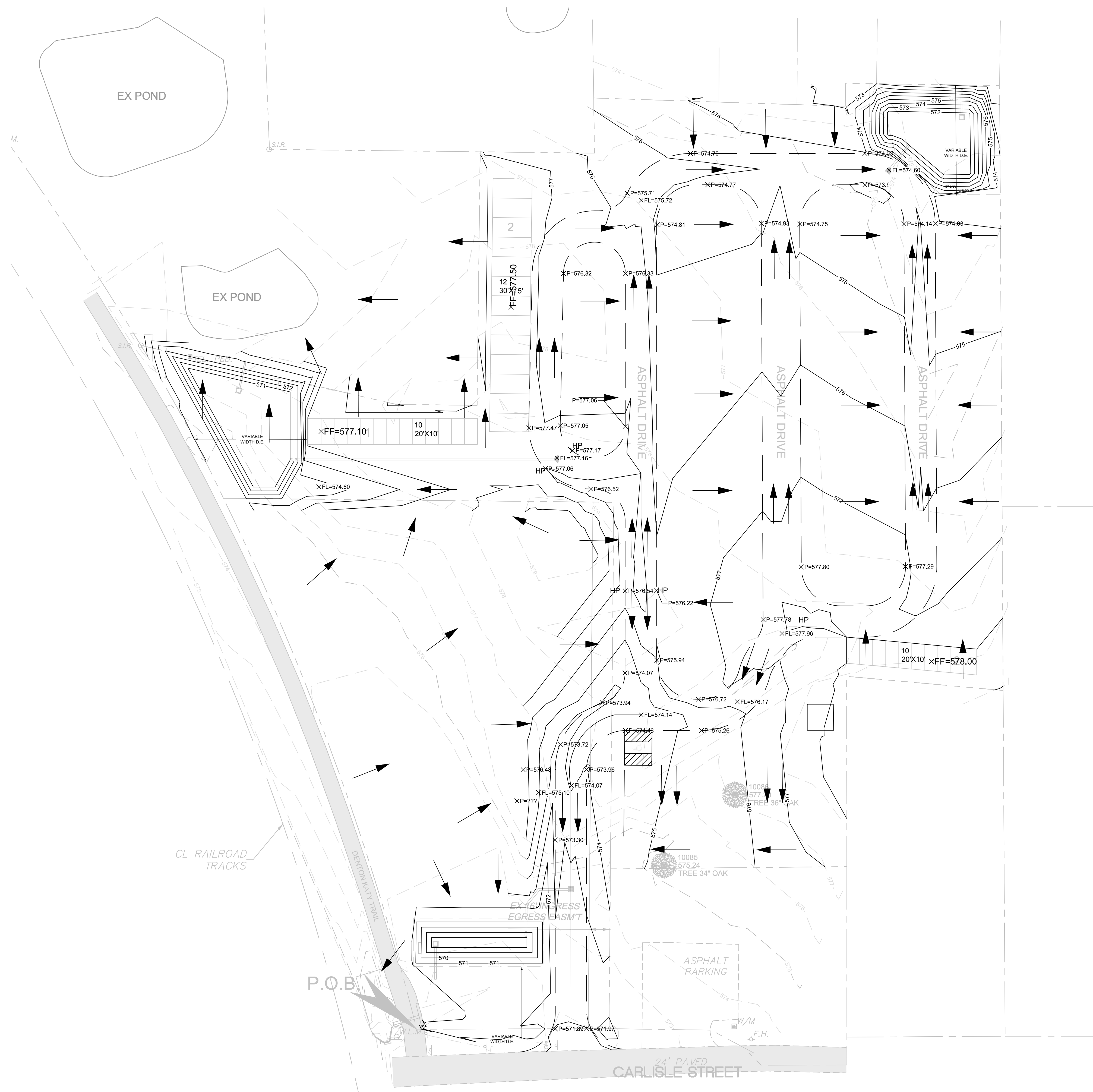
Lake Dallas Storage
SOUTH DETENTION POND - DESIGN (100 yr.Storm)

PRESENT CONDITIONS									
C	0.35			b=	95.776				
C1XA	1.00			d=	12				
i 100	7.91			e=	0.7566				
Tc	15.00								
Area (ac)	3.57								
Q100	9.89								
FUTURE CONDITIONS									
C	0.60	(COMPOSITE)							
C1XA	1.00								
i 100	9.24								
Tc	10.00								
Area (ac)	2.07								
Q100	11.47								
STORM DURATIONS									
Minutes	I100	Q100(cfs)							
20	6.96	8.64							
30	5.66	7.03							
40	4.82	5.98							
50	4.22	5.24							
60	3.77	4.68							
70	3.41	4.24							
80	3.13	3.89							
90	2.89	3.59							
100	2.70	3.35							
120	2.38	2.96							
180	1.79	2.23							
240	1.46	1.81							
MAXIMUM STORAGE									
	Inflow	10	11.47	60	=	6,883.18			
	Outflow	0.5	20.00	9.89	60	=	5,931.63		
10 min. Storm	Storage				=	951.54			
	Inflow	20	8.64	60	=	10,368.11			
	Outflow	0.5	30.00	9.89	60	=	8,897.45		
20 min. Storm	Storage				=	1,470.66	max pond		
	Inflow	30	7.03	60	=	12,660.09			
	Outflow	0.5	40.00	9.89	60	=	11,863.27		
30 min. Storm	Storage				=	796.82			
	Inflow	40	5.98	60	=	14,361.44			
	Outflow	0.5	50.00	9.89	60	=	14,829.09		
40 min. Storm	Storage				=	-467.65			
	Inflow	50	5.24	60	=	15,714.93			
	Outflow	0.5	60.00	9.89	60	=	17,794.90		
50 min. Storm	Storage				=	-2,079.97			
	Inflow	60	4.68	60	=	16,840.67			
	Outflow	0.5	70.00	9.89	60	=	20,760.72		
60 min. Storm	Storage				=	-3,920.05			
	Inflow	70	4.24	60	=	17,806.25			
	Outflow	0.5	80.00	9.89	60	=	23,726.54		
70 min. Storm	Storage				=	-5,920.29			
	Inflow	80	3.89	60	=	18,653.23			
	Outflow	0.5	90.00	9.89	60	=	26,682.36		
80 min. Storm	Storage				=	-8,039.12			
	Inflow	90	3.59	60	=	19,408.93			
	Outflow	0.5	100.00	9.89	60	=	29,658.17		
90 min. Storm	Storage				=	-10,249.24			
	Inflow	120	2.96	60	=	21,292.22			
	Outflow	0.5	130.00	9.89	60	=	38,555.62		
120 min. Storm	Storage				=	-17,263.40			

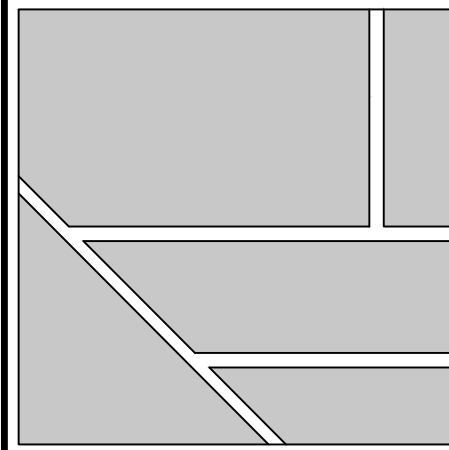


STAGE STORAGE TABLE						
ELEV	AREA (sq. ft.)	DEPT H (ft)	AVG END INC. VOL. (cu. ft.)	AVG END TOTAL VOL. (cu. ft.)	CONIC INC. VOL. (cu. ft.)	CONIC TOTAL VOL. (cu. ft.)
568.00	555.78	N/A	N/A	0.00	N/A	0.00
569.00	1,265.83	1.00	910.81	910.81	886.79	886.79
570.00	2,103.89	1.00	1684.86	2595.67	1667.22	2554.01
571.00	3,069.95	1.00	2596.92	5182.59	2571.75	5125.76





LEGEND	
FL	FLOW LINE
EG	EXISTING GRADE ELEV
P	PROP EDGE OF ASPHALT ELEV
FF	FINISHED FLOOR ELEV
→	DIRECTION OF FLOW
---	EXISTING CONTOUR
---	PROPOSED MINOR CONTOUR
HP	HIGH POINT



Lake Dallas Storage
City of Lake Dallas,
Denton County

GRADING PLAN

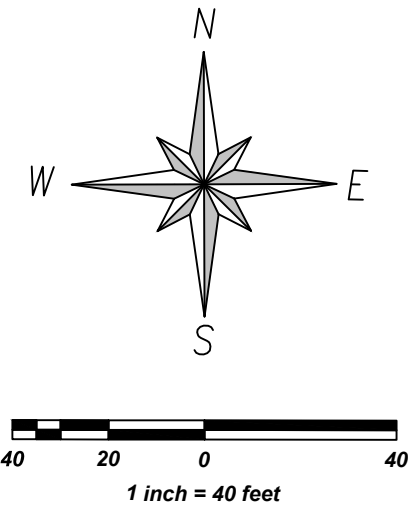
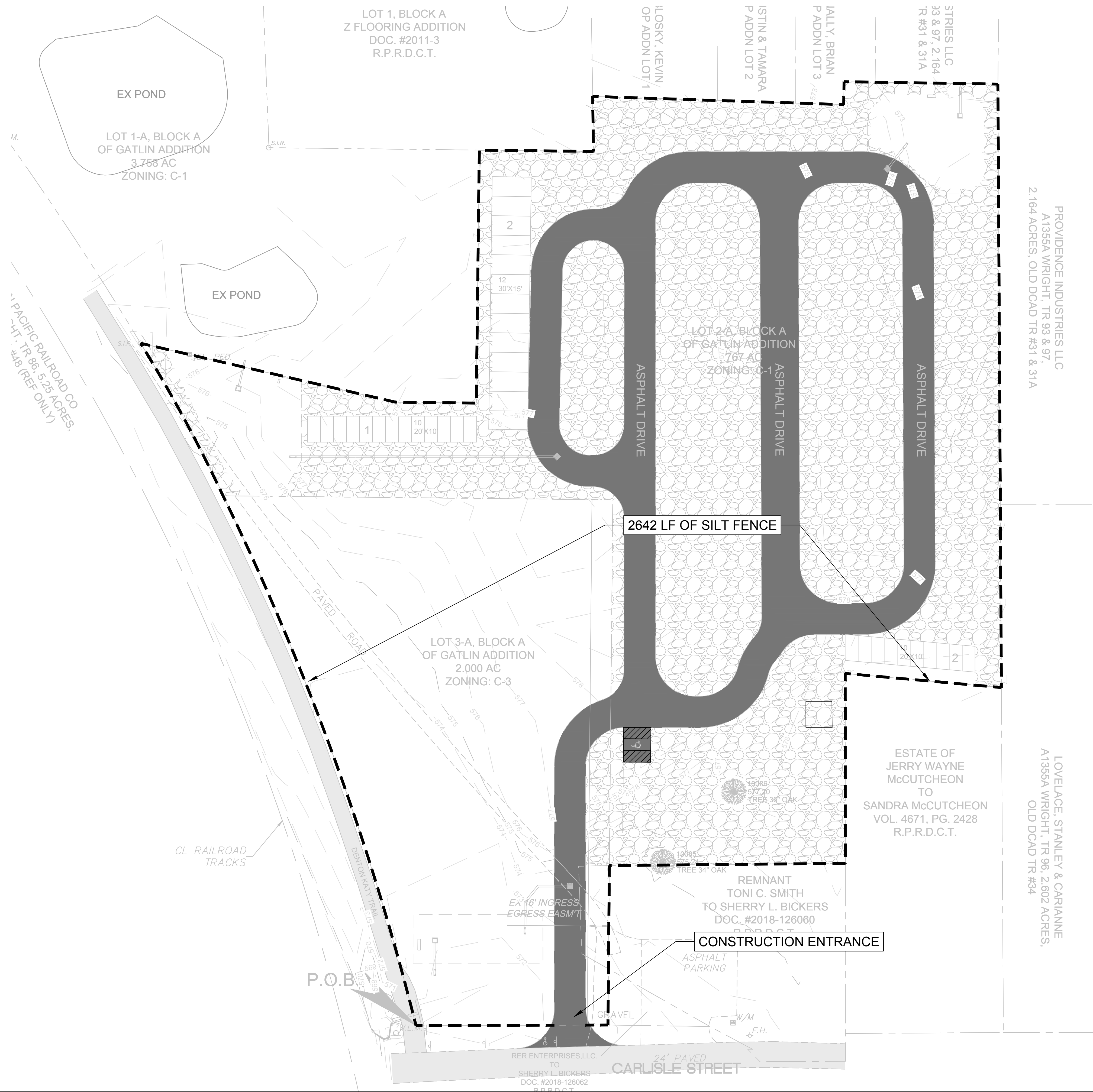
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EROSION CONTROL
PLAN

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