



MEMO

- ☐ Overnight
☐ Regular Mail
☐ Hand Delivery
☐ Other: _____

TO:	City of Lee's Summit Attn: Gene Williams, PE 220 SE Green Street Lee's Summit, MO 64063
FROM:	Julie Sellers, PE
RE:	Woodside Ridge 2 nd Plat Design and Construction Manual Design Modification Request
DATE:	December 20, 2022
PROJECT #:	C18-1140
PHASE:	450
TASK:	450001

NOTES:

Dear Mr. Williams,

We are requesting the following waiver for the freeboard criteria prescribed within KC-APWA Section 5608.4.F.2 (2011) for the constructed detention basins described, below.

Waiver Summary

The clogged condition for detention basins A3 and A7 within Woodside Ridge 2nd Plat will pass the 1% storm event with less than 1-foot of freeboard to the top of dam. See attached Exhibit 1 for the locations of detention basins A3 and A7. The detention basins have been constructed and have been reviewed per as-built submittal.

Detention basin A3 has the following characteristics as constructed:

- Top of Dam Elev. = 930.58
- Emergency Spillway Elev. = 929.49
- Spillway Length = 80 LF
- 1% Storm Q = 77 cfs
- 1% Storm W.S.E. = 928.80
- 1% Storm Elev. through Emergency Spillway (Clogged Condition) = 929.95
- Difference between Top of Dam and Clogged Condition = 0.63' (~7.5")

It is acknowledged that there is less than 1-foot of freeboard from the top of dam to 1% storm through the emergency spillway; however, the 1% storm water surface elevation is below the emergency spillway and top of dam.


Detention basin A7 has the following characteristics as constructed:

- Top of Dam Elev. = 937.48
- Emergency Spillway Elev. = 936.38
- Spillway Length = 80 LF
- 1% Storm Q = 51 cfs
- 1% Storm W.S.E. = 935.76
- 1% Storm Elev. through Emergency Spillway (Clogged Condition) = 936.74
- Difference between Top of Dam and Clogged Condition = 0.74' (~9")

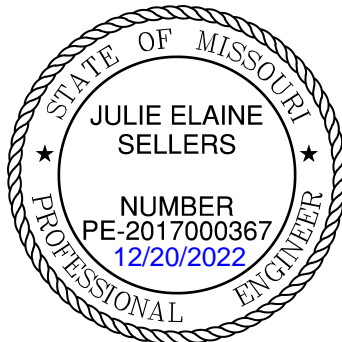
It is acknowledged that there is less than 1-foot of freeboard from the top of dam to 1% storm through the emergency spillway; however, the 1% storm water surface elevation is below the emergency spillway and top of dam.

If you have any questions or need additional information, please do not hesitate to contact me by phone at 816-361-1177.

Sincerely,


Julie Sellers, PE

Olsson





LEE'S SUMMIT MISSOURI

DESIGN AND CONSTRUCTION MANUAL DESIGN MODIFICATION REQUEST

PROJECT NAME: Woodside Ridge 2nd Plat

PREMISE ADDRESS: NW Pryor Road and NW O'Brien Road, Lee's Summit, MO 64081

PERMIT NUMBER: _____

OWNER'S NAME: Clayton Properties Group, Inc. DBA Summit Homes

TO: The City Engineer

In accordance with the Lee's Summit Design and Construction Manual (DCM) Section 1002.A, I wish to apply for a modification to one or more specification (s). The following articulates my request for your review and action. (NOTE: Cite specific code sections and engineering justification and drawings.)

A waiver is requested from the criteria outline in KC-APWA Section 5608.4.F.2 (2011). Specifically, a waiver is requested for the 1-foot of freeboard requirement between the top of dam and 1% storm clogged condition for detention basins A3 and A7 through the emergency spillway. Detention basins A3 and A7 have been constructed and reviewed for as-built conditions. Detention basins A3 and A7 have an elevation difference of 7.5" and 9" from the clogged condition elevation to the top of dam, respectively. These elevation differences are not too far from the 1-foot condition and is believed to be negligible. It is of my opinion that the detention basins may remain as constructed as they convey the 1% storm event through the emergency spillway properly. More detail is provided with the enclosed attachments. For these reasons, a waiver is requested.

SUBMITTED BY:

NAME: Julie Sellers () OWNER (x) OWNER'S AGENT
ADDRESS: 1301 Burlington St, Suite 100 Tel.# (816) 361.1177
CITY, STATE, ZIP: North Kansas City, MO 64116
Email: jsellers@olsson.com SIGNATURE: _____

FORWARDING MANAGER: _____ RECOMMENDATION () APPROVAL () DENIAL

SIGNATURE: _____ DATE: _____

GEORGE BINGER III, P.E. – CITY ENGINEER: () APPROVED () DENIED

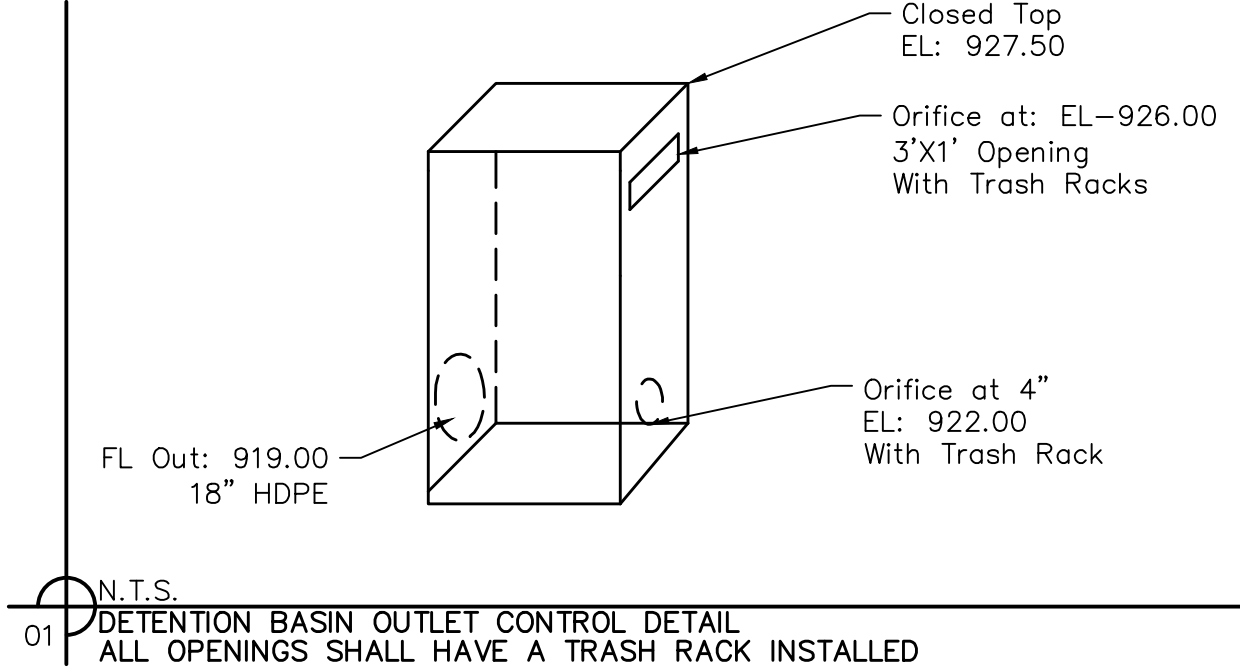
SIGNATURE: _____ DATE: _____

Development Services

220 SE Green Street | Lee's Summit, MO 64063 | P: 816.969.1200 | F: 816.969.1221 | cityofLS.net

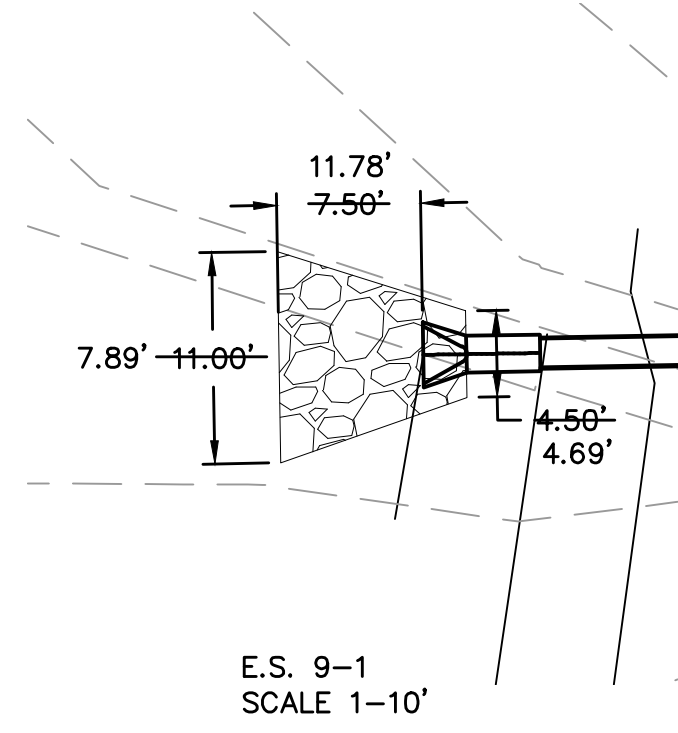
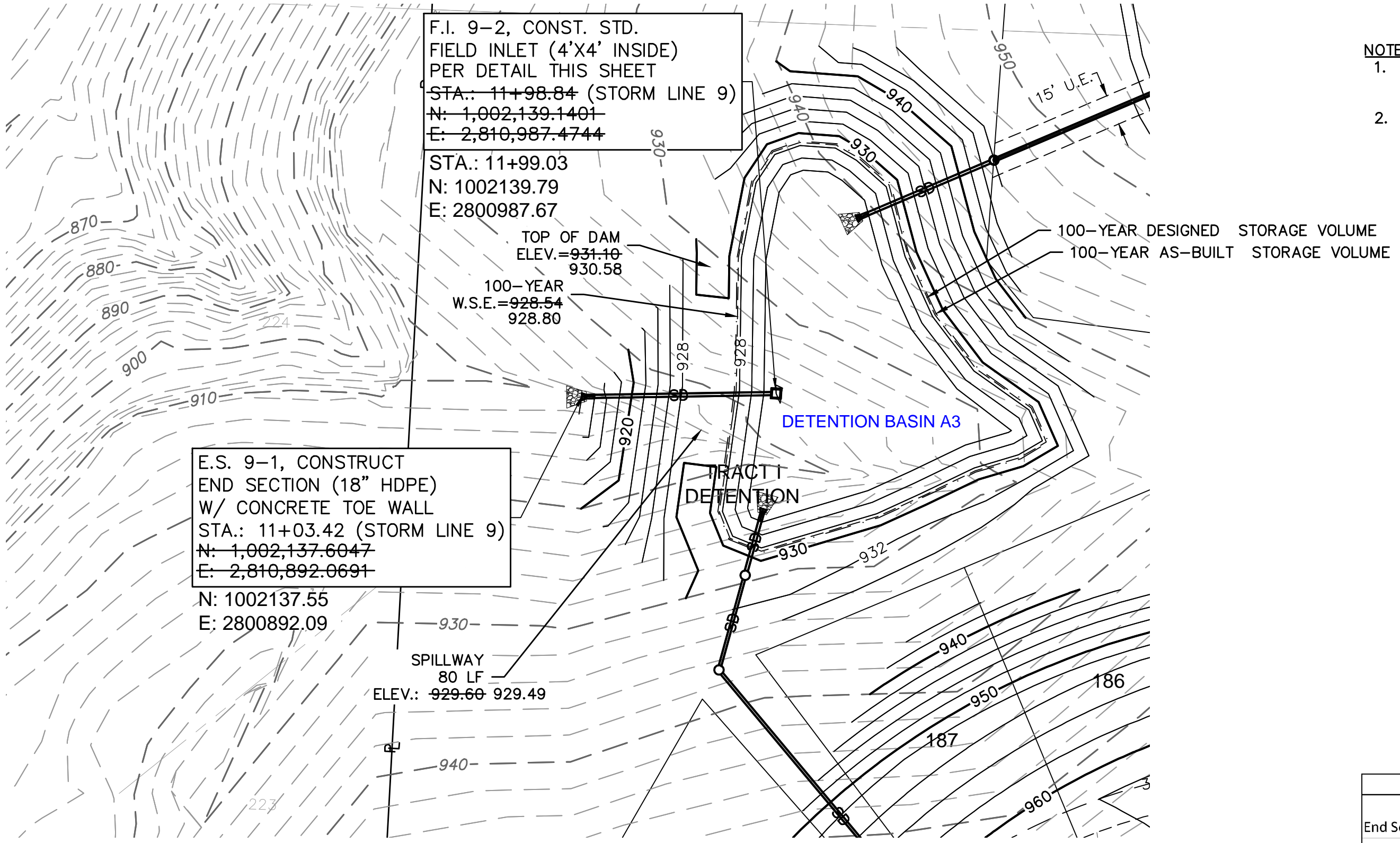
COMMENTS_____

A COPY MUST BE ATTACHED TO THE APPROVED PLANS



EARTHWORK QUANTITIES	
CUT (C.Y.)	FILL (C.Y.)
6,485	2,184

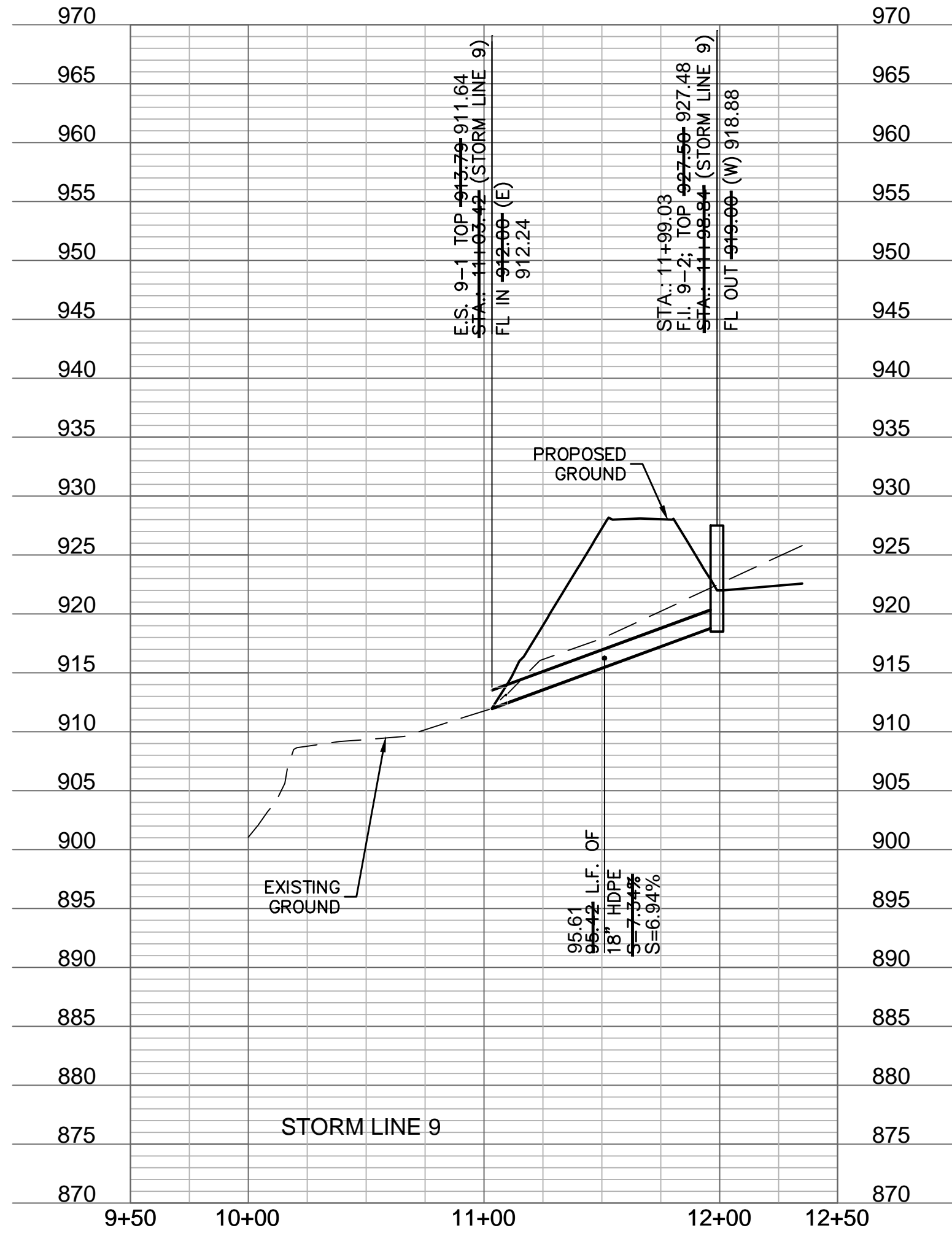
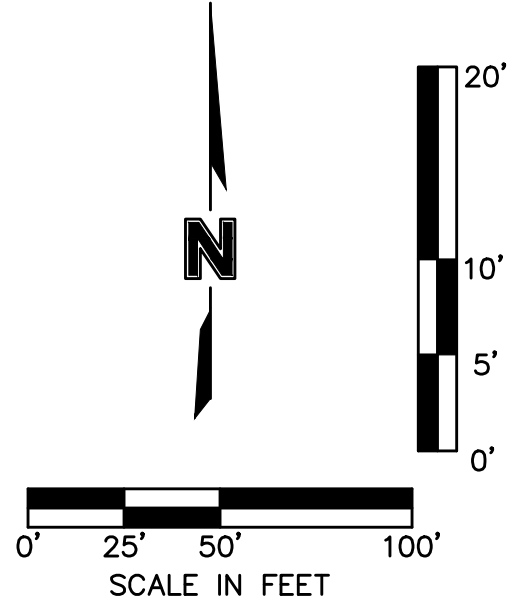
10yr. W.S.E.	100yr. W.S.E.
926.73	928.54



Riprap Calculations							
End Section	Q ₁₀₀ (cfs)	Pipe Diameter (ft)	Class*	D50* (in)	Apron Length (ft)	Apron Depth (ft)	Area (SY)
E.S. 9-1	23.91	1.5	3	10	7.5	2.00	27.4

*Per Table 10.1 HEC 14-FHWA-Energy Dissipators Pg. 10-18

23.88

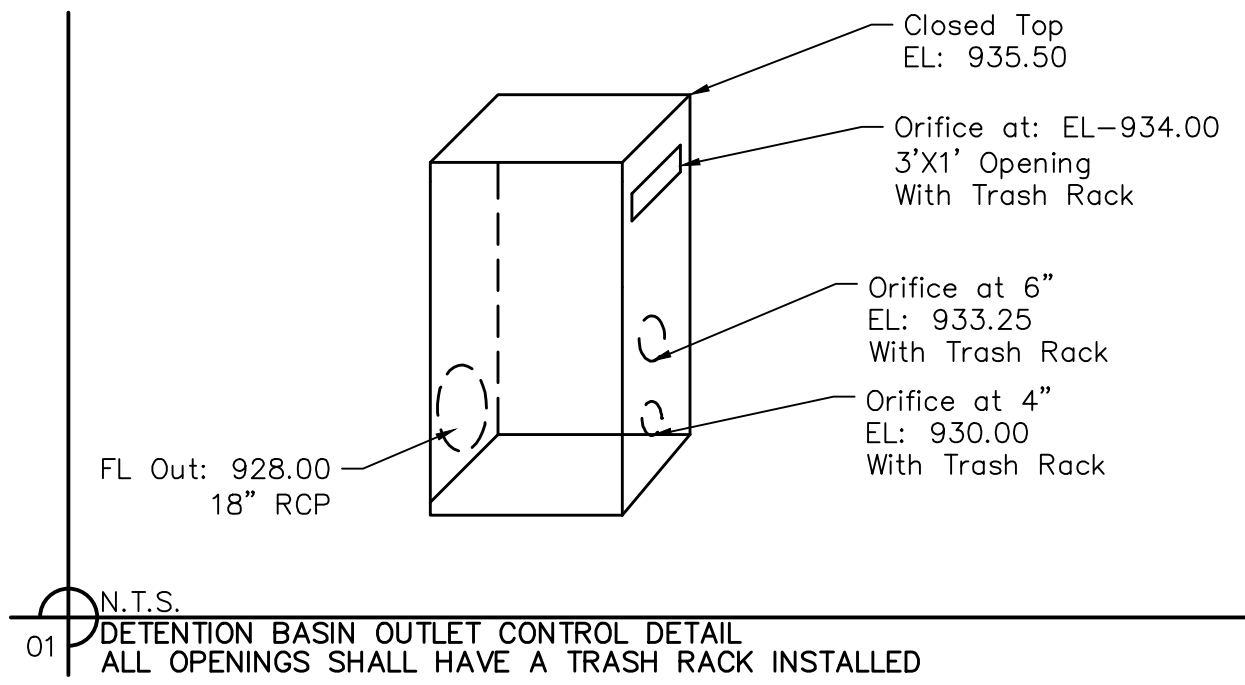


ASBUILT
03-24-2022

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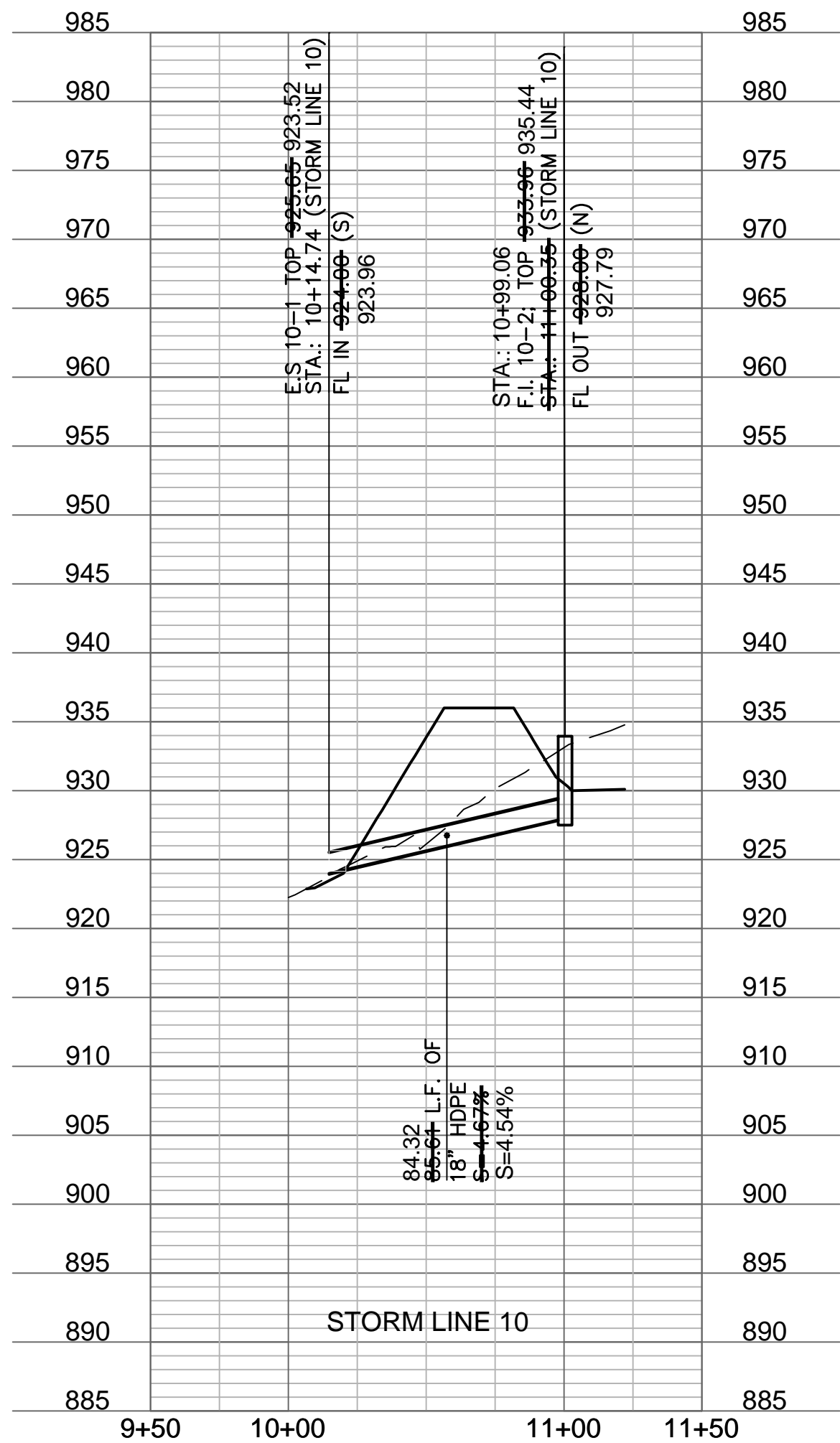
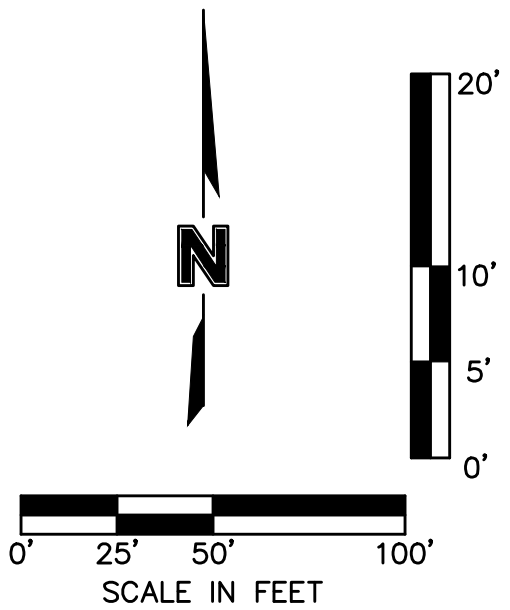
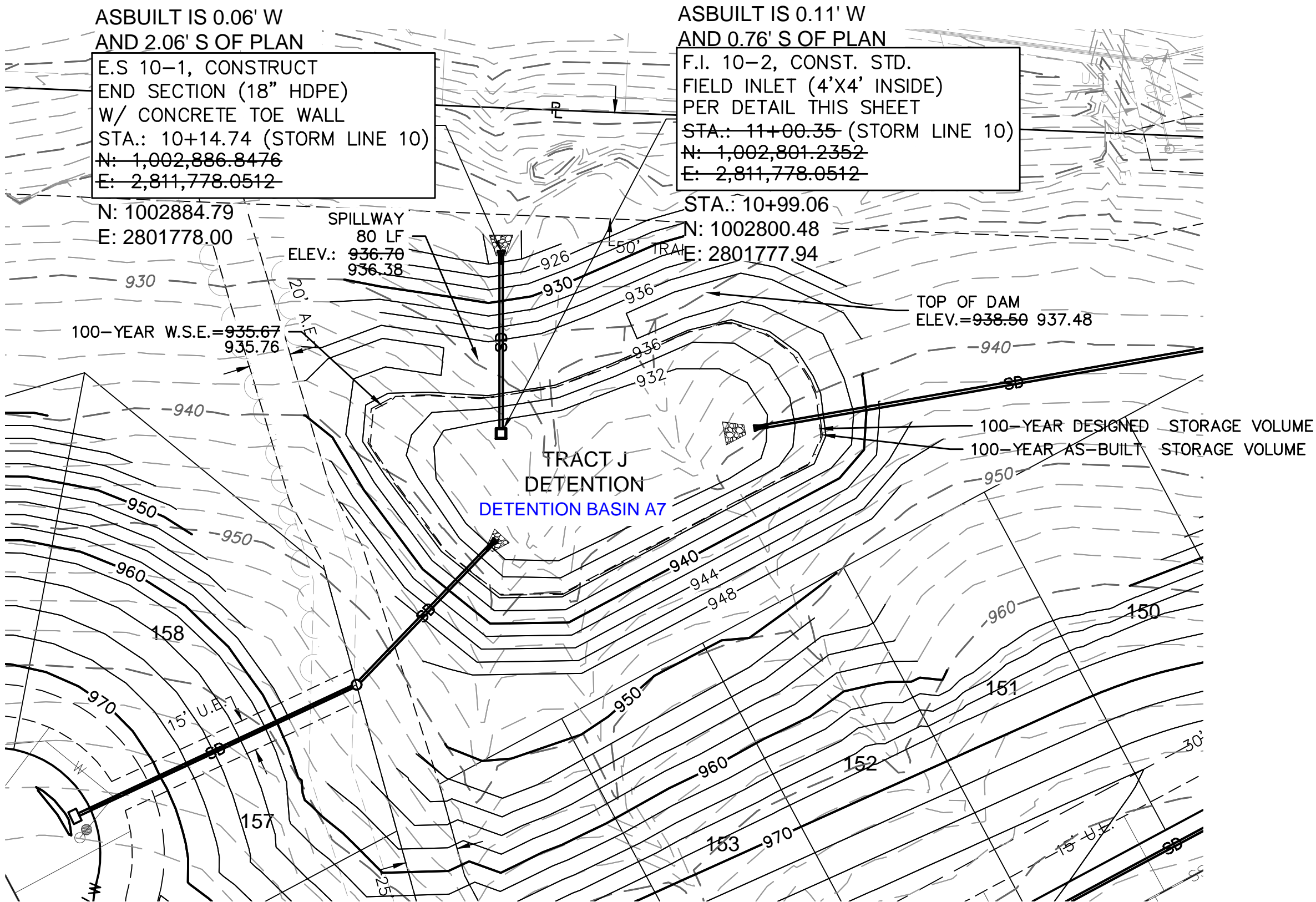
<p>DETENTION BASIN PLAN STREET & STORM SEWER PLANS</p>	<p>WOODSIDE RIDGE SECOND PLAT</p>	<p>LEE'S SUMMIT, MO</p>	<p>2020</p>
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drawn by: C.S.M
checked by: S.M.S
designed by: C.S.M
QA/QC by: J.E.S
project no.: C18-1140
date: 2020.07.10

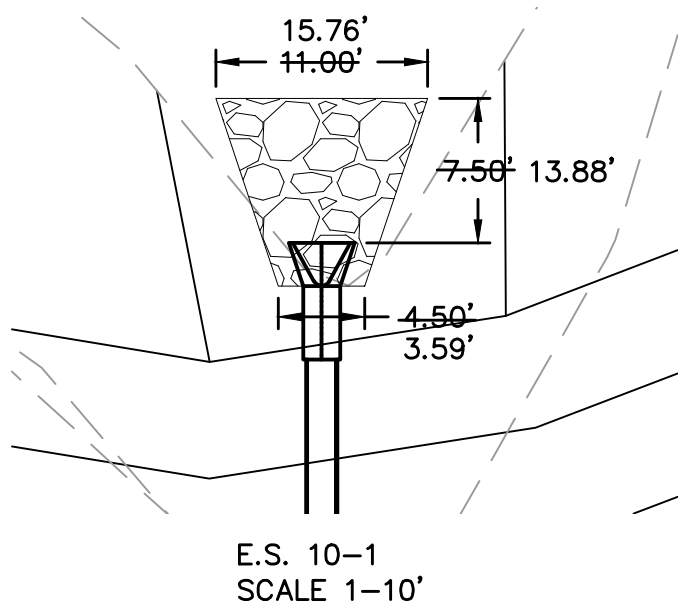


EARTHWORK QUANTITIES	
CUT (C.Y.)	FILL (C.Y.)
4,012	2,535

10yr. W.S.E.	100yr. W.S.E.
934.36	935.67



- NOTES:
1. CONTRACTOR SHALL MAINTAIN DRAINAGE DURING CONSTRUCTION AND IS RESPONSIBLE FOR ANY DEWATERING NECESSARY FOR CONSTRUCTION. DEWATERING SHALL BE SUBSIDIARY TO OTHER BID ITEMS.
 2. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS DETAILING THE STRUCTURE DIMENSIONS, INVERTS, AND STRUCTURAL REINFORCEMENT DETAILS ON THE PRINCIPAL SPILLWAY.



Riprap Calculations							
End Section	Q ₁₀₀ (cfs)	Pipe Diameter (ft)	Class*	D50* (in)	Apron Length (ft)	Apron Depth (ft)	Area (SY)
E.S. 10-1	18.41	1.5	3	10	7.5	2.00	27.4
*Per Table 10.1 HEC 14-FHWA-Energy Dissipators Pg. 10-18							
							23.84

ASBUILT
03-24-2022

olsson

NO. 018-1140-0182
303 E. BURLINGTON SUITE 100
NORTH KANSAS CITY, MO 64116
TEL 816.861.1177
www.olsson.com

STATE OF MISSOURI
JULIE ELAINE SELLERS
NUMBER
PE-2017000367
10/27/2022
APPROVAL

BY

REVISIONS DESCRIPTION

NO. REV.

DATE

DETENTION BASIN PLAN
STREET & STORM SEWER PLANS

WOODSIDE RIDGE
SECOND PLAT

LEE'S SUMMIT, MO

2020

drawn by: C.S.M.
checked by: S.M.S.
designed by: C.S.M.
QA/QC by: J.E.S.
project no.: C18-1140
date: 2020.07.10

SHEET
C122

Channel Report

Detention Basin A3 - Clogged Condition

Trapezoidal

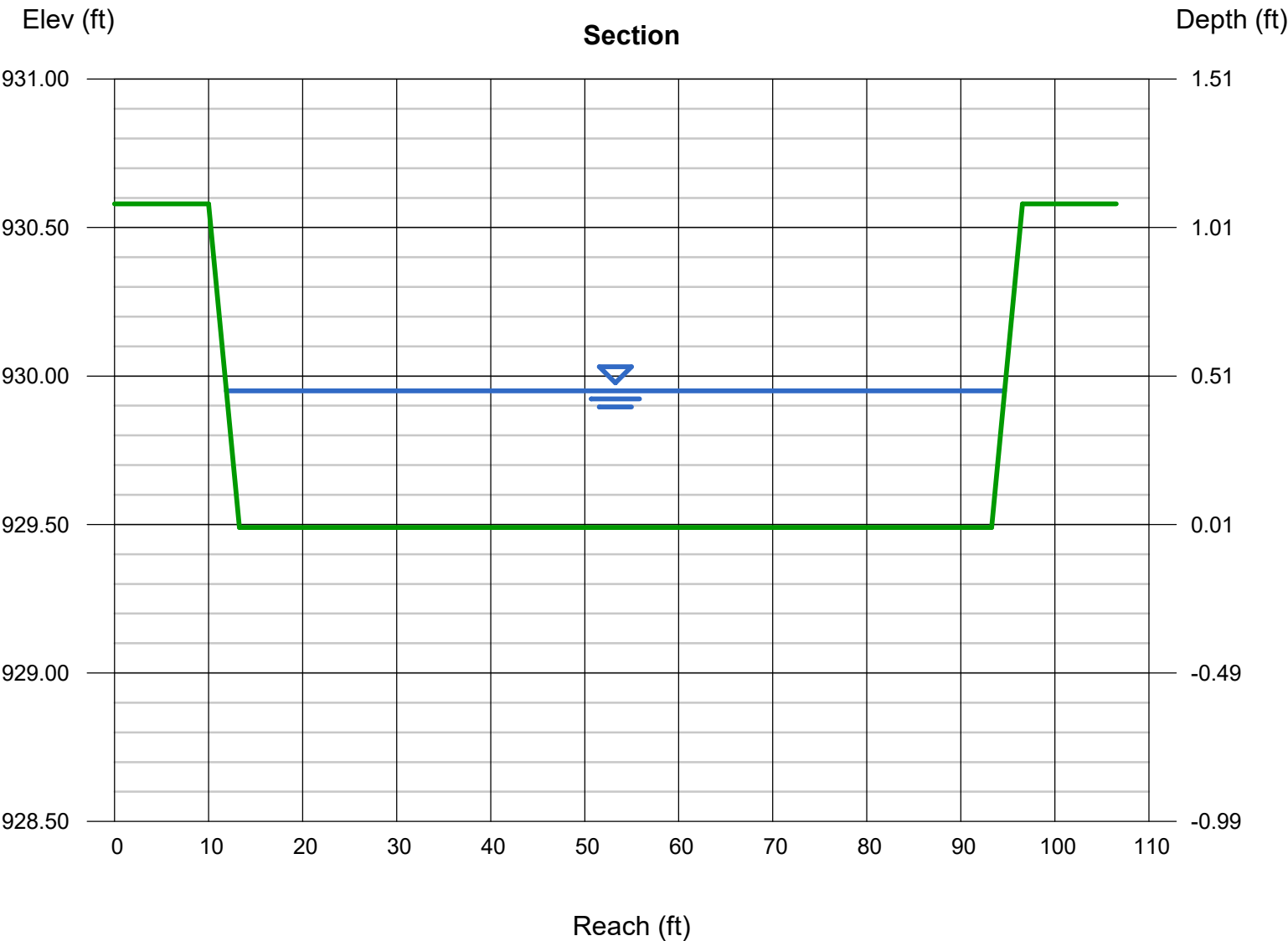
Bottom Width (ft) = 80.00
Side Slopes (z:1) = 3.00, 3.00
Total Depth (ft) = 1.09
Invert Elev (ft) = 929.49
Slope (%) = 0.50
N-Value = 0.030

Calculations

Compute by: Known Q
Known Q (cfs) = 77.00

Highlighted

Depth (ft) = 0.46
Q (cfs) = 77.00
Area (sqft) = 37.43
Velocity (ft/s) = 2.06
Wetted Perim (ft) = 82.91
Crit Depth, Yc (ft) = 0.31
Top Width (ft) = 82.76
EGL (ft) = 0.53



Channel Report

Detention Basin A7 - Clogged Condition

Trapezoidal		Highlighted	
Bottom Width (ft)	= 80.00	Depth (ft)	= 0.36
Side Slopes (z:1)	= 3.00, 3.00	Q (cfs)	= 51.00
Total Depth (ft)	= 1.10	Area (sqft)	= 29.19
Invert Elev (ft)	= 936.38	Velocity (ft/s)	= 1.75
Slope (%)	= 0.50	Wetted Perim (ft)	= 82.28
N-Value	= 0.030	Crit Depth, Yc (ft)	= 0.24
Calculations		Top Width (ft)	= 82.16
Compute by:	Known Q	EGL (ft)	= 0.41
Known Q (cfs)	= 51.00		

