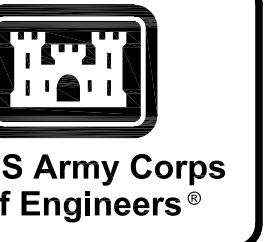


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GI002	INDEX OF DRAWINGS	S-003	CONTROL TOWER COMPONENTS AND CLADDING.pdf	M802	AAR BUILDING SYSTEM CONTROLS
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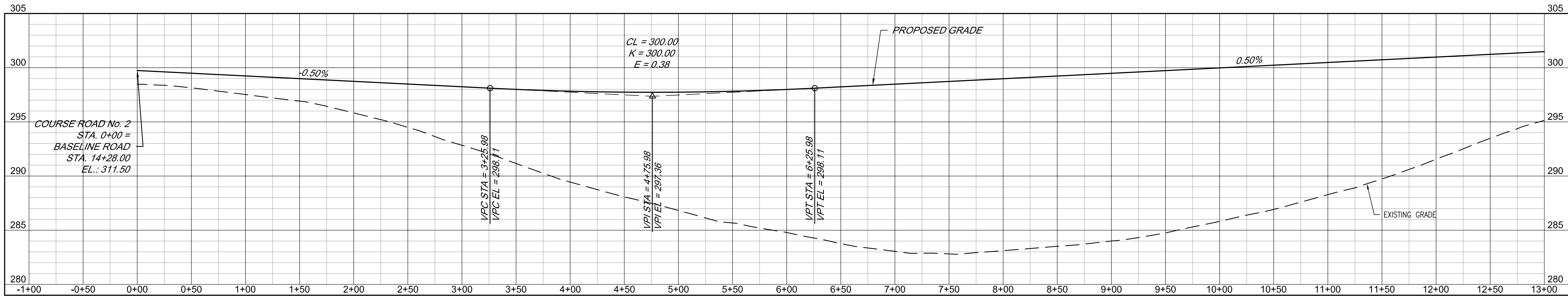
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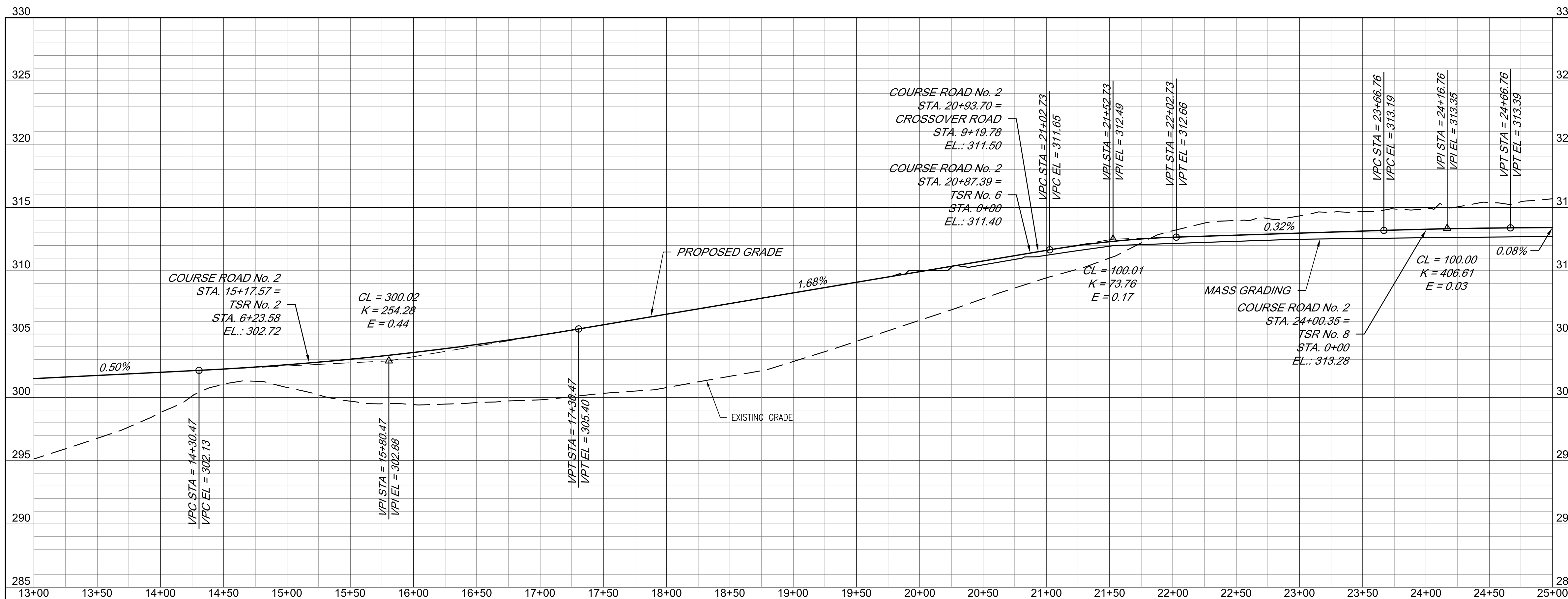
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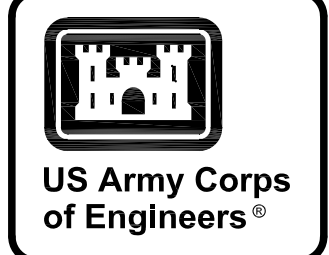
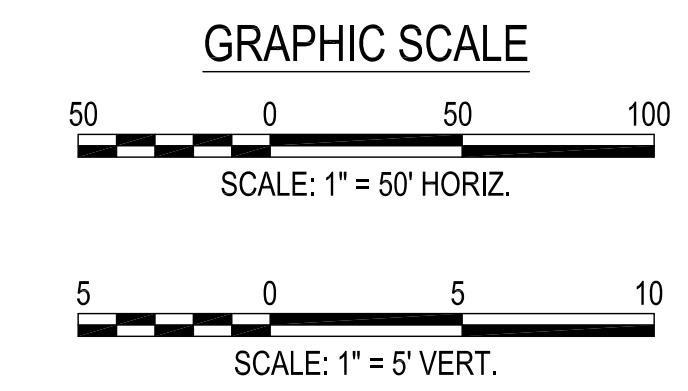
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COURSE ROAD No. 2



COURSE ROAD No. 2



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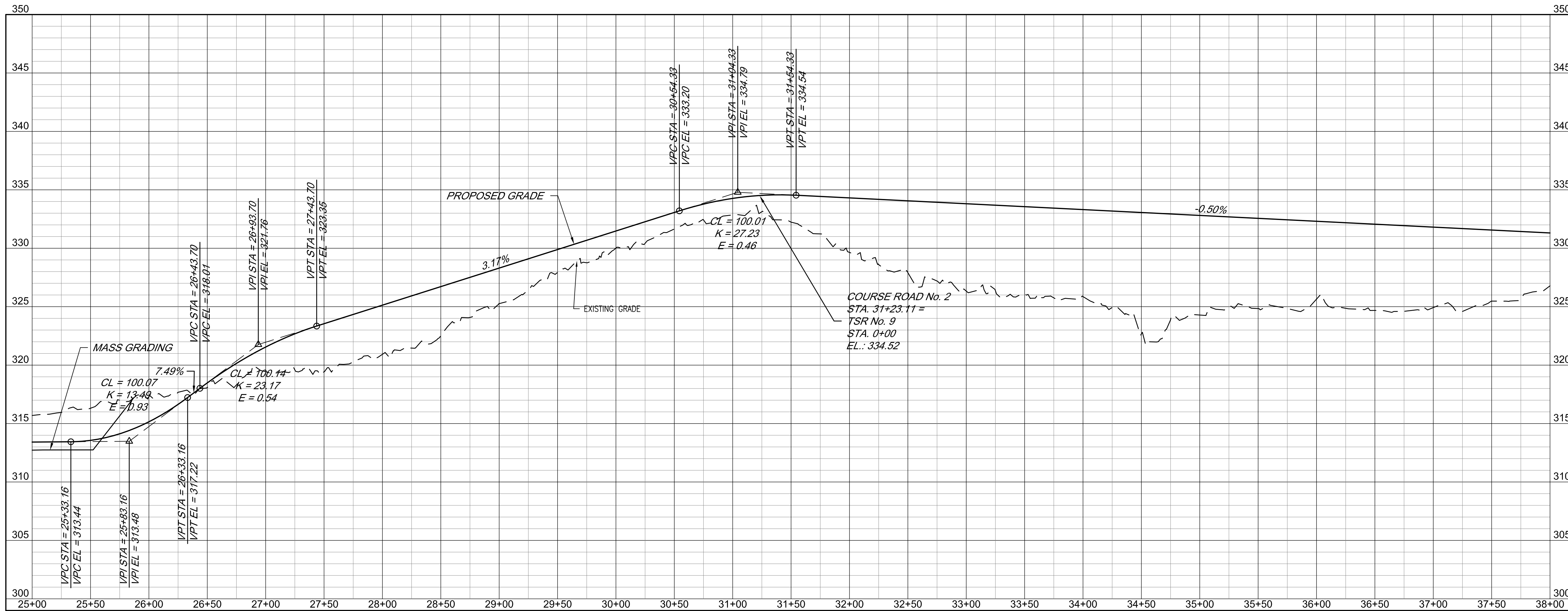
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U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	
POLY, INC. 1995 HEADLAND AVENUE DOTHAN, AL 36803 WWW.POLY-INC.COM/3347-95-4700	

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 96182
VOLUMES 3 & 4 - DOWNRANGE
ROAD PROFILES
COURSE ROAD No. 2
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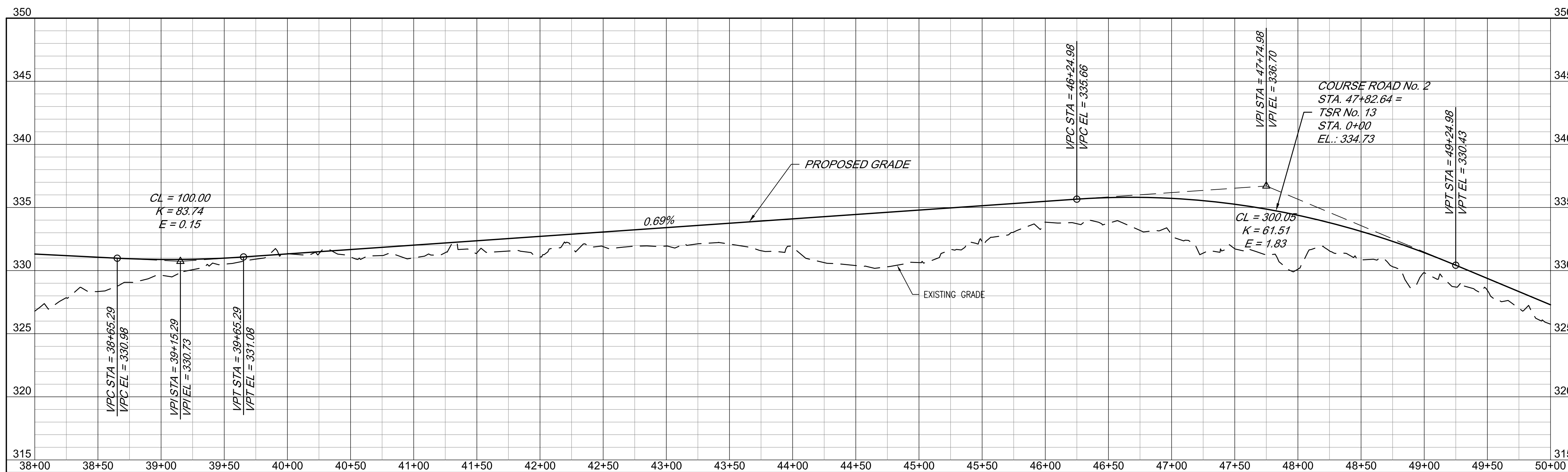
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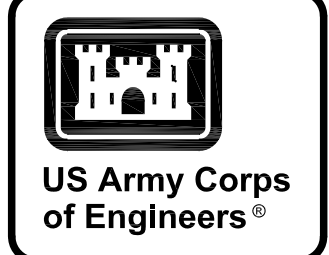
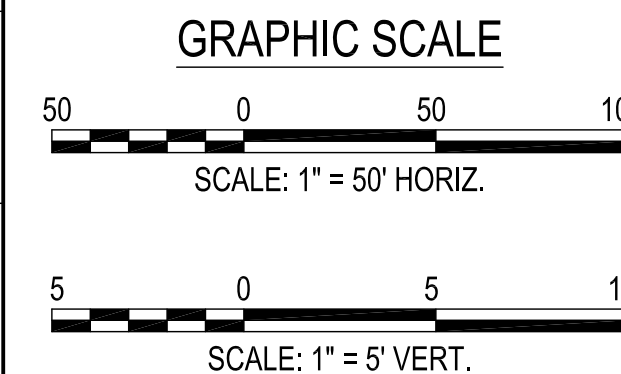
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COURSE ROAD No. 2



COURSE ROAD No. 2



MARK	DESCRIPTION	DATE

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CHECKED BY: B. JOHNSON	PROJECT NO. & DATE: 18019AL-24-3002
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U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT
100 W. OGLETHORPE AVE
SAVANNAH, GA 31401

POLY, INC.
1935 HEADLAND AVENUE
DOTHAN, AL 36303
WWW.POLY-INC.COM/3347-99-4700

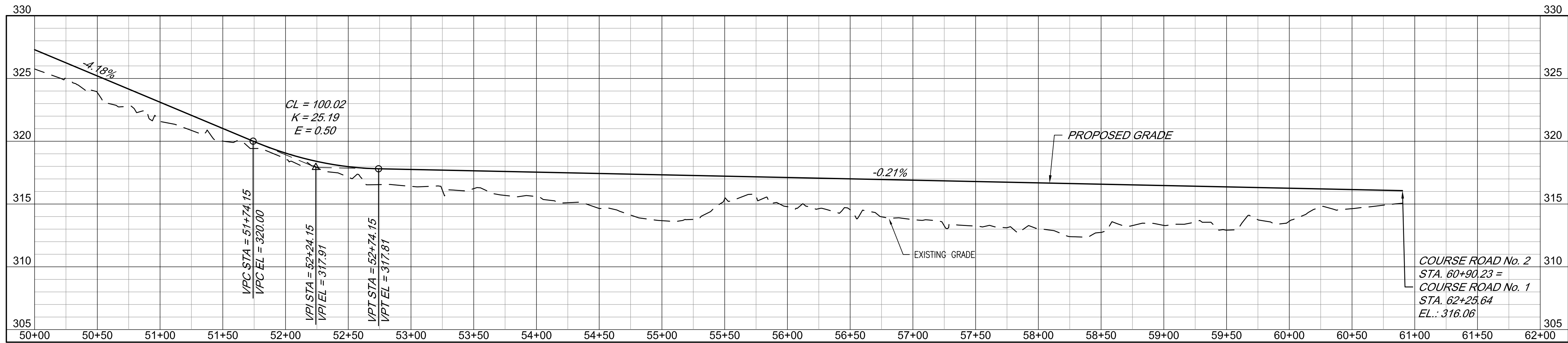
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AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 96182
VOLUMES 3 & 4 - DOWNRANGE

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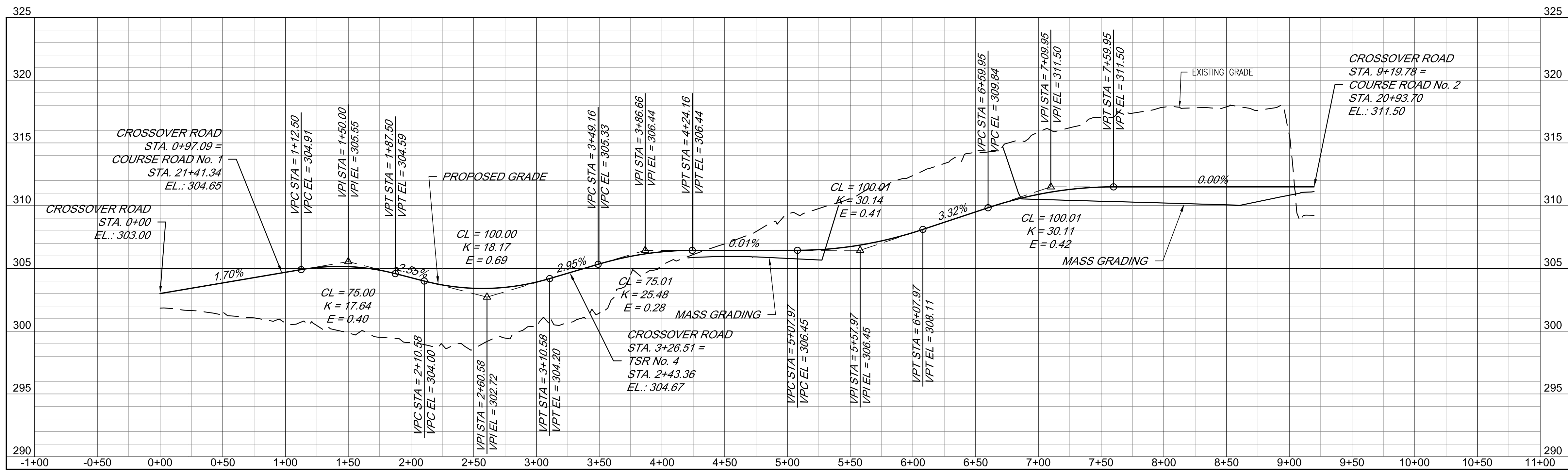
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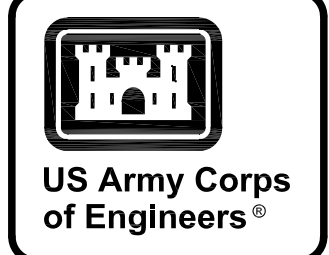
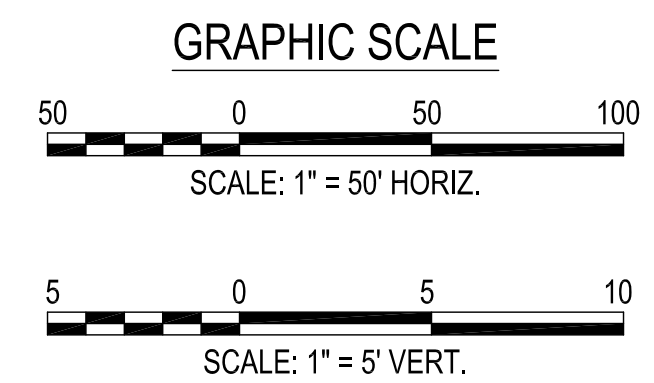
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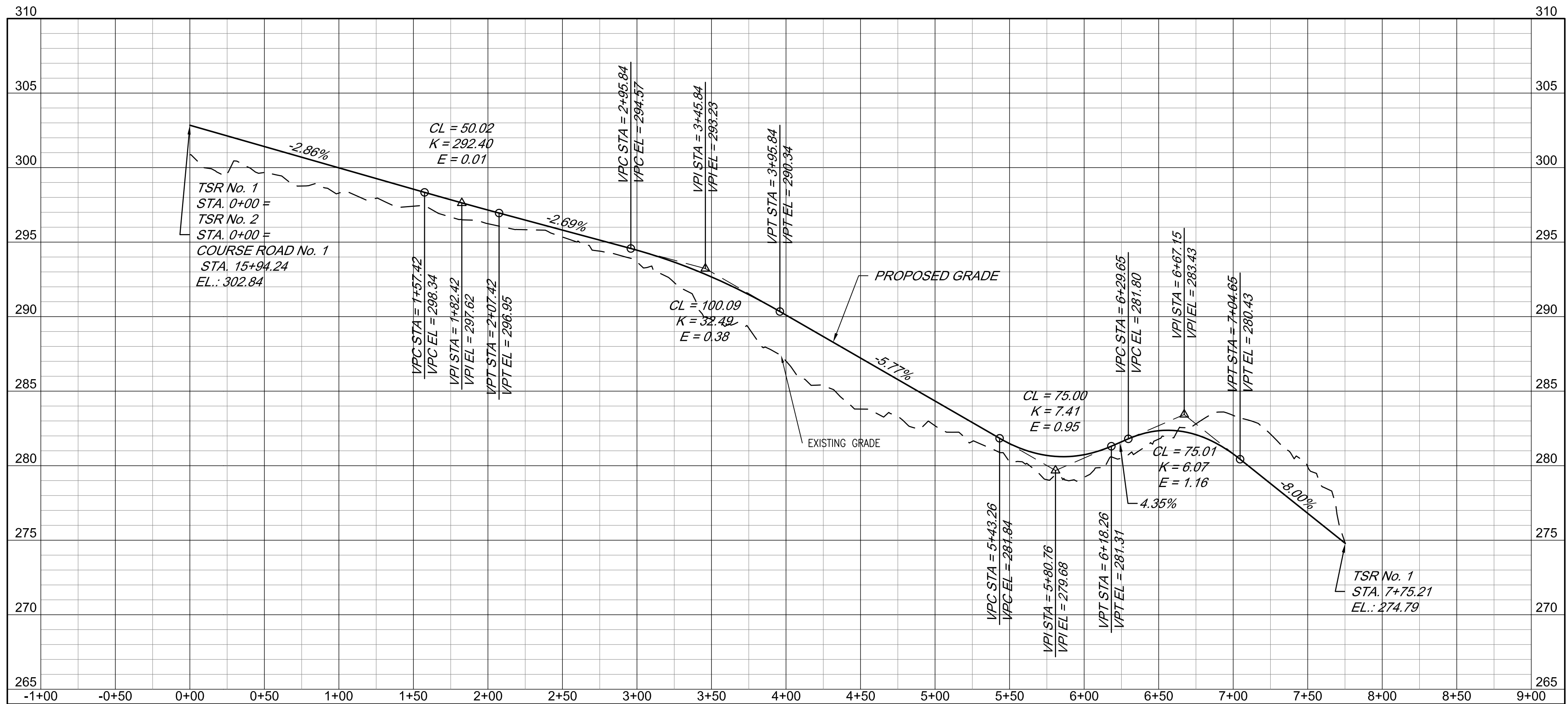
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FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPT)
FY23, PN 86182
VOLUMES 3 & 4 - DOWNRANGE
ROAD PROFILES
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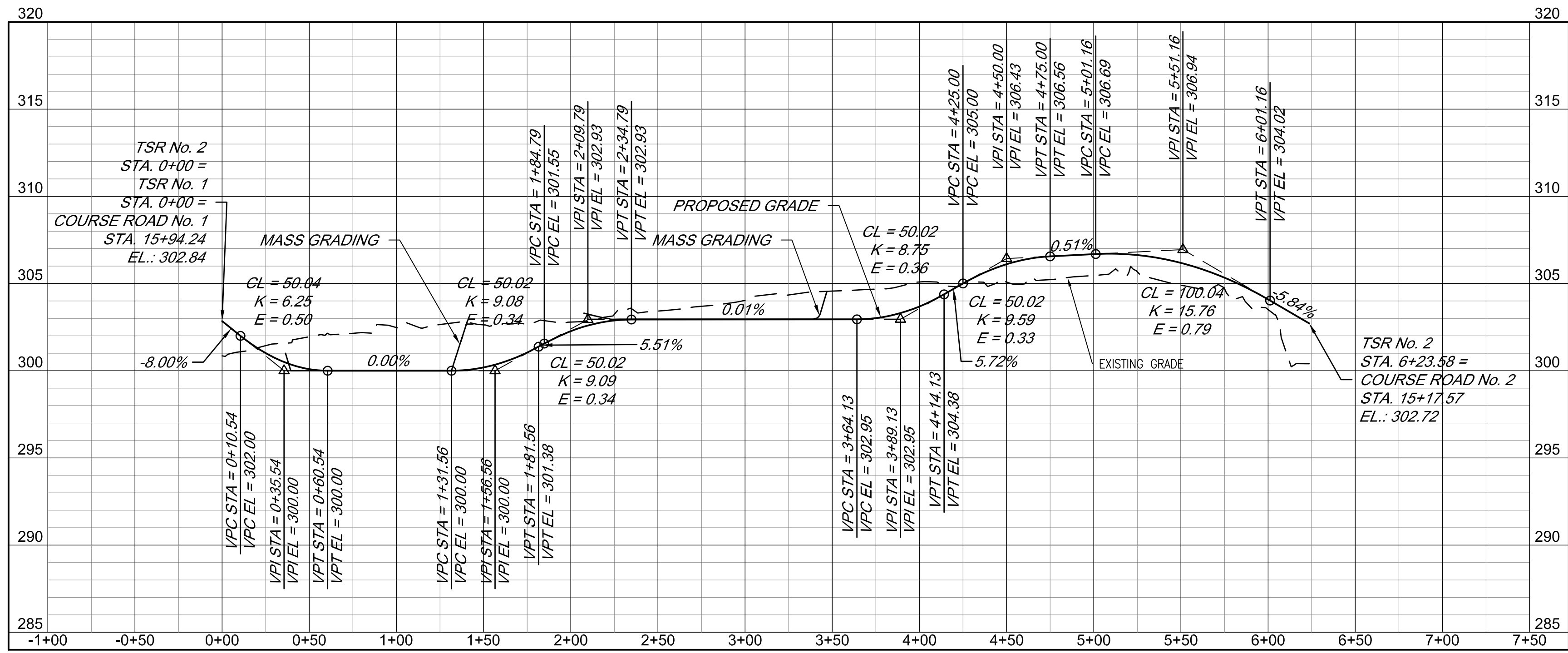
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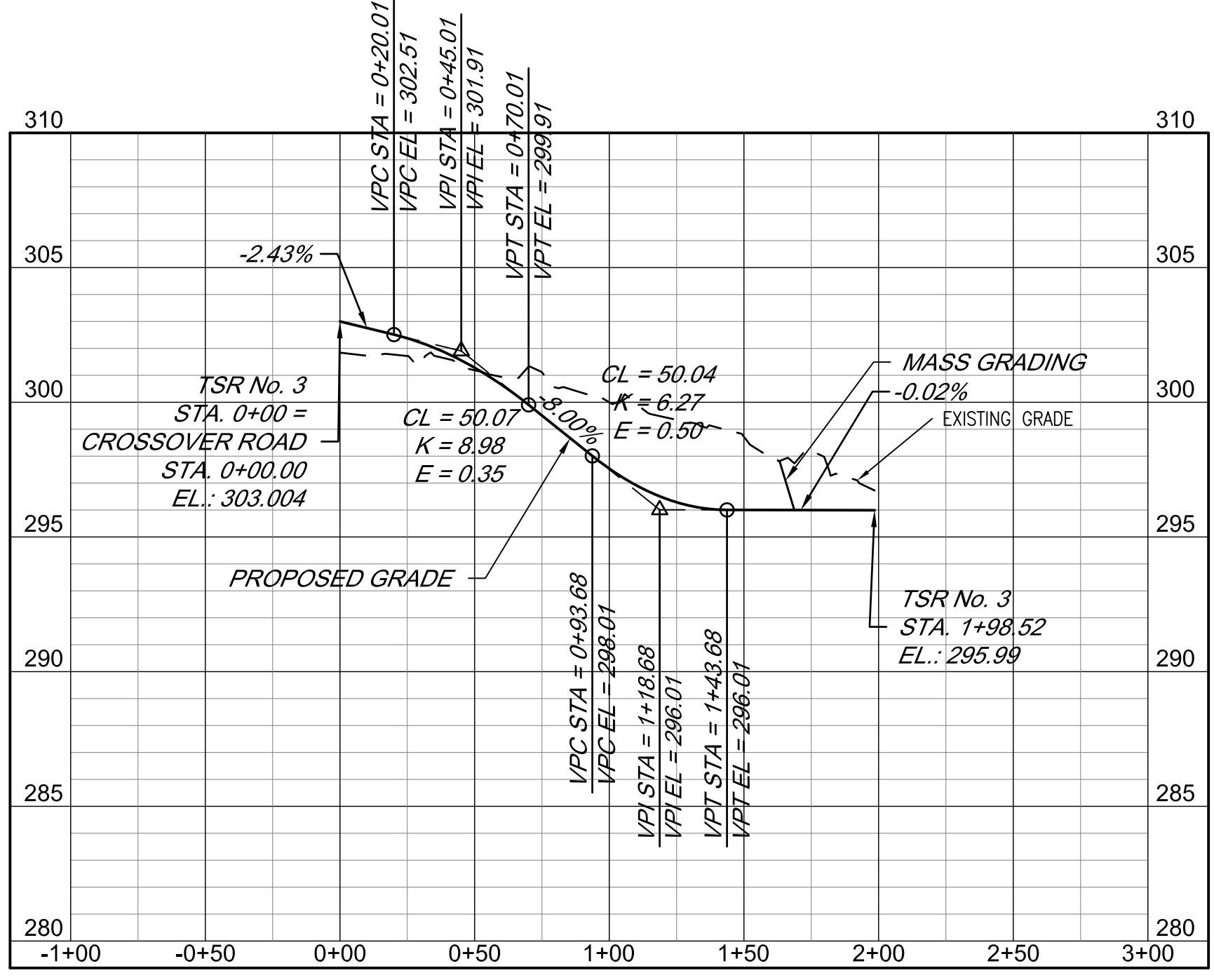
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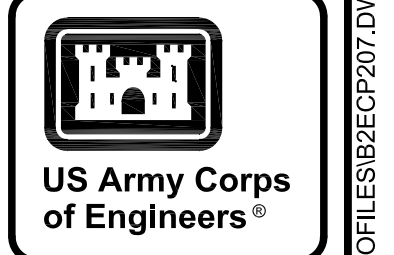
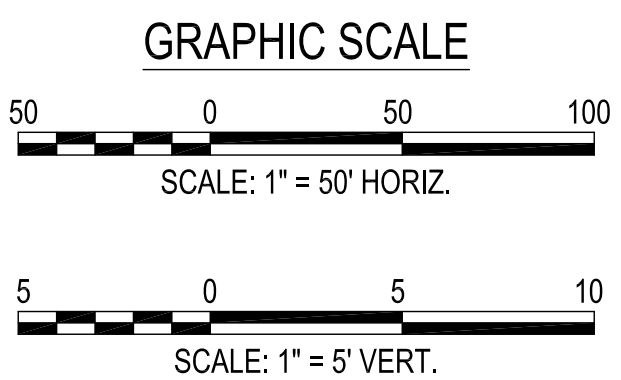
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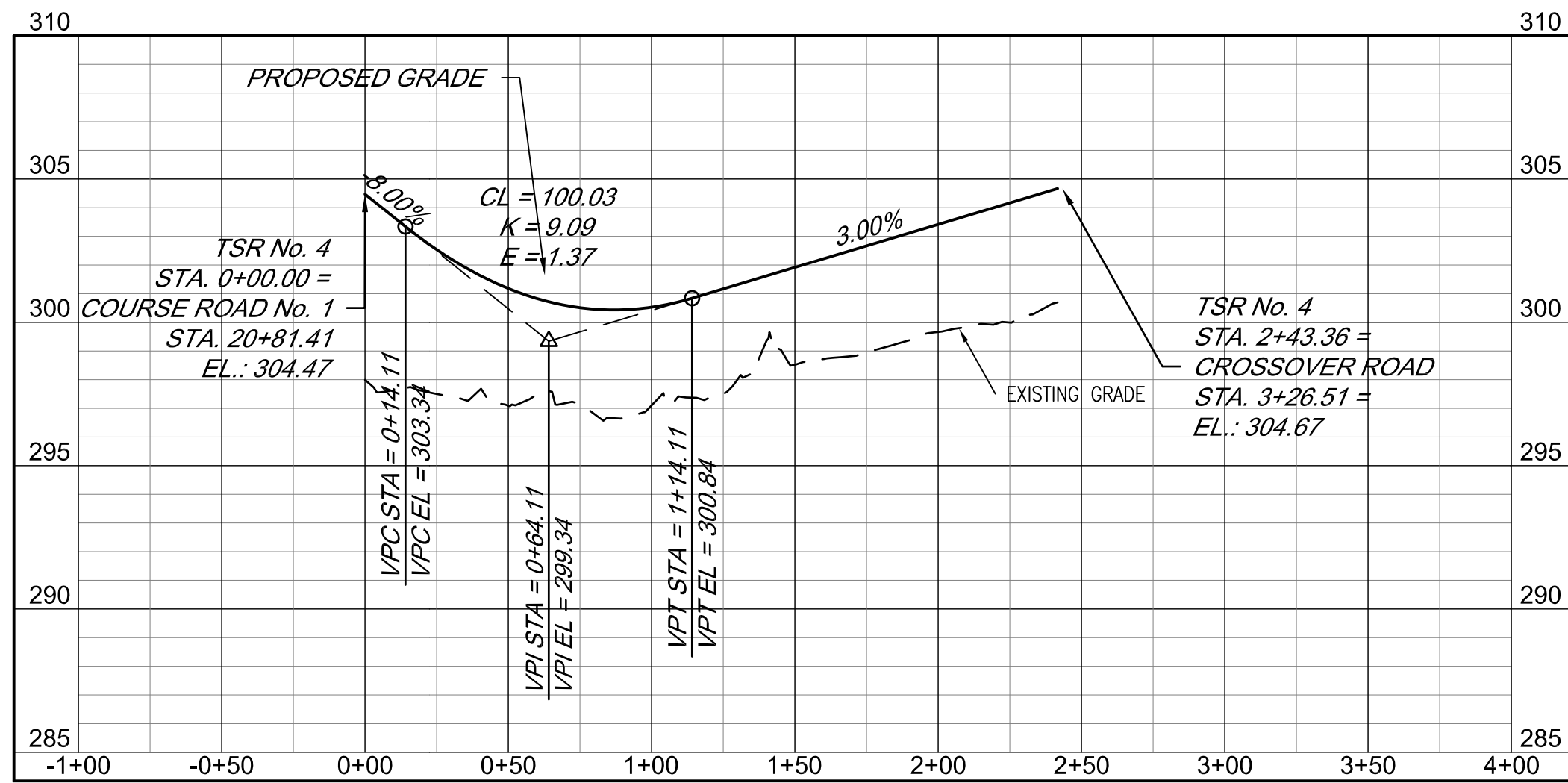
U.S. ARMY CORPS OF ENGINEERS
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 SAVANNAH, GA 31401

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 DOTHAN, AL 36303
 WWW.POLY-INC.COM/334795-4700

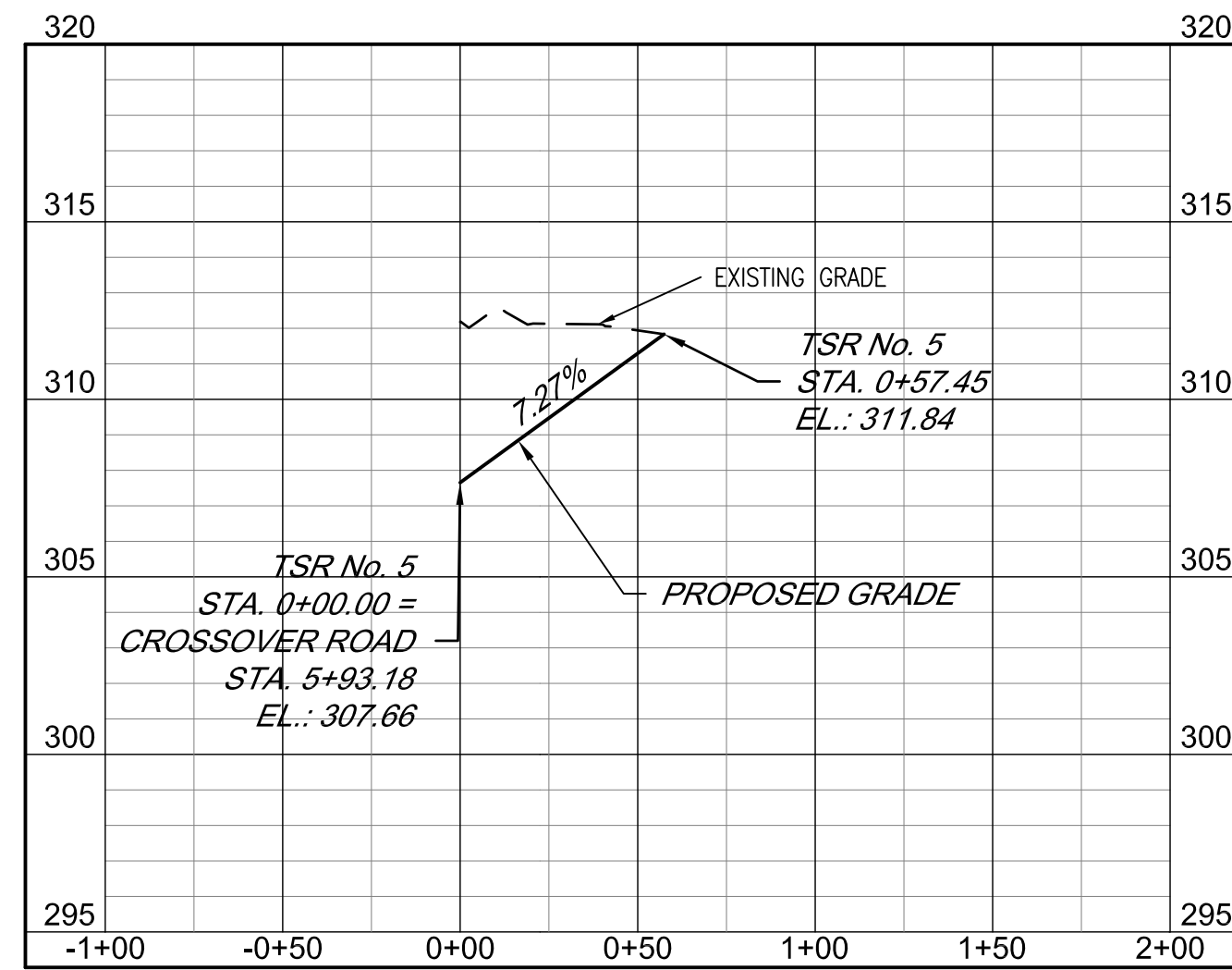
FORT LIBERTY, NORTH CAROLINA
 AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTR)
 FY23, PN 86182
 VOLUMES 3 & 4 - DOWNRANGE

ROAD PROFILES
 TSR No. 1, 2, & 3

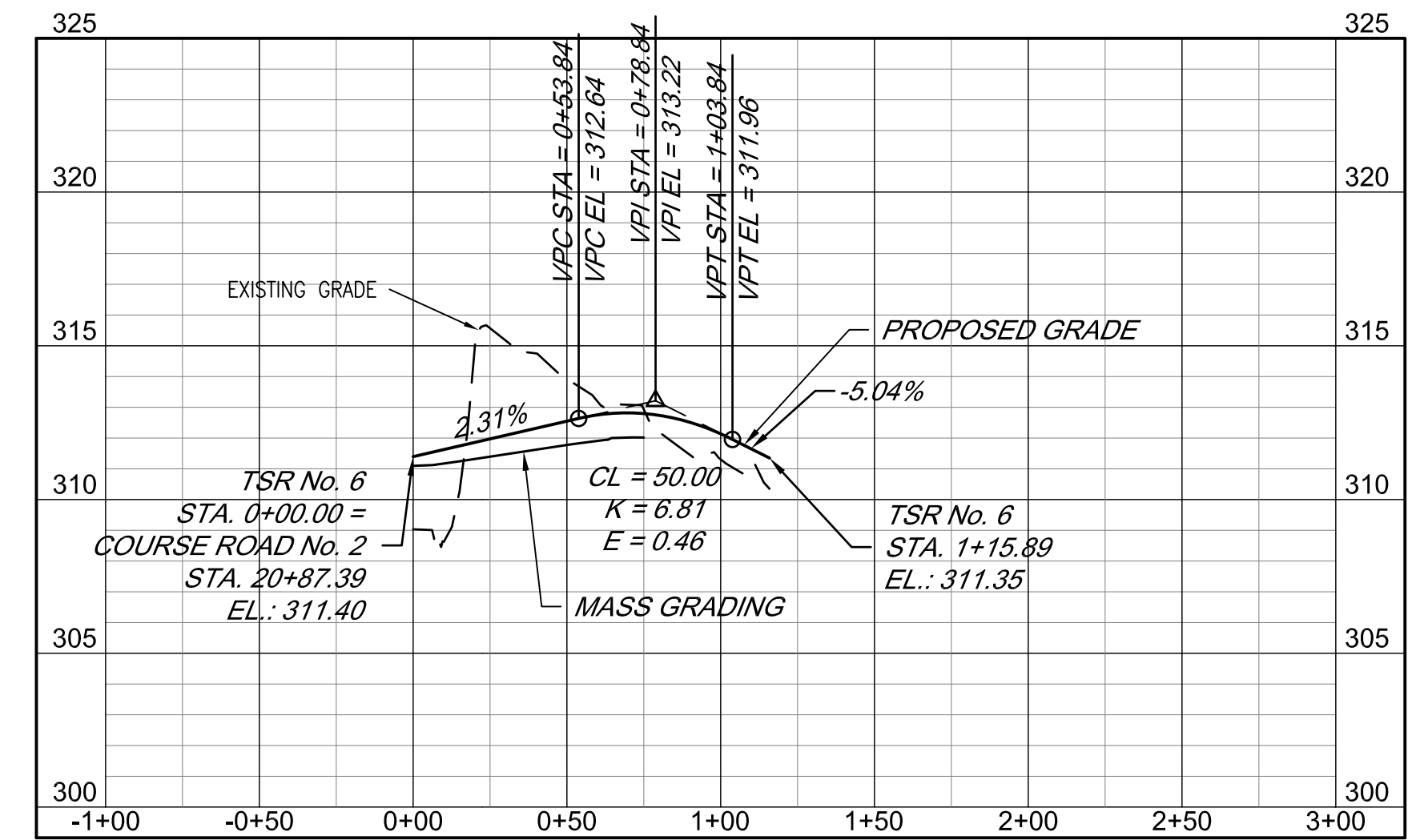
SHEET ID
CP207



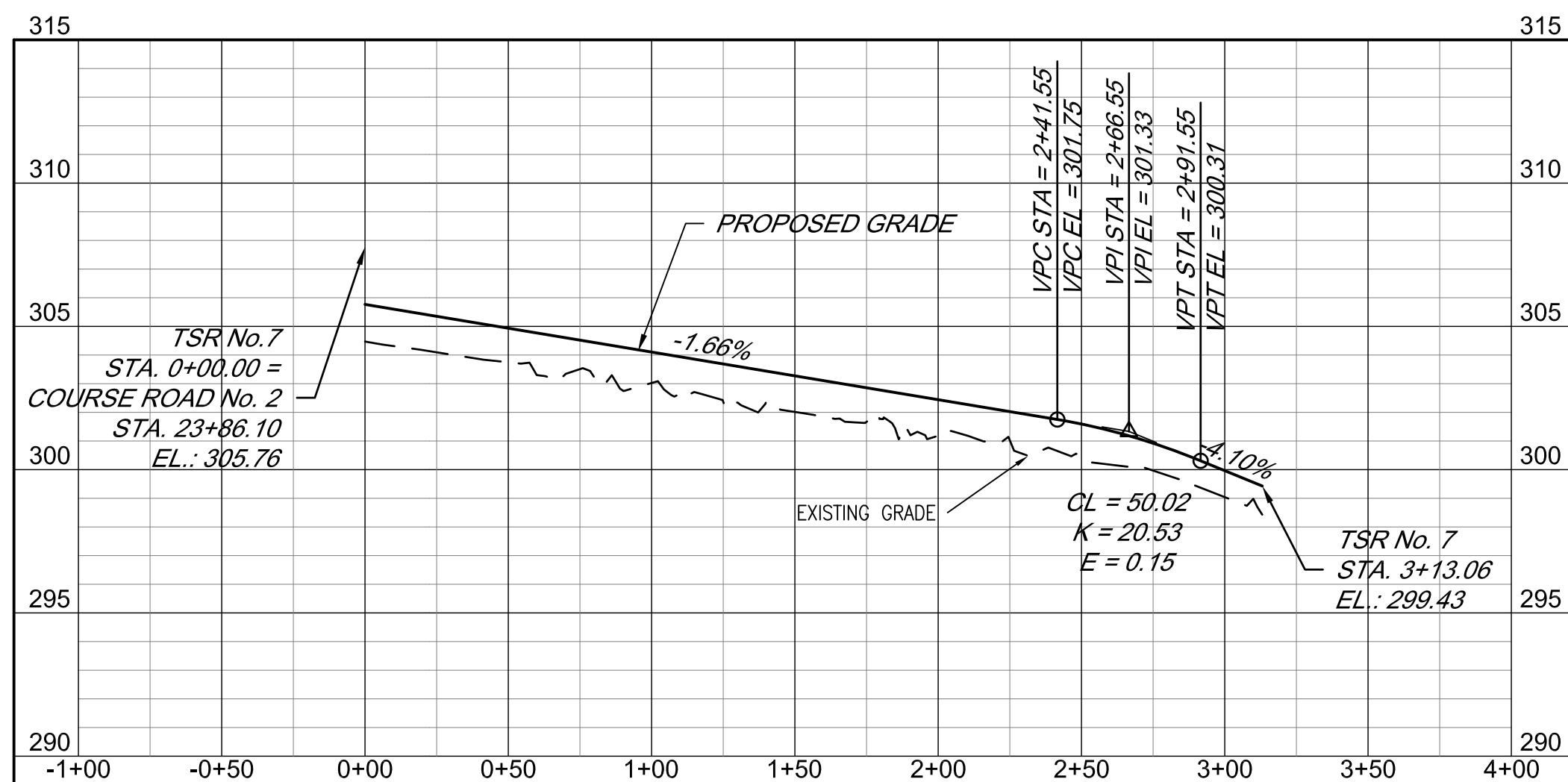
TSR No. 4



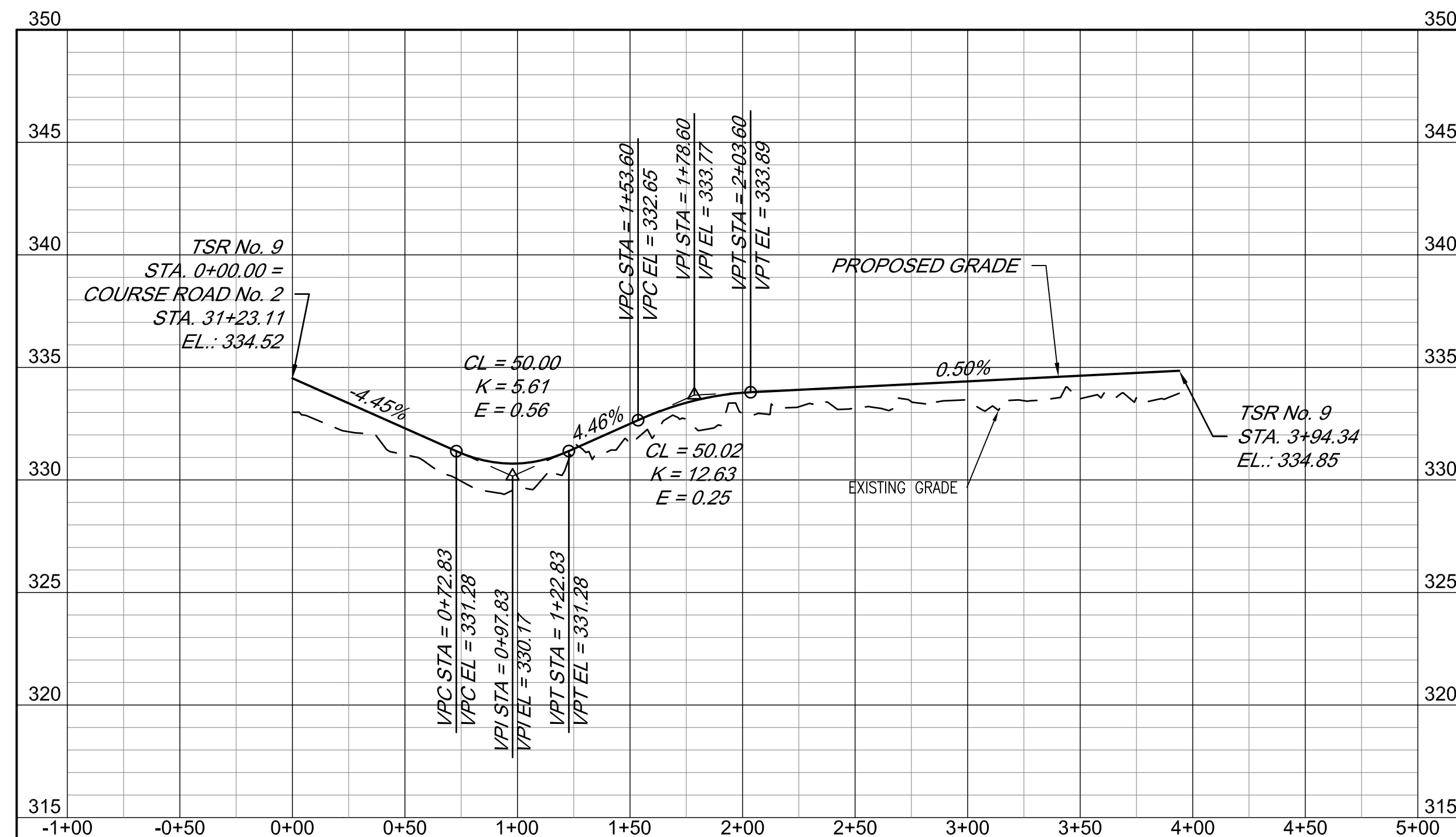
TSR No. 5



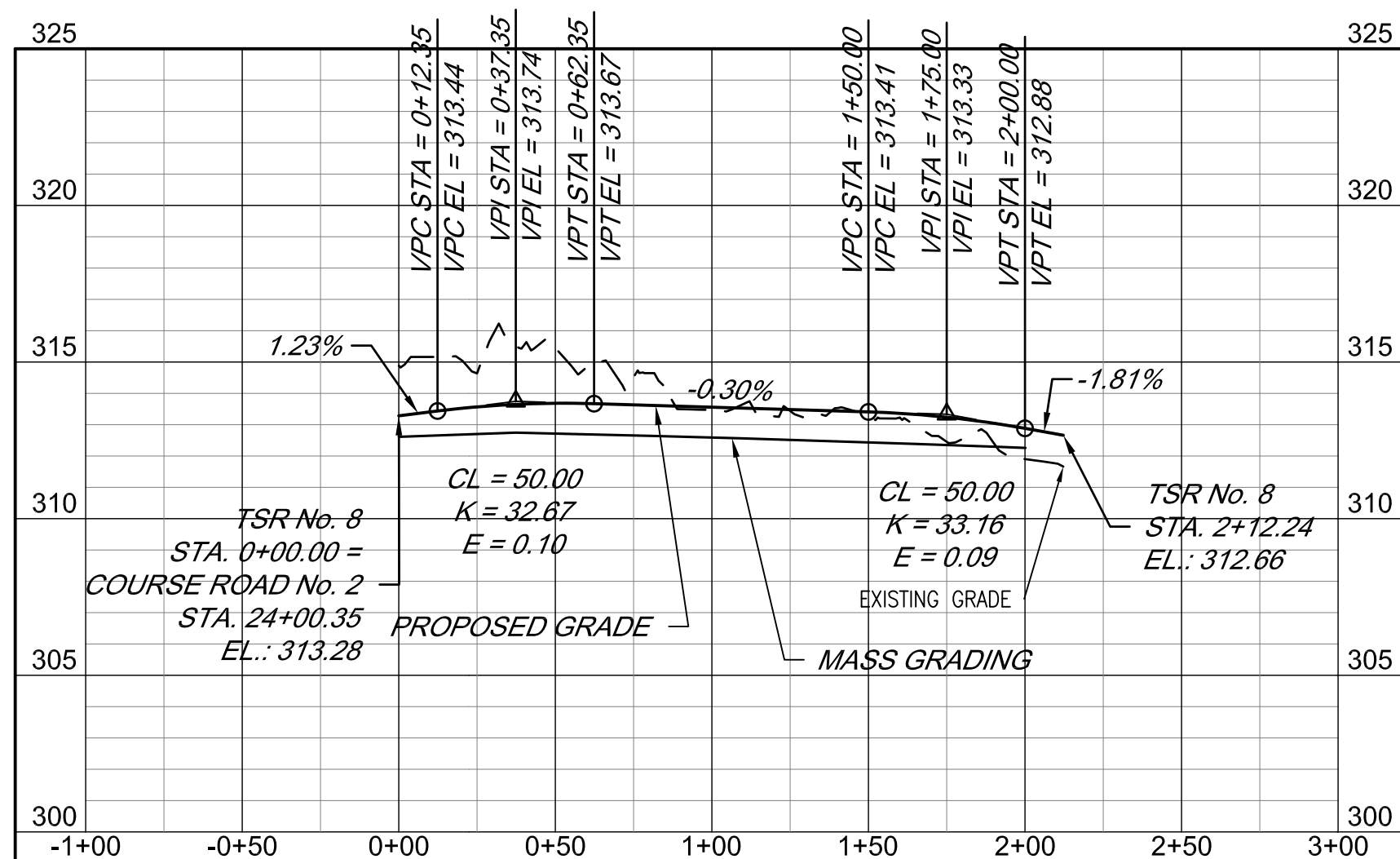
TSR No. 6



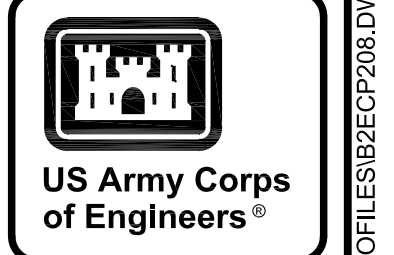
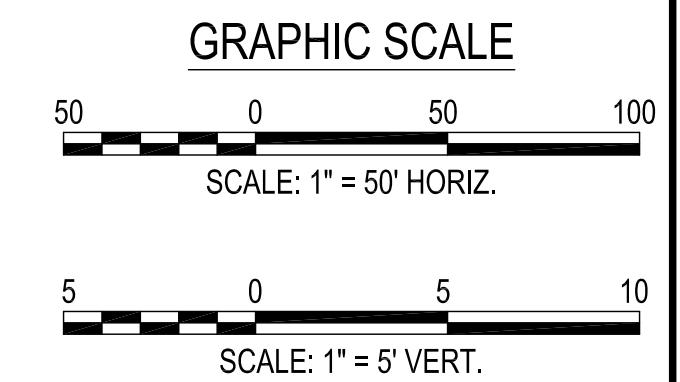
TSR No. 7



TSR No. 9



TSR No. 8



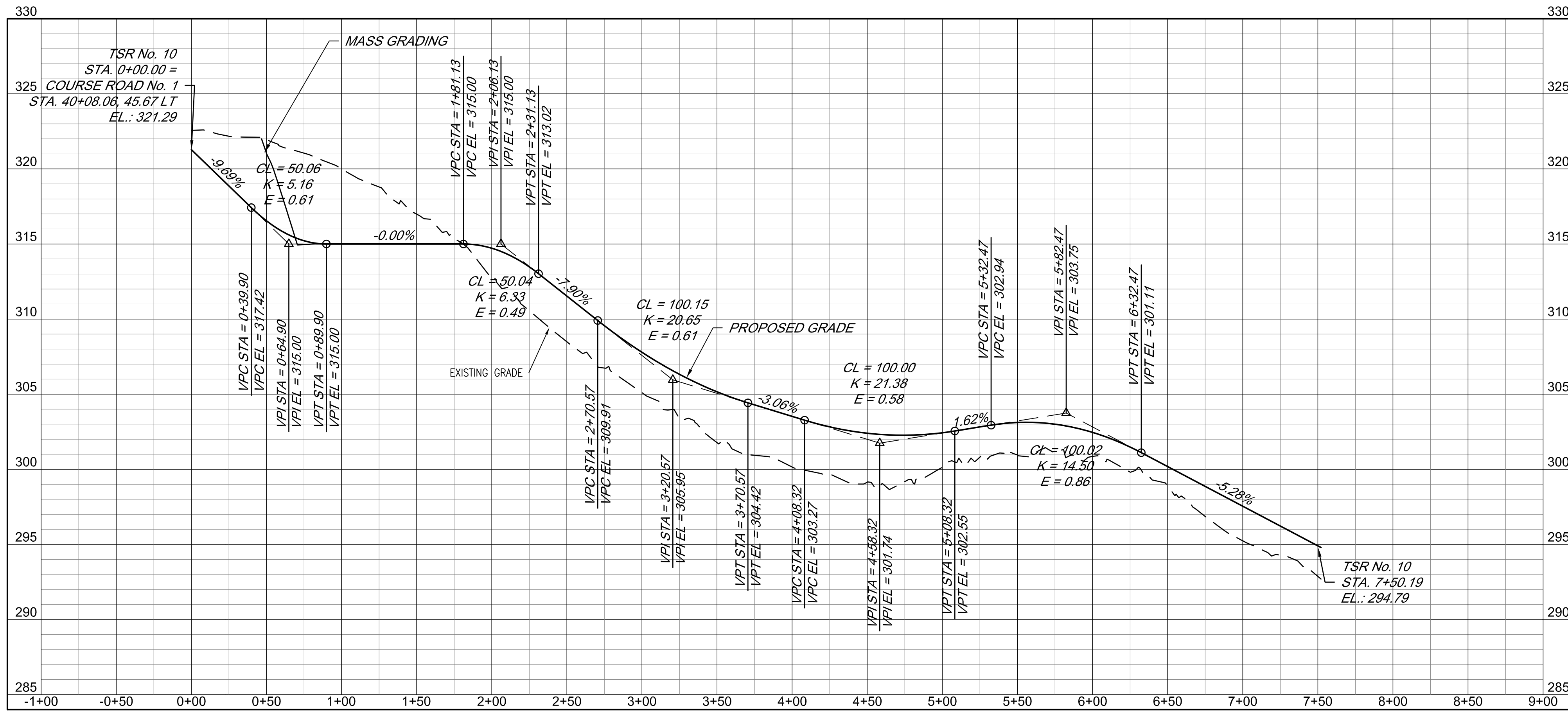
MARK	DESCRIPTION	DATE

DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. JOHNSON	DATE: 11/21/23
FILE NAME: 178-65-01	CONTRACT NO.:
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	CATEGORY CODE: 178-65-01
POLY, INC. 1985 HEADLAND AVENUE DOTHAN, AL 36303 WWW.POLY-INC.COM/3347-93-4700	

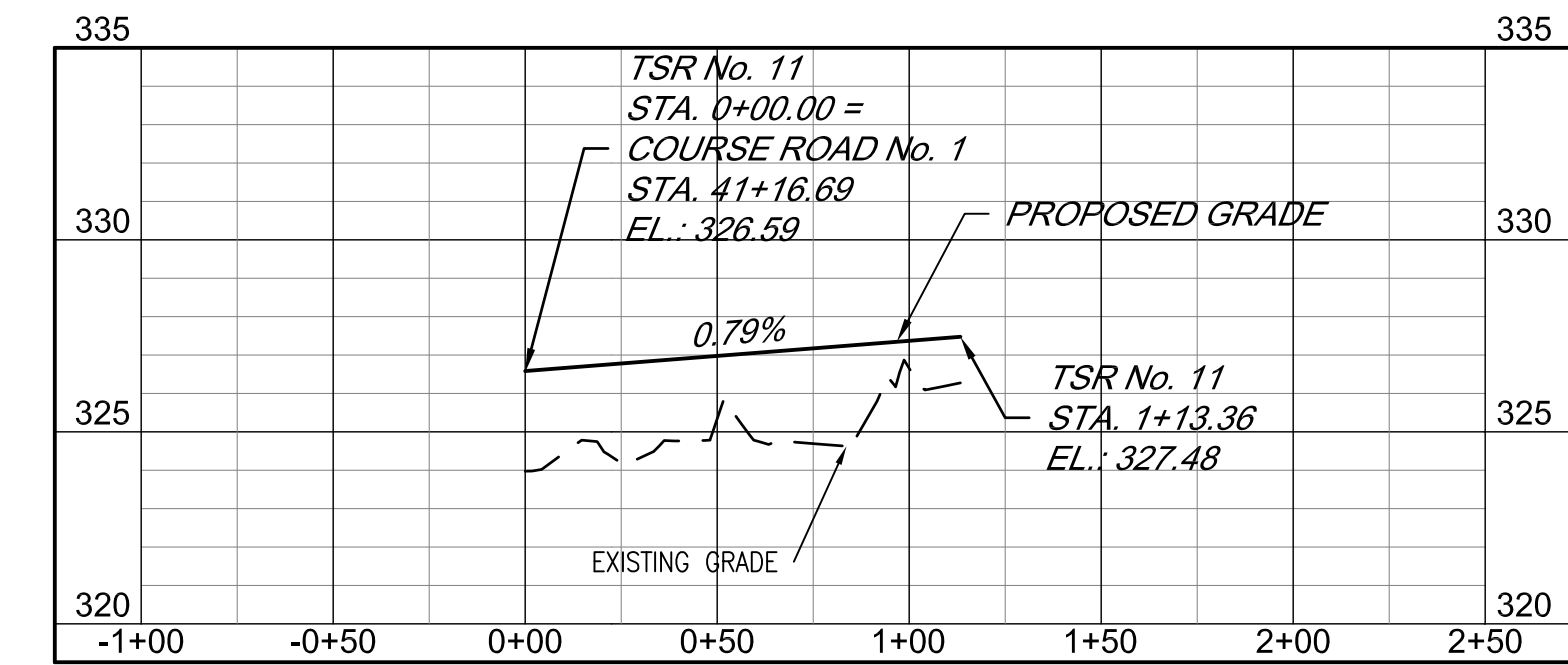
FORT LIBERTY, NORTH CAROLINA
 AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTR)
 FY23, PN 96182
 VOLUMES 3 & 4 - DOWNRANGE
 ROAD PROFILES
 TSR No. 4, 5, 6, 7, 8, & 9

SHEET ID
CP208

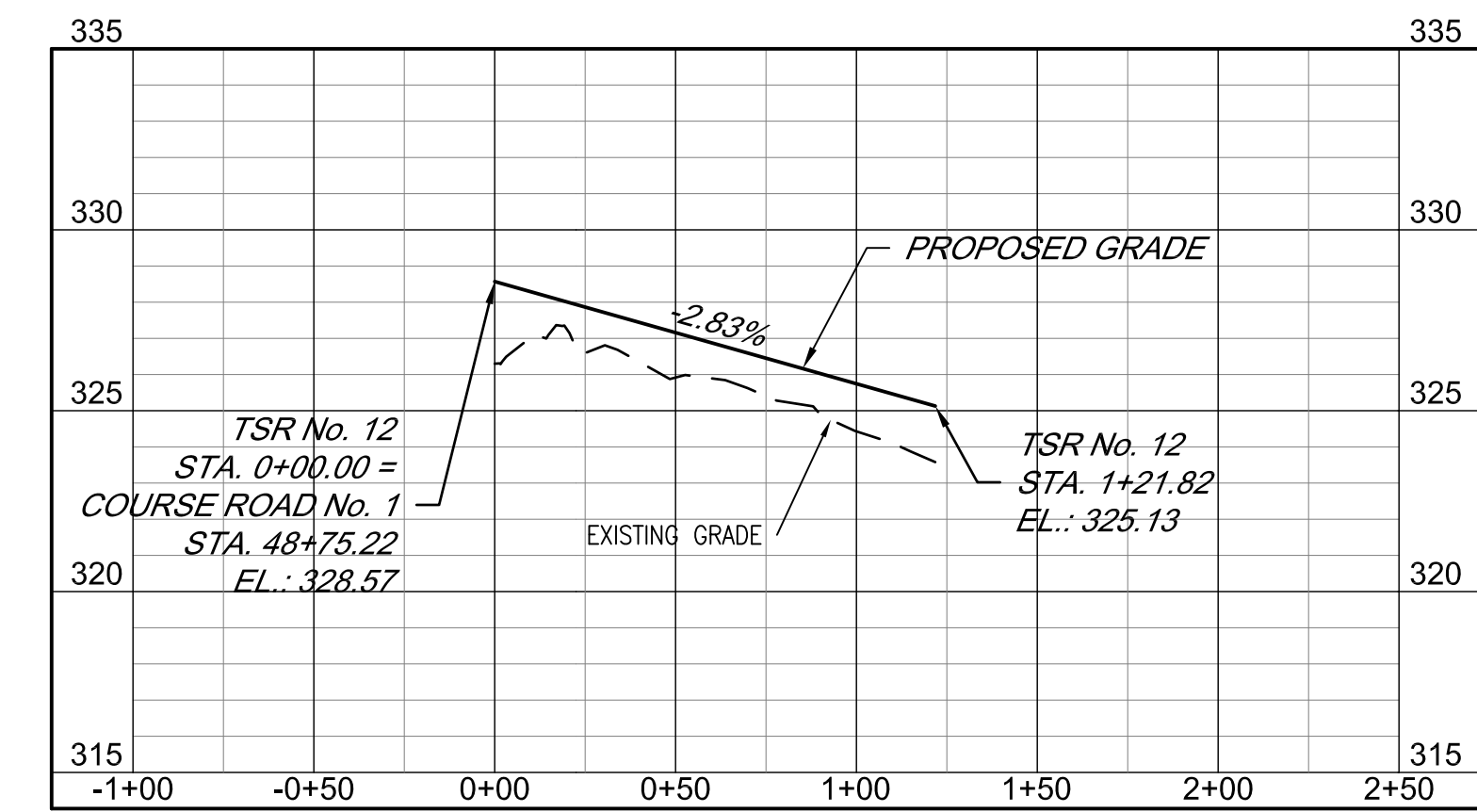
READY TO ADVERTISE (RTA)



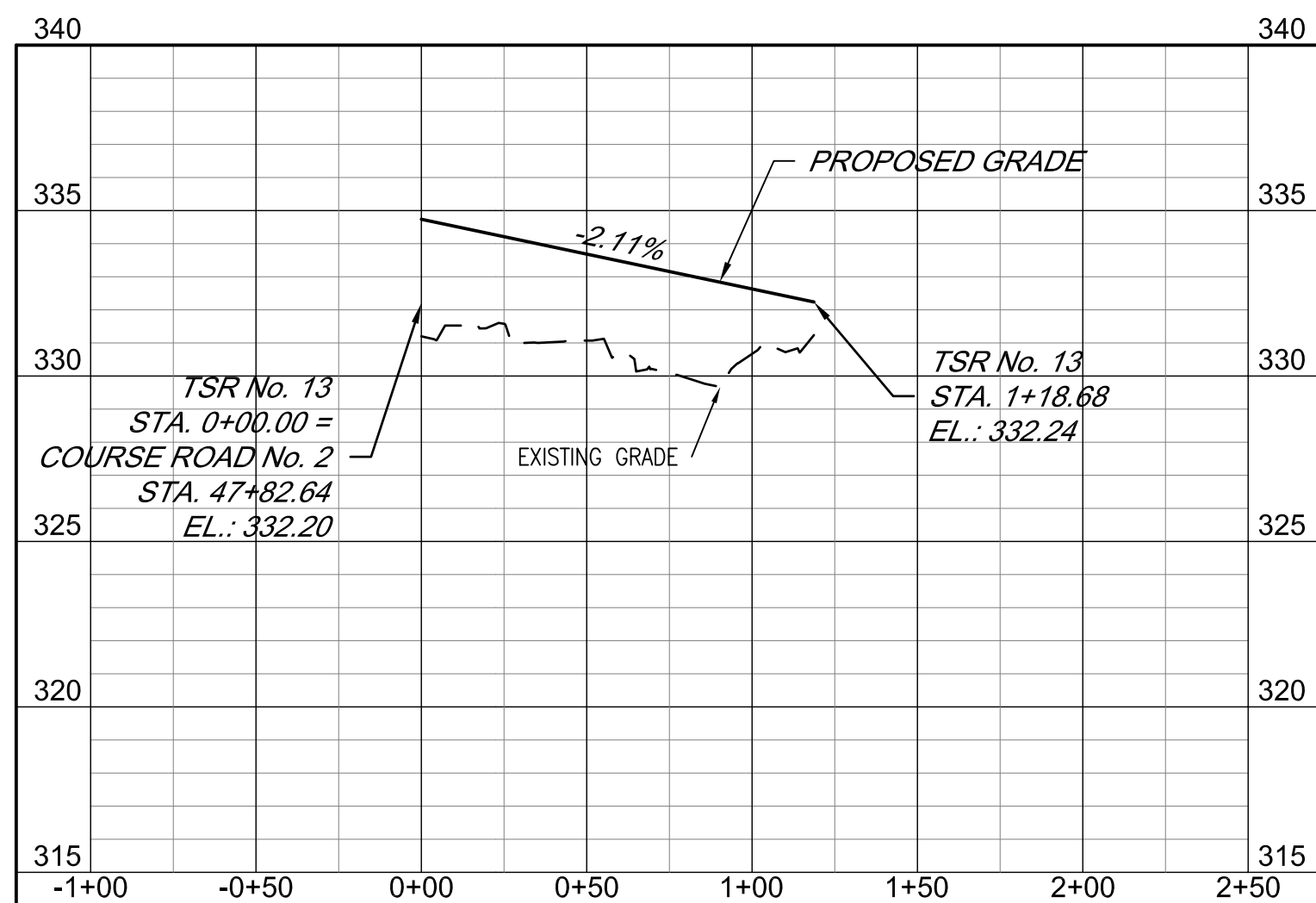
TSR No. 10



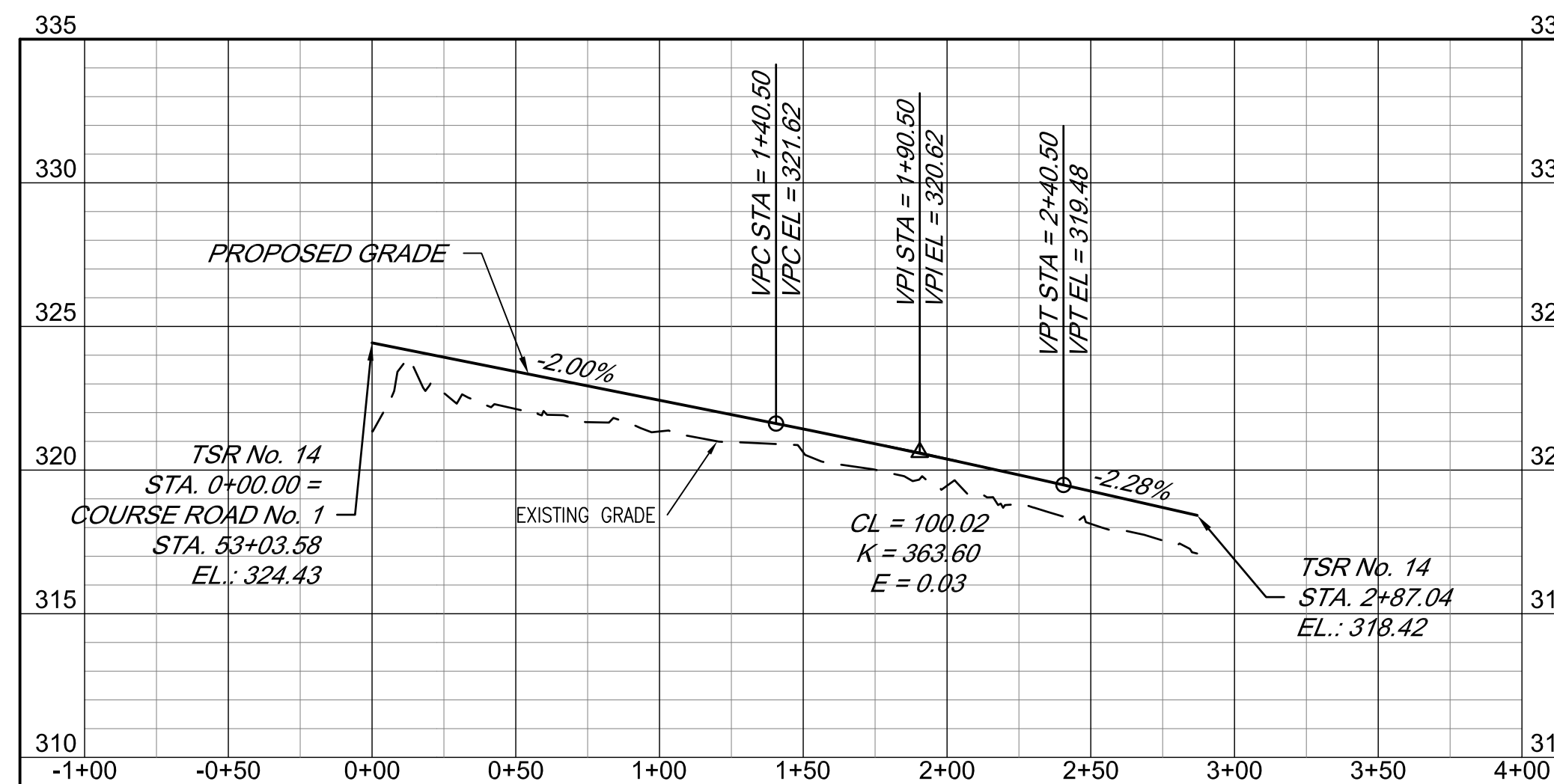
TSR No. 11



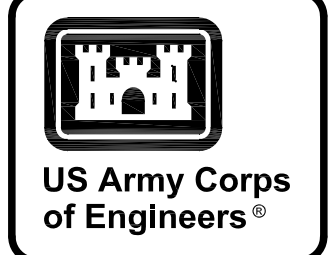
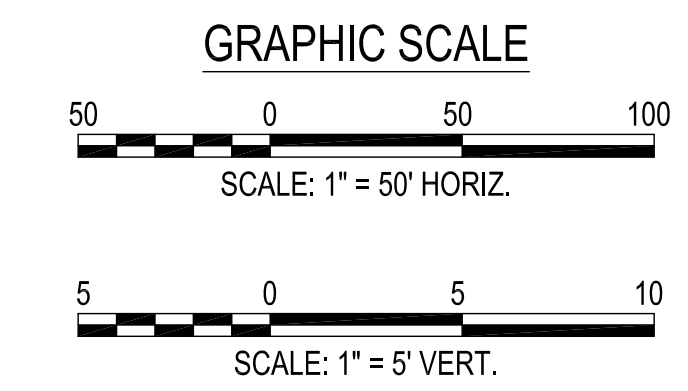
TSR No. 12



TSR No. 13



TSR No. 14



MARK	DESCRIPTION	DATE

DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. JOHNSON	PROJECT NO. / CONTRACT NO.:
DESIGNED BY: B. BRADLEY	CATEGORY CODE: 178-85-01
FILE NAME: ANSID	

U.S. ARMY CORPS OF ENGINEERS
 SAVANNAH DISTRICT
 100 W. OGLETHORPE AVE
 SAVANNAH, GA 31401

POLY, INC.
 1935 HEADLAND AVENUE
 DOTHAN, AL 36303
 WWW.POLY-INC.COM / 334-795-4700

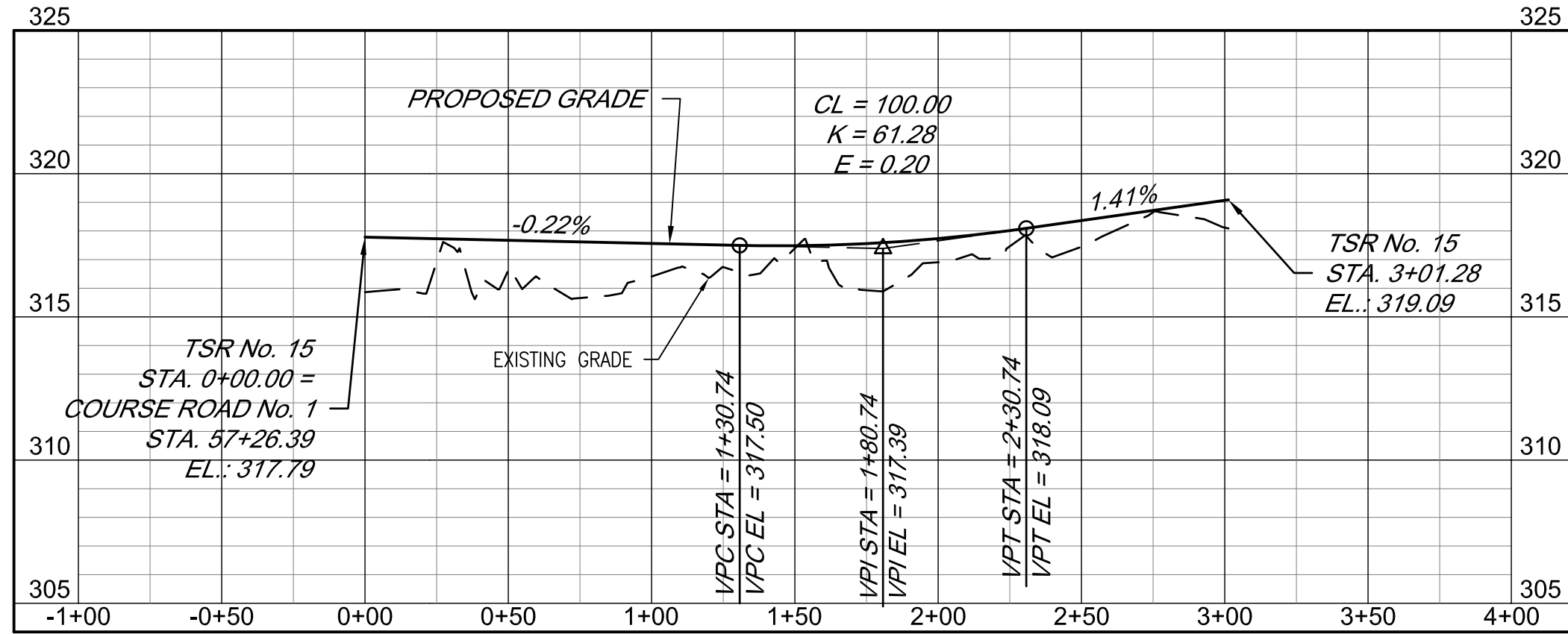
FORT LIBERTY, NORTH CAROLINA
 AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
 FY23, PN 96182
 VOLUMES 3 & 4 - DOWNRANGE

ROAD PROFILES
 TSR No. 10, 11, 12, 13, & 14

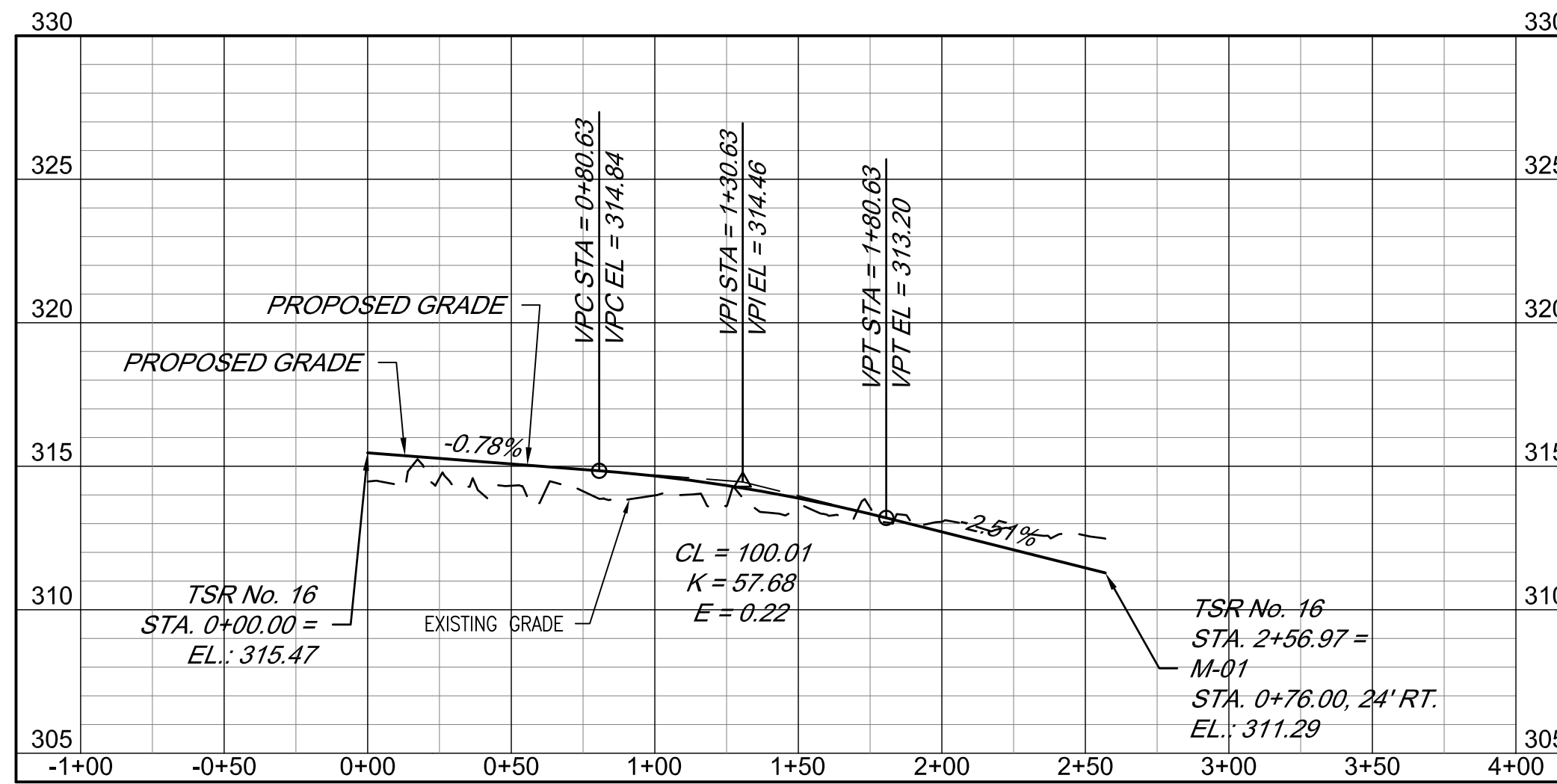
SHEET ID
CP209

READY TO ADVERTISE (RTA)

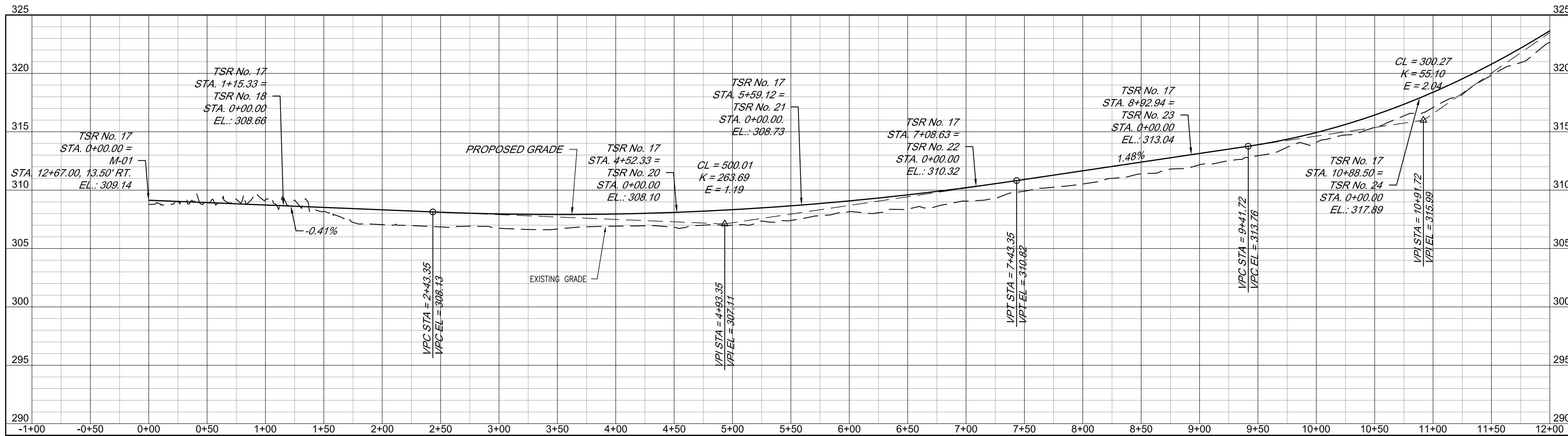
G:\CLEANSTUFF-15-2816376 BRAGG MPTTR\PI07.RTA FINAL SUBMITTAL\04 CIVIL\200 PROFILES\B2ECP209.DWG



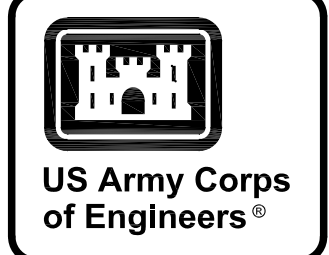
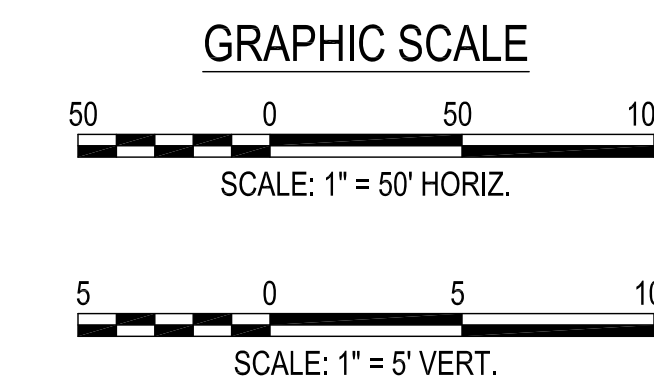
TSR No. 15



TSR No. 16



TSR No. 17



MARK	DESCRIPTION	DATE

DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. JOHNSON	PROJECT NO. / CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-65-01
FILE NAME:	

U.S. ARMY CORPS OF ENGINEERS
 SAVANNAH DISTRICT
 100 W. OGLETHORPE AVE
 SAVANNAH, GA 31401

POLY, INC.
 1935 HEADLAND AVENUE
 DOTHAN, AL 36303
 WWW.POLY-INC.COM/334793-4700

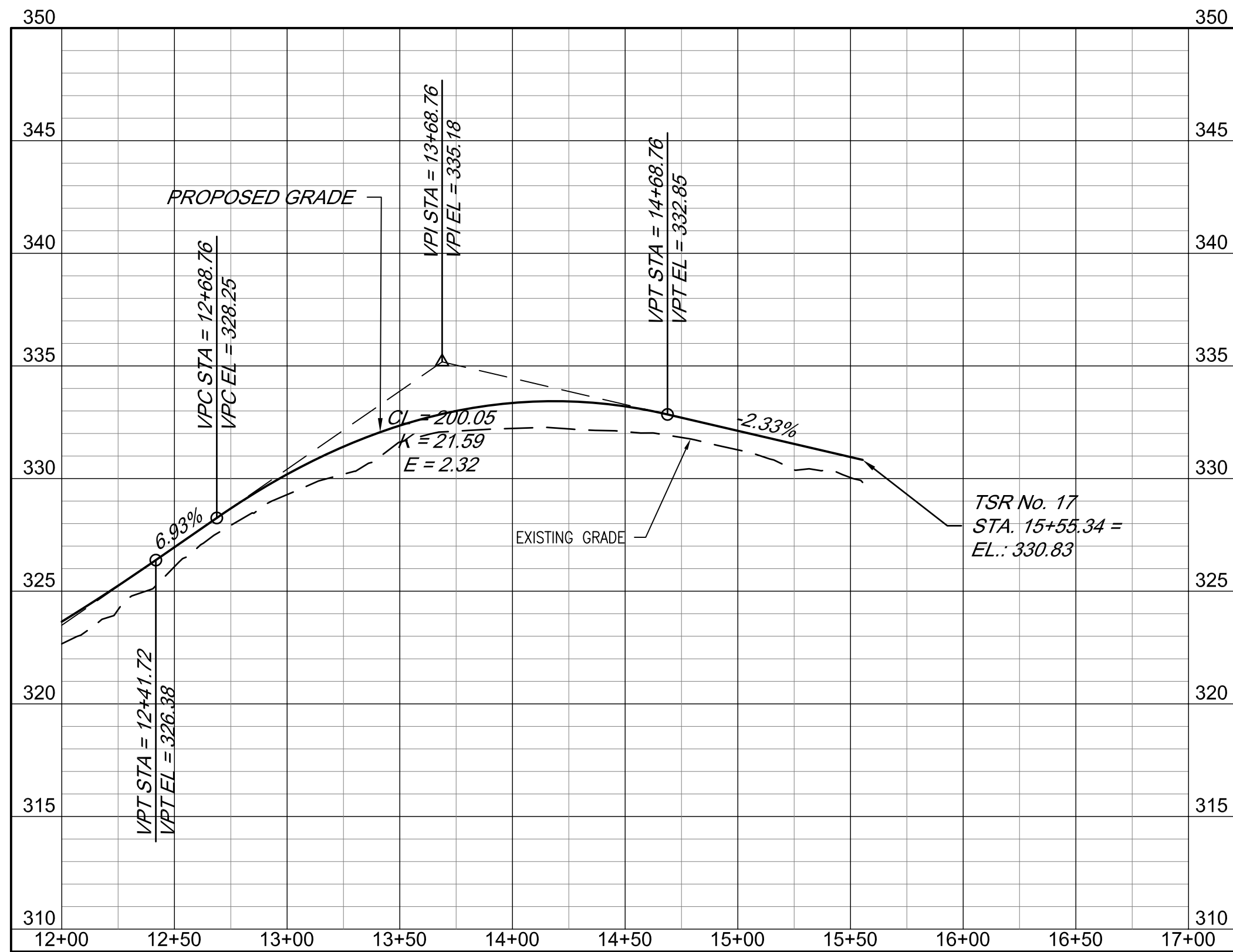
FORT LIBERTY, NORTH CAROLINA
 AUTOMATED MULTIPURPOSE TRAINING RANGE (MPT)
 FY23, PN 86182
 VOLUMES 3 & 4 - DOWNRANGE

ROAD PROFILES
 TSR No. 15, 16, & 17 STA. 0+00 - 12+00

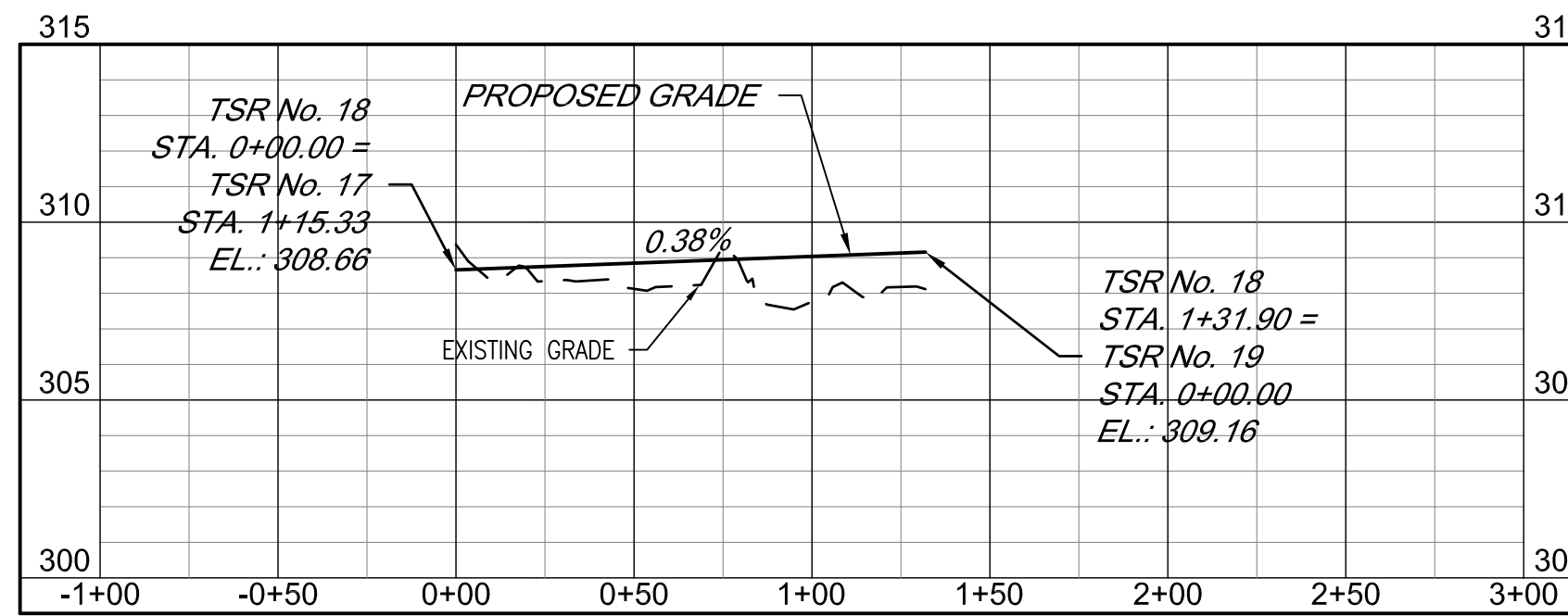
SHEET ID
CP210

G:\CLEANSTUFF-15-28116376 BRAGG MPT\RTA\07_RTA_FINAL_SUBMITTAL\04_CIVIL\200 PROFILES\B2EGP210.DWG

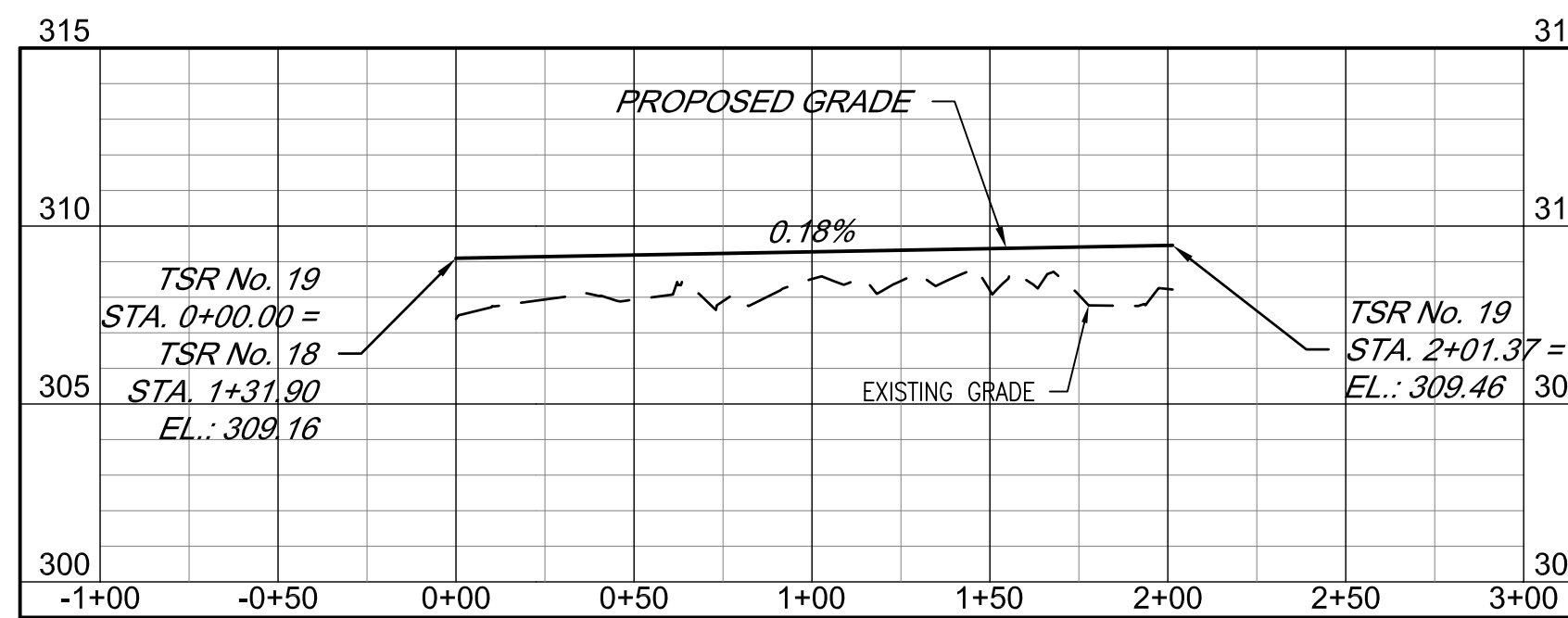
READY TO ADVERTISE (RTA)



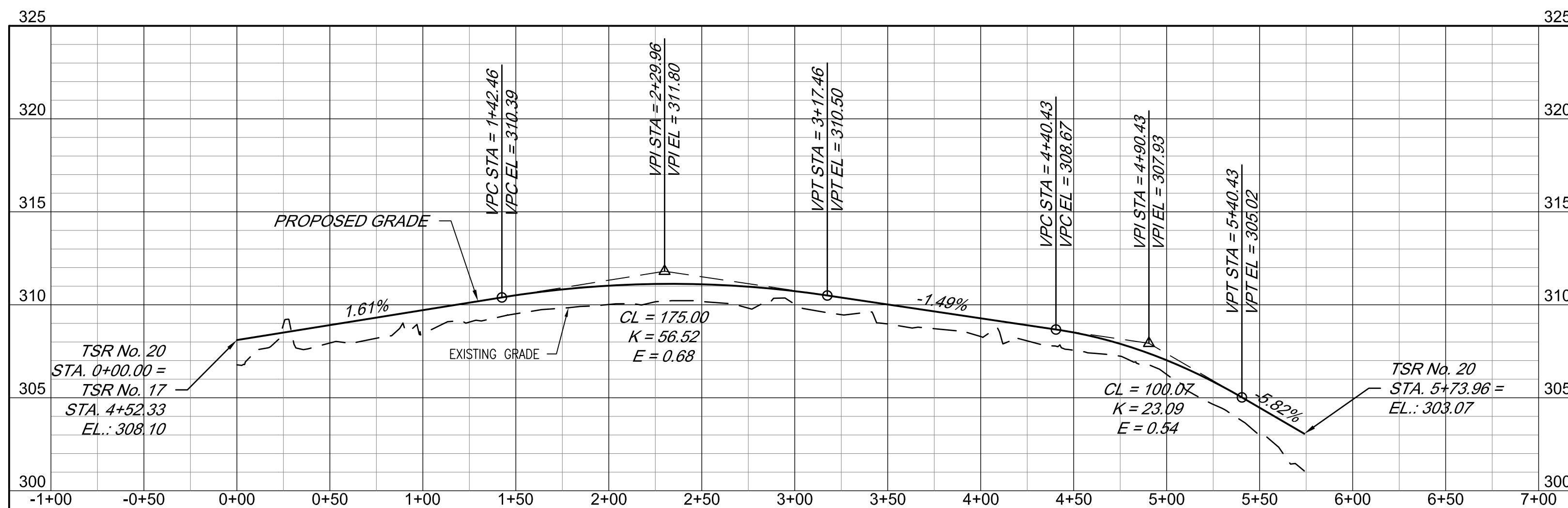
TSR No. 17



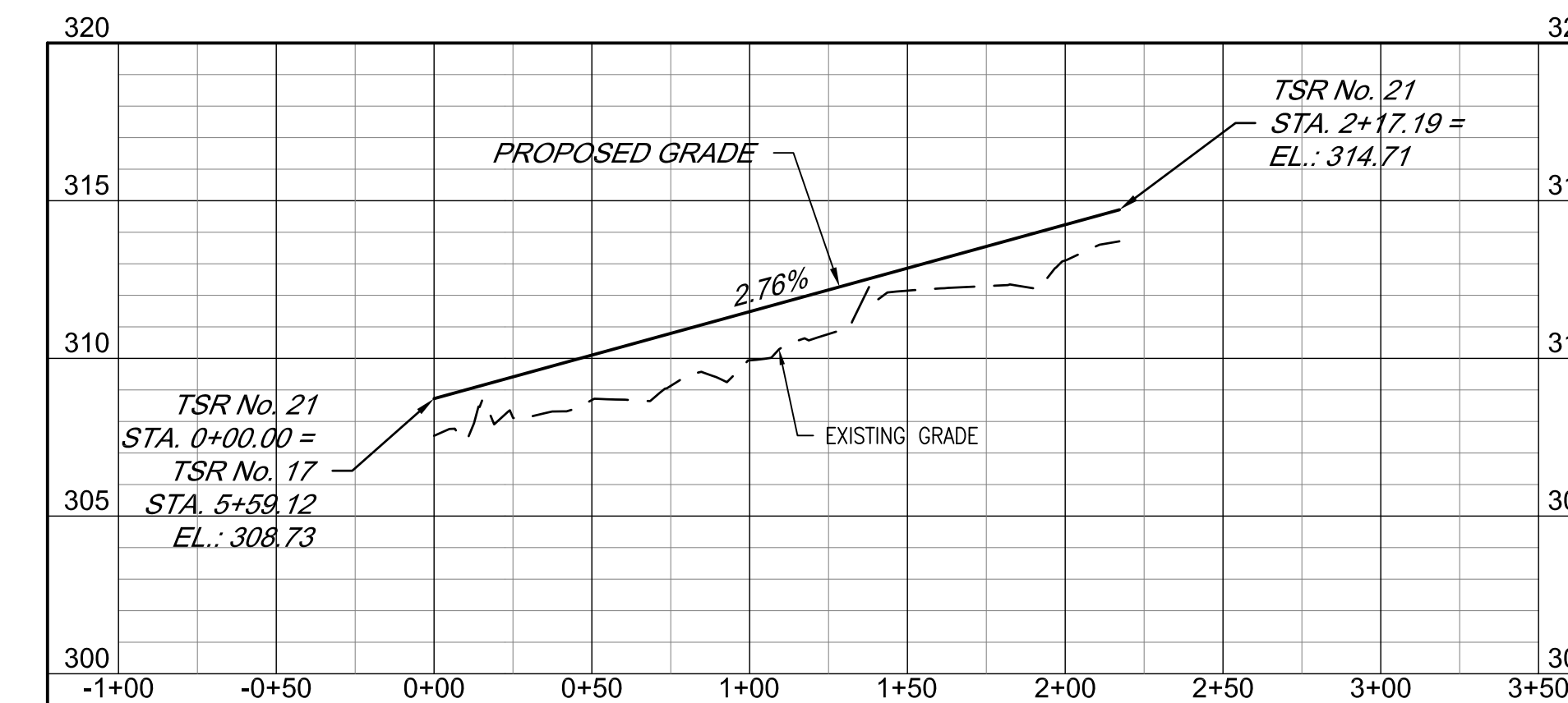
TSR No. 18



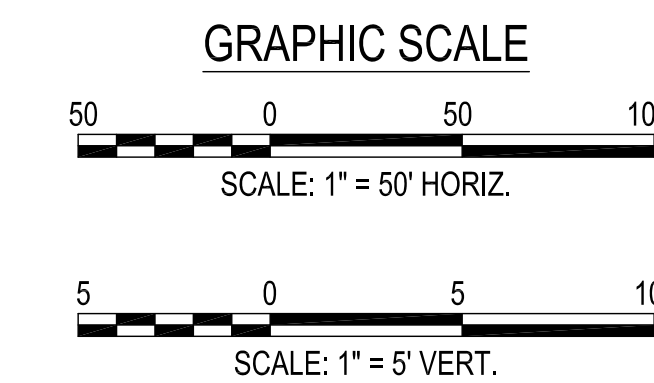
TSR No. 19



TSR No. 20



TSR No. 21



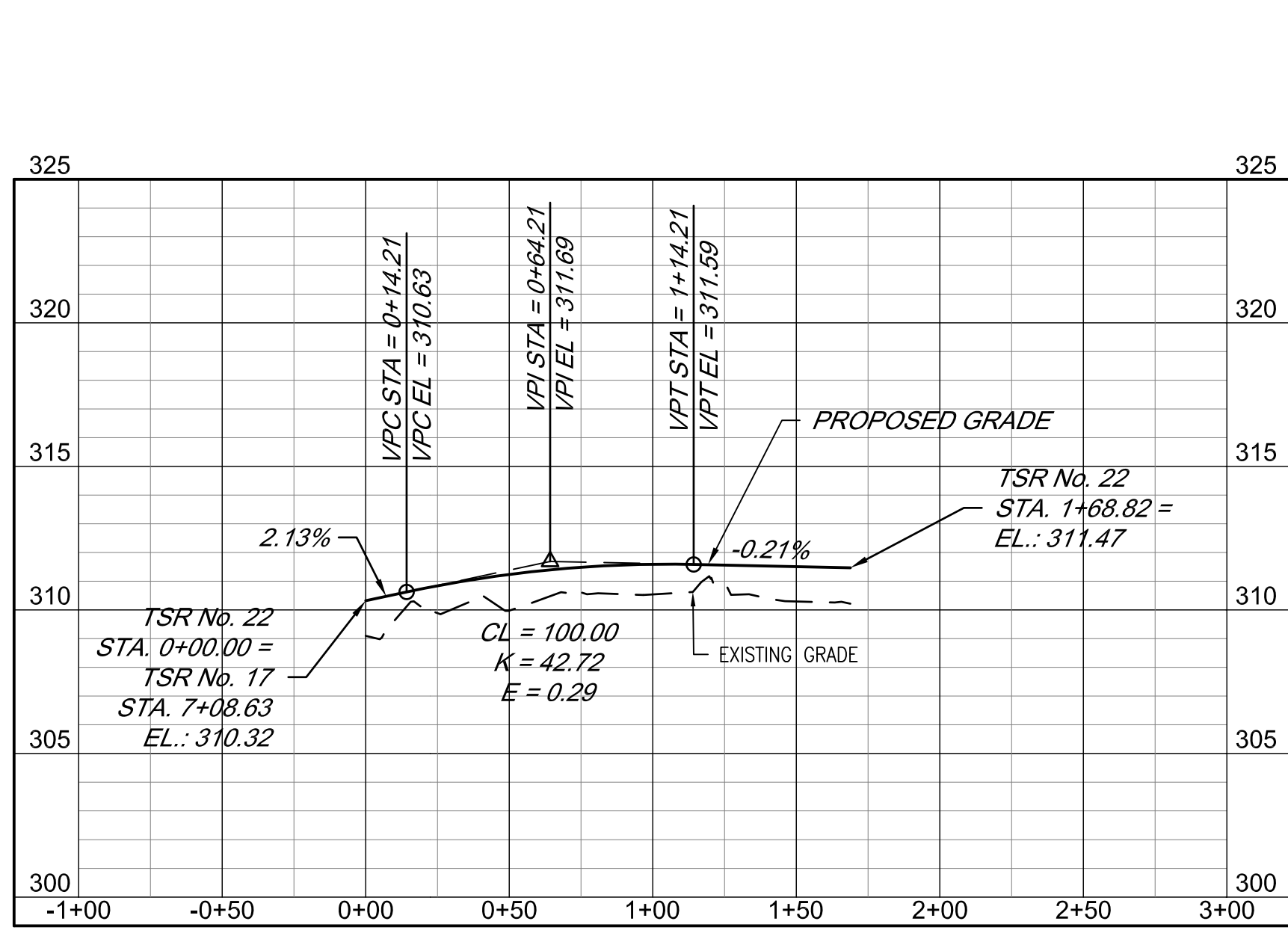
US Army Corps of Engineers
 U.S. ARMY CORPS OF ENGINEERS
 SAVANNAH DISTRICT
 100 W. OGLETHORPE AVE
 SAVANNAH, GA 31401
 POLY, INC.
 1935 HEADLAND AVENUE
 DOTHAN, AL 36803
 WWW.POLY-INC.COM/334799-4700

DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. BRADLEY	PROJECT NO.: W91P42-23-3002
CONTRACT NO.:	CONTRACT NO.:
FILE NAME: ANSID	FILE NAME: 178-65-01

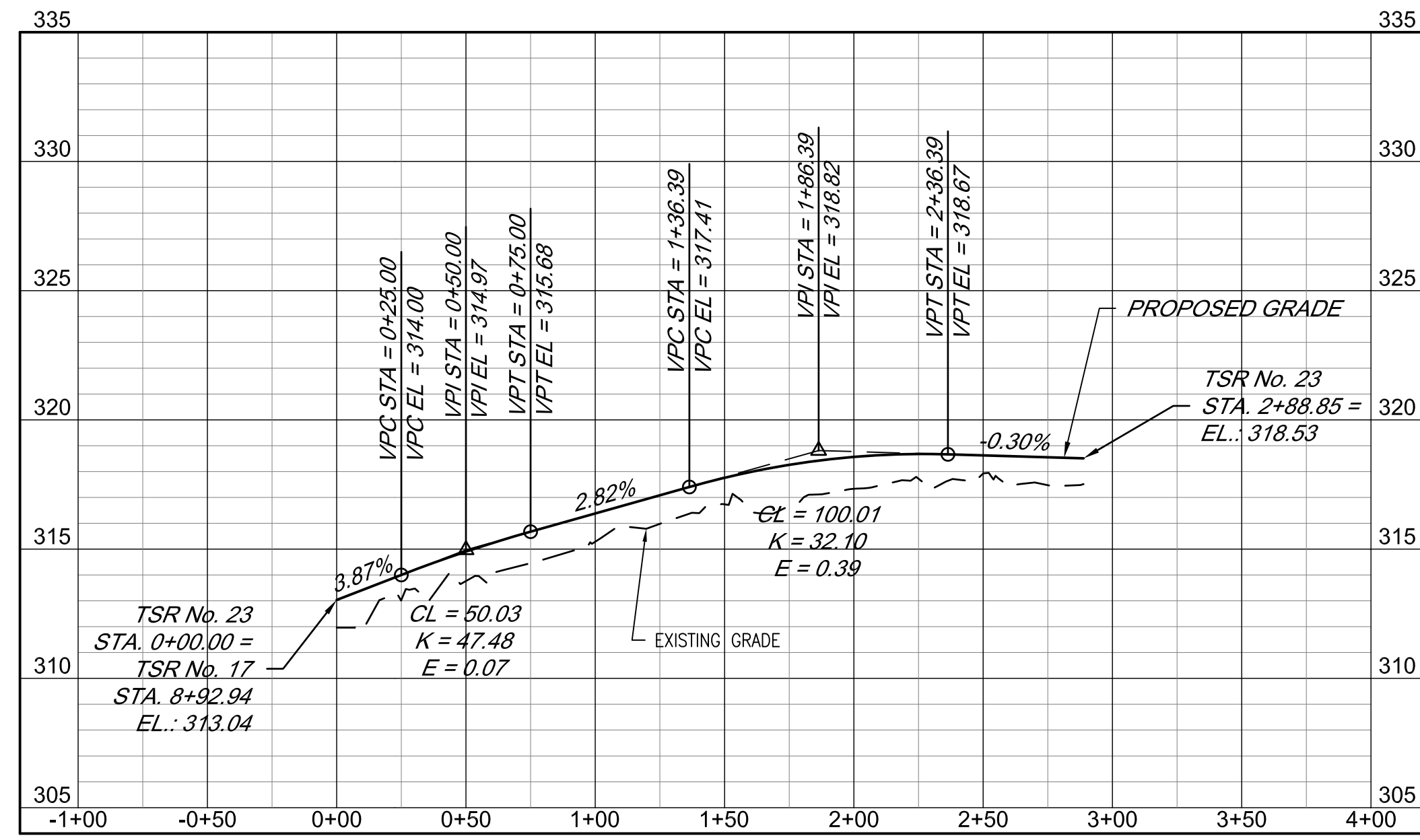
FORT LIBERTY, NORTH CAROLINA
 AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
 FY23, PN 86182
 VOLUMES 3 & 4 - DOWNRANGE
 ROAD PROFILES
 TSR No. 17 STA. 12+00 - 15+55.34, 18, 19, 20, & 21

SHEET ID
CP211

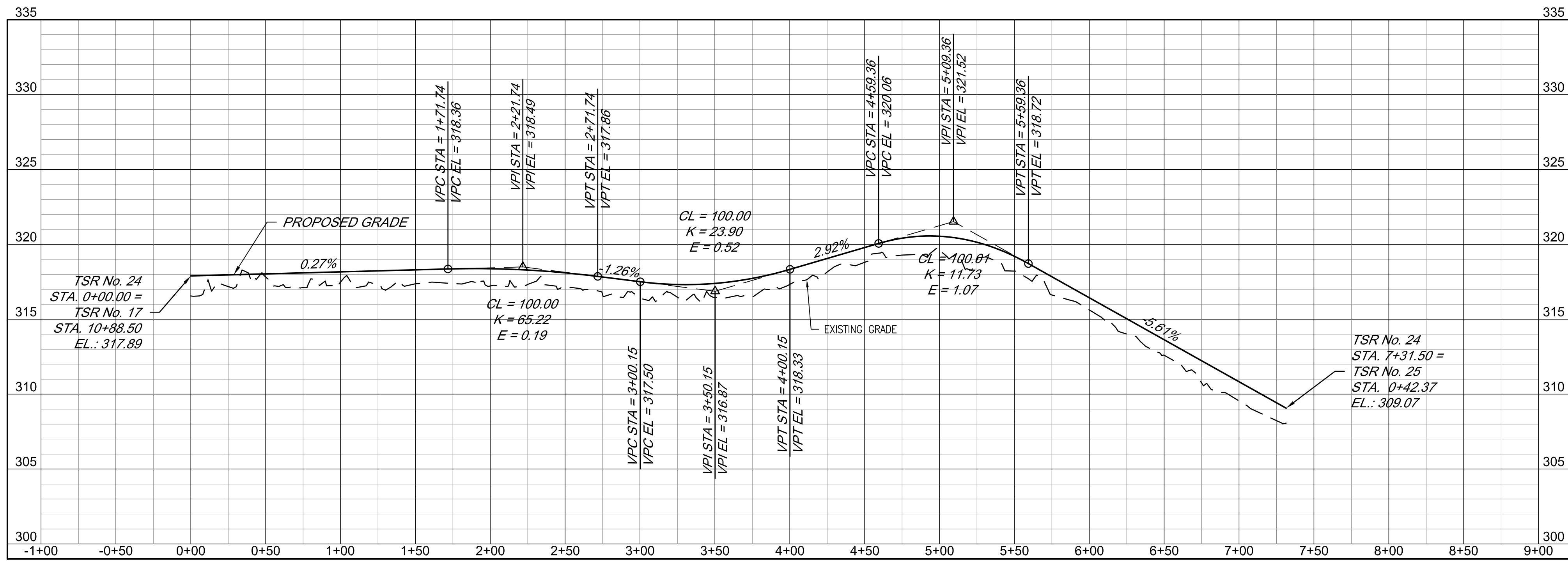
READY TO ADVERTISE (RTA)



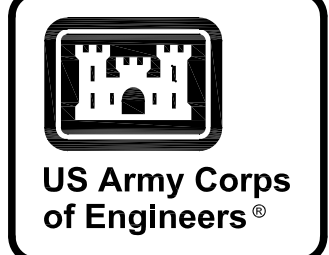
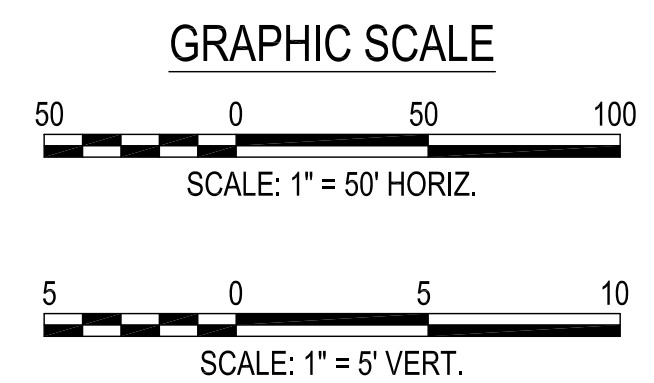
TSR No. 22



TSR No. 23



TSR No. 24



MARK	DESCRIPTION	DATE

DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. JOHNSON	PROJECT NO.:
SUBMITTED BY: B. BRADLEY	CONTRACT NO.:
FILE NAME: ANSID	CATEGORY CODE: 178-65-01

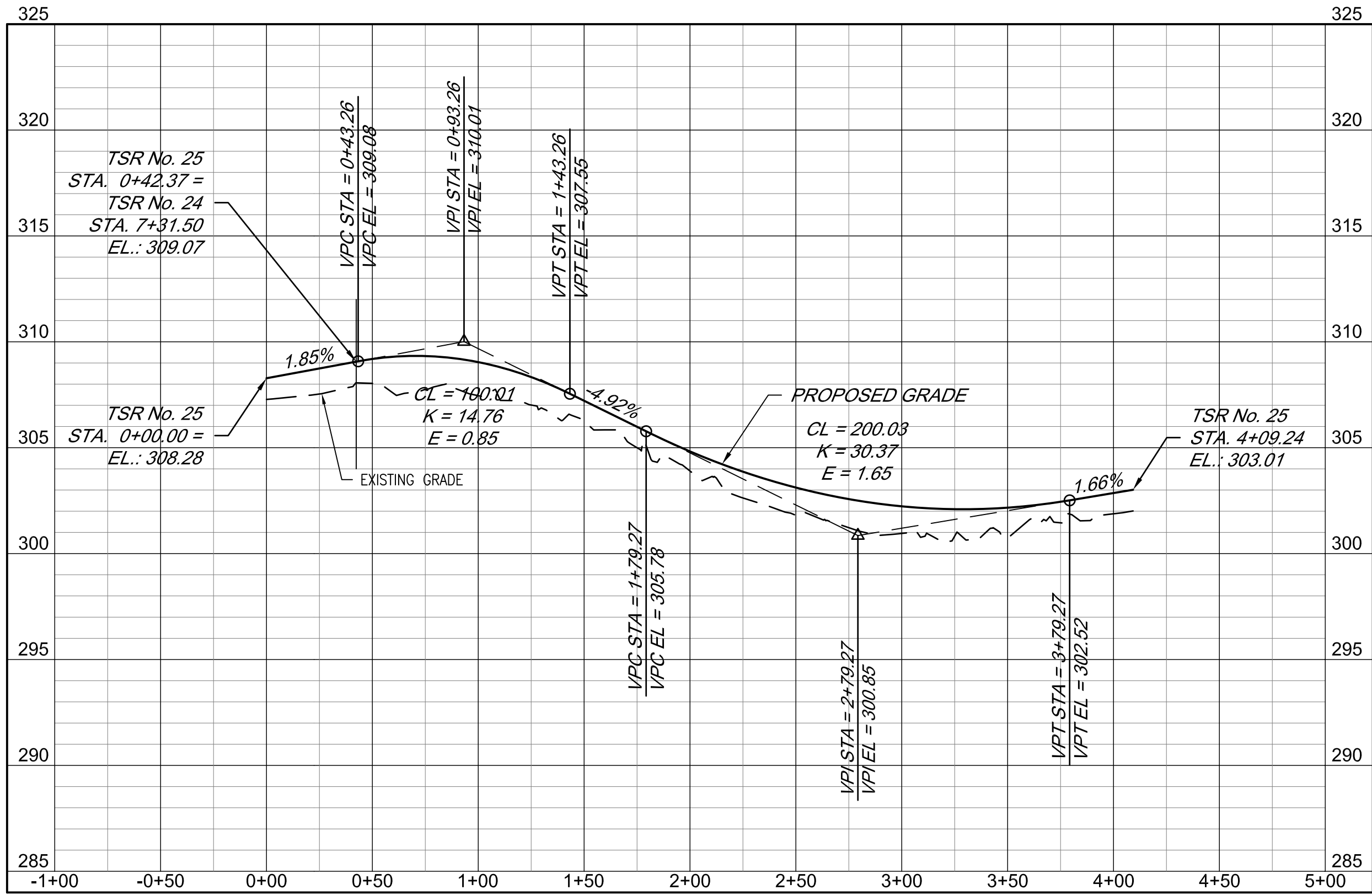
U.S. ARMY CORPS OF ENGINEERS
 SAVANNAH DISTRICT
 100 W. OGLETHORPE AVE
 SAVANNAH, GA 31401

POLY, INC.
 1995 HEADLAND AVENUE
 DOTHAN, AL 36803
 WWW.POLY-INC.COM/334795-4700

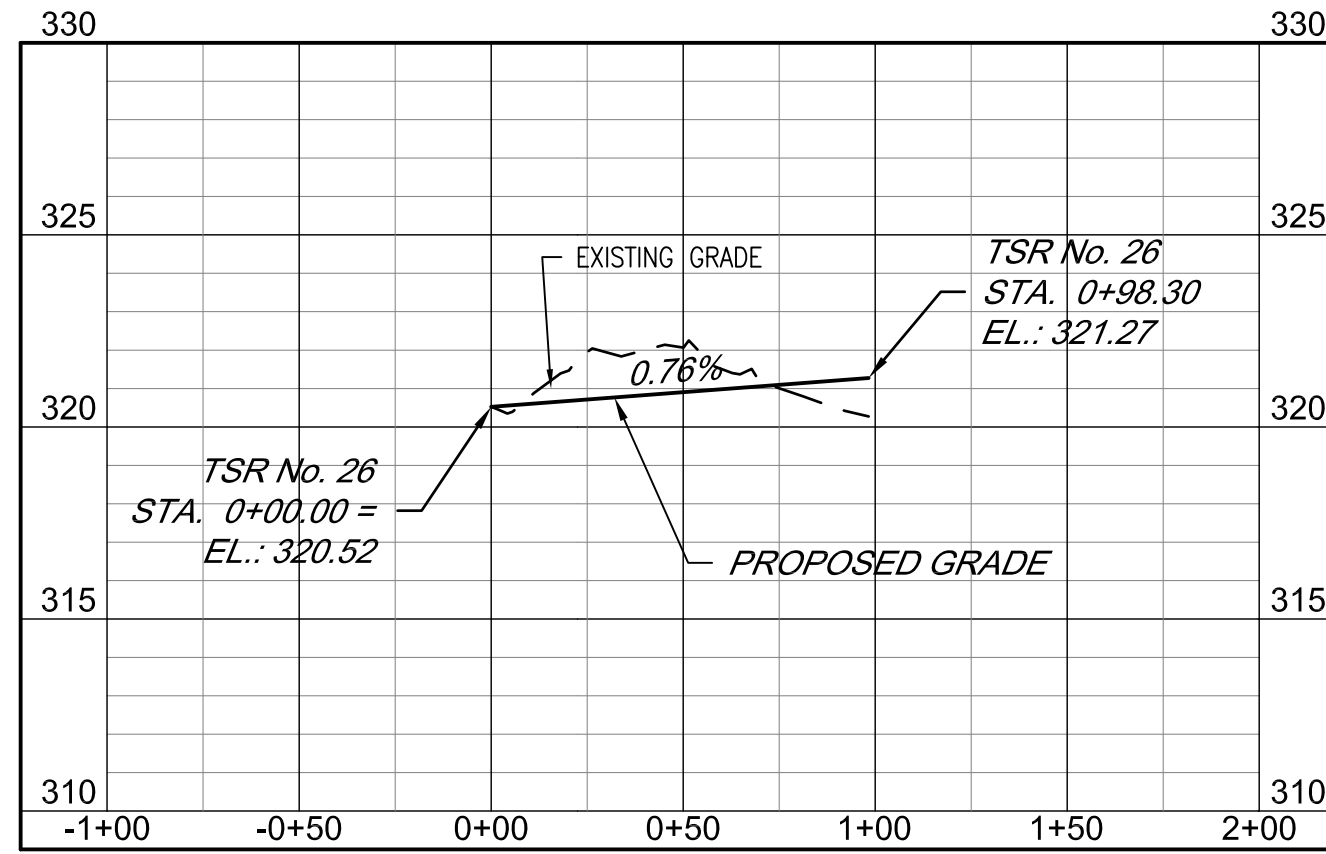
FORT LIBERTY, NORTH CAROLINA
 AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
 FY23, PN 86182
 VOLUMES 3 & 4 - DOWNRANGE

ROAD PROFILES
 TSR No. 22, 23, & 24

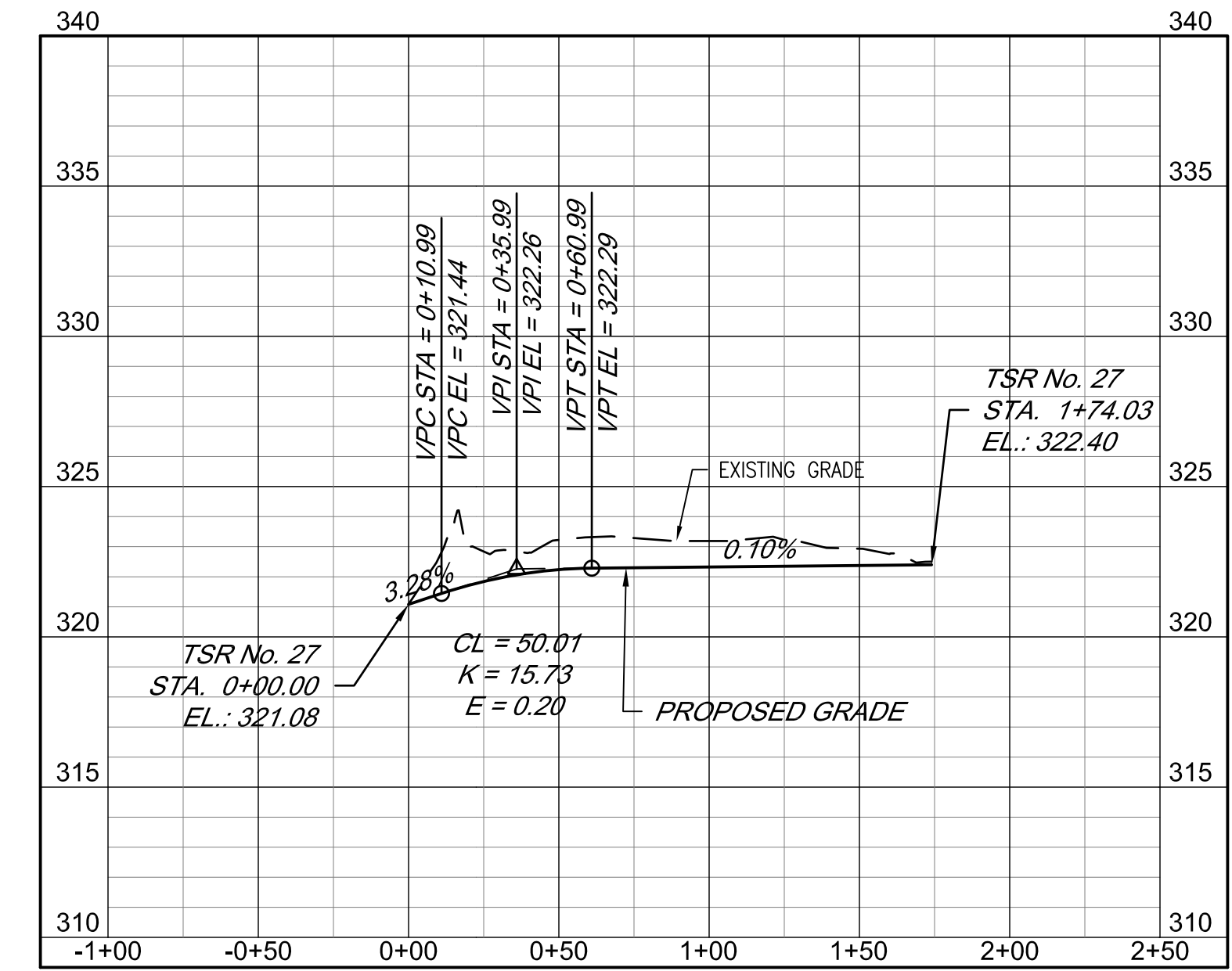
SHEET ID
CP212



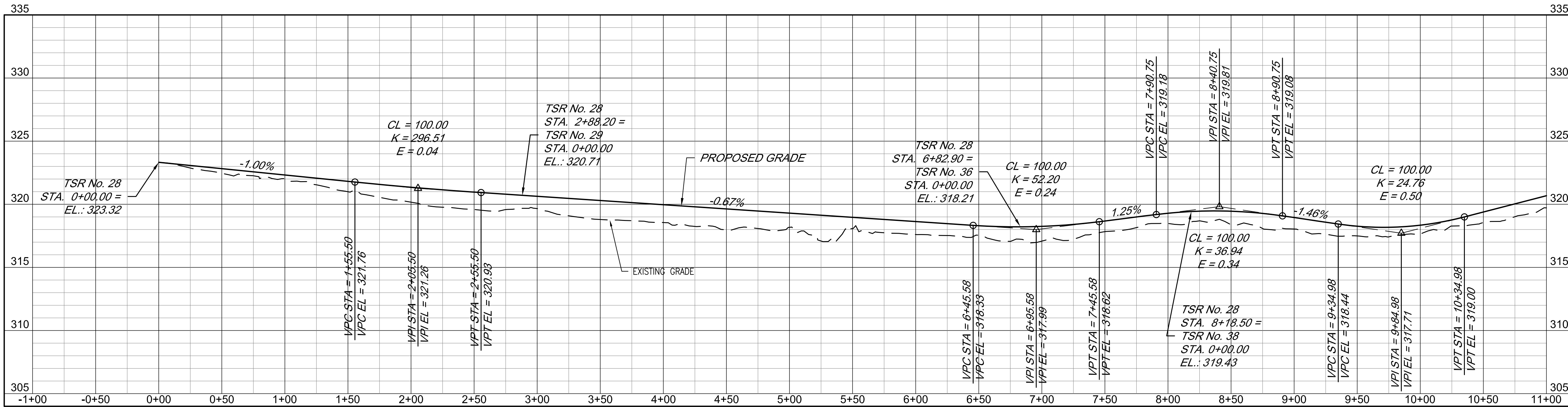
TSR No. 25



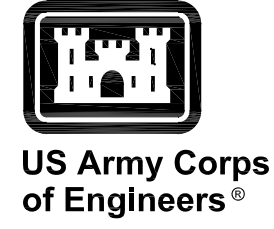
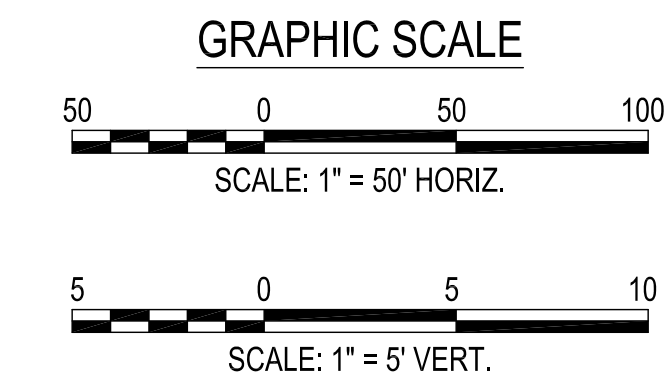
TSR No. 26



TSR No. 27



TSR No. 28



US Army Corps of Engineers®

DESIGNED BY:	K. SANDERS	ISSUE DATE:	NOVEMBER 2023
CHECKED BY:	B. BRADLEY	SCALE:	AS SHOWN
APPROVED BY:	B. BRADLEY	PROJECT NO.:	1043-10-00
CONTRACT NO.:		CONTRACT NO.:	1043-10-00
CATEGORY CODE:	178-65-01	FILE NAME:	
ANSID:		SIZE:	

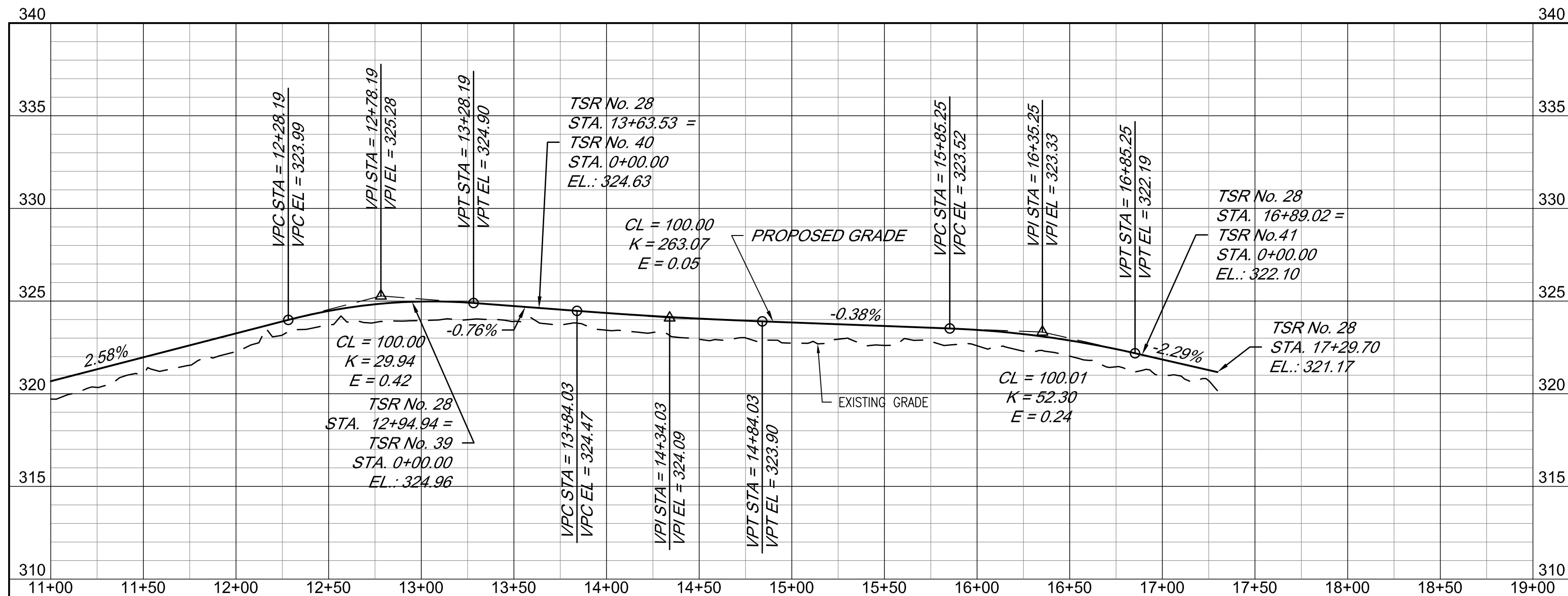
U.S. ARMY CORPS OF ENGINEERS
 SAVANNAH DISTRICT
 100 W. OGLETHORPE AVE
 SAVANNAH, GA 31401
 POLY, INC.
 1995 HEADLAND AVENUE
 DOTHAN, AL 36303
 WWW.POLY-INC.COM/3347-95-4700

FORT LIBERTY, NORTH CAROLINA
 AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTR)
 FY23, PN 96182
 VOLUMES 3 & 4 - DOWNRANGE
 ROAD PROFILES
 TSR No. 25, 26, 27, & 28 STA. 0+00 - 11+00

SHEET ID
CP213

READY TO ADVERTISE (RTA)

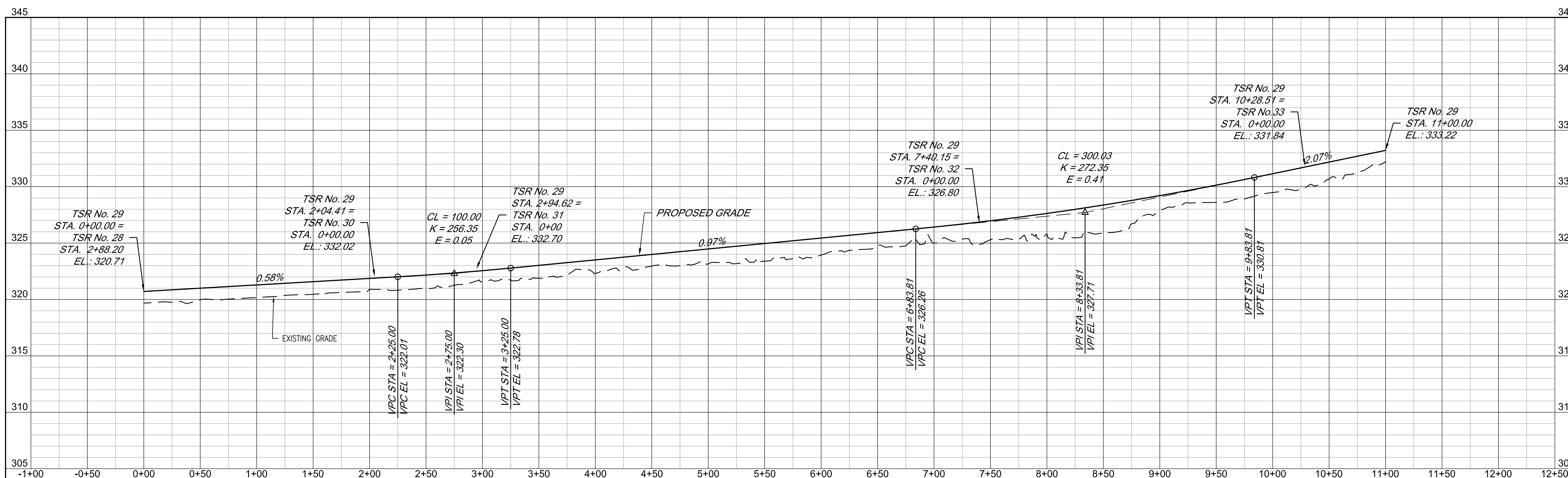
G:\CLEANSTUFF-15-2816576 BRAGG MPTRWIP07.RTA FINAL SUBMITTAL\04 CIVIL\200 PROFILES\B2ECP213.DWG



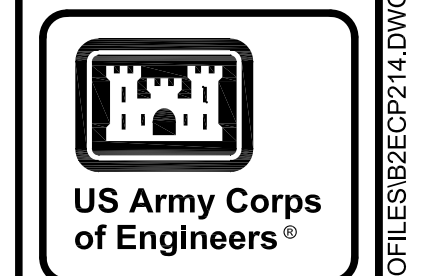
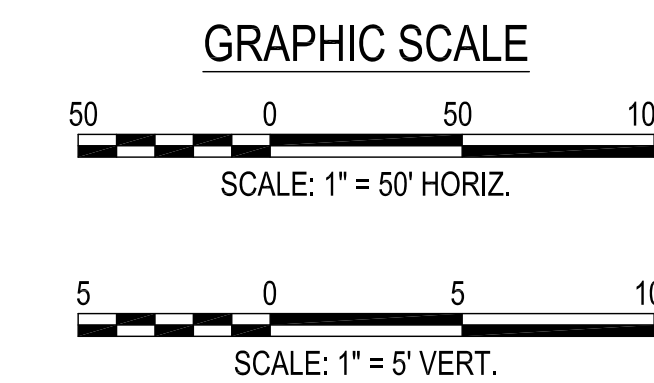
TSR No. 28



TSR No. 30



TSR No. 29



MARK	DESCRIPTION	DATE

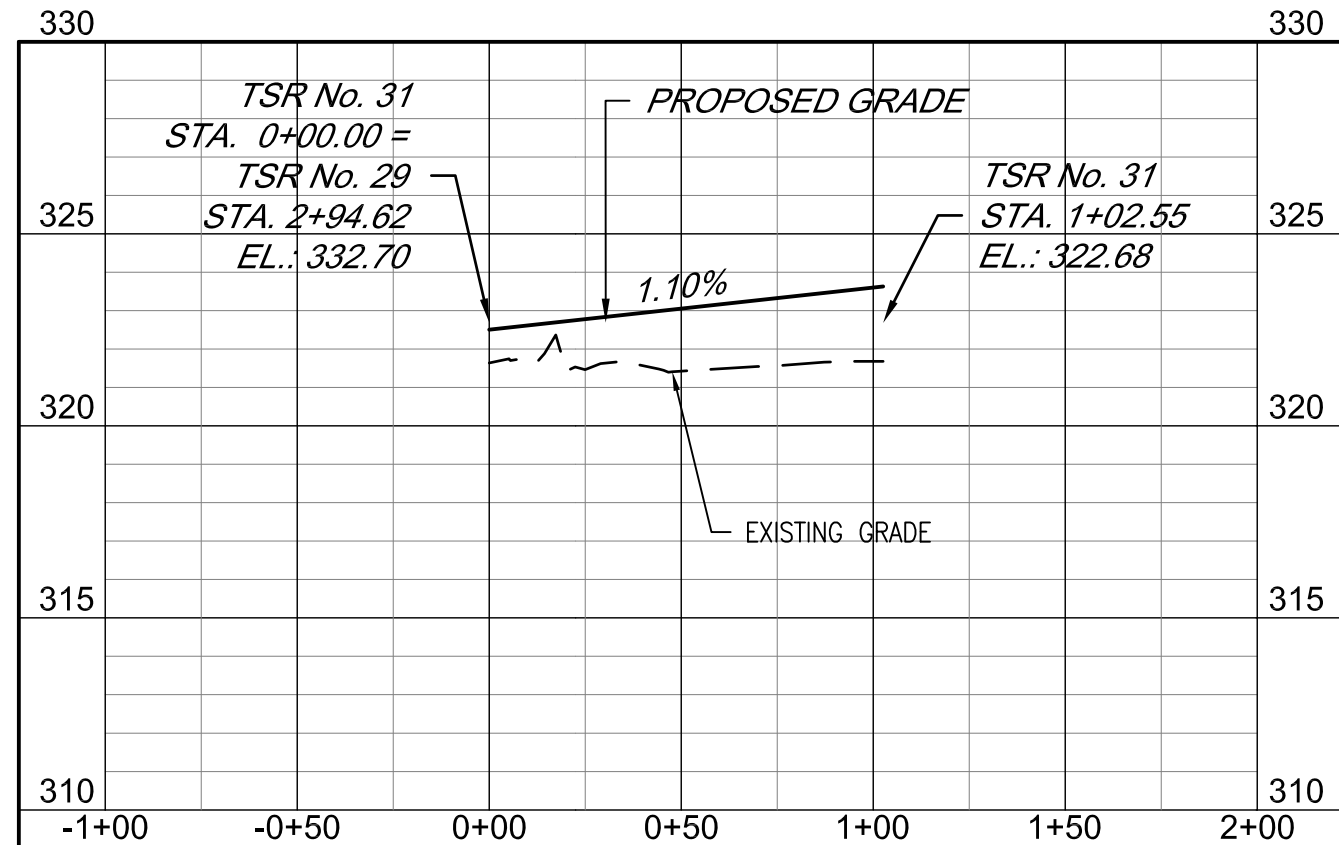
DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. BRADLEY	PLANS NO.:
SUBMITTED BY: B. BRADLEY	DATE NO.:
FILE NAME:	CONTRACT NO.:
ANSID	CATEGORY CODE: 178-65-01
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36303 WWW.POLY-INC.COM/334795-4700

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPT)
FY23, PN 96182
VOLUMES 3 & 4 - DOWNRANGE

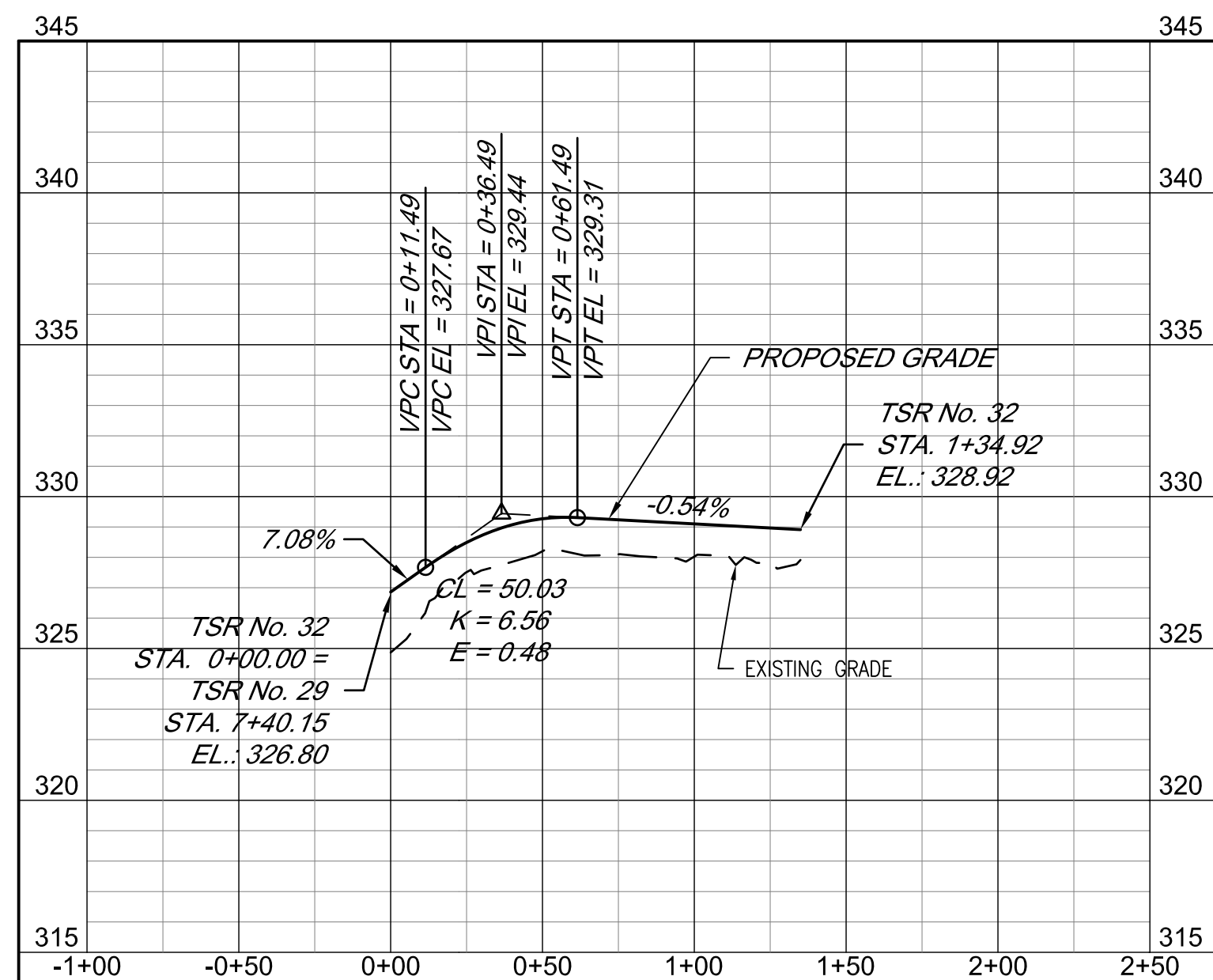
ROAD PROFILES
TSR No. 28 STA. 11+00 - 17+29.70, 29, & 30

SHEET ID
CP214

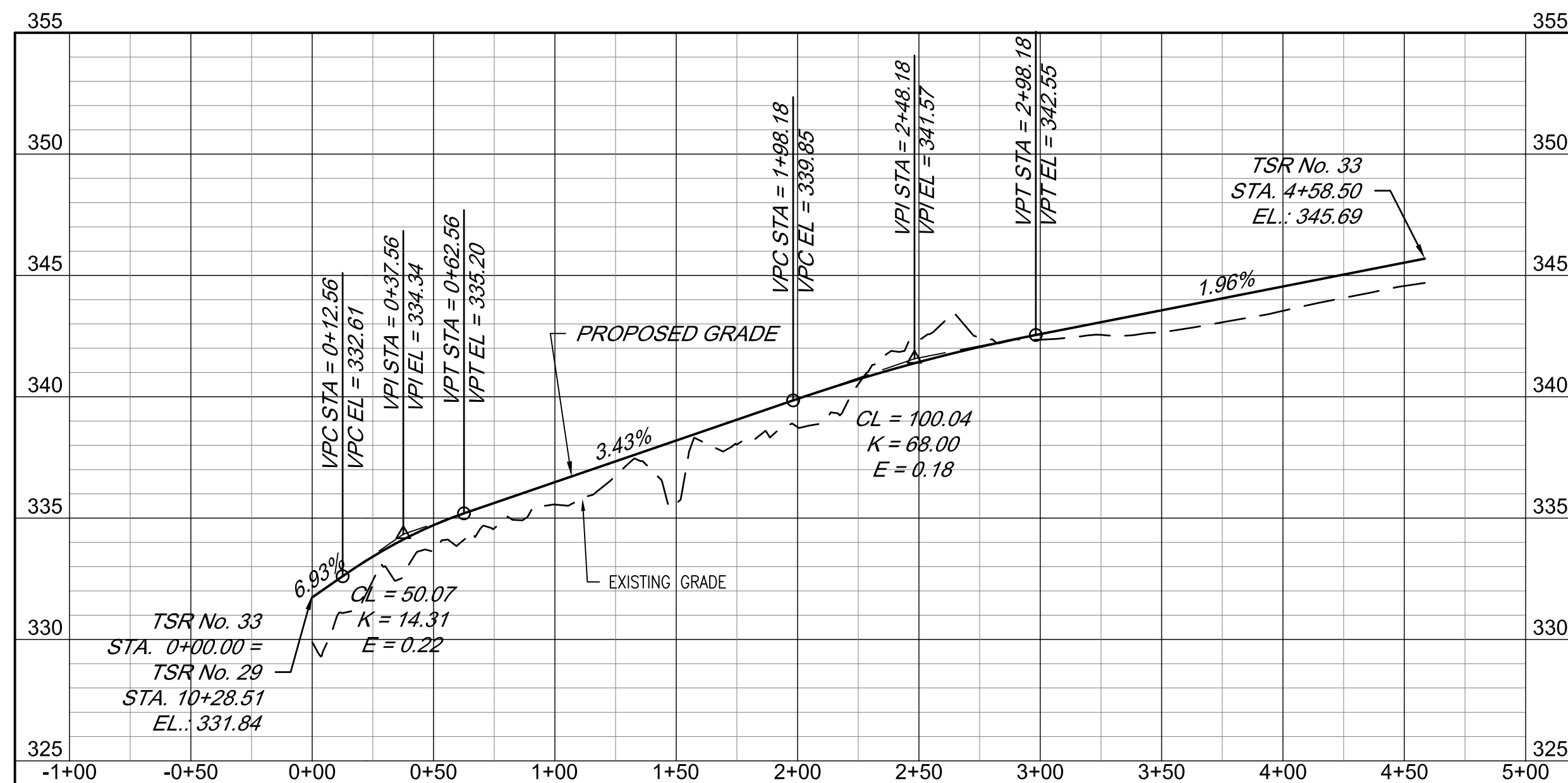
READY TO ADVERTISE (RTA)



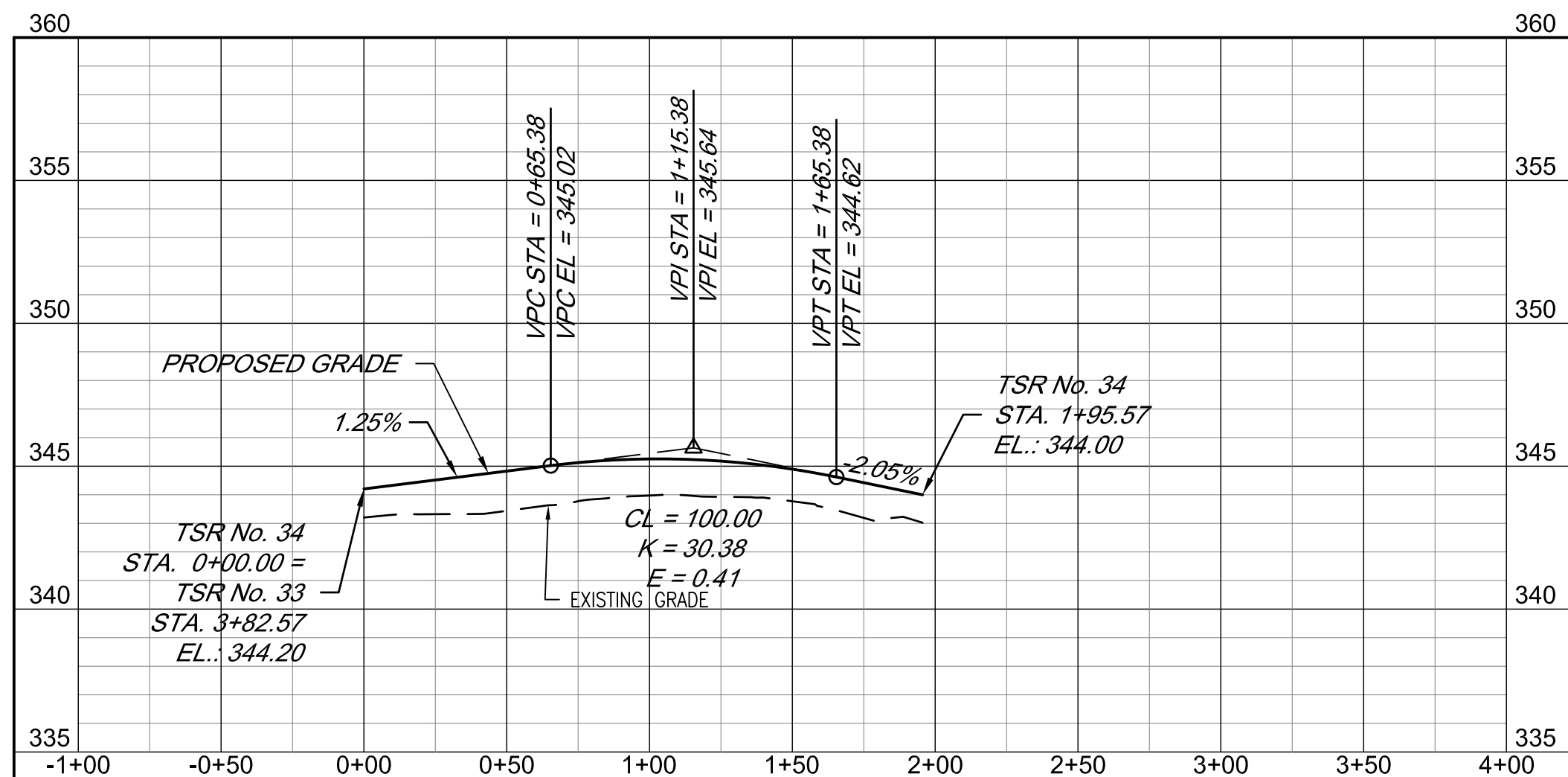
TSR No. 31



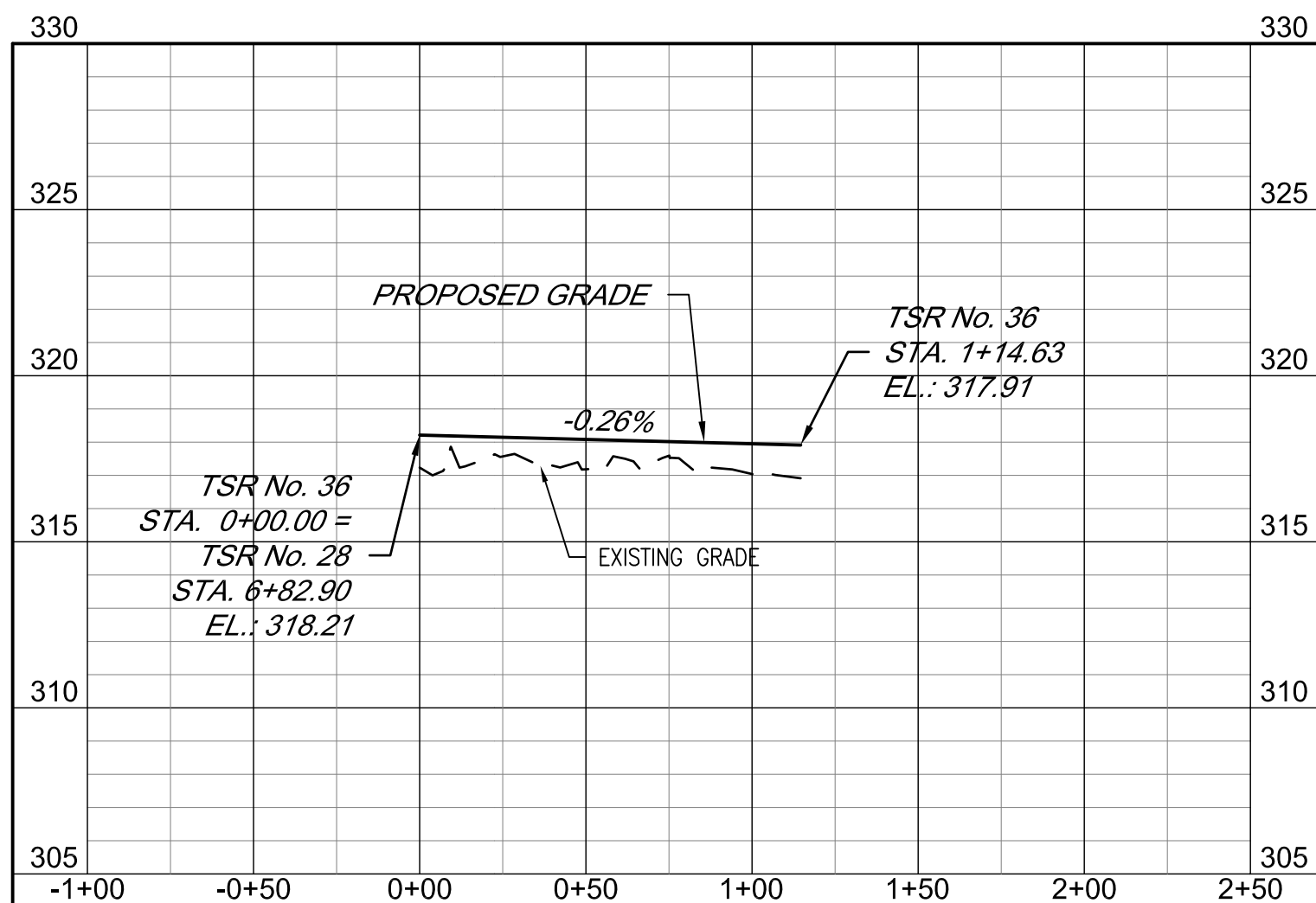
TSR No. 32



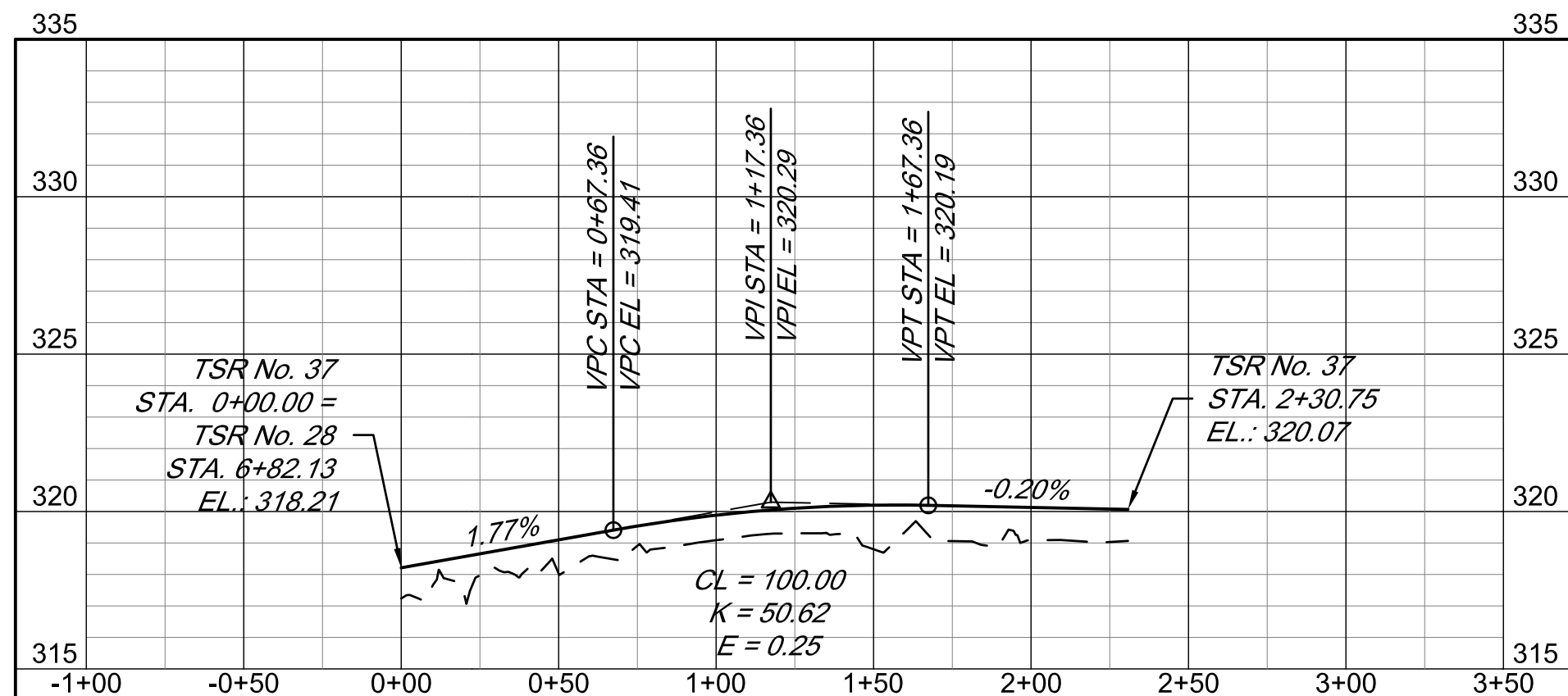
TSR No. 33



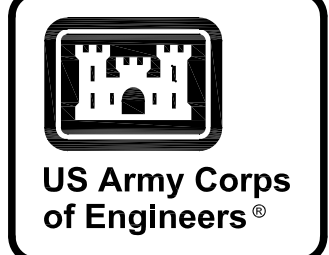
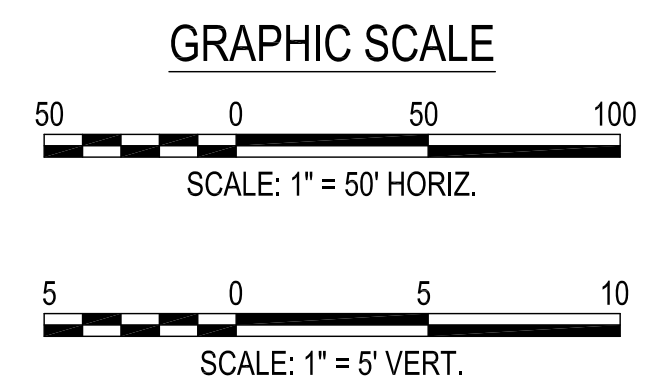
TSR No. 34



TSR No. 36



TSR No. 37



MARK	DESCRIPTION	DATE

DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. BRADLEY	PROJECT NO.: 1919A-23-3012
SUBMITTED BY: B. BRADLEY	CONTRACT NO.:
SIZE: ANSI D	CATEGORY CODE: 178-85-01
FILE NAME:	

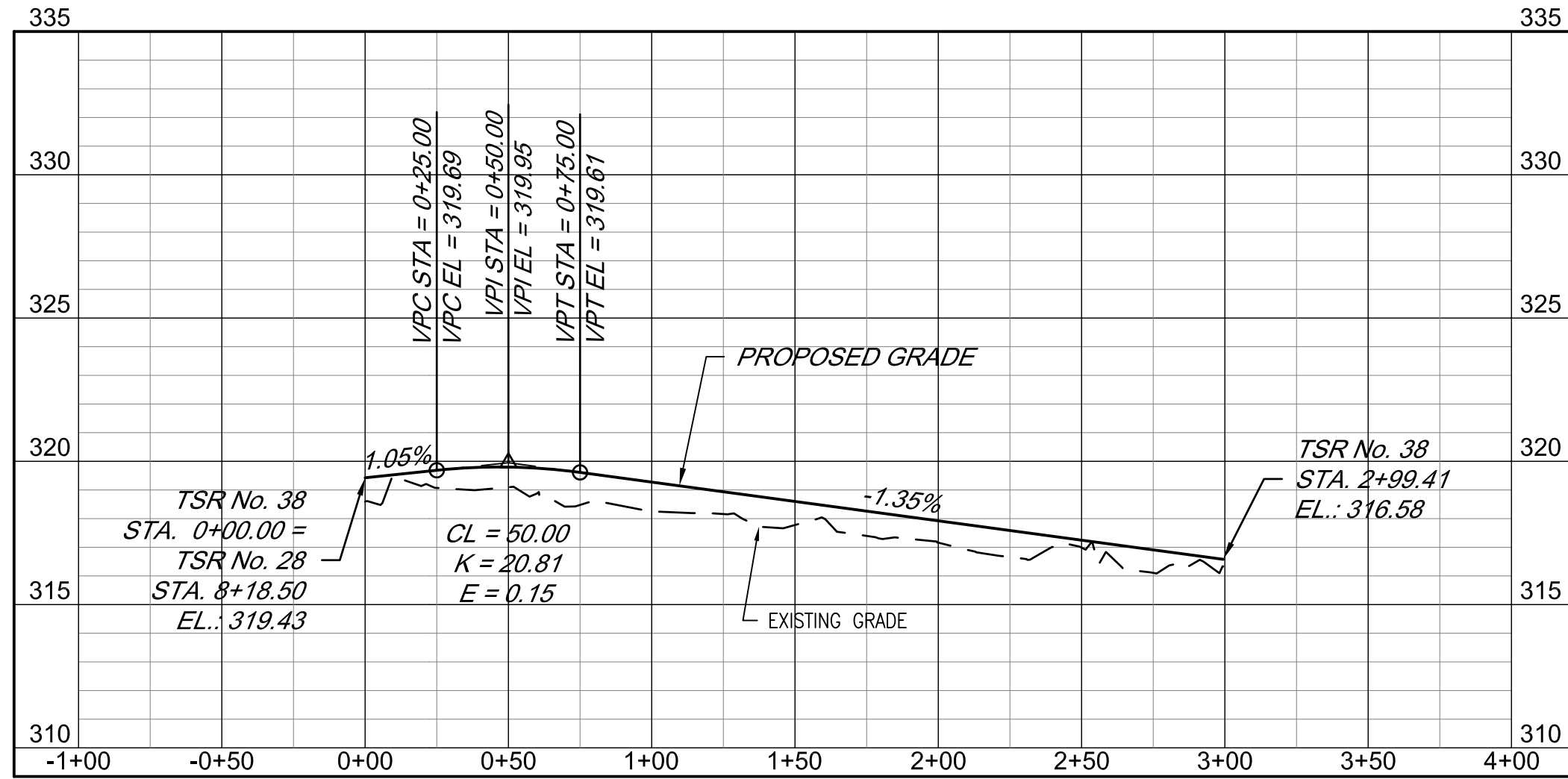
U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT
100 W. OGLETHORPE AVE
SAVANNAH, GA 31401

POLY, INC.
1935 HEADLAND AVENUE
DOTHAN, AL 36803
WWW.POLY-INC.COM/334795-4700

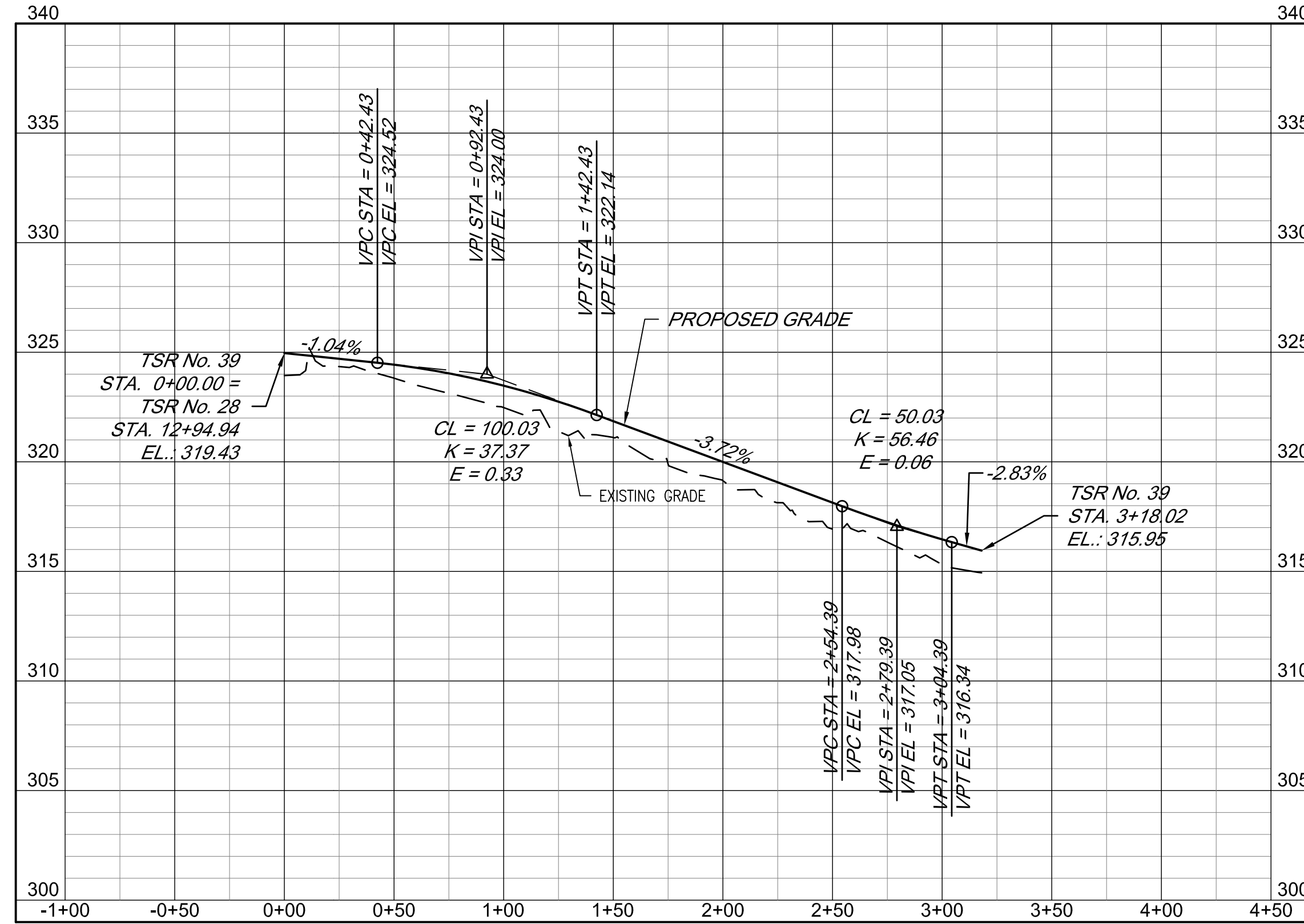
FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 86182
VOLUMES 3 & 4 - DOWNRANGE

ROAD PROFILES
TSR No. 31, 32, 33, 34, 36, & 37

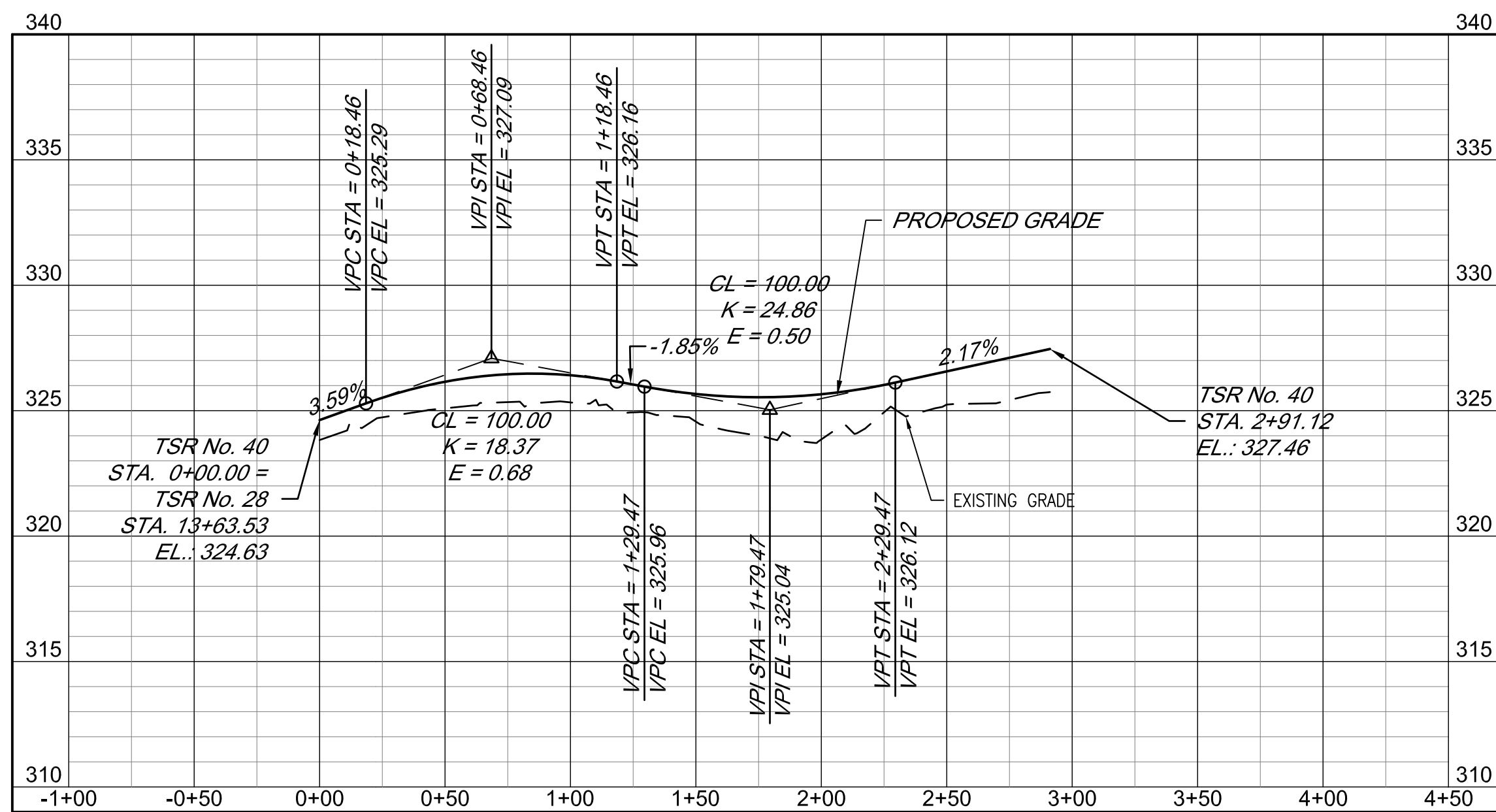
SHEET ID
CP215



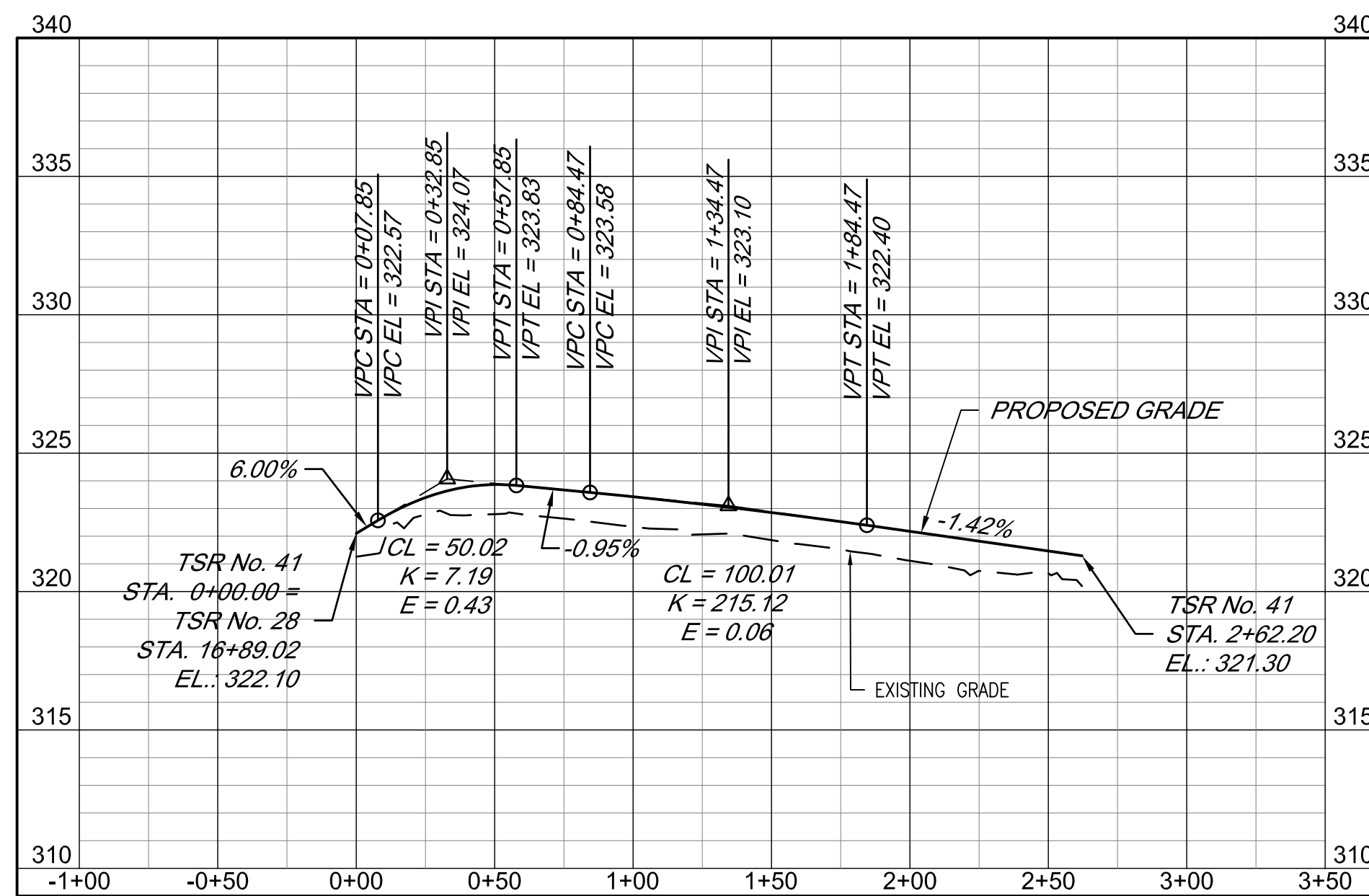
TSR No. 38



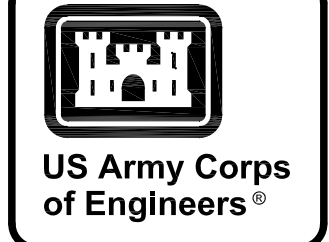
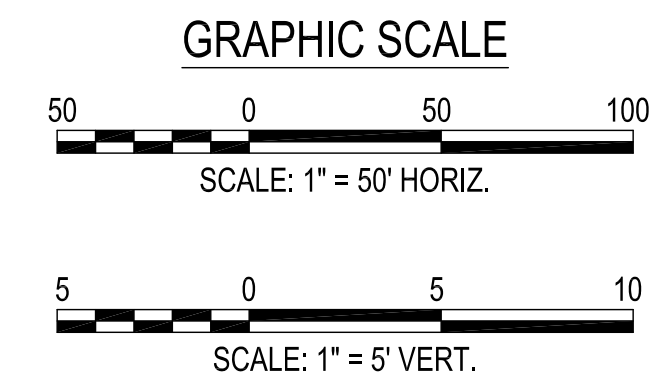
TSR No. 39



TSR No. 40



TSR No. 41



MARK	DESCRIPTION	DATE

DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. BRADLEY	PROJECT NO.: W91P4-23-302
CONTRACT NO.:	CATEGORY CODE: 178-65-01
FILE NAME:	SIZE:
ANSID:	

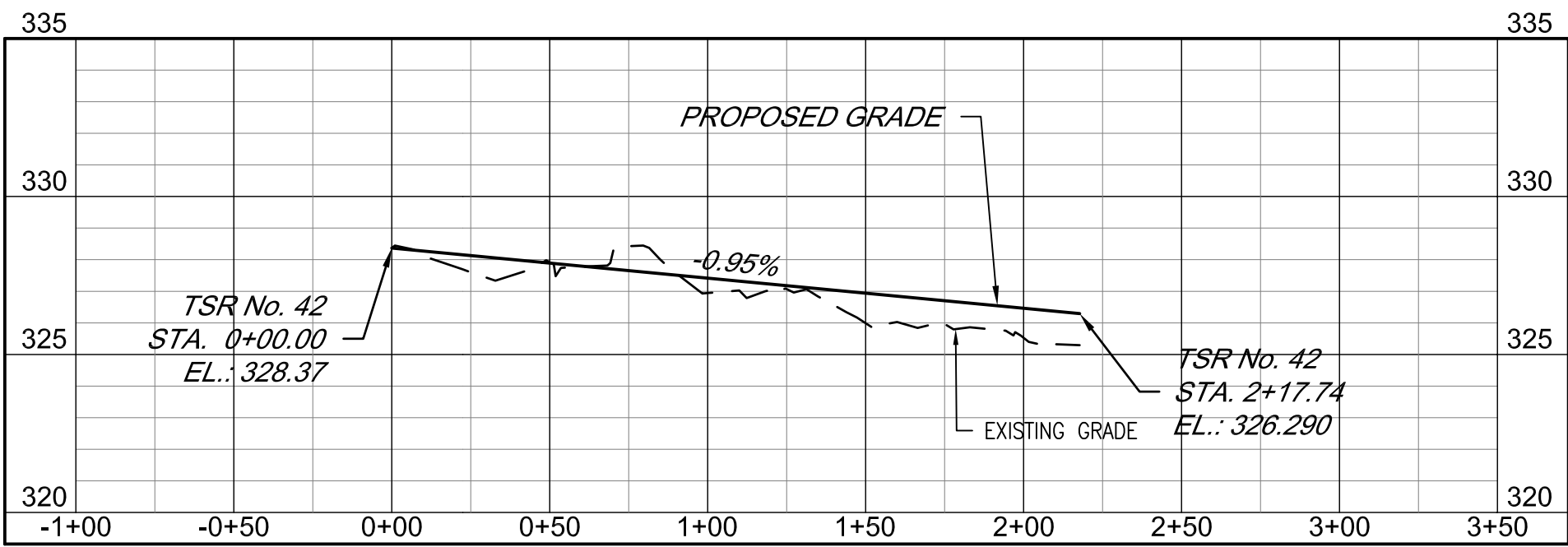
U.S. ARMY CORPS OF ENGINEERS
 SAVANNAH DISTRICT
 100 W. OGLETHORPE AVE
 SAVANNAH, GA 31401

POLY, INC.
 1935 HEADLAND AVENUE
 DOTHAN, AL 36505
 WWW.POLY-INC.COM/3347-95-4700

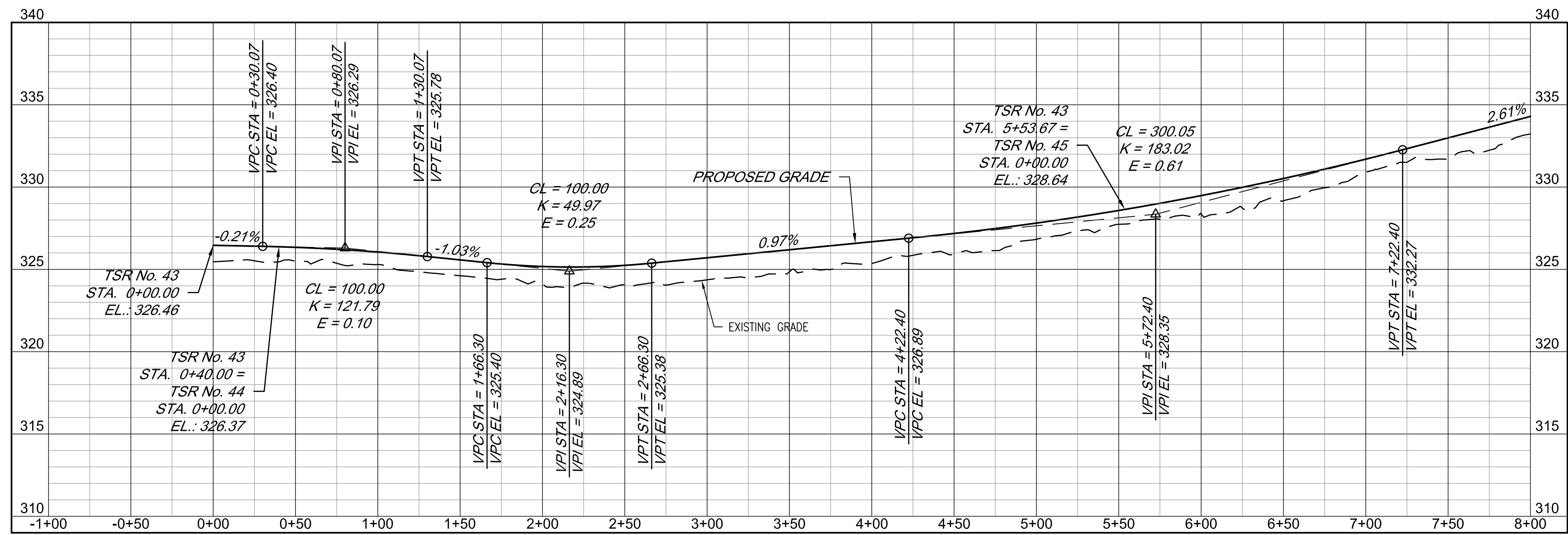
FORT LIBERTY, NORTH CAROLINA
 AUTOMATED MULTIPURPOSE TRAINING RANGE (MPT)
 FY23, PN 96182
 VOLUMES 3 & 4 - DOWNRANGE
 ROAD PROFILES
 TSR No. 38, 39, 40, & 41

SHEET ID
CP216

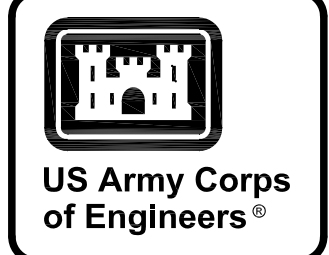
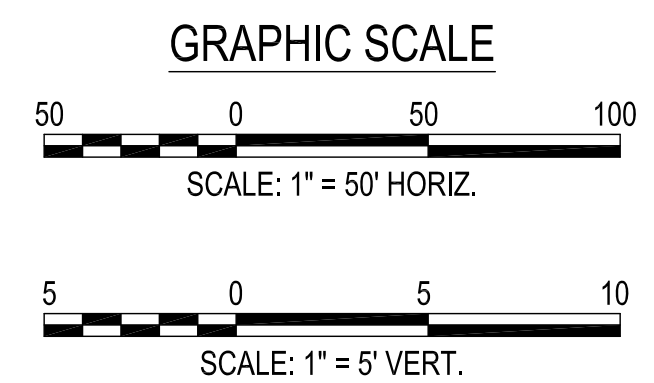
READY TO ADVERTISE (RTA)



TSR No. 42



TSR No. 43

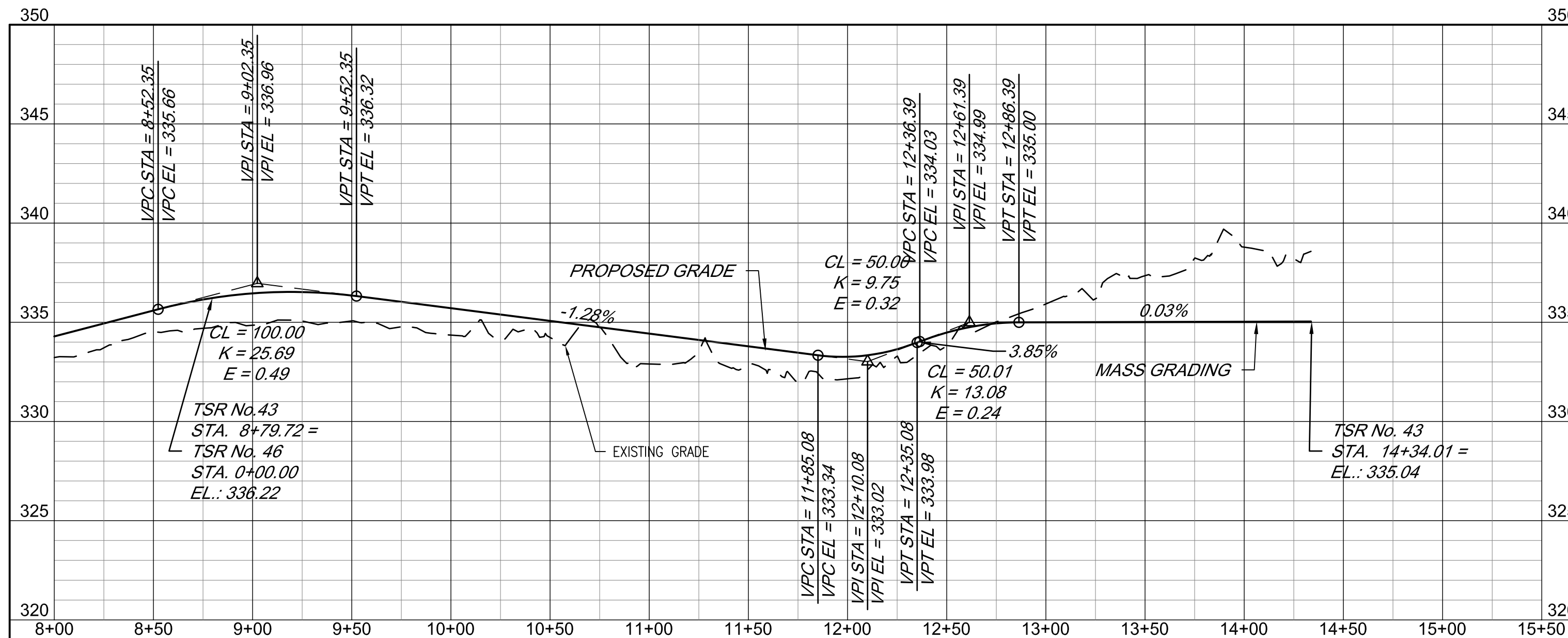


MARK	DESCRIPTION	DATE

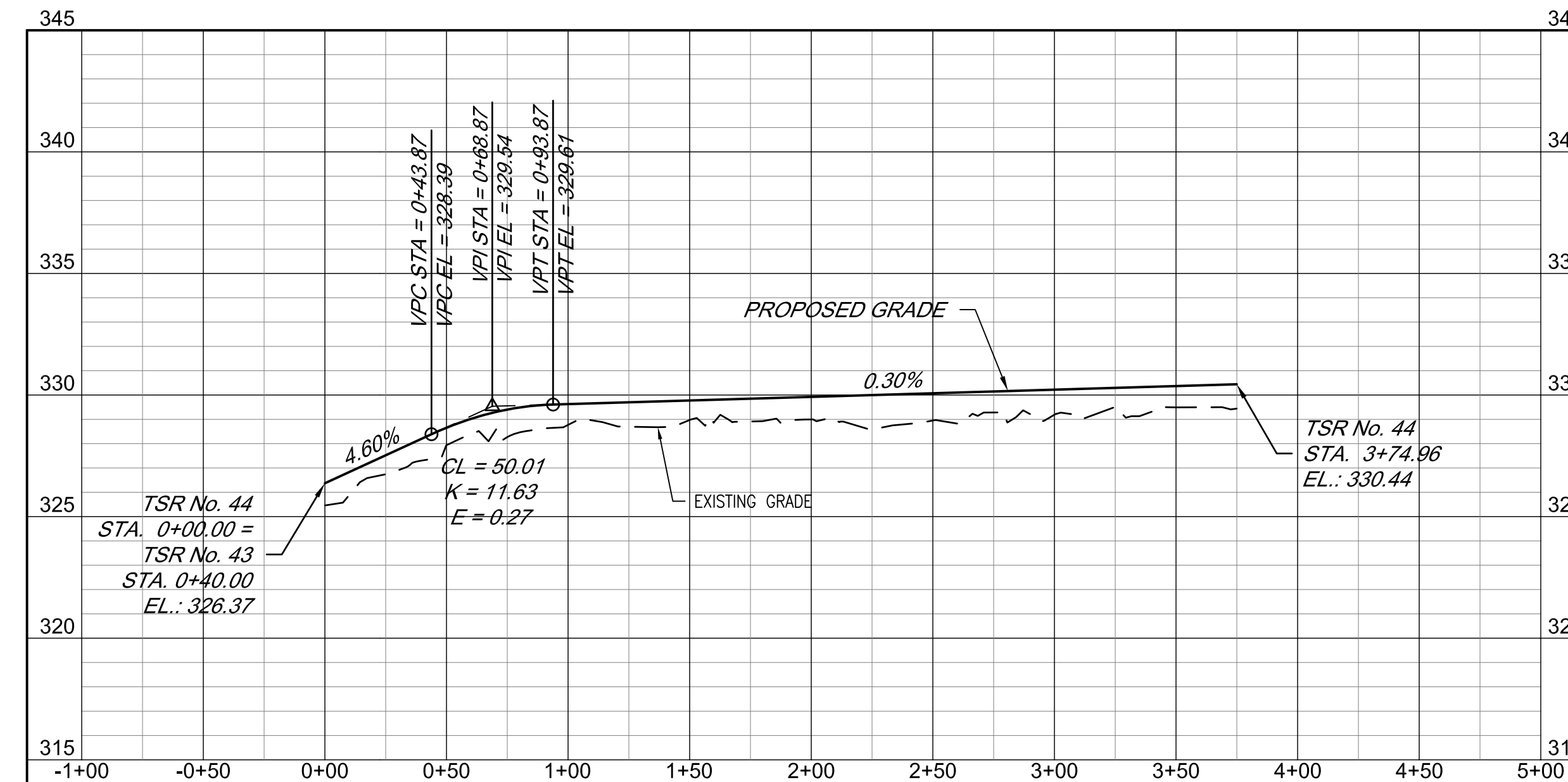
DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. BRADLEY	PROJECT NO. / CONTRACT NO.:
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	CATEGORY CODE: 178-65-01
POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36303 WWW.POLY-INC.COM / 334-793-4700	FILE NAME: ANSID

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPT)
FY23, PN 86182
VOLUMES 3 & 4 - DOWNRANGE
ROAD PROFILES
TSR No. 42 & 43 STA. 0+00 - 8+00

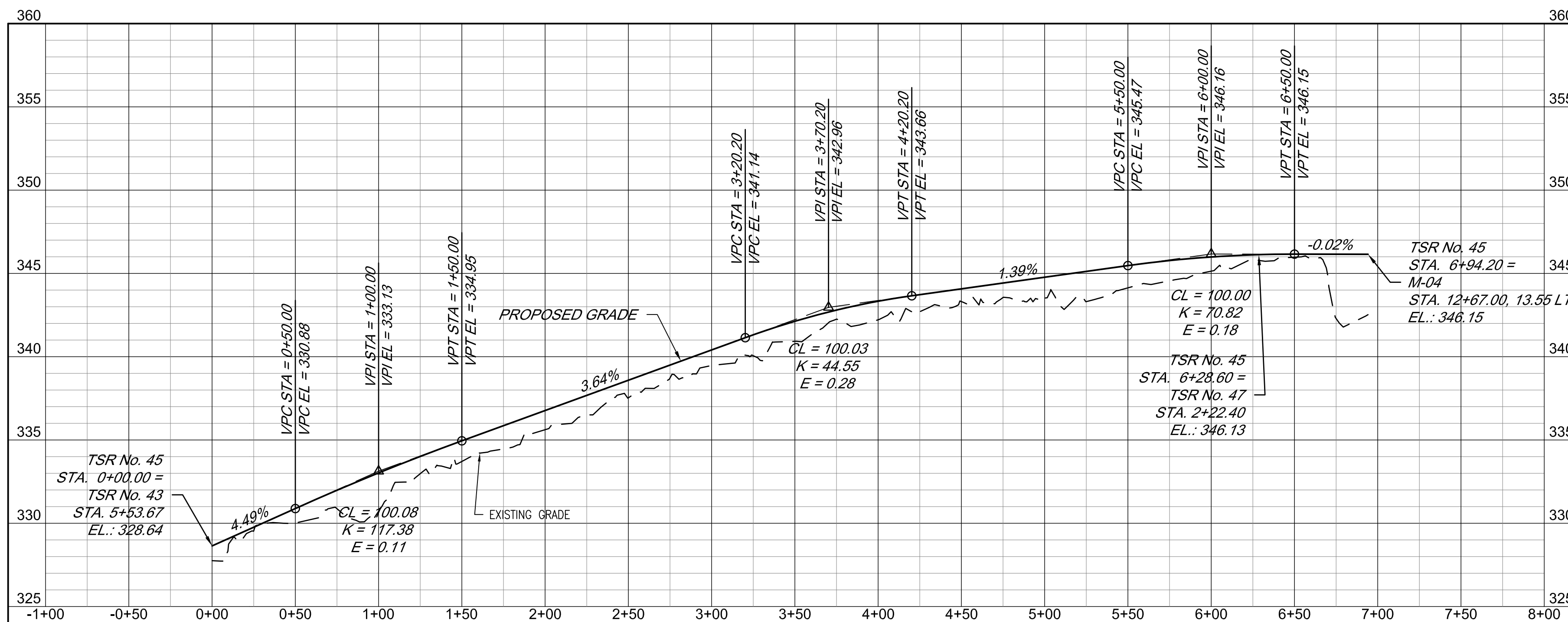
SHEET ID
CP217



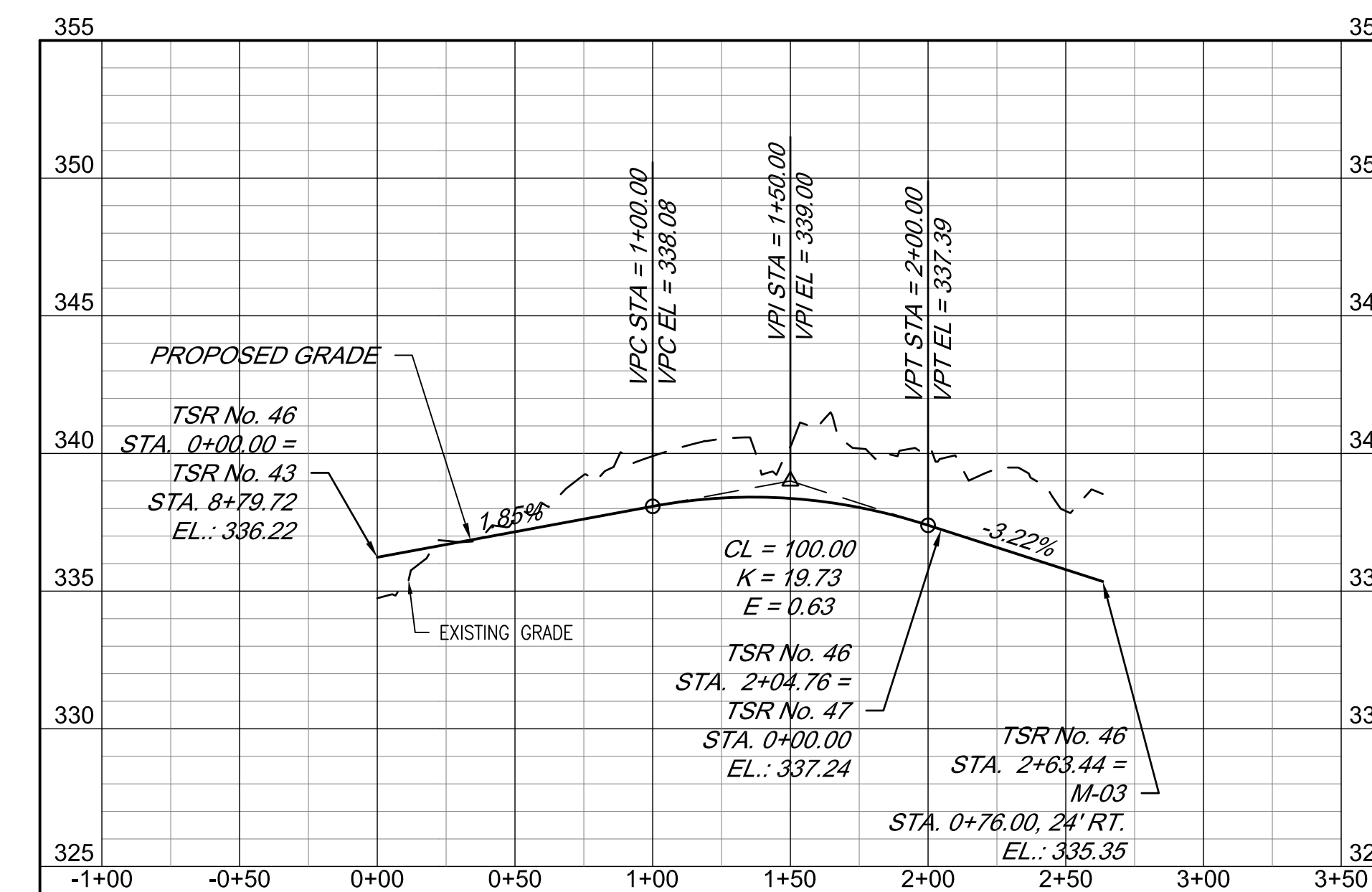
TSR No. 43



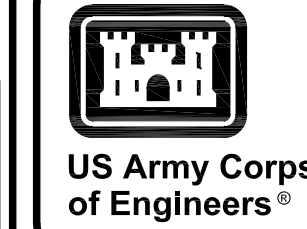
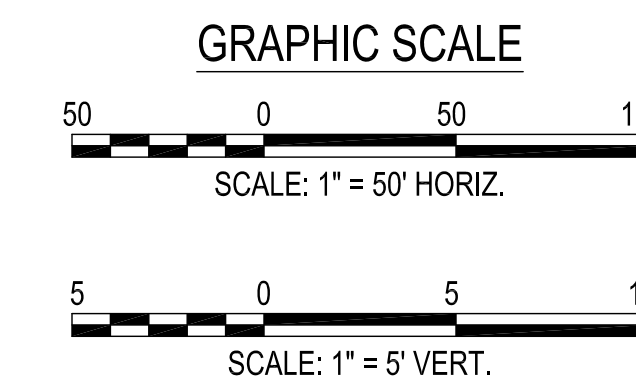
TSR No. 44



TSR No. 45



TSR No. 46



MARK	DESCRIPTION	DATE

DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. JOHNSON	PROJECT NO. / CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-65-01
FILE NAME:	

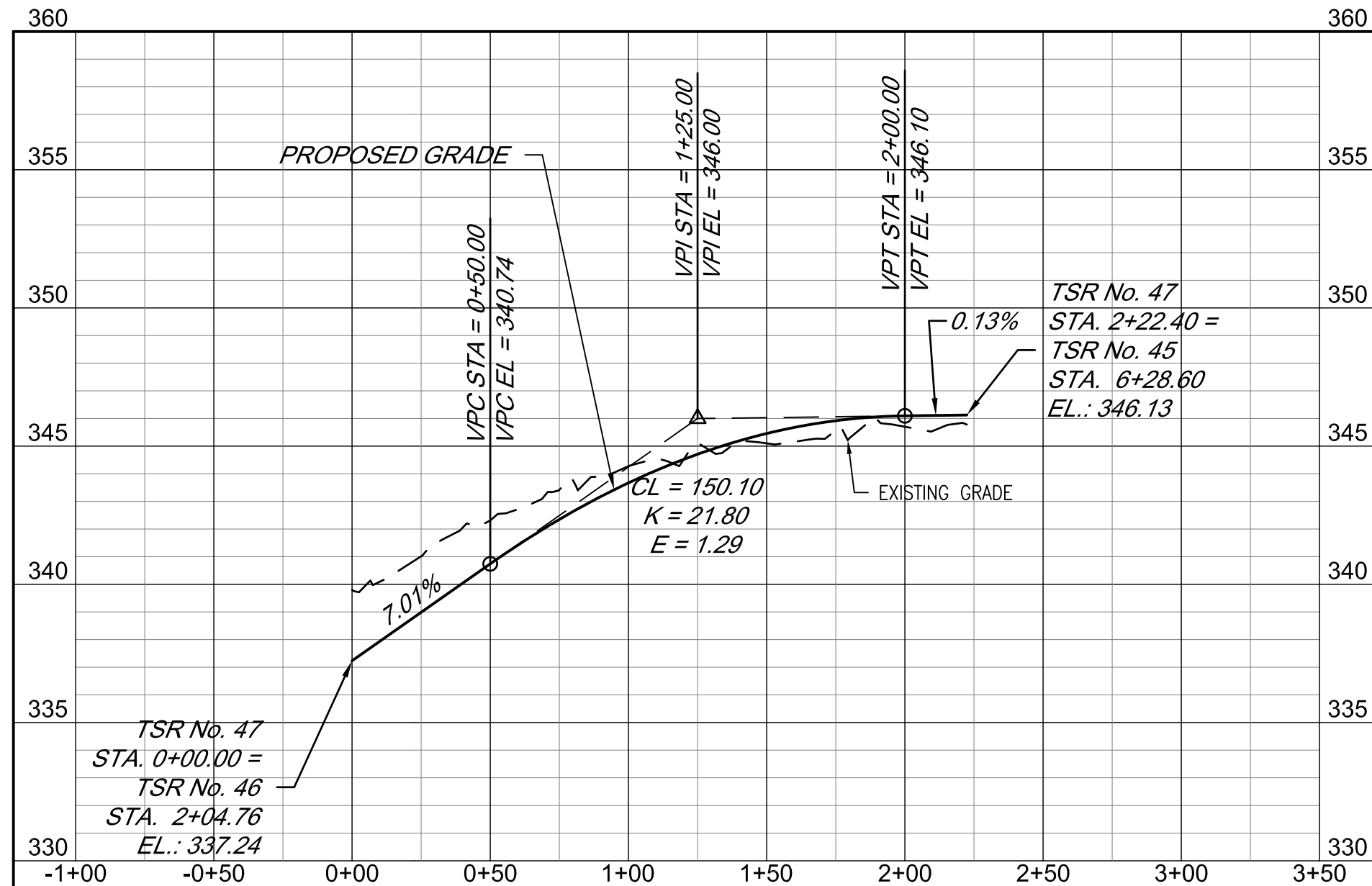
U.S. ARMY CORPS OF ENGINEERS
 SAVANNAH DISTRICT
 100 W. OGLETHORPE AVE
 SAVANNAH, GA 31401

POLY, INC.
 1935 HEADLAND AVENUE
 DOTHAN, AL 36803
 WWW.POLY-INC.COM/3347-95-4700

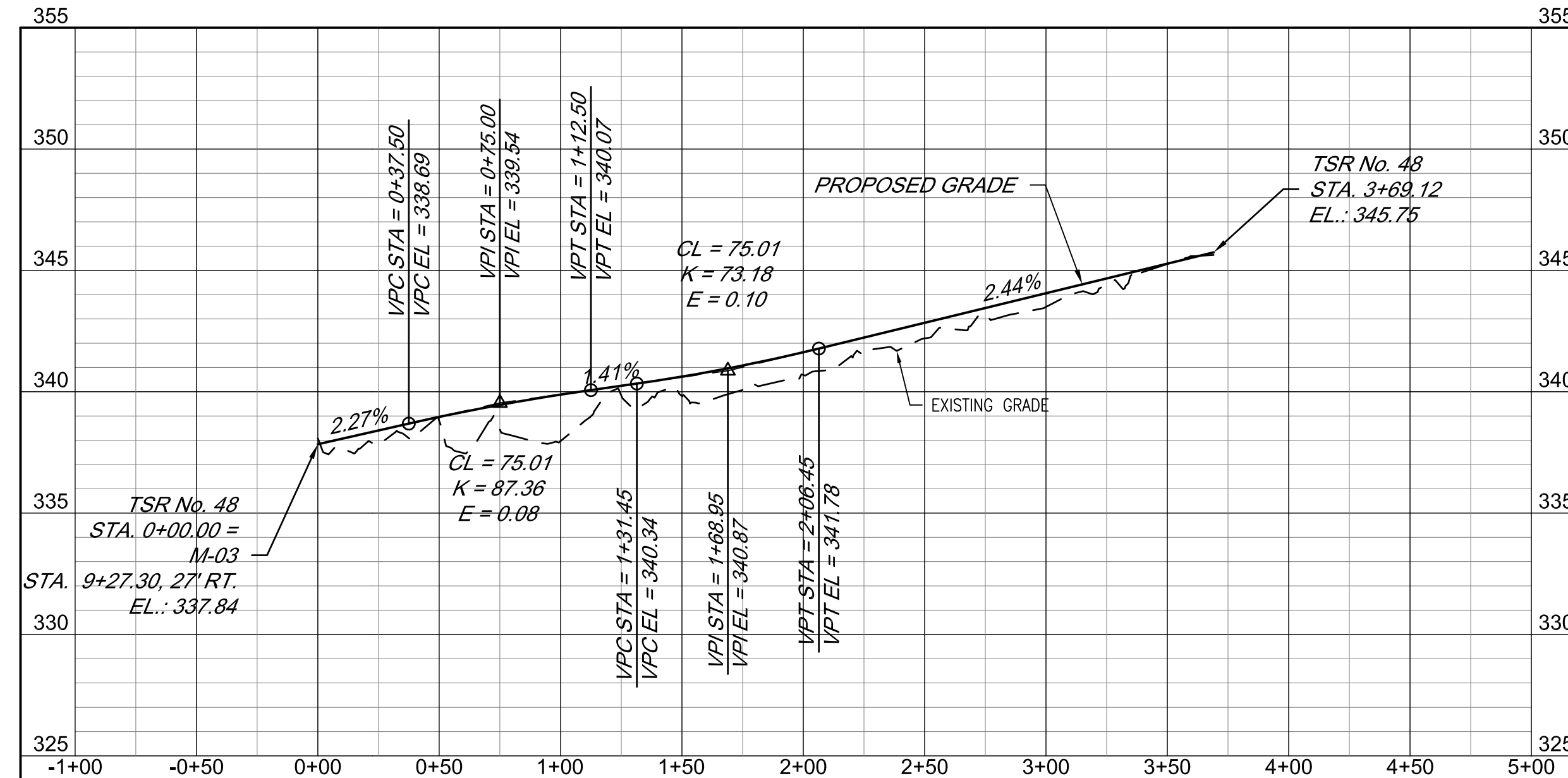
SHEET ID
CP218

G:\CLEANSTUFF-152916376 BRAGG MPTRWIP07.RTA FINAL SUBMITTAL\04 CIVIL\200 PROFILES\B2ECP218.DWG

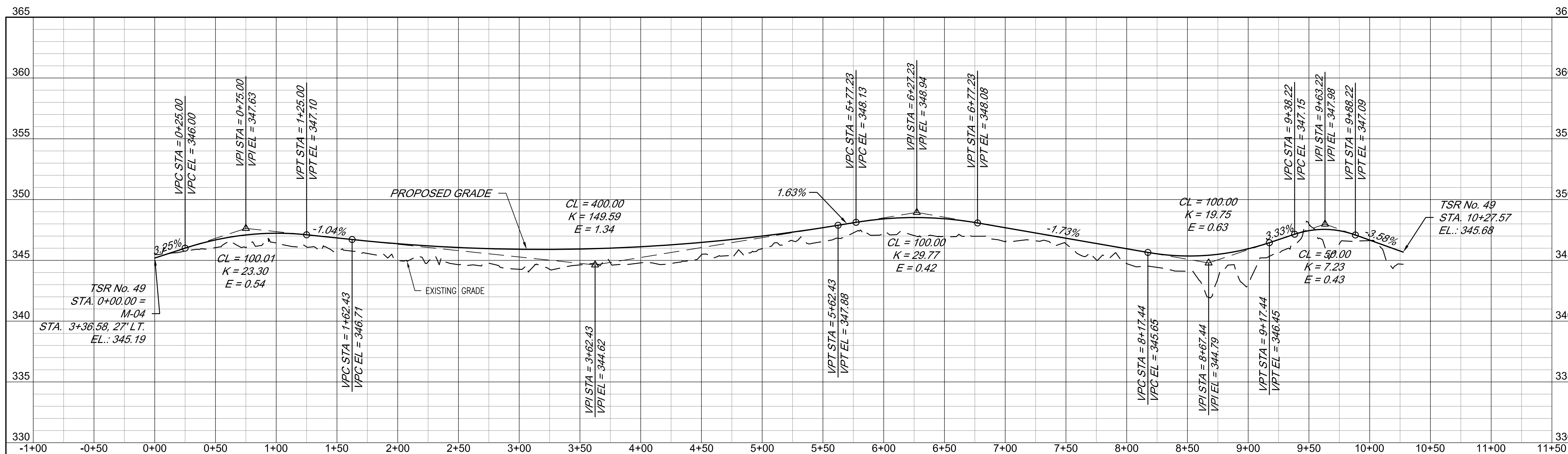
READY TO ADVERTISE (RTA)



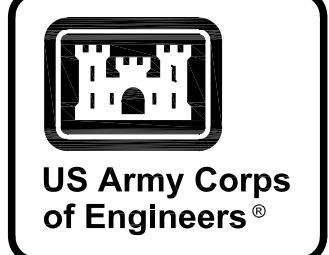
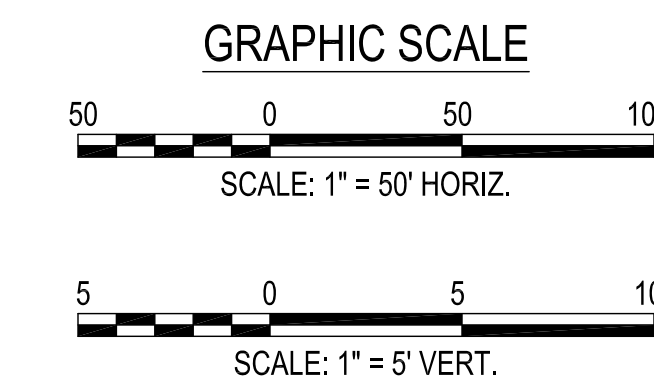
TSR No. 47



TSR No. 48



TSR No. 49



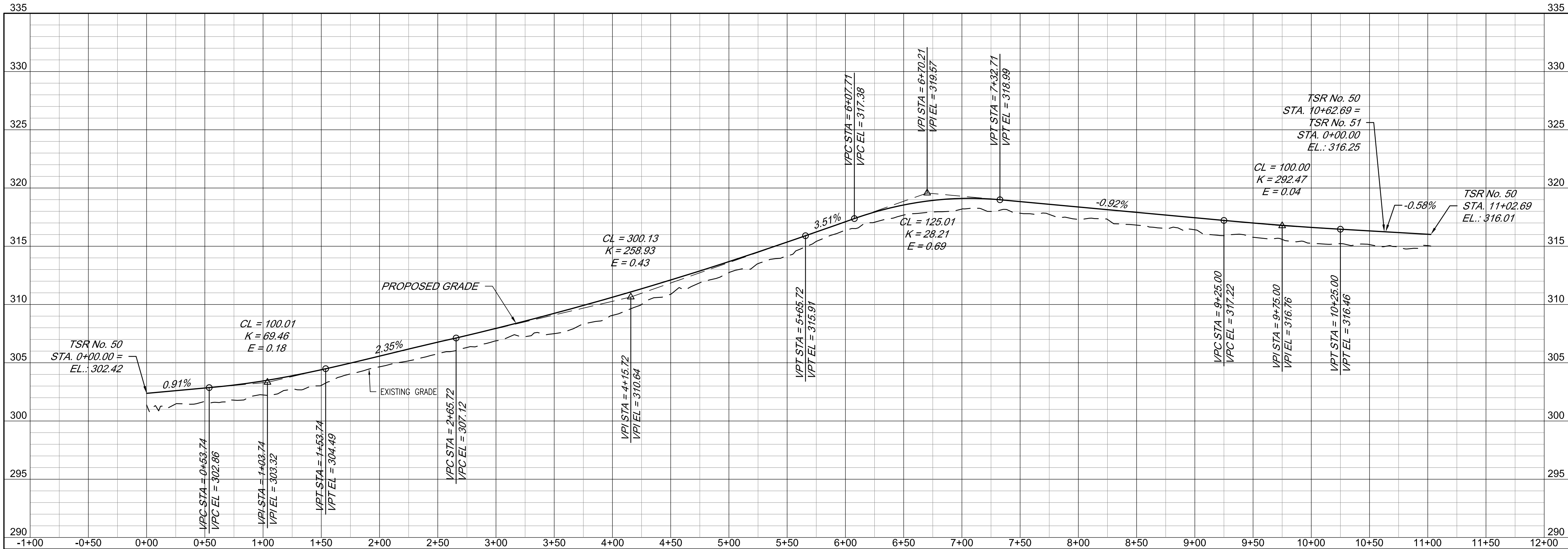
MARK	DESCRIPTION	DATE

DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. JOHNSON	PROJECT NO. / CONTRACT NO.:
APPROVED BY: B. BRADLEY	CATEGORY CODE: 178-65-01
FILE NAME: ANSID	

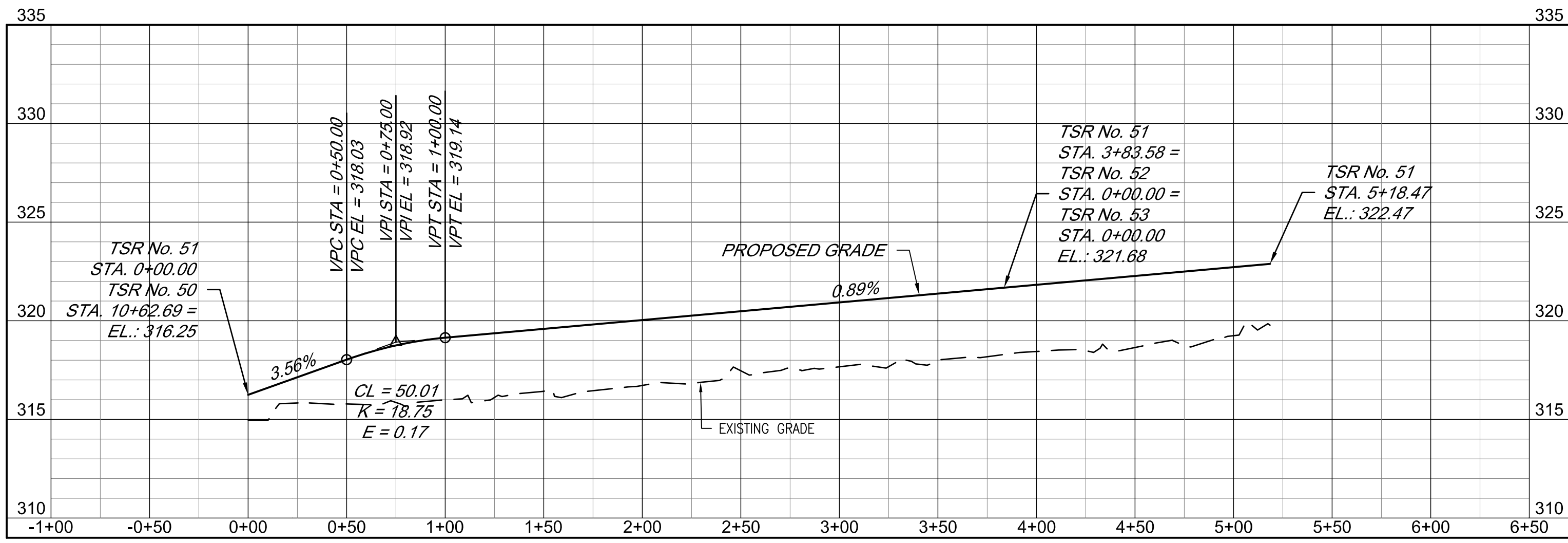
FORT LIBERTY, NORTH CAROLINA
 AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
 FY23, PN 96182
 VOLUMES 3 & 4 - DOWNRANGE

ROAD PROFILES
 TSR No. 47, 48, & 49

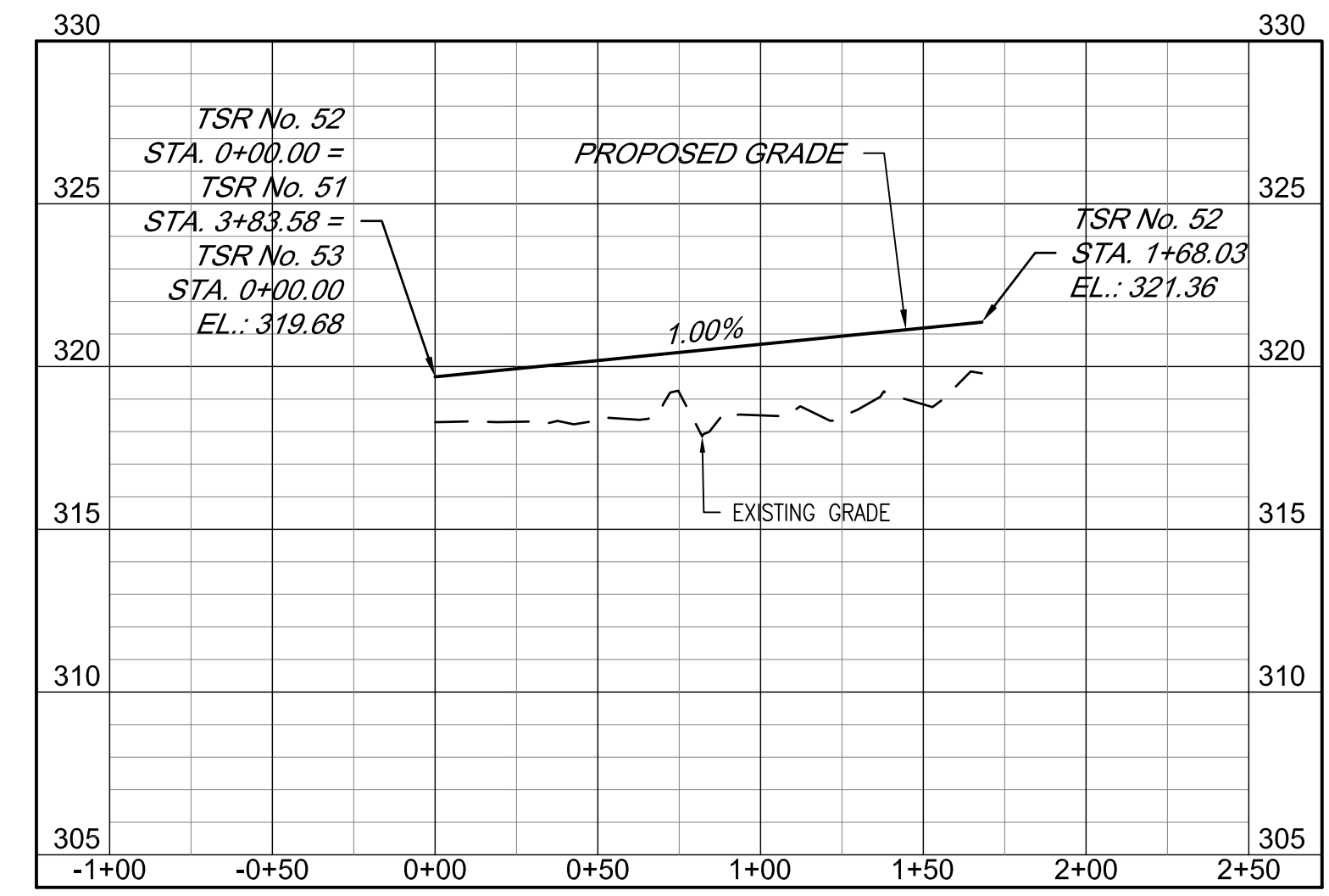
SHEET ID
CP219



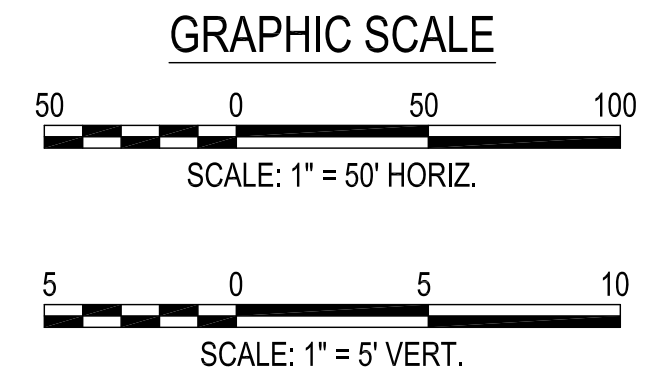
TSR No. 50



TSR No. 51



TSR No. 52

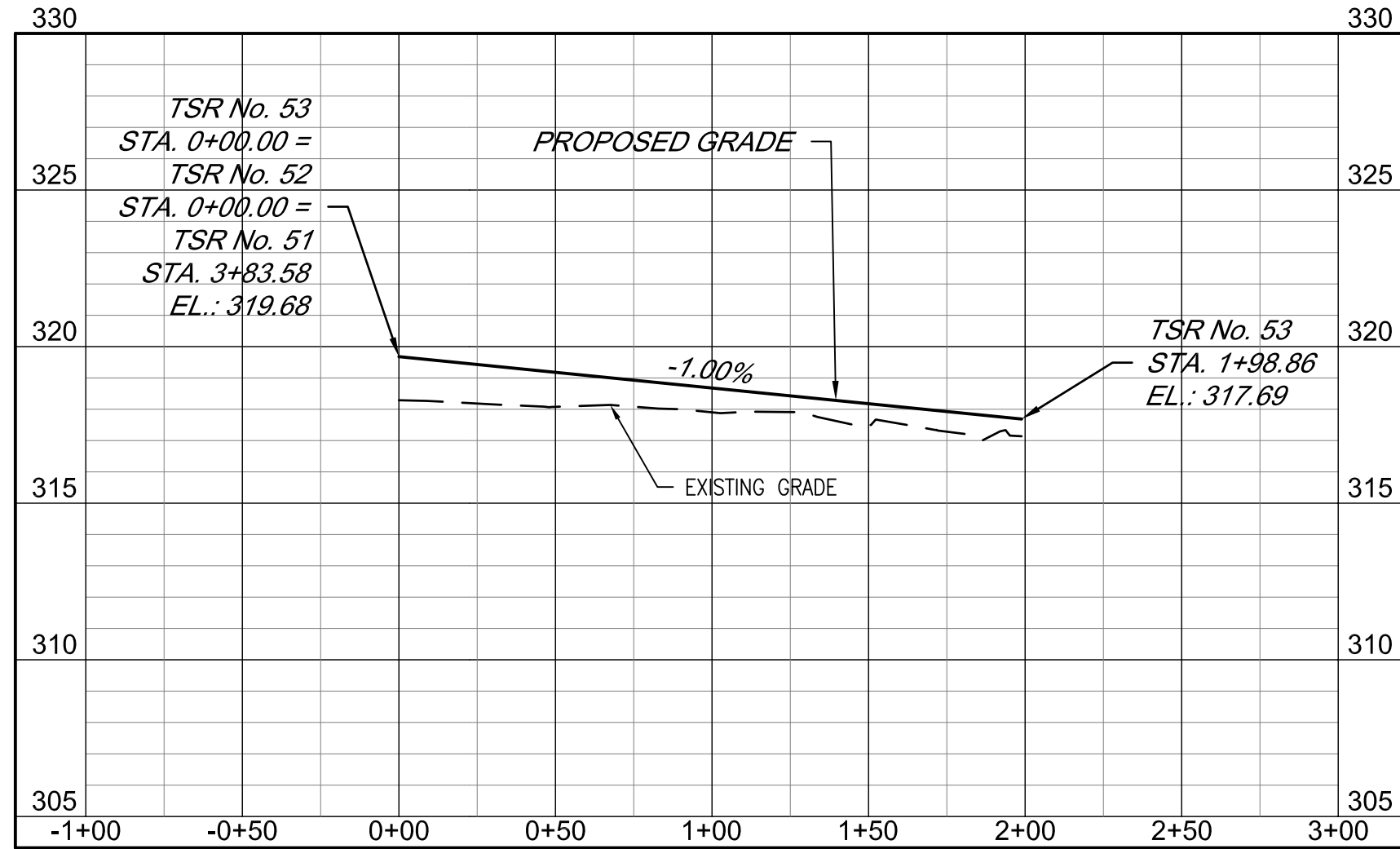


MARK	DESCRIPTION	DATE

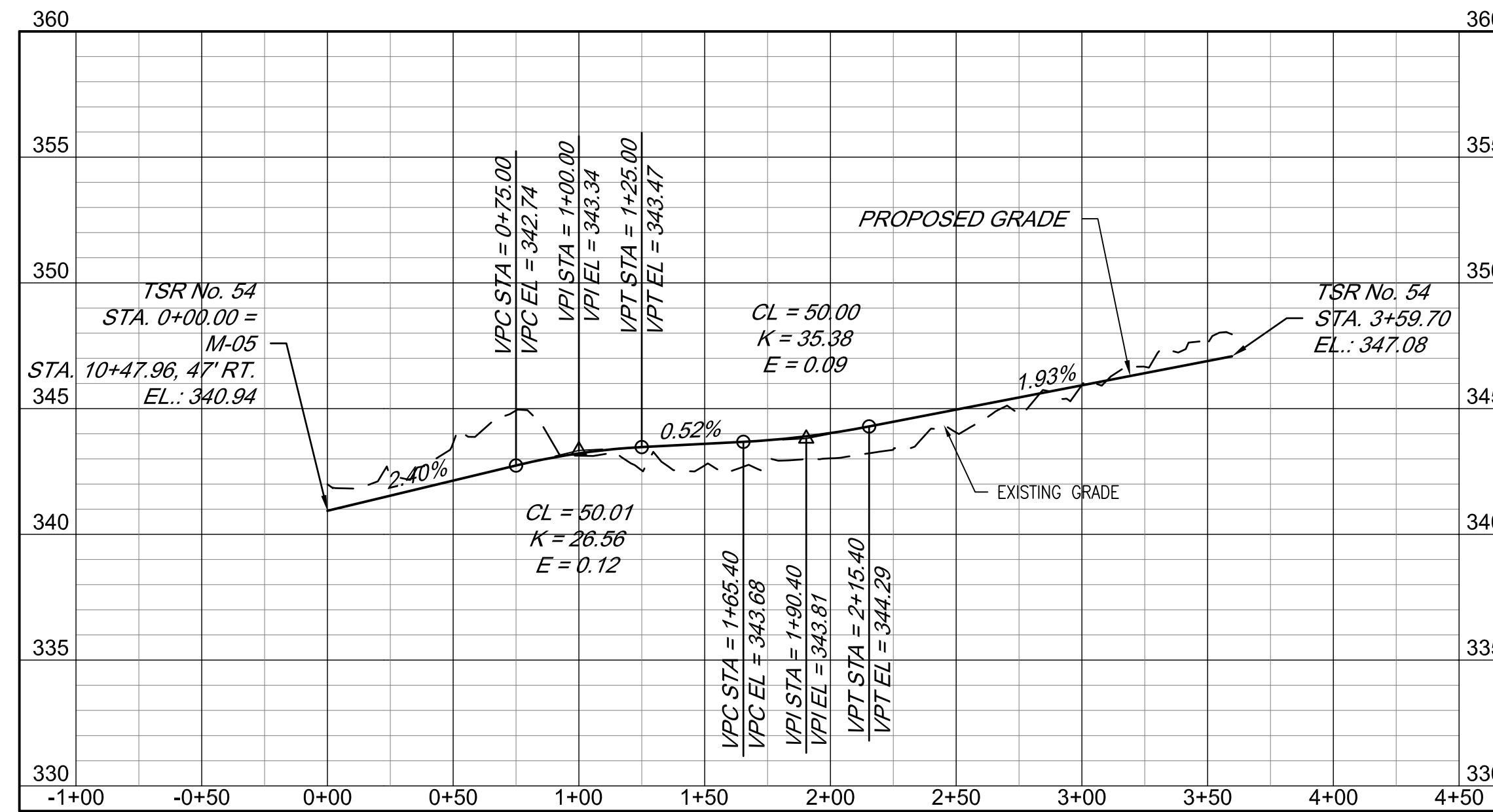
DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. BRADLEY	PROJECT NO. & DATE: 104943-23-002
SUBMITTED BY: B. BRADLEY	CONTRACT NO.:
FILE NAME: ANSID	CATEGORY CODE: 178-85-01
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1985 HEADLAND AVENUE DOTHAN, AL 36803 WWW.POLY-INC.COM/3347-95-4700

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 96182
VOLUMES 3 & 4 - DOWNRANGE
ROAD PROFILES
TSR No. 50, 51, & 52

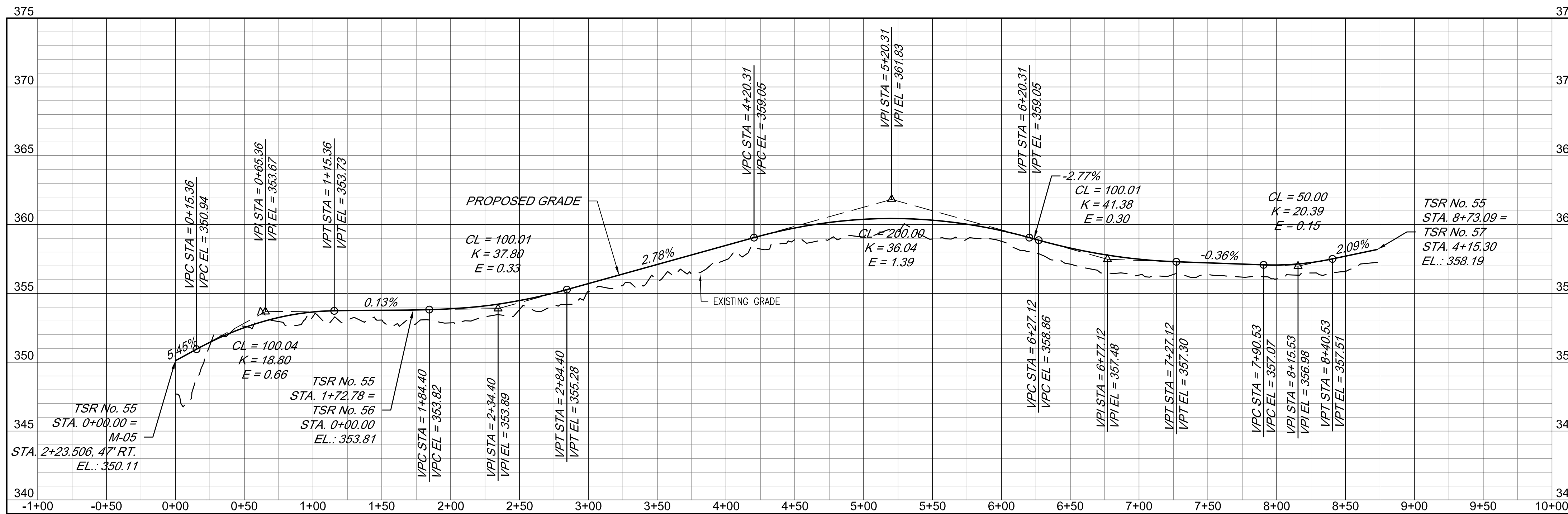
SHEET ID
CP220



TSR No. 53

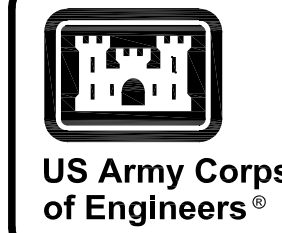
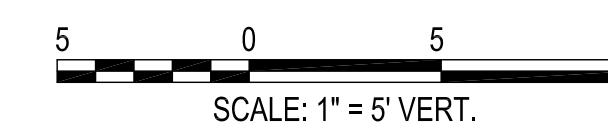
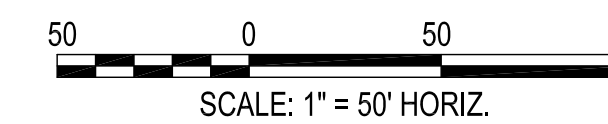


TSR No. 54



TSR No. 55

GRAPHIC SCALE



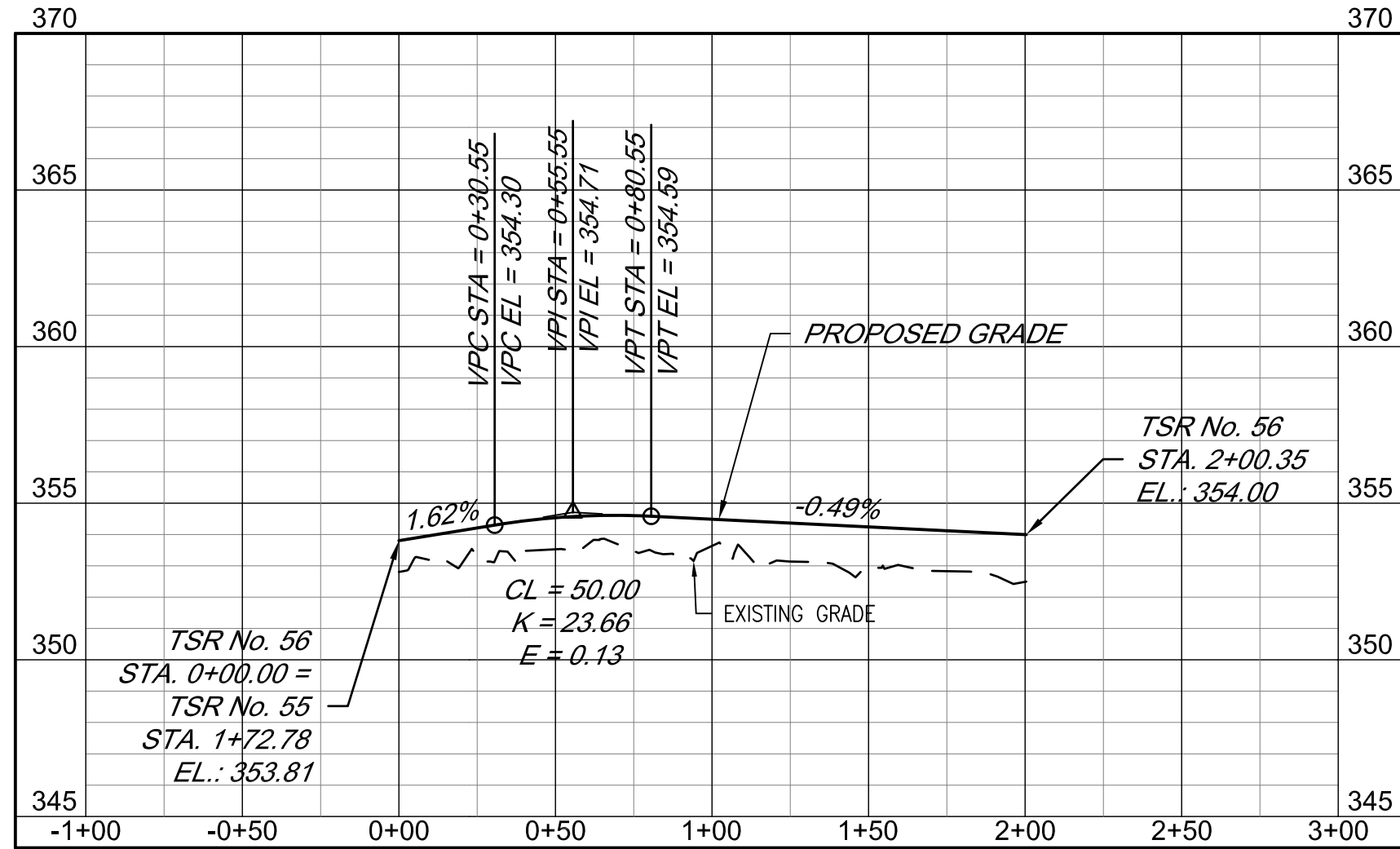
US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

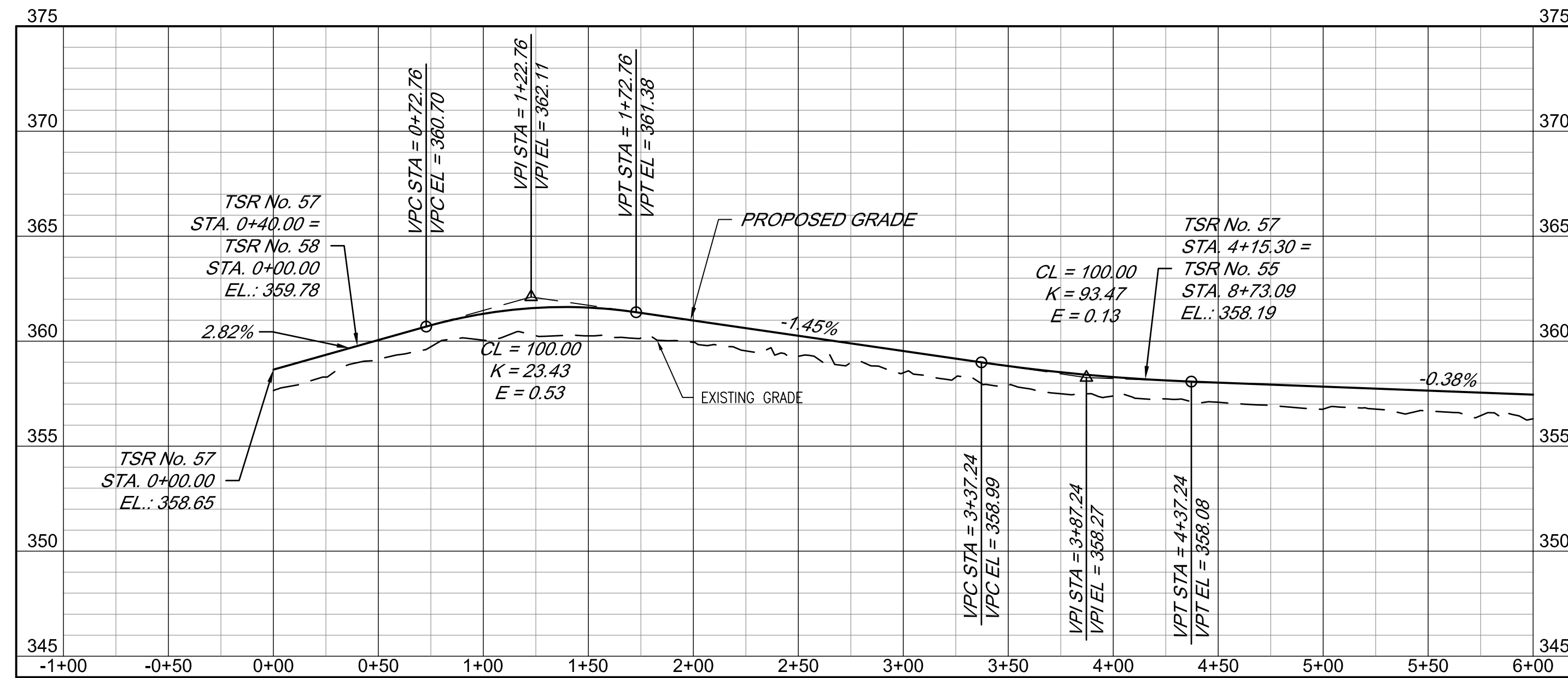
DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. JOHNSON	PROJECT NO.: 1041942-3002
SUBMITTED BY: B. BRADLEY	CONTRACT NO.:
FILE NAME: ANSID	CATEGORY CODE: 178-65-01
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	
POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36803 WWW.POLY-INC.COM/3347-95-4700	

FORT LIBERTY, NORTH CAROLINA
 AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
 FY23, PN 96182
 VOLUMES 3 & 4 - DOWNRANGE
 ROAD PROFILES
 TSR No. 53, 54, & 55

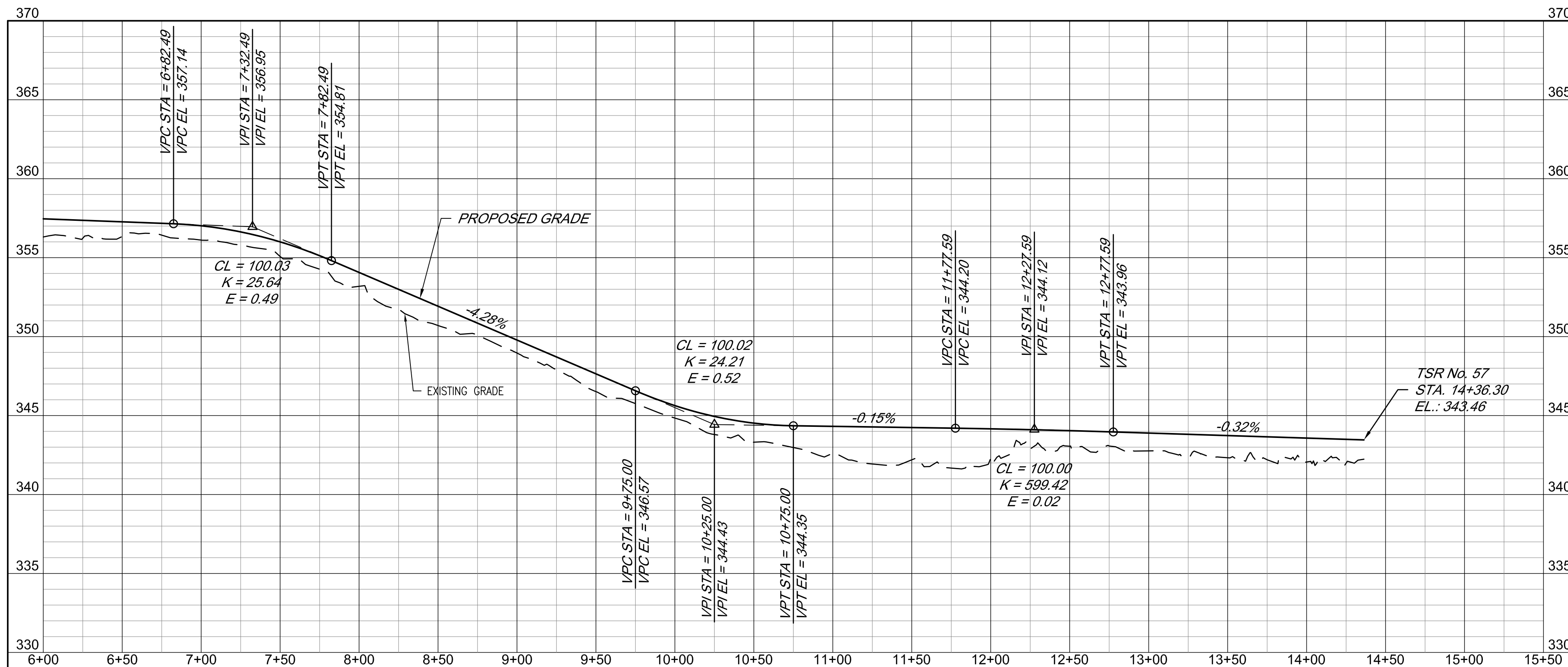
SHEET ID
CP221



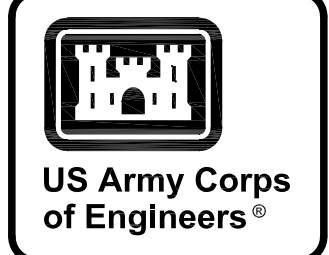
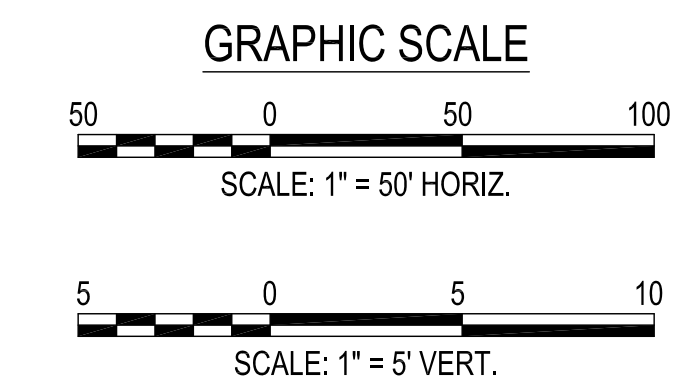
TSR No. 56



TSR No. 57



TSR No. 57



MARK	DESCRIPTION	DATE

DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. JOHNSON	PROJECT NO. / CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-65-01
FILE NAME: ANSID	

U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT
100 W. OGLETHORPE AVE
SAVANNAH, GA 31401

POLY, INC.
1935 HEADLAND AVENUE
DOTHAN, AL 36803
WWW.POLY-INC.COM / 334-795-4700

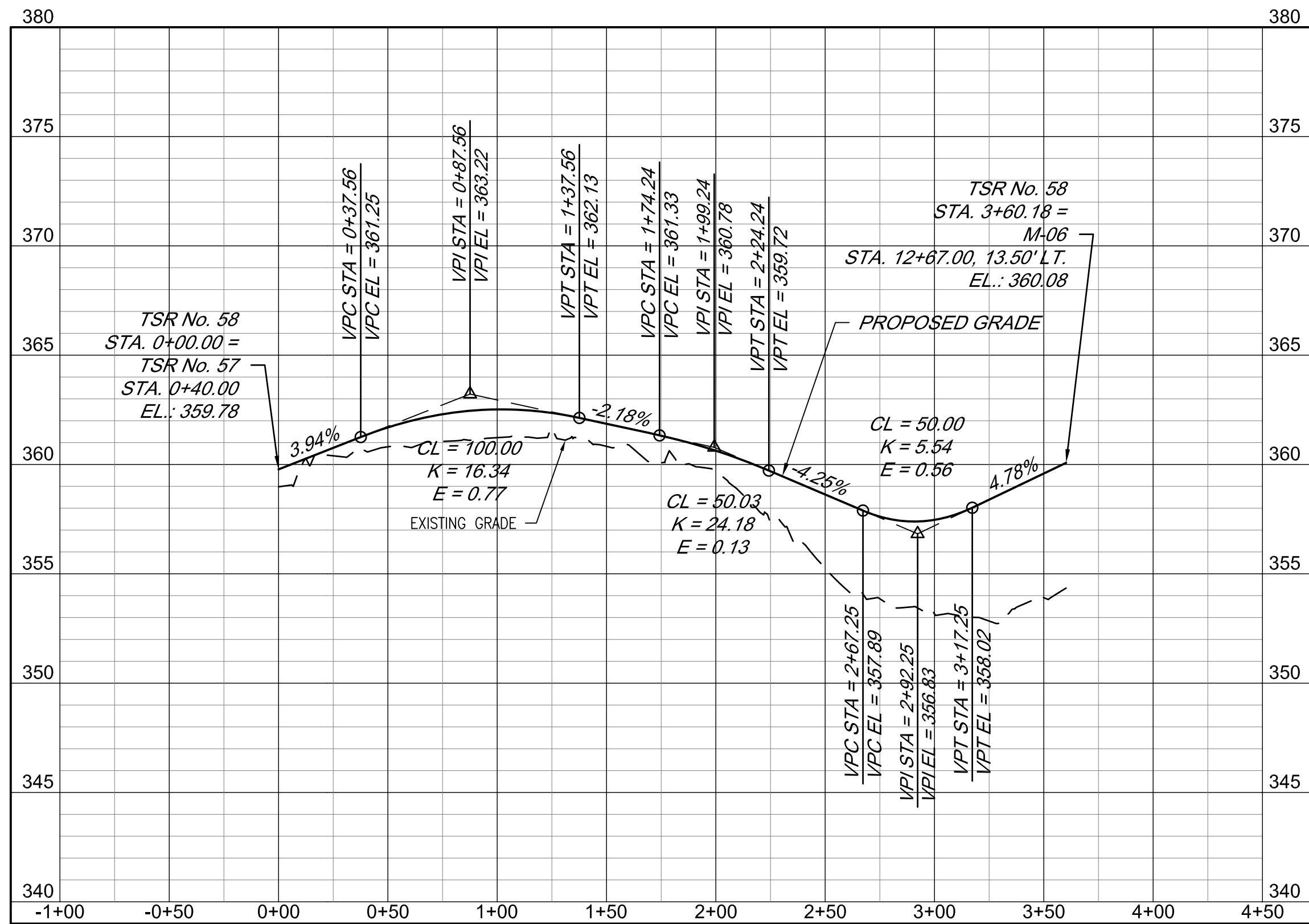
FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 86182
VOLUMES 3 & 4 - DOWNRANGE

ROAD PROFILES
TSR No. 56 & 57

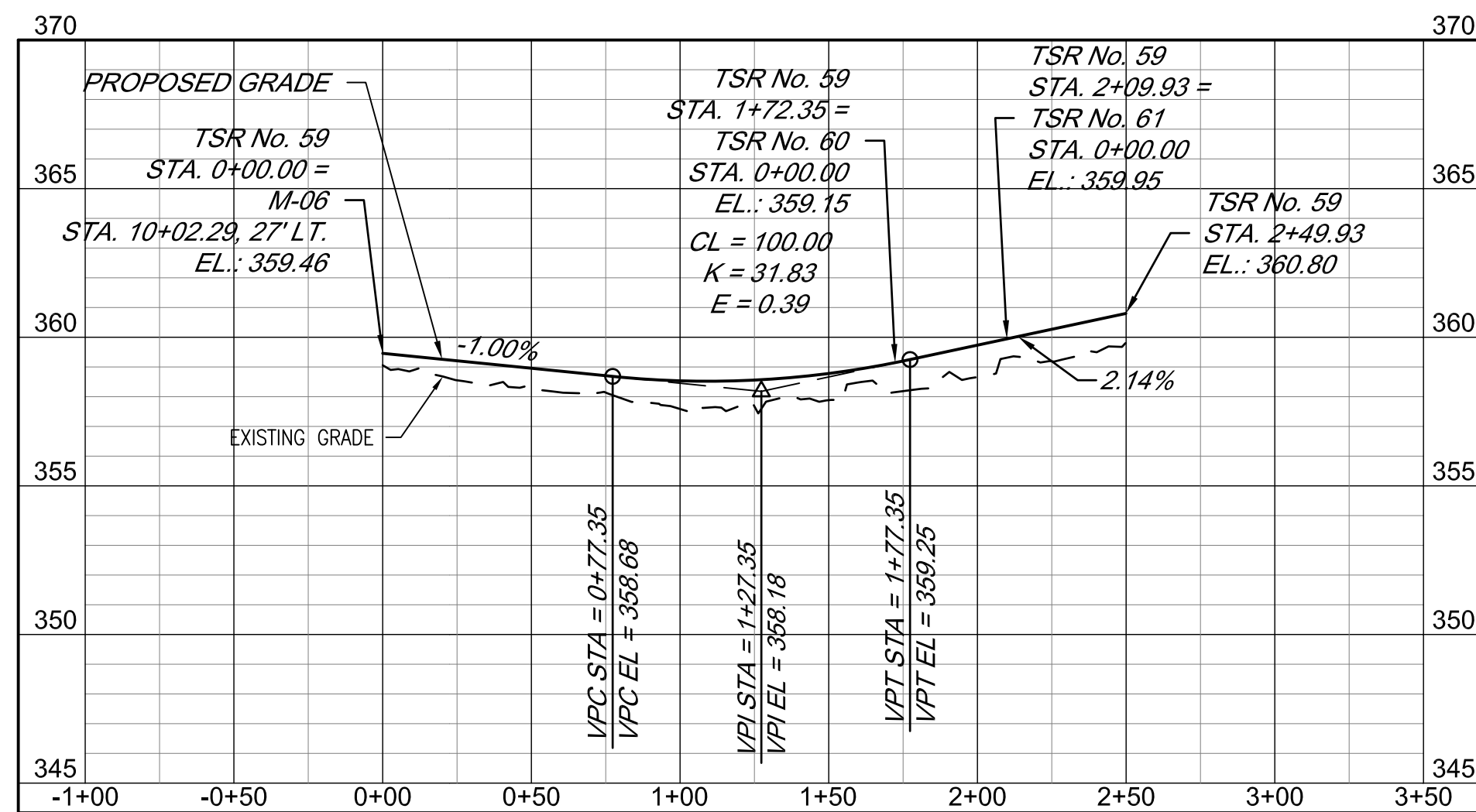
SHEET ID
CP222

READY TO ADVERTISE (RTA)

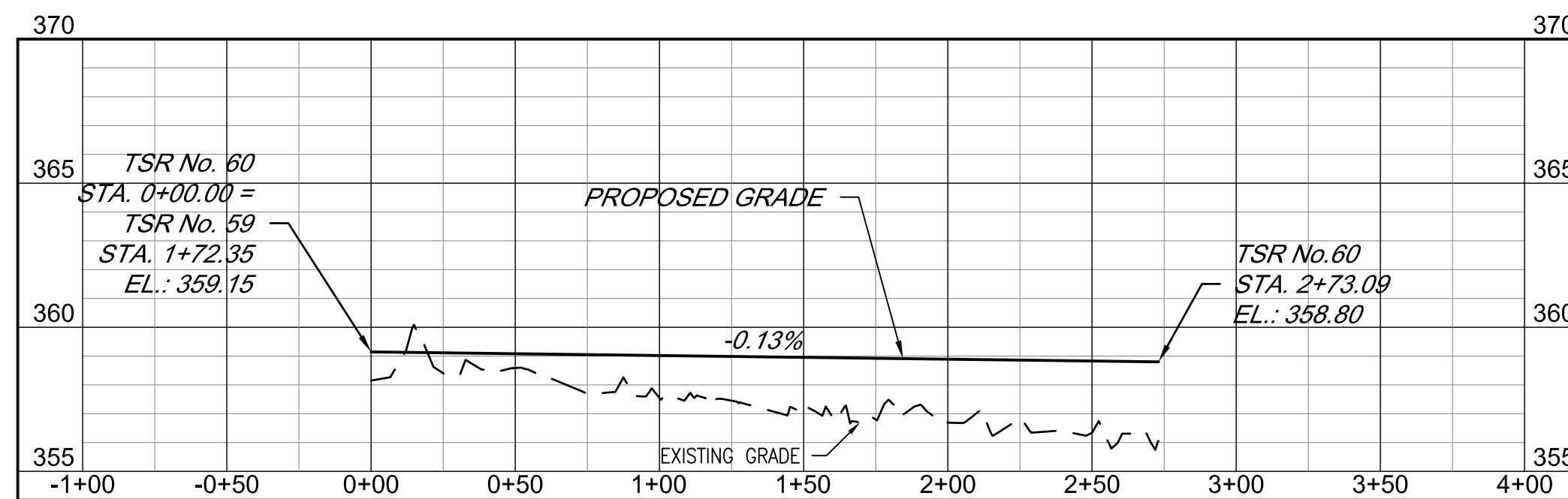
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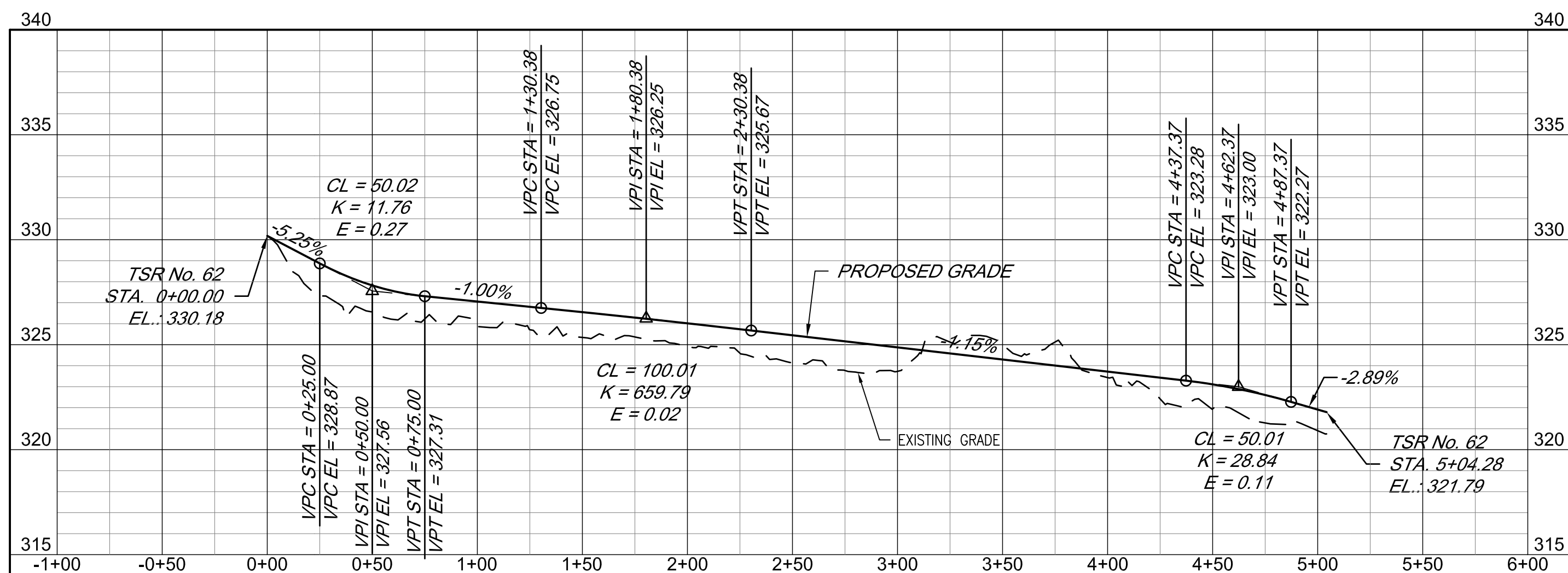
TSR No. 58



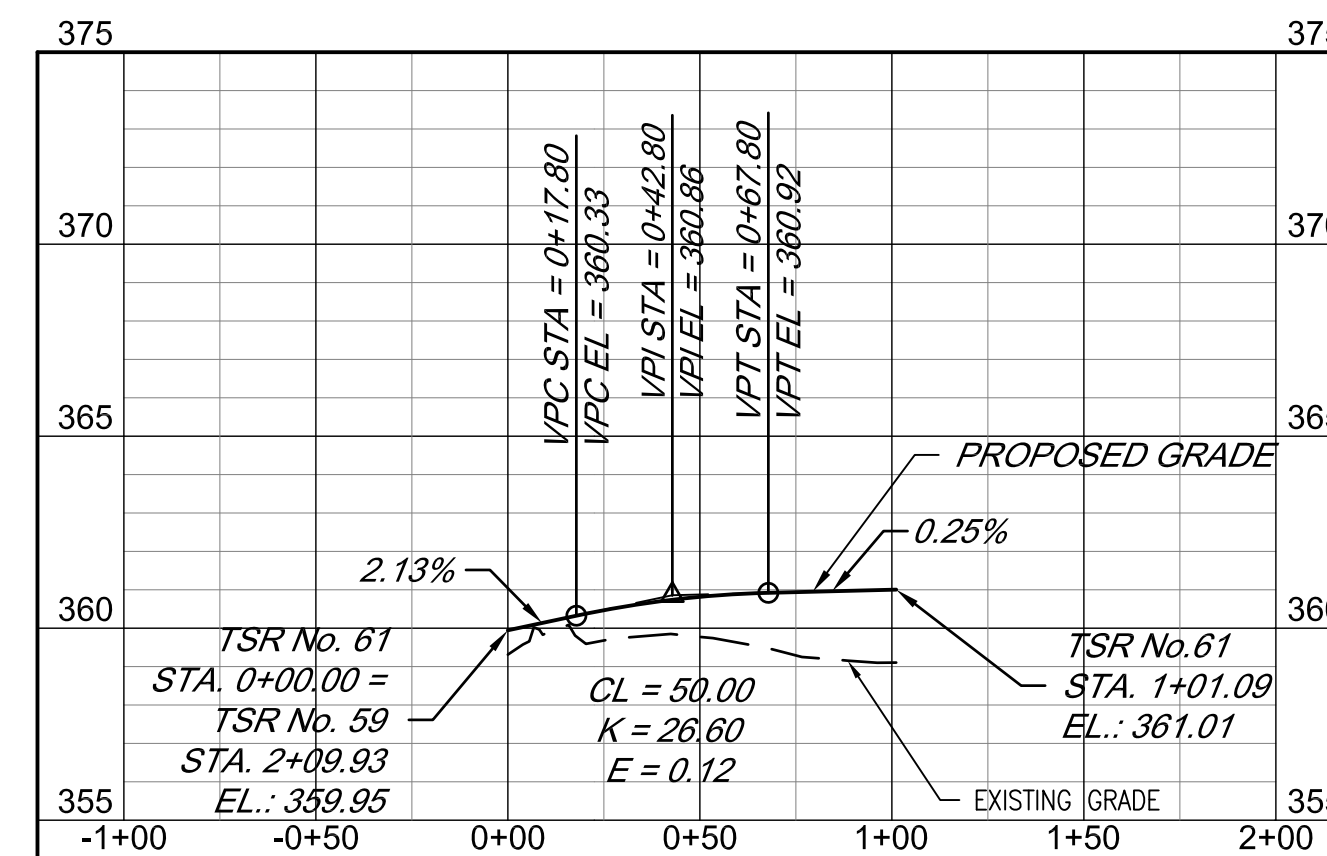
TSR No. 59



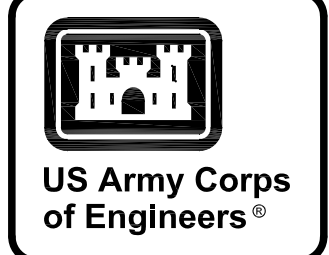
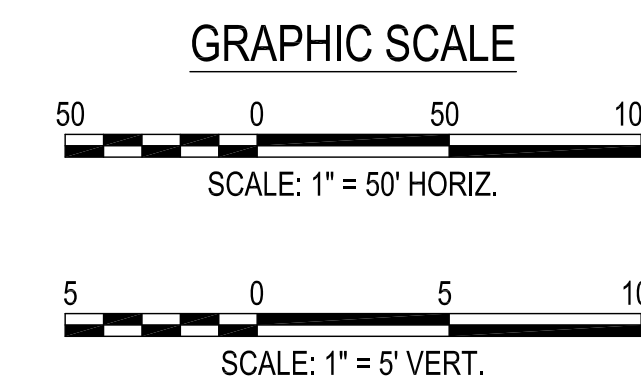
TSR No. 60



TSR No. 62



TSR No. 61



MARK	DESCRIPTION	DATE

DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. BRADLEY	PROJECT NO. / CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-65-01
FILE NAME:	

U.S. ARMY CORPS OF ENGINEERS
 SAVANNAH DISTRICT
 100 W. OGLETHORPE AVE
 SAVANNAH, GA 31401

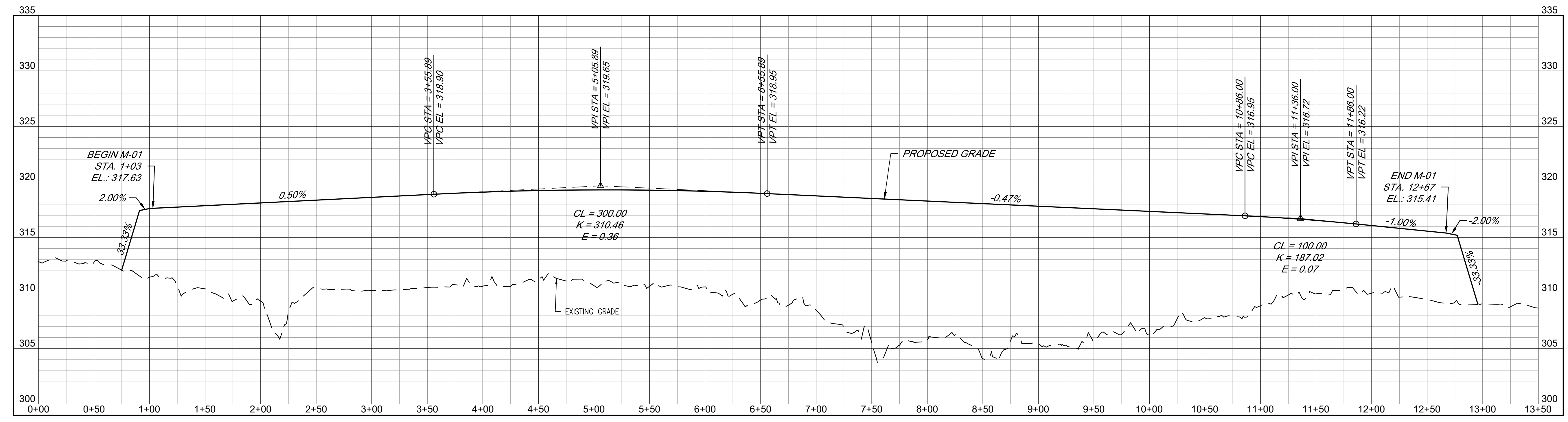
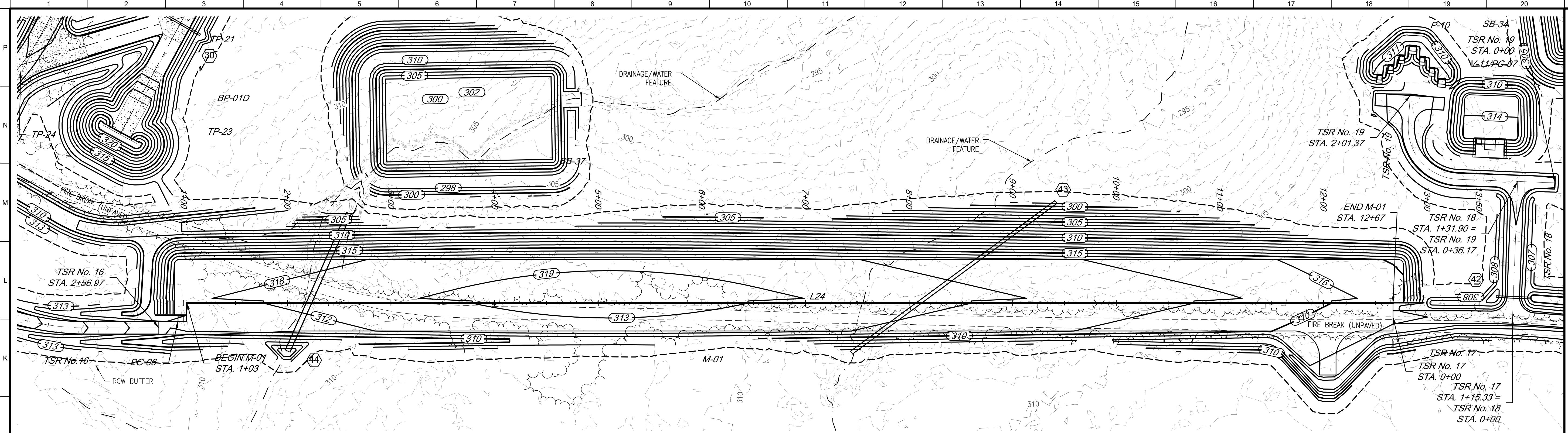
POLY, INC.
 1935 HEADLAND AVENUE
 DOTHAN, AL 36503
 WWW.POLY-INC.COM/3347-95-4700

FORT LIBERTY, NORTH CAROLINA
 AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
 FY23, PN 96182
 VOLUMES 3 & 4 - DOWNRANGE

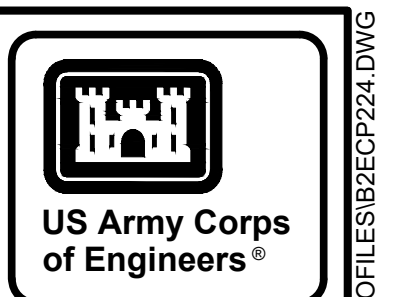
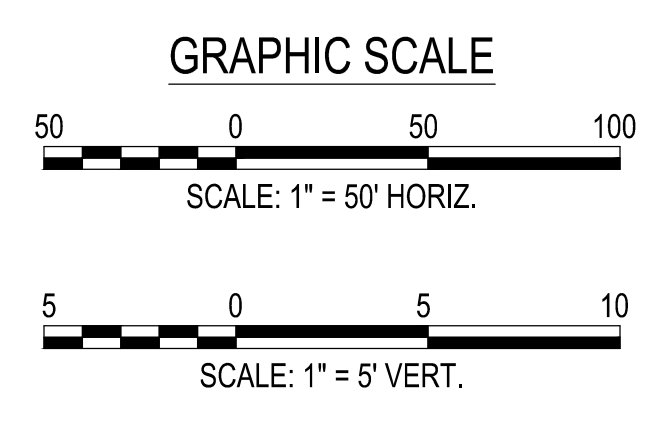
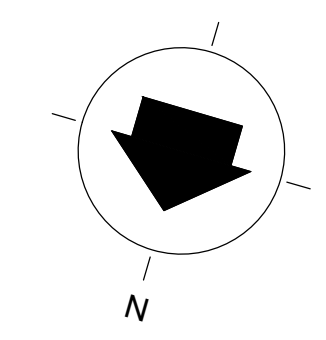
ROAD PROFILES
 TSR No. 58, 59, 60, & 61

SHEET ID
CP223

READY TO ADVERTISE (RTA)



M-01

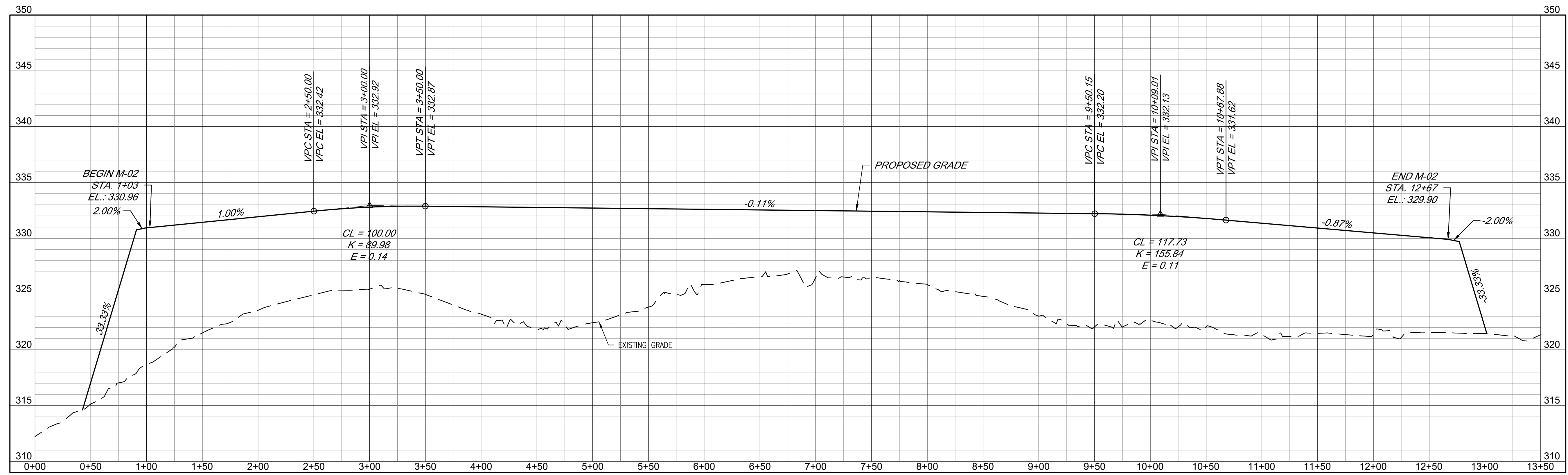
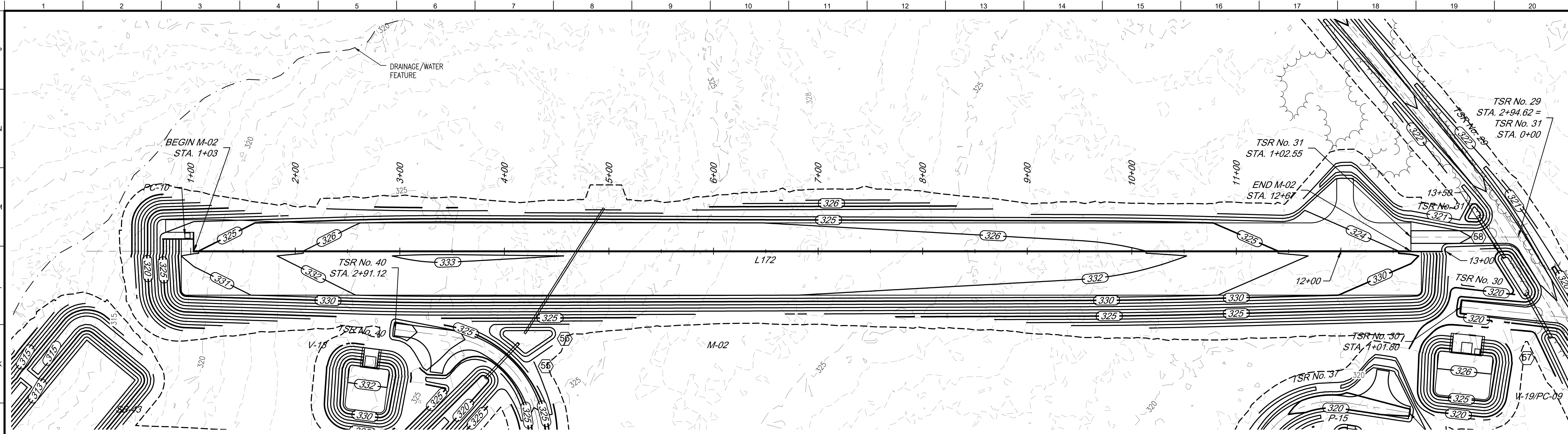


MARK	DESCRIPTION	DATE

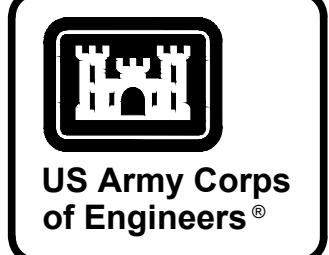
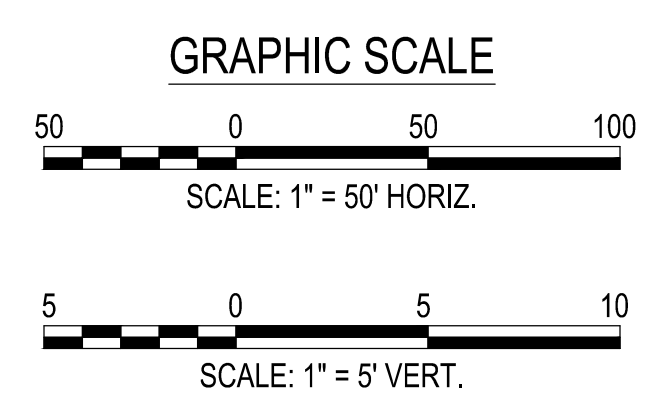
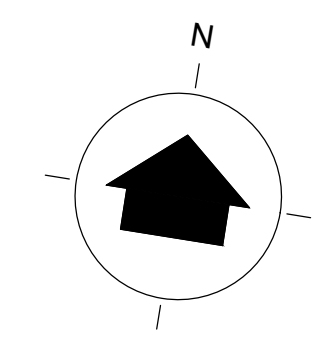
DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. BRADLEY	PROJECT NO. / CONTRACT NO.:
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	FILE NAME: ANSID
POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36803 WWW.POLY-INC.COM/334799-4700	CATEGORY CODE: 178-85-01

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 86182
VOLUMES 3 & 4 - DOWNRANGE
PLAN & PROFILE
MOVING ARMOR TARGET (MAT)
M-01

SHEET ID
CP224



M-02



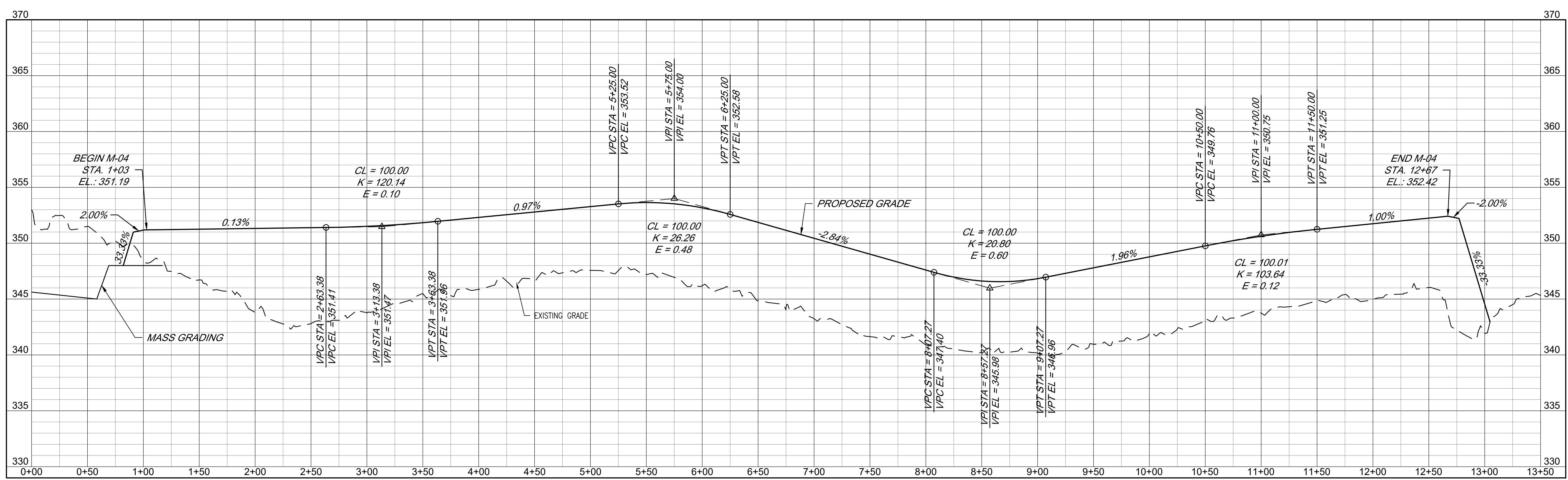
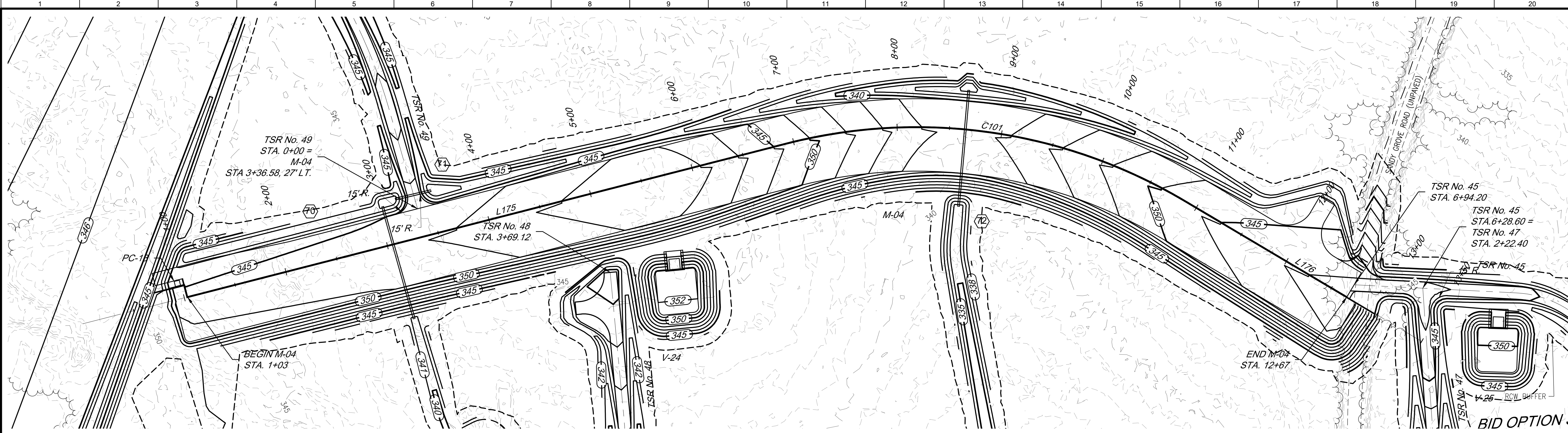
MARK	DESCRIPTION	DATE

DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2003
CHECKED BY: B. JOHNSON	PROJECT NO. / CONTRACT NO.:
APPROVED BY: B. BRADLEY	CATEGORY CODE: 178-85-01
FILE NAME: ANSID	

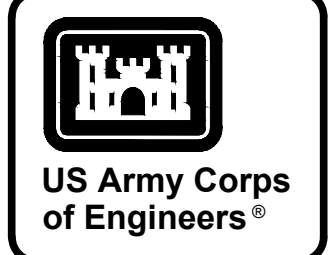
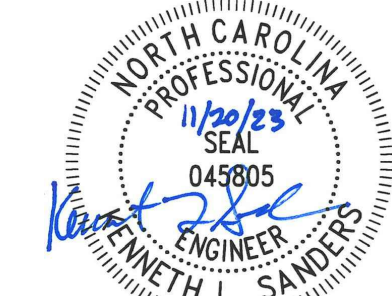
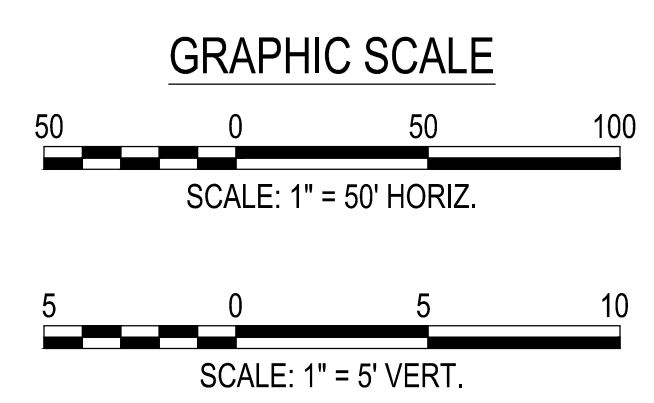
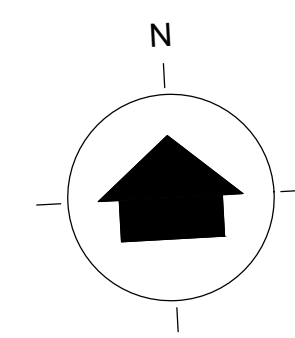
FORT LIBERTY, NORTH CAROLINA
 AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
 FV23, PN 96182
 VOLUMES 3 & 4 - DOWNRANGE
 PLAN & PROFILE
 MOVING ARMOR TARGET (MAT)
 M-02

SHEET ID
CP225

READY TO ADVERTISE (RTA)



M-04



MARK	DESCRIPTION	DATE

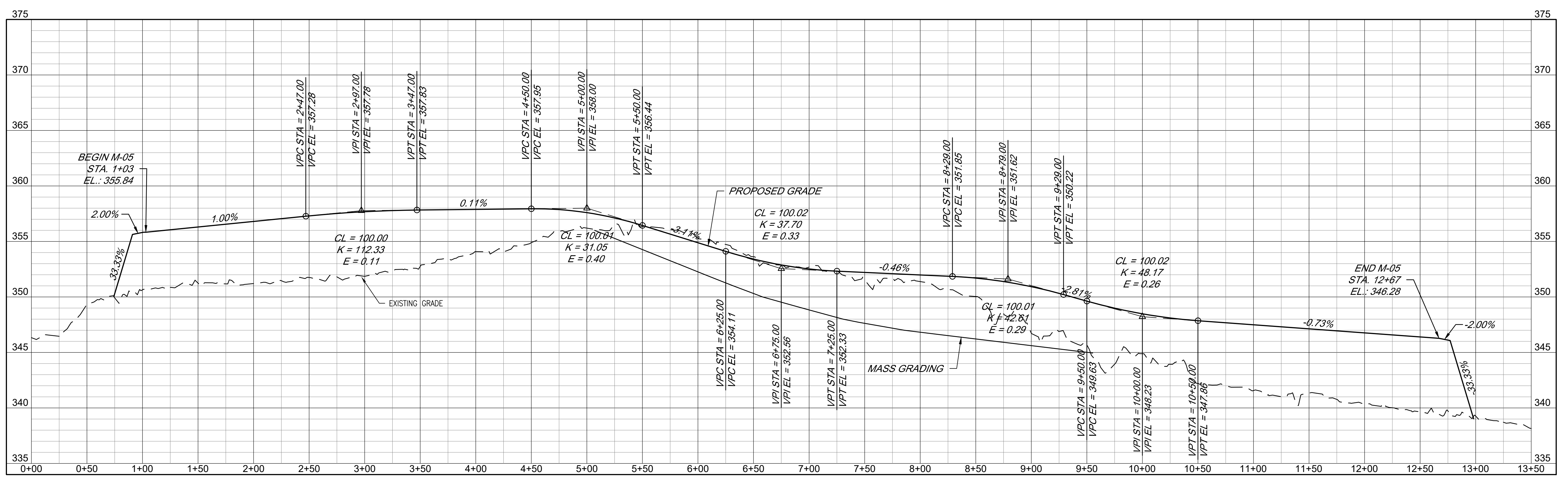
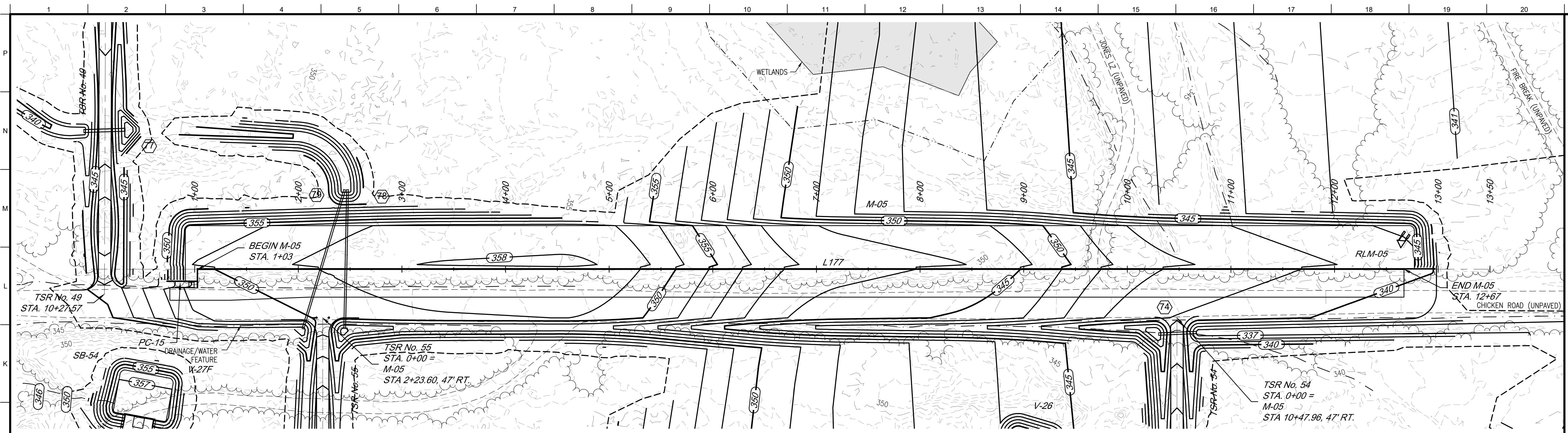
DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. JOHNSON	PROJECT NO. / CONTRACT NO.: W91P4L248.3002
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-85-01
FILE NAME: ANSID	

FORT LIBERTY, NORTH CAROLINA
 AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
 FY23, PN 96182
 VOLUMES 3 & 4 - DOWNRANGE
 PLAN & PROFILE
 MOVING ARMOR TARGET (MAT)
 M-04

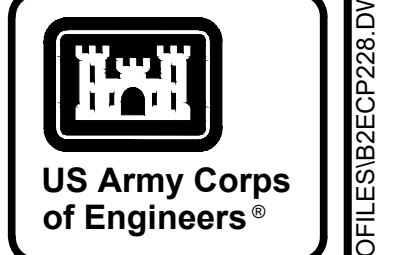
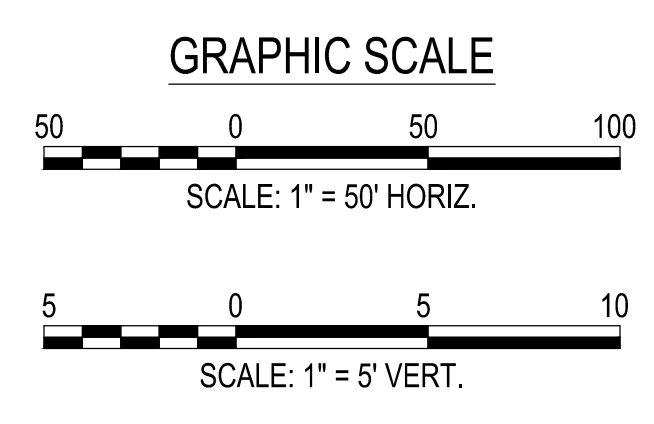
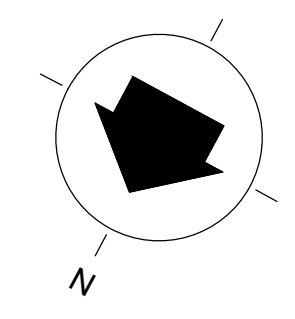
SHEET ID
CP227

READY TO ADVERTISE (RTA)

G:\CLEANSTUFF-15-28115376 BRAGG\MPTR\MPTTR\07_RTA_FINAL_SUBMITTAL\04_CIVIL\2000_PROFILES\B2ECP227.DWG



M-05

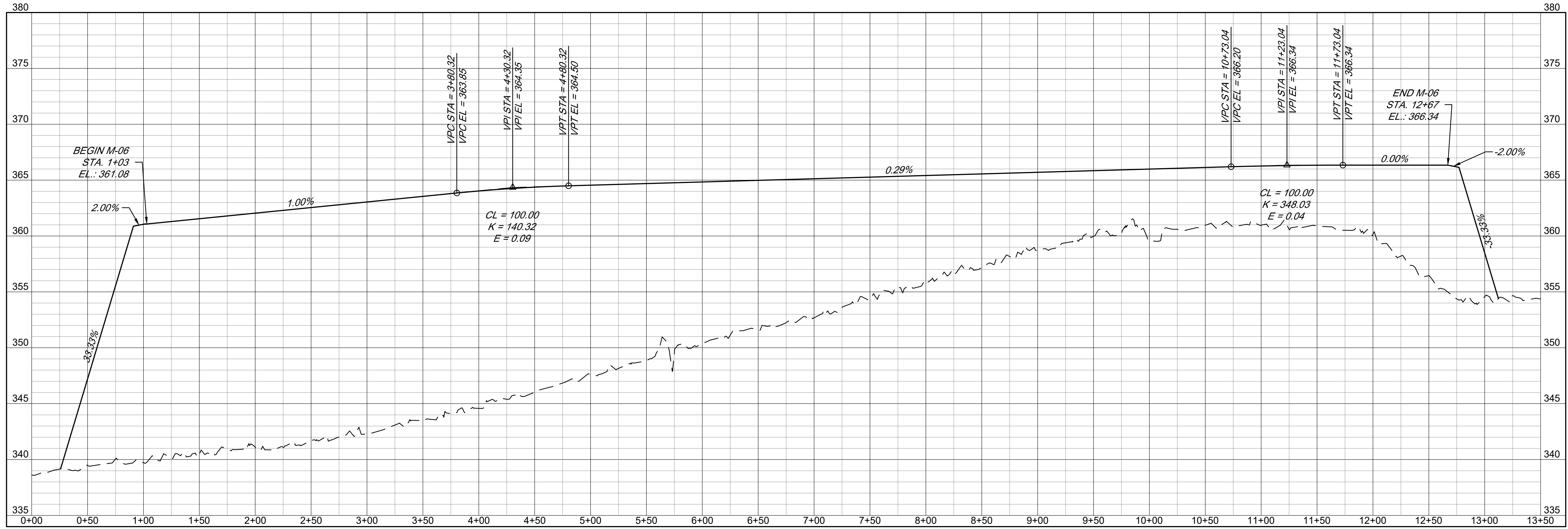
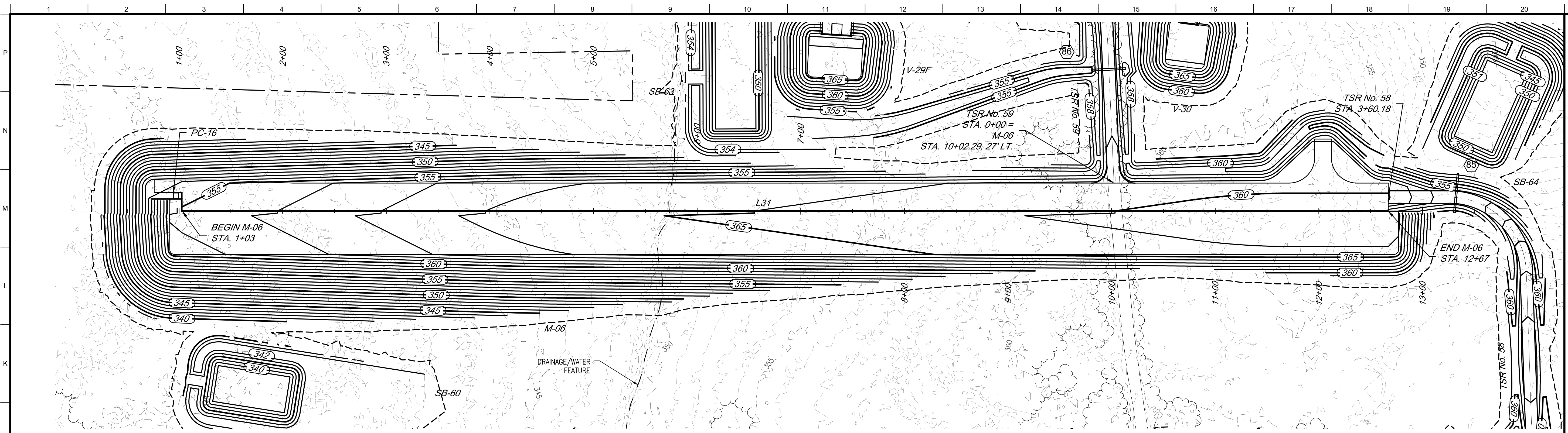


MARK	DESCRIPTION	DATE

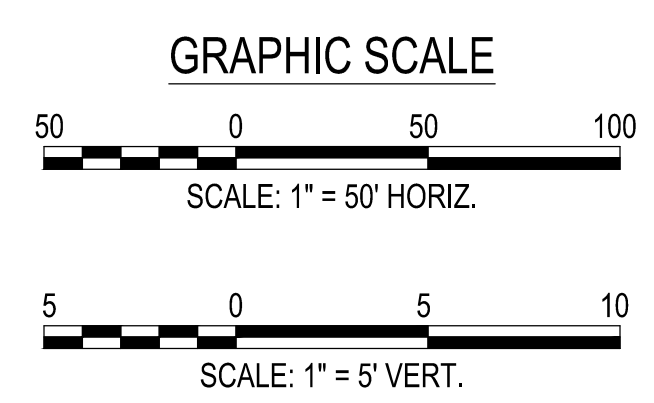
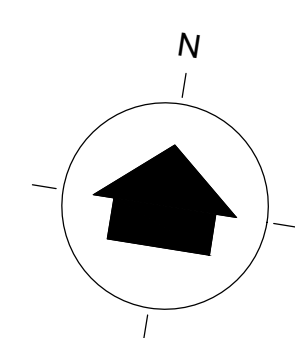
DESIGNED BY: K. SANDERS CHECKED BY: B. JOHNSON SUBMITTED BY: B. BRADLEY	U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	ISSUE DATE: NOVEMBER 2003 PROJECT NO. 101914248.3002 CONTRACT NO. 178-85-01	FILE NAME: ANSID
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FORT LIBERTY, NORTH CAROLINA
 AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
 FY23, PN 96182
 VOLUMES 3 & 4 - DOWNRANGE
 PLAN & PROFILE
 MOVING ARMOR TARGET (MAT)
 M-05

SHEET ID
CP228



M-06



US Army Corps of Engineers

DATE

MARK

DESCRIPTION

DESIGNED BY: K. SANDERS

CHECKED BY: B. BRADLEY

ISSUE DATE: NOVEMBER 2023

PROJECT NO.: W913WJ2448 3002

CONTRACT NO.:

U.S. ARMY CORPS OF ENGINEERS
 SAVANNAH DISTRICT
 100 W. OGLETHORPE AVE
 SAVANNAH, GA 31401

POLY, INC.
 1935 HEADLAND AVENUE
 DOTHAN, AL 36503
 WWW.POLY-INC.COM/334799-4700

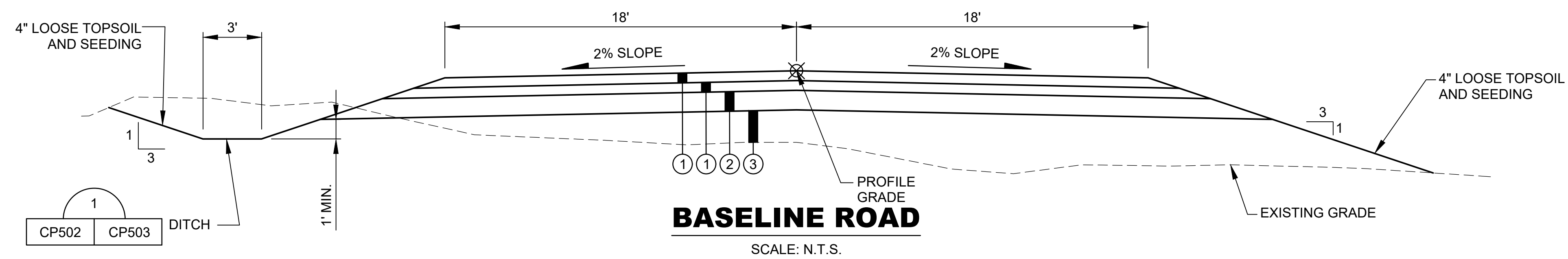
FORT LIBERTY, NORTH CAROLINA
 AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
 FY23, PN 96182
 VOLUMES 3 & 4 - DOWNRANGE

PLAN & PROFILE
 MOVING ARMOR TARGET (MAT)
 M-06

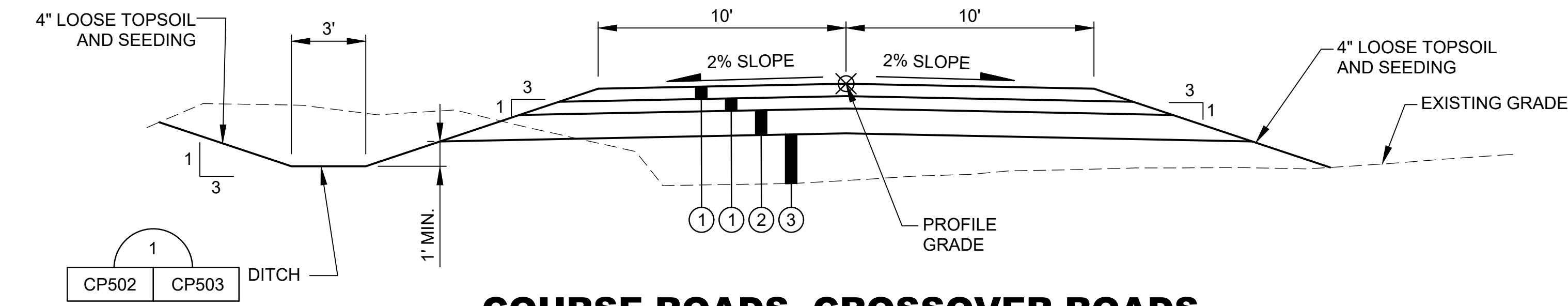
SHEET ID

CP229

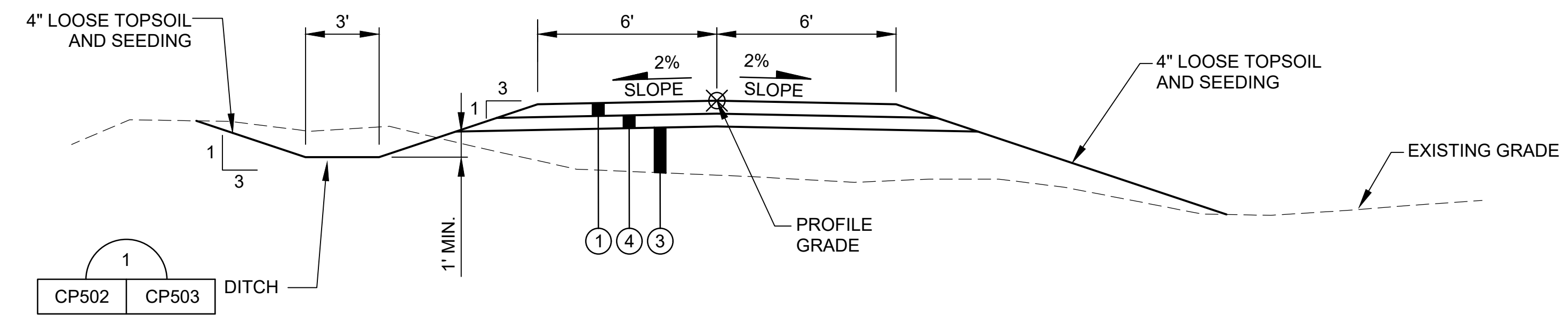
READY TO ADVERTISE (RTA)



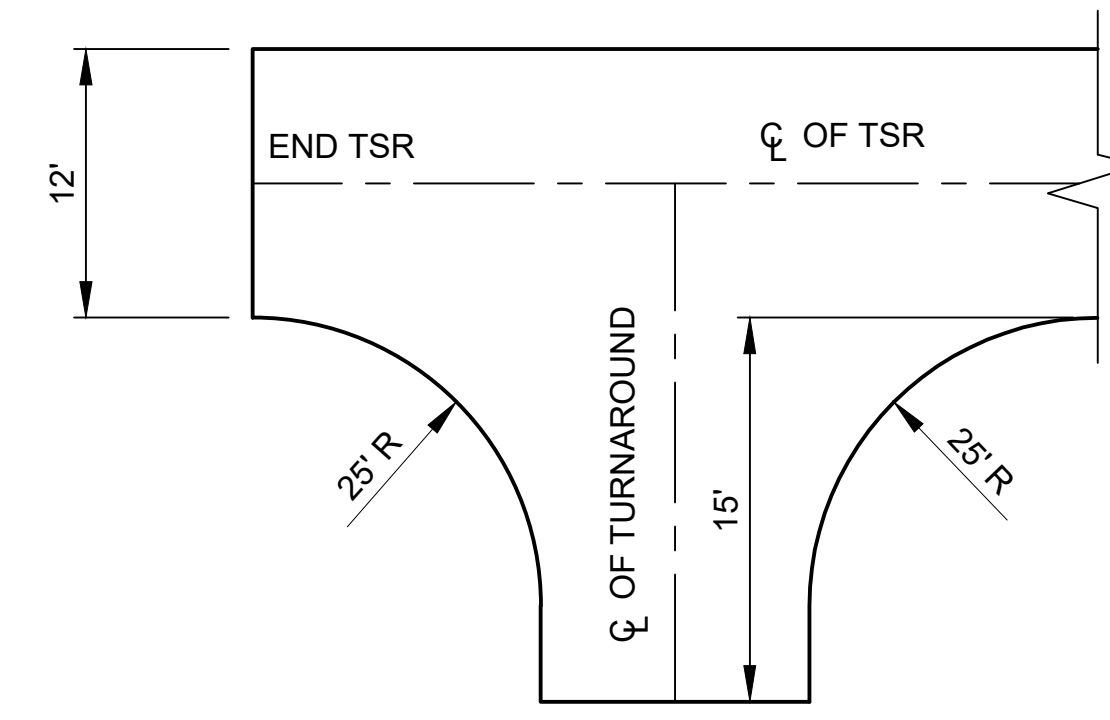
BASELINE ROAD
SCALE: N.T.S.



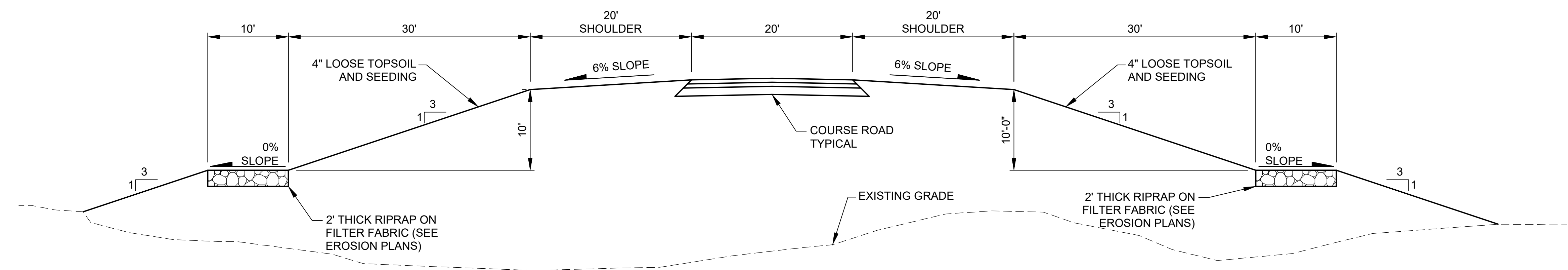
**COURSE ROADS, CROSSOVER ROADS,
& DEFILADE ROADS**
SCALE: N.T.S.



TARGET SERVICE ROADS (TSR)
SCALE: N.T.S.



TURNAROUND FOR TSR
SCALE: N.T.S.



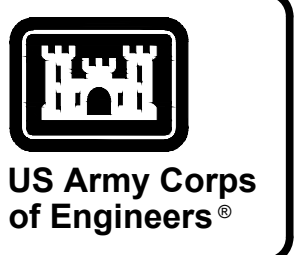
COURSE ROADS IN DEEP FILL SECTIONS
SCALE: N.T.S.

NOTES :

1. DITCHES AND EMBANKMENTS SHALL BE MAINTAINED BY THE CONTRACTOR UNTIL THE END OF CONSTRUCTION AND/OR UNTIL A FULL STAND OF GRASS/GROUND COVER IS PRESENT.
2. THE DEGREE OF COMPACTION REQUIRED FOR SUBGRADE AND PAVEMENT LAYERS SHALL BE DETERMINED IN ACCORDANCE WITH ASTM D 1557.
3. SEE SPECIFICATIONS FOR MATERIAL/GRADATION REQUIREMENTS FOR ROAD CONSTRUCTION.
4. THE MOISTURE CONTENT SHALL BE MAINTAINED WITHIN THE LIMITS OF 2% BELOW OPTIMUM TO 1% ABOVE OPTIMUM DURING THE COMPACTION OF THE SUBGRADE.
5. ROAD SECTIONS SHOWN ARE TYPICAL. SEE GRADING PLANS FOR DEVIATIONS FROM THESE SECTIONS.
6. SEE GRADING PLANS FOR EXTENT OF ROADWAY DITCH DESIGN.

LEGEND

- ① 6" AGGREGATE BASE COURSE @ 100% COMPACTION (ASTM D 1557)
- ② 12" SUBGRADE @ 95% COMPACTION (ASTM D 1557)
- ③ APPROVED BACKFILL MATERIAL @ 95% COMPACTION (ASTM D 1557)
- ④ 6" SUBGRADE @ 95% COMPACTION (ASTM D 1557)



MARK	DESCRIPTION	DATE

DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. JOHNSON	NO. OF REV. 01
SUBMITTED BY: J. BRANNON	CONTRACT NO.:
FILE NAME: B. BRADLEY	CATEGORY CODE: 178-85-01
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36503 WWW.POLY-INC.COM/334799-4700

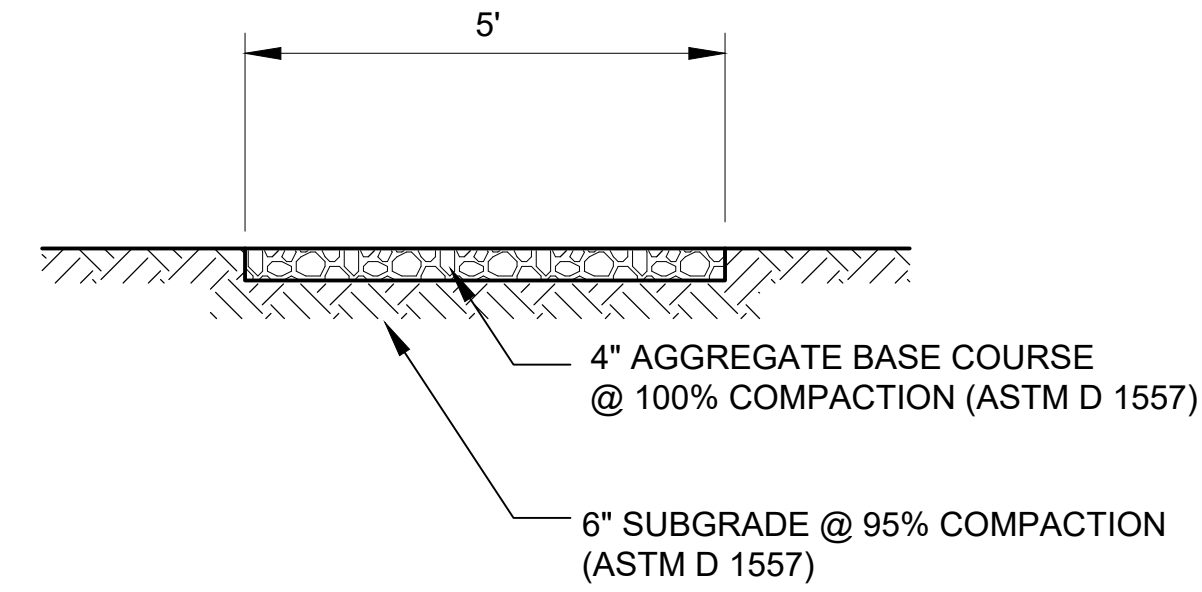
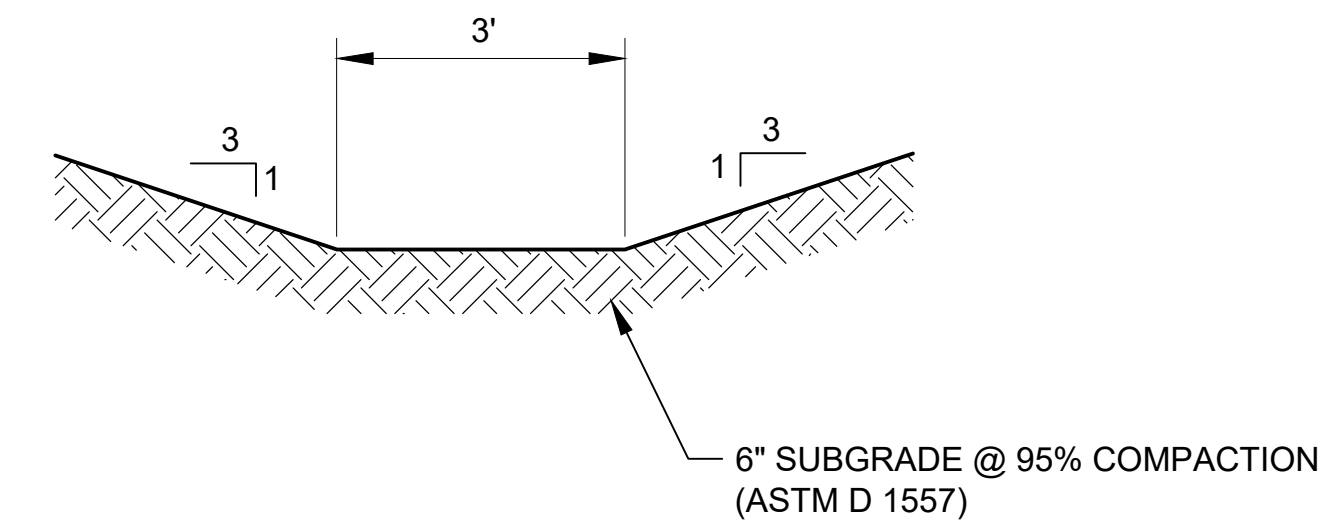
FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 86182
VOLUMES 3 & 4 - DOWNRANGE
ROAD SECTIONS



SHEET ID
CP502

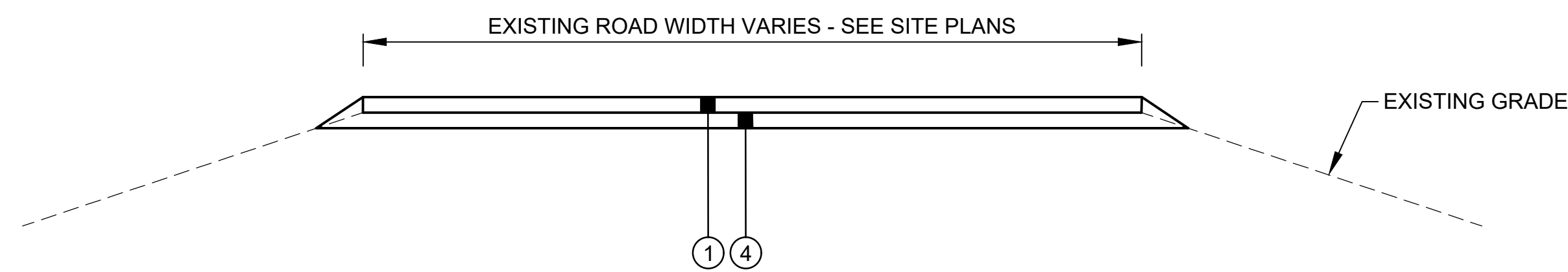
READY TO ADVERTISE (RTA)

G:\CLEANSTUFF-15-28\15376 BRAGG MPTTR\WP107_LRTA_FINAL_SUBMITTAL\04_CIVIL\502.DWG



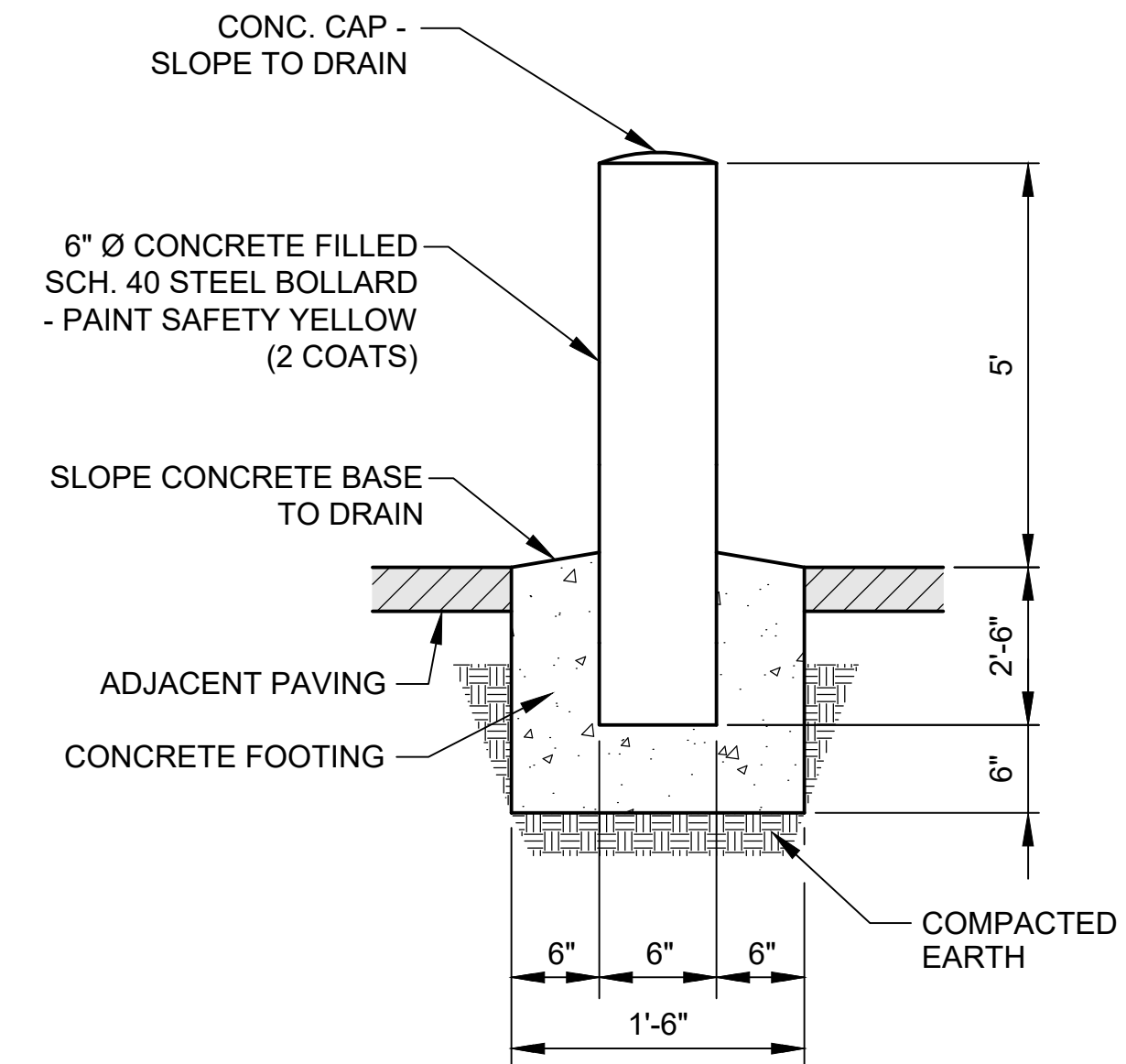
AGGREGATE WALK/GRAVEL PAD
SCALE: N.T.S.

NOTE: A 5 FT. AGGREGATE WALK/GRAVEL PAD SHALL BE INSTALLED AROUND ALL URBAN CLUSTER STRUCTURES AND FACADES.



REPAIR OF EXISTING ROADS
SCALE: N.T.S.

- NOTES:
1. WHEN PROPOSED ROADS CROSS OVER EXISTING ROADS, THE EXISTING ROAD SHALL BE REPAIRED WITH THE SECTION SHOWN SUCH THAT THERE IS A SMOOTH TRANSITION FROM THE PROPOSED ROAD TO THE EXISTING ROAD.
 2. PROVIDE A MINIMUM TRANSITION LENGTH OF 50 FEET FROM PROPOSED ROAD TO EXISTING ROAD.
 3. NO ADDITIONAL LAND DISTURBANCE SHALL RESULT FROM THE REPAIR OF EXISTING ROADS. REPAIR WORK SHALL NOT EXCEED THE EXISTING DISTURBANCE LIMITS.



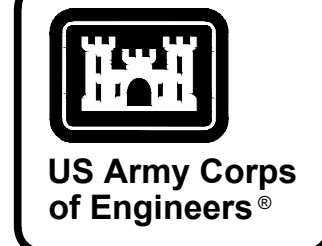
PIPE BOLLARD
SCALE: N.T.S.

GENERAL NOTES:

1. DITCHES AND EMBANKMENTS SHALL BE MAINTAINED BY THE CONTRACTOR UNTIL THE END OF CONSTRUCTION AND/OR UNTIL A FULL STAND OF GRASS/GROUND COVER IS PRESENT.
2. THE DEGREE OF COMPACTION REQUIRED FOR SUBGRADE AND PAVEMENT LAYERS SHALL BE DETERMINED IN ACCORDANCE WITH ASTM D 1557.
3. SEE SPECIFICATIONS FOR MATERIAL/GRADATION REQUIREMENTS FOR ROAD CONSTRUCTION.
4. THE MOISTURE CONTENT SHALL BE MAINTAINED WITHIN THE LIMITS OF 2% BELOW OPTIMUM TO 1% ABOVE OPTIMUM DURING THE COMPACTION OF THE SUBGRADE.
5. ROAD SECTIONS SHOWN ARE TYPICAL. SEE GRADING PLANS FOR DEVIATIONS FROM THESE SECTIONS.
6. SEE GRADING PLANS FOR EXTENT OF ROADWAY DITCH DESIGN.

LEGEND

- ① 6" AGGREGATE BASE COURSE @ 100% COMPACTION (ASTM D 1557)
- ④ 6" SUBGRADE @ 95% COMPACTION (ASTM D 1557)



MARK	DESCRIPTION	DATE

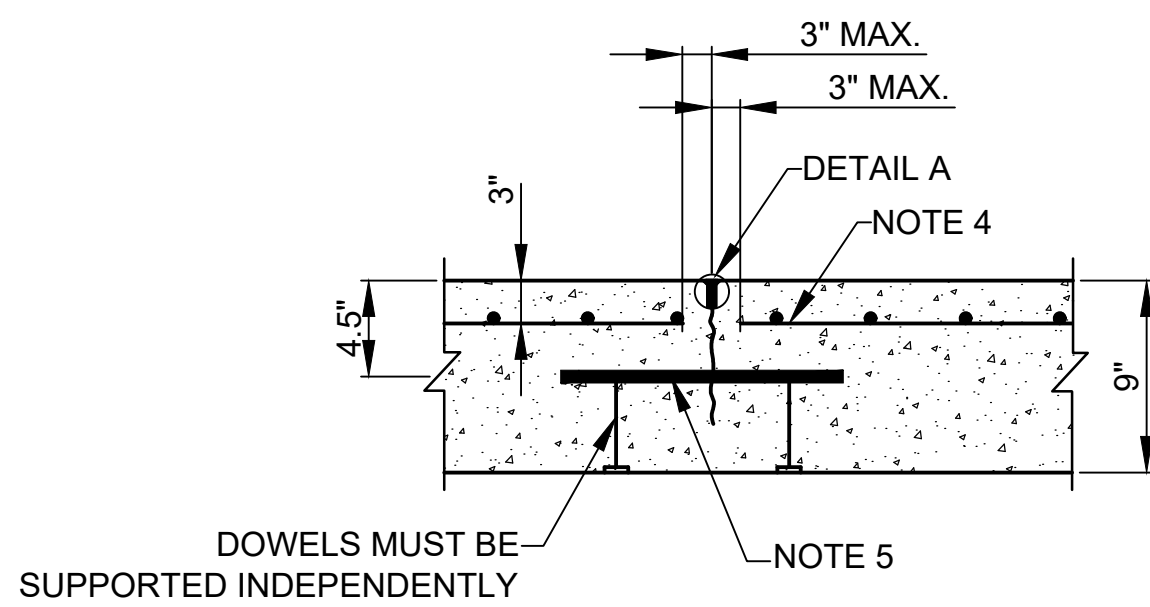
DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. JOHNSON	SCALE: AS SHOWN
SUBMITTED BY: J. BRANNON	CONTRACT NO.:
FILE NAME: B. BRADLEY	CATEGORY CODE: 178-65-01
ANSI D:	SIZE:
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36803 WWW.POLY-INC.COM/334798-4700

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 86182
VOLUMES 3 & 4 - DOWNRANGE
ROAD SECTIONS

SHEET ID
CP503

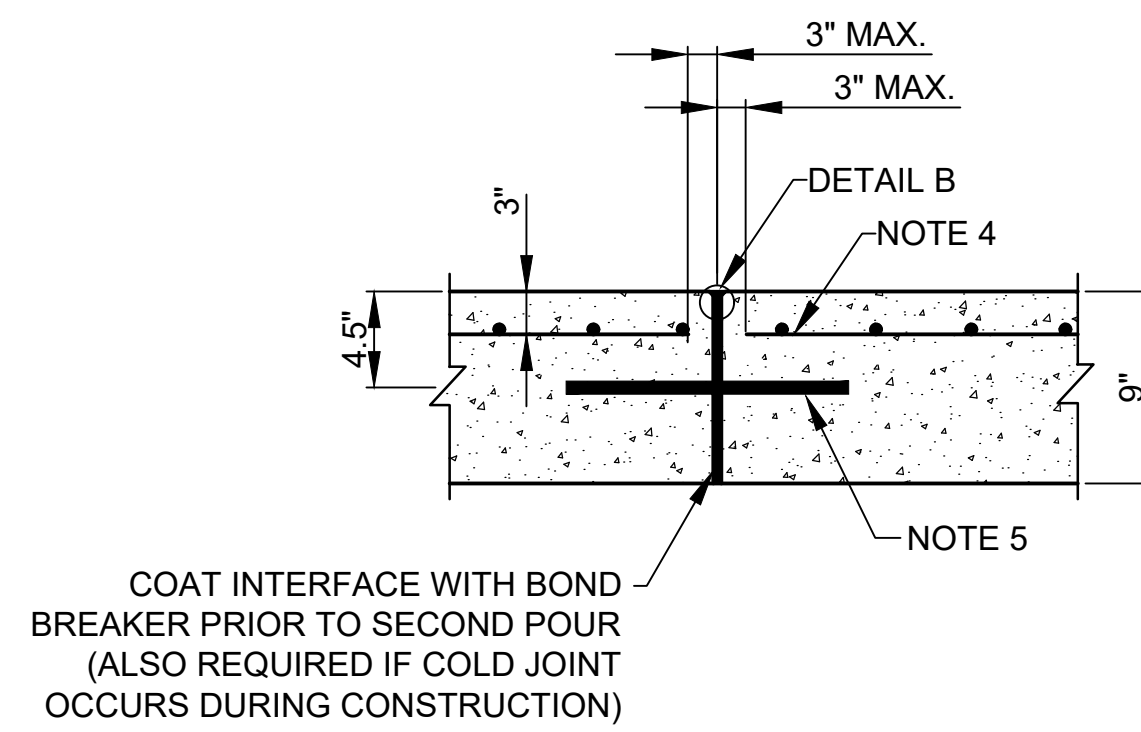
READY TO ADVERTISE (RTA)

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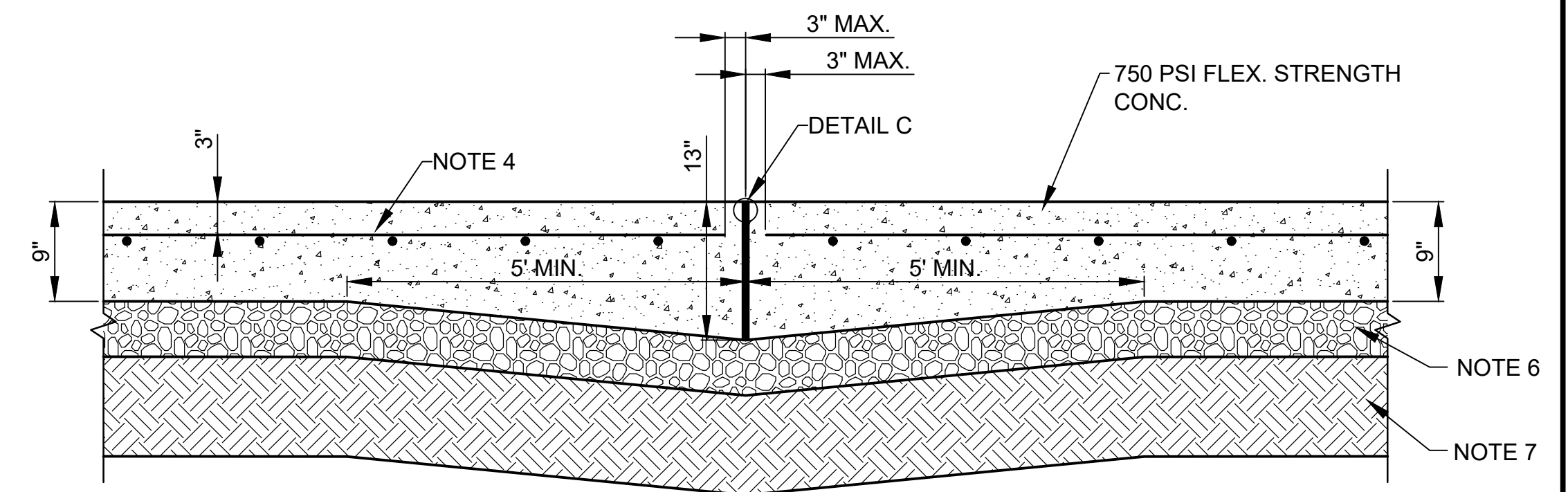
TRANSVERSE CONTRACTION JOINT (T.C.J.)

SCALE: N.T.S.



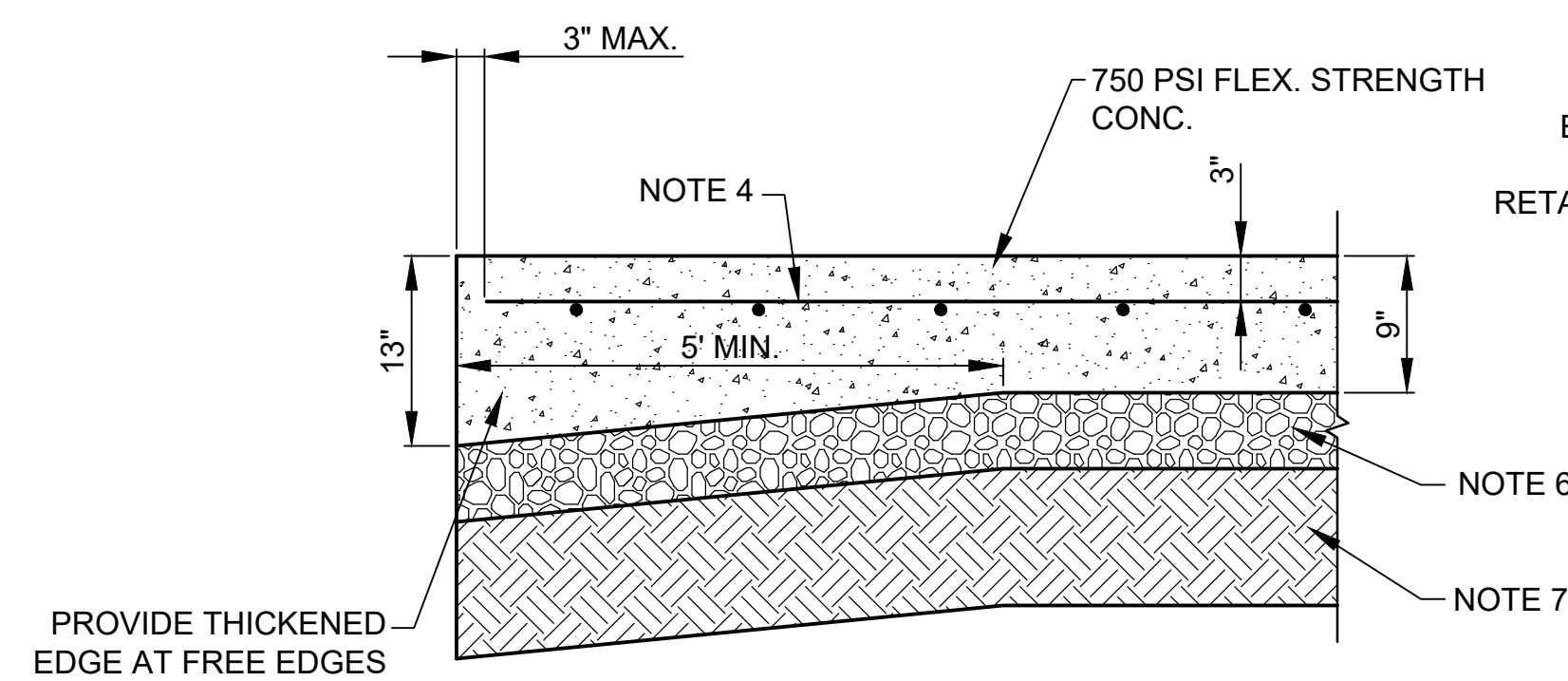
LONGITUDINAL CONSTRUCTION JOINT (C.J.)

SCALE: N.T.S.



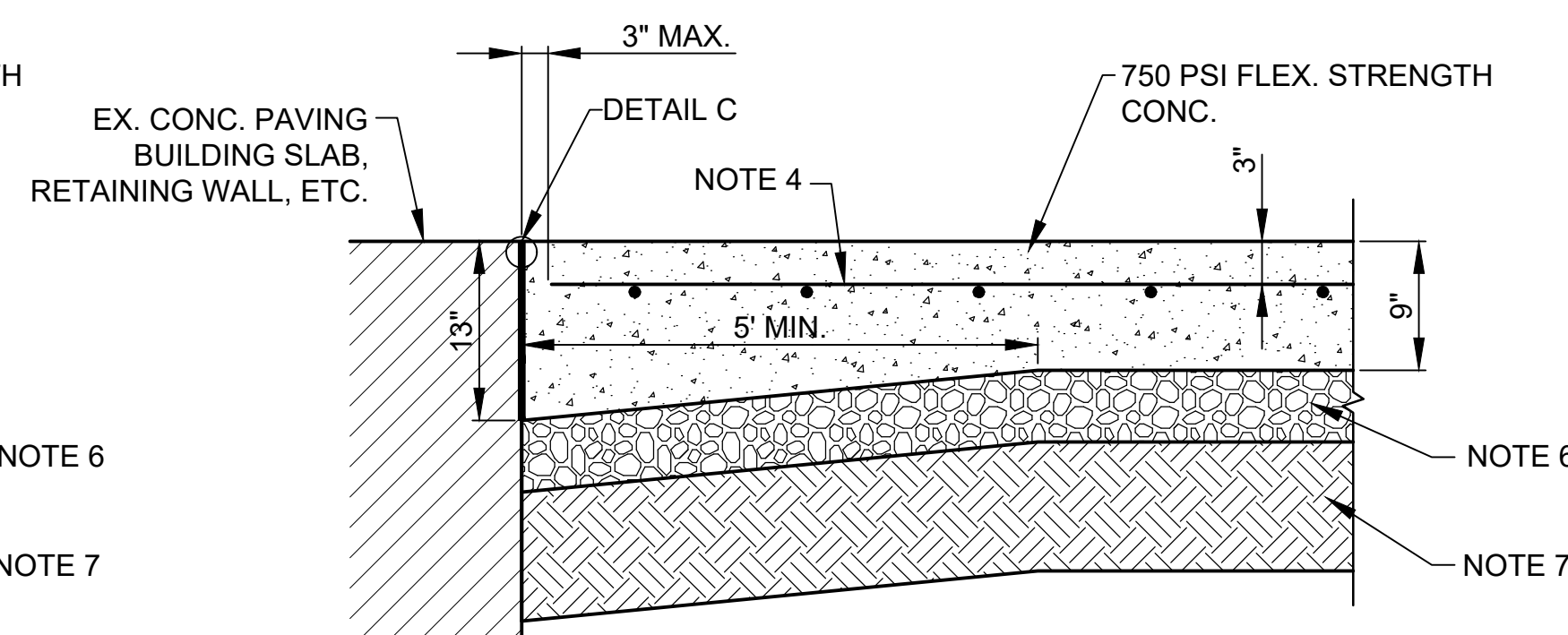
EXPANSION JOINT (E.J.)

SCALE: N.T.S.



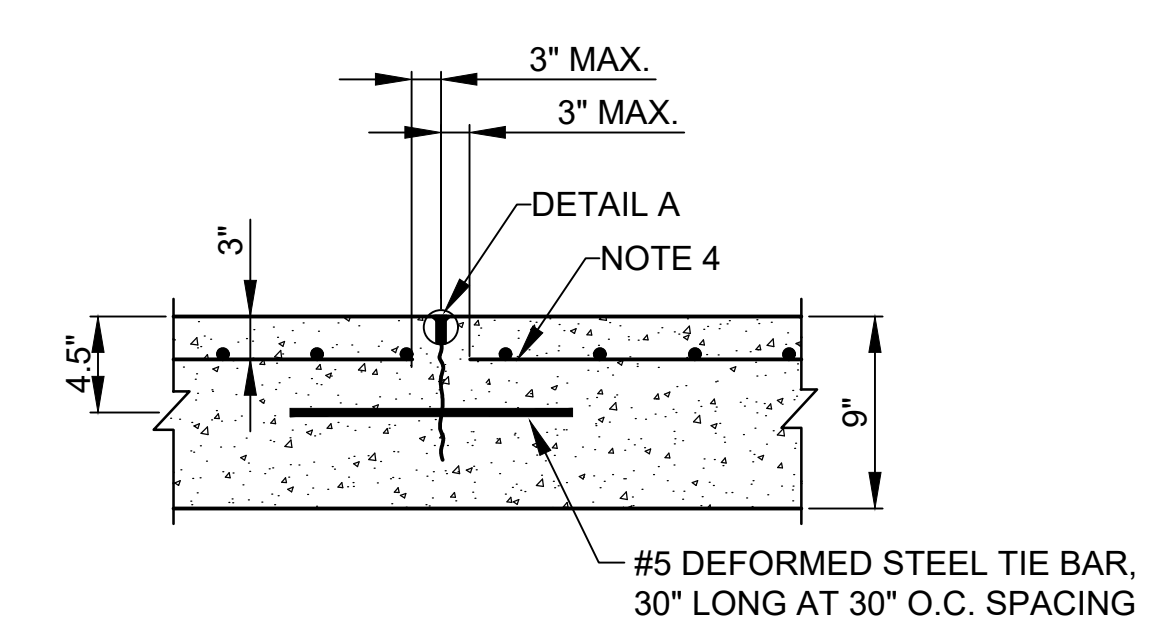
THICKENED EDGE DETAIL

SCALE: N.T.S.



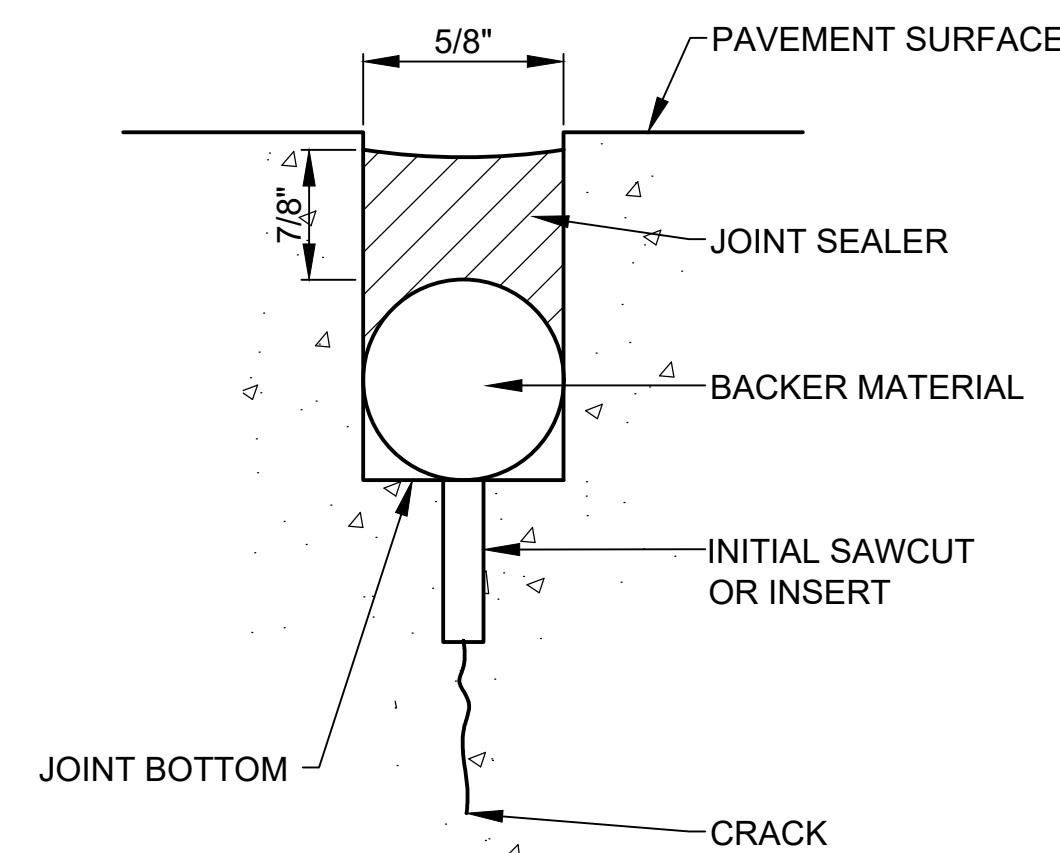
CONCRETE PAVING TO EX. CONC. PAVING, BUILDING SLAB, RETAINING WALL, GRATE INLET, ETC. JOINT DETAIL

SCALE: N.T.S.



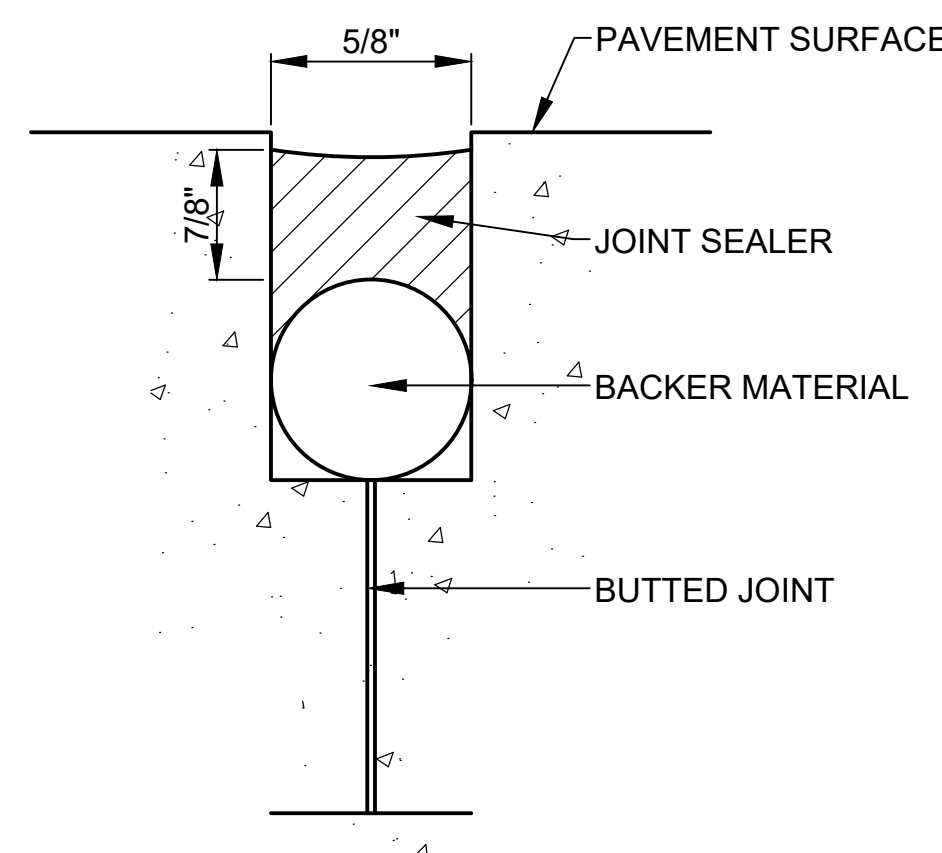
LONGITUDINAL CONTRACTION JOINT (L.C.J.)

SCALE: N.T.S.



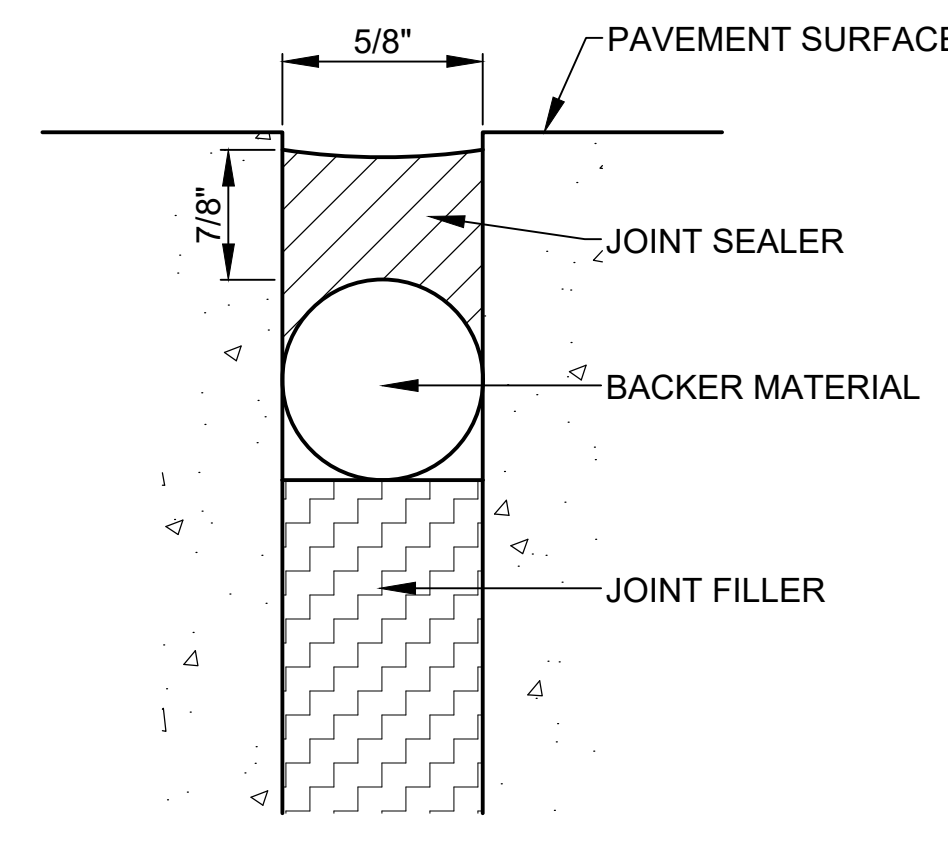
DETAIL A

SCALE: N.T.S.



DETAIL B

SCALE: N.T.S.

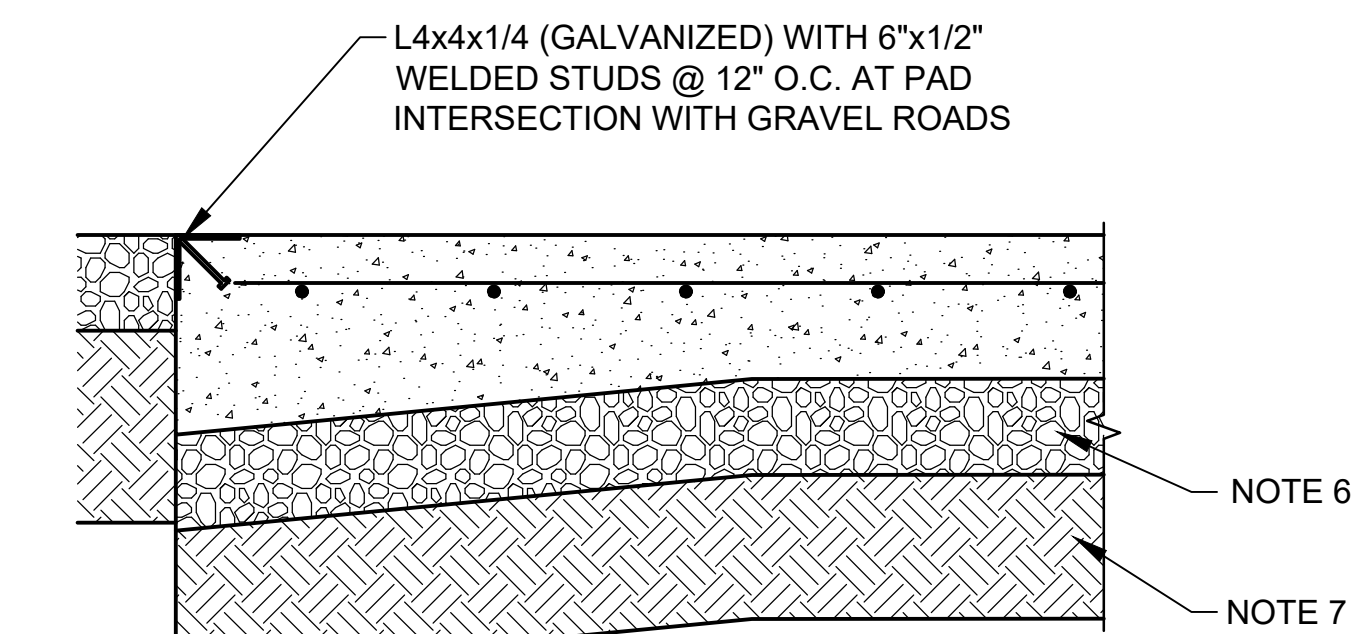


DETAIL C

SCALE: N.T.S.

CONCRETE PAVING JOINT DETAILS

SCALE: N.T.S.

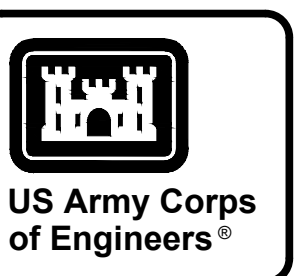
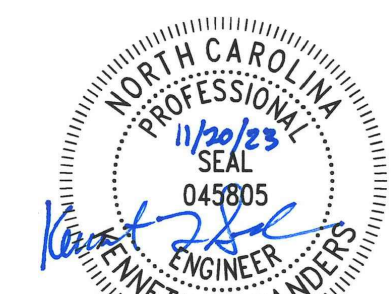


ANGLE DETAIL

SCALE: N.T.S.

NOTES:

1. TOP OF SEALANT TO BE 1/8" TO 1/4" BELOW TOP OF PAVEMENT.
2. PROVIDE JOINTS IN CONCRETE PAVEMENT AS SHOWN ON JOINT LAYOUT SHEETS. DO NOT EXCEED 15' O.C.
3. PROVIDE LONGITUDINAL CONSTRUCTION JOINTS AT ALL COLD JOINTS AND AT ALL END OF DAY POURS.
4. PROVIDE #4 REBAR REINFORCING AT 12" O.C.E.W.
5. PROVIDE 1" Ø x 18" LONG SMOOTH DOWELS AT 12" O.C. COAT WITH NON-BONDING AGENT TO PREVENT BONDING TO CONCRETE. DOWELS MUST BE CAREFULLY ALIGNED AND SUPPORTED DURING CONCRETE POUR. MISALIGNED DOWELS CAUSE CRACKING. OK TO POST-INSTALL DOWELS AT LONGITUDINAL CONSTRUCTION JOINTS INTO PREVIOUSLY POURED SLAB. TAKE CARE TO ENSURE PROPER ALIGNMENT.
6. 4" AGGREGATE BASE COURSE @ 100% COMPACTION (ASTM D 1557).
7. 12" COMPACTED SUBGRADE @ 95% COMPACTION (ASTM D 1557).



MARK	DESCRIPTION	DATE

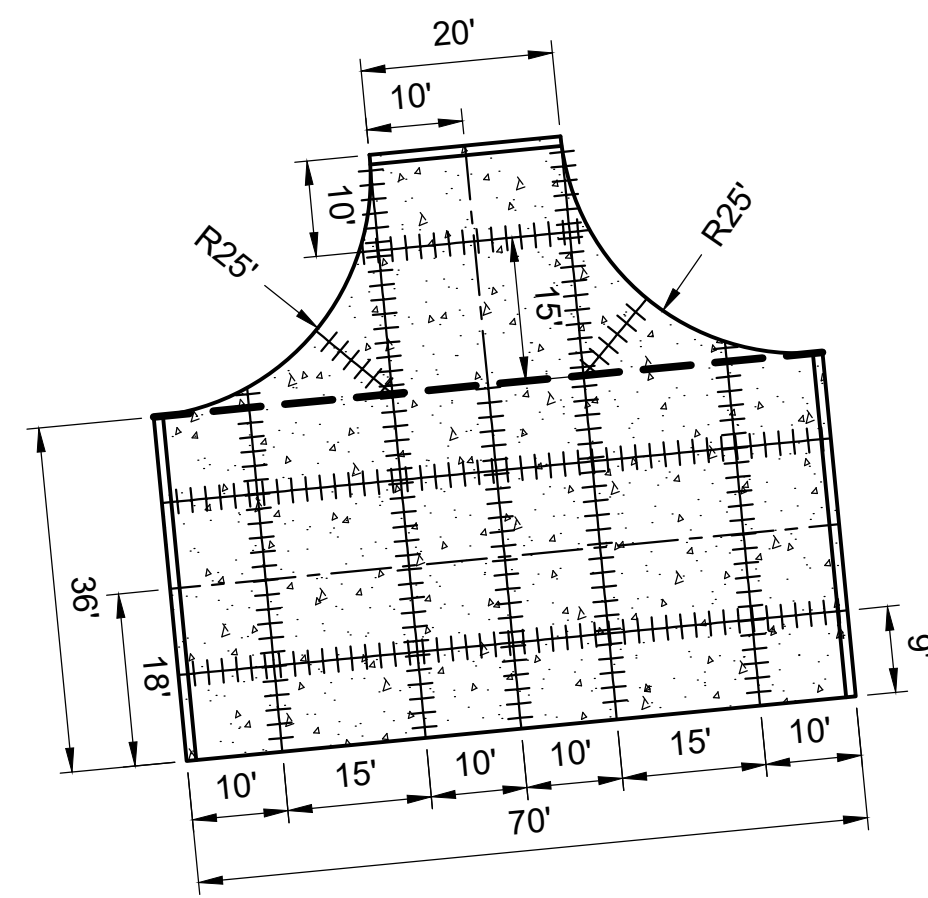
DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. JOHNSON	NOVEMBER 2023
SUBMITTED BY: J. BRANNON	NOVEMBER 2023
FILE NAME: B. BRADLEY	NOVEMBER 2023
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	CONTRACT NO.: W9134L24L3002
POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36503 WWW.POLY-INC.COM/334799-4700	CATEGORY CODE: 178-85-01

FORT LIBERTY, NORTH CAROLINA AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR) FY23, PN 86182 VOLUMES 3 & 4 - DOWNRANGE	CONCRETE PAVING DETAILS
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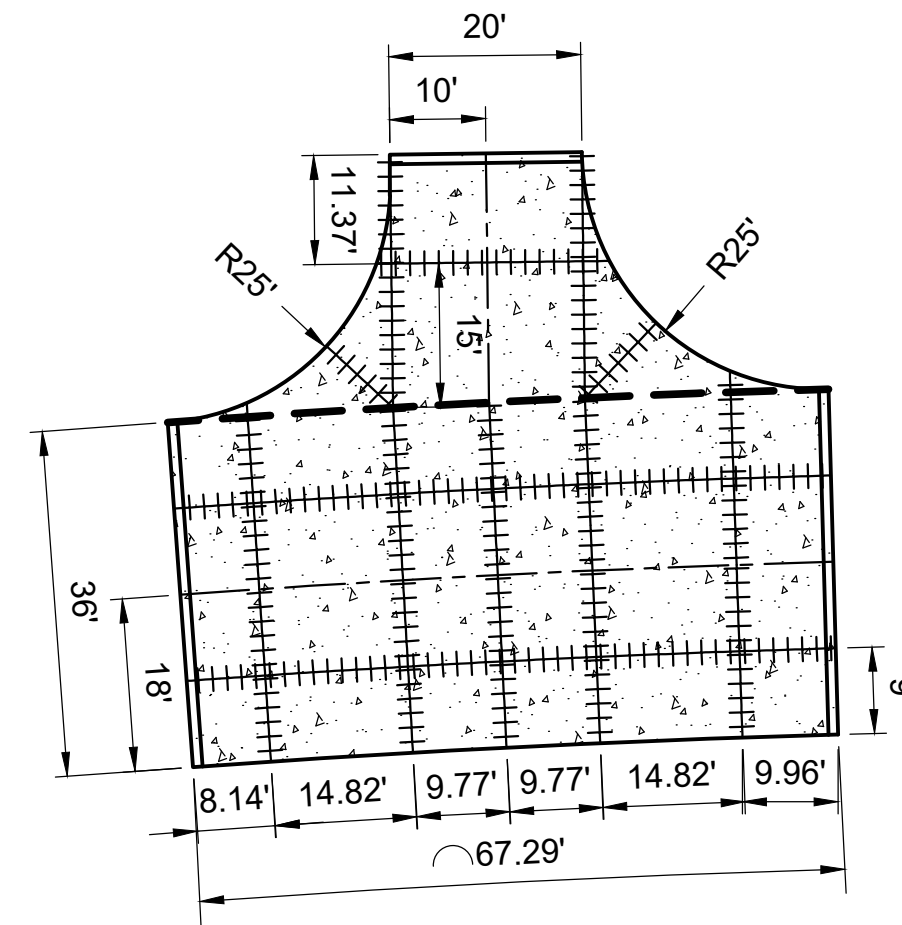
SHEET ID CP504

READY TO ADVERTISE (RTA)

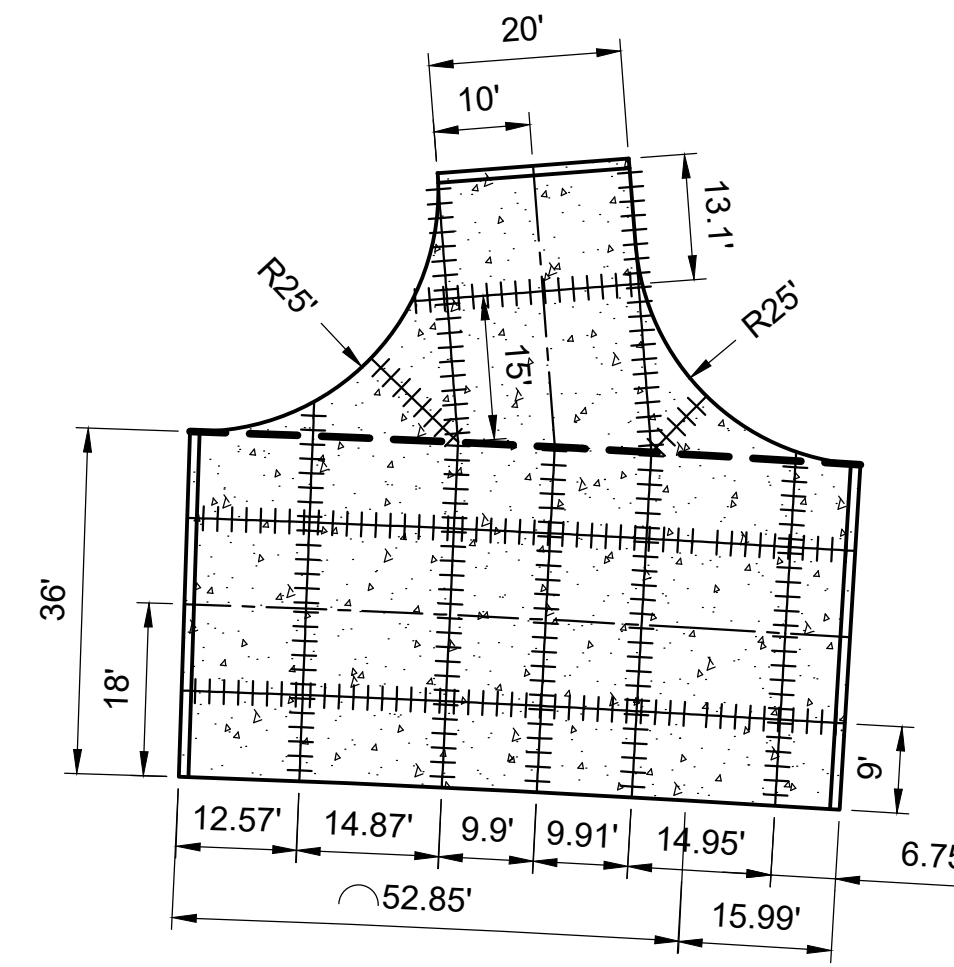
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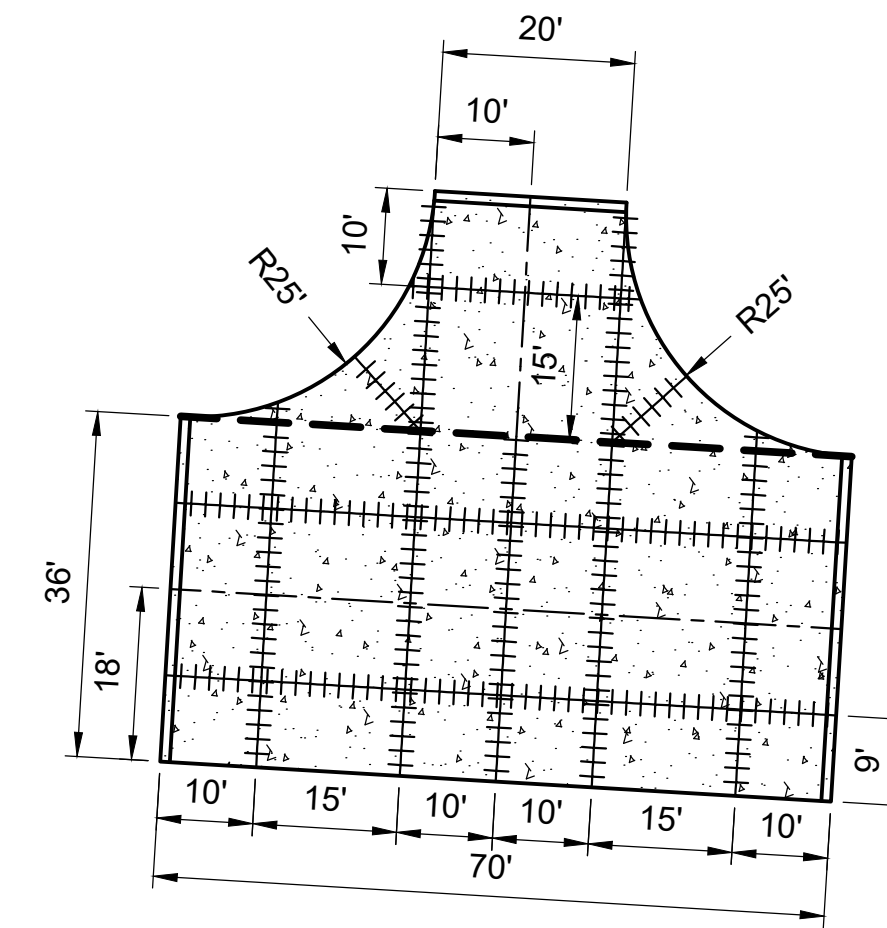
TP-01
SCALE: 1" = 20'



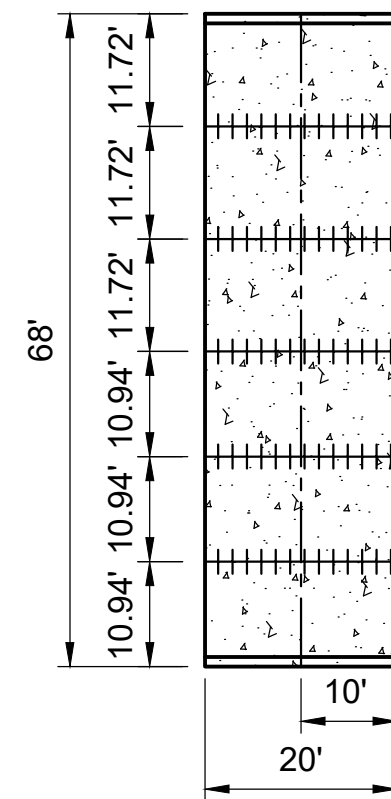
TP-02
SCALE: 1" = 20'



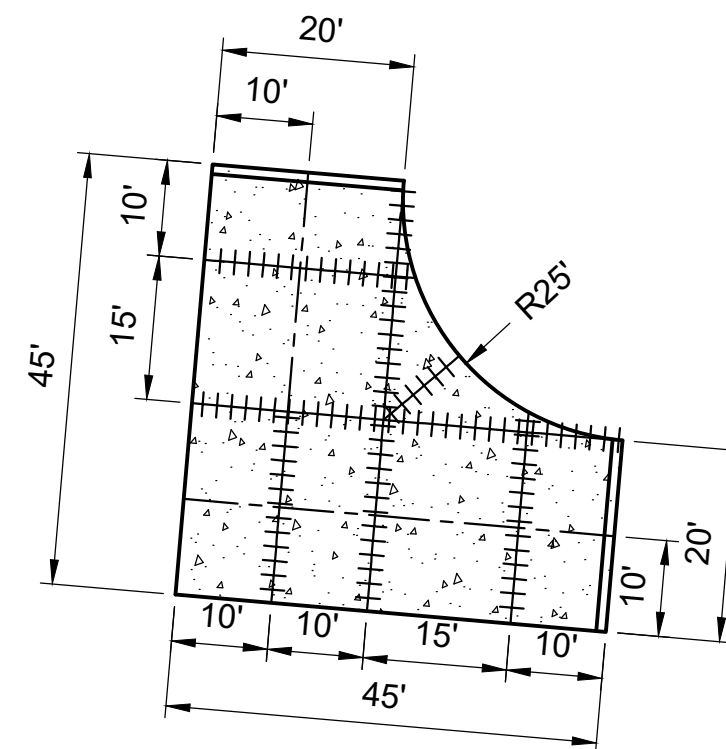
TP-03
SCALE: 1" = 20'



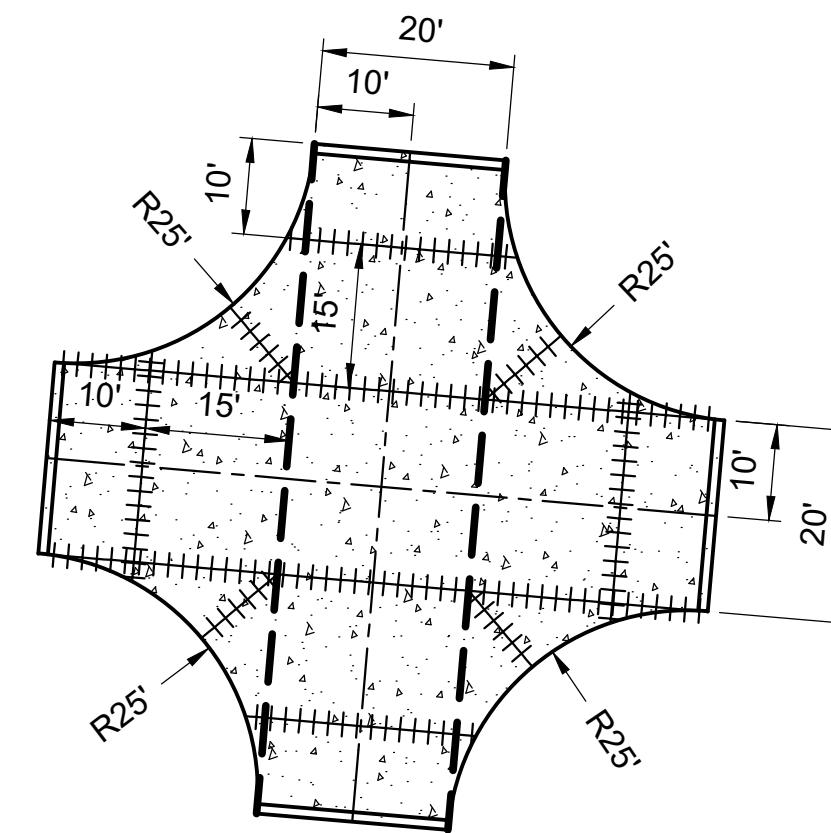
TP-04
SCALE: 1" = 20'



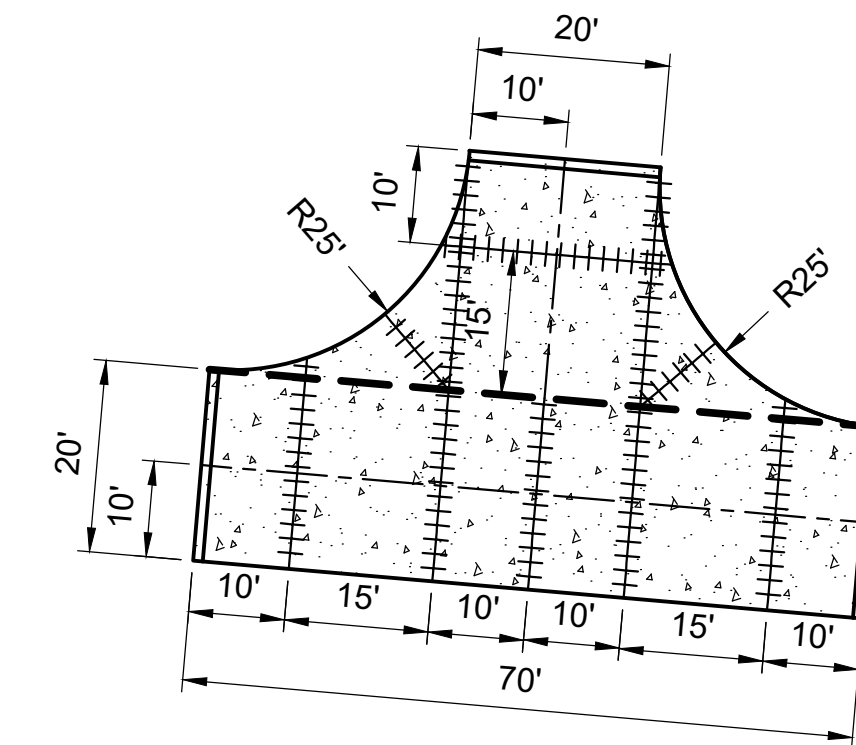
TP-05, 06, 11, 12, 23, 26
SCALE: 1" = 20'



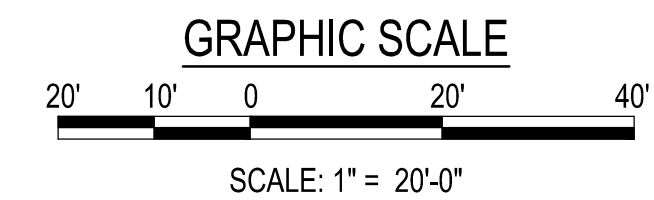
TP-07
SCALE: 1" = 20'



TP-08
SCALE: 1" = 20'



TP-09
SCALE: 1" = 20'

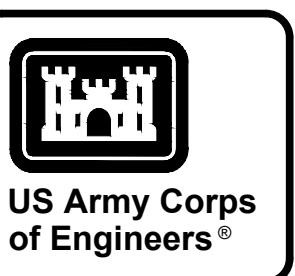


NOTES:

- LONGITUDINAL CONSTRUCTION JOINTS SHALL BE USED AT ALL COLD JOINTS AND AT ALL END OF DAY POURS.
- SEE SHEET CP504 FOR CONCRETE PAVING DETAILS.

LEGEND

- LONGITUDINAL CONTRACTION JOINT (L.C.J.)
- ||||| TRANSVERSE CONTRACTION JOINT (T.C.J.)
- - - - - EXPANSION JOINT (E.J.)
- ===== L4x4x1/4 GALVANIZED ANGLE IRON EMBEDDED INTO CONCRETE (TYPICAL AT ALL EDGES)



MARK	DESCRIPTION	DATE

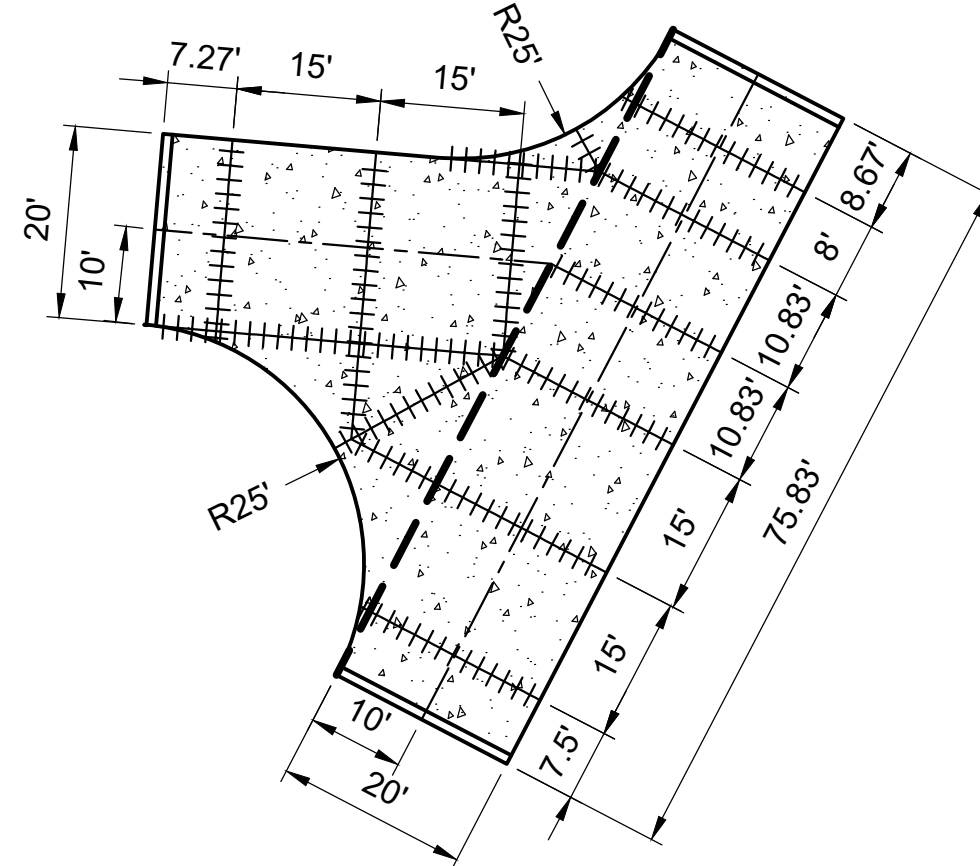
DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. JOHNSON	SCALE: AS SHOWN
CHECKED BY: J. BRANNON	CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-85-01
SIZE: ANSI D	FILE NAME:
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	
POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36803 WWW.POLY-INC.COM/334799-4700	

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 86182
VOLUMES 3 & 4 - DOWNRANGE
CONCRETE PAVING JOINT LAYOUT

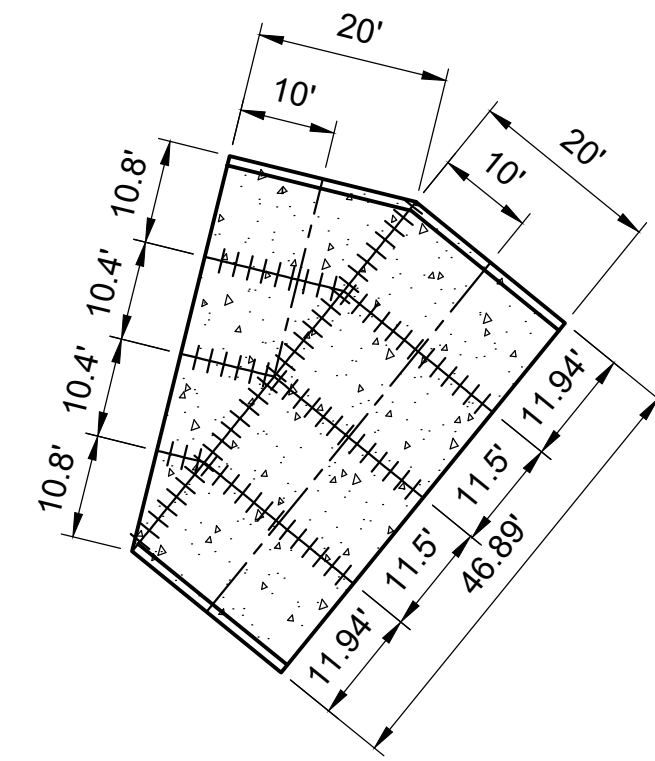
SHEET ID
CP505

READY TO ADVERTISE (RTA)

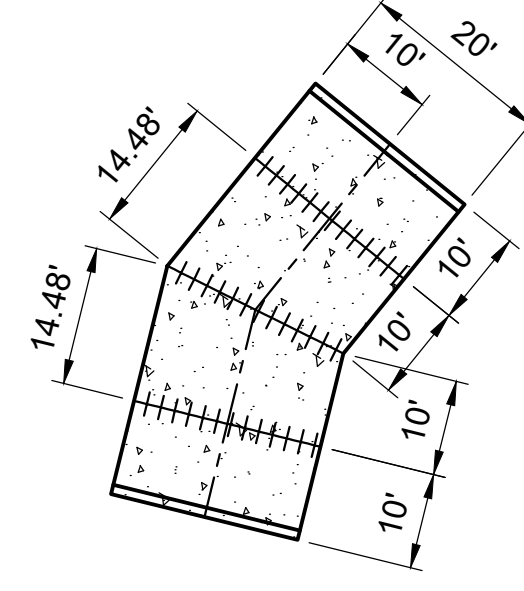
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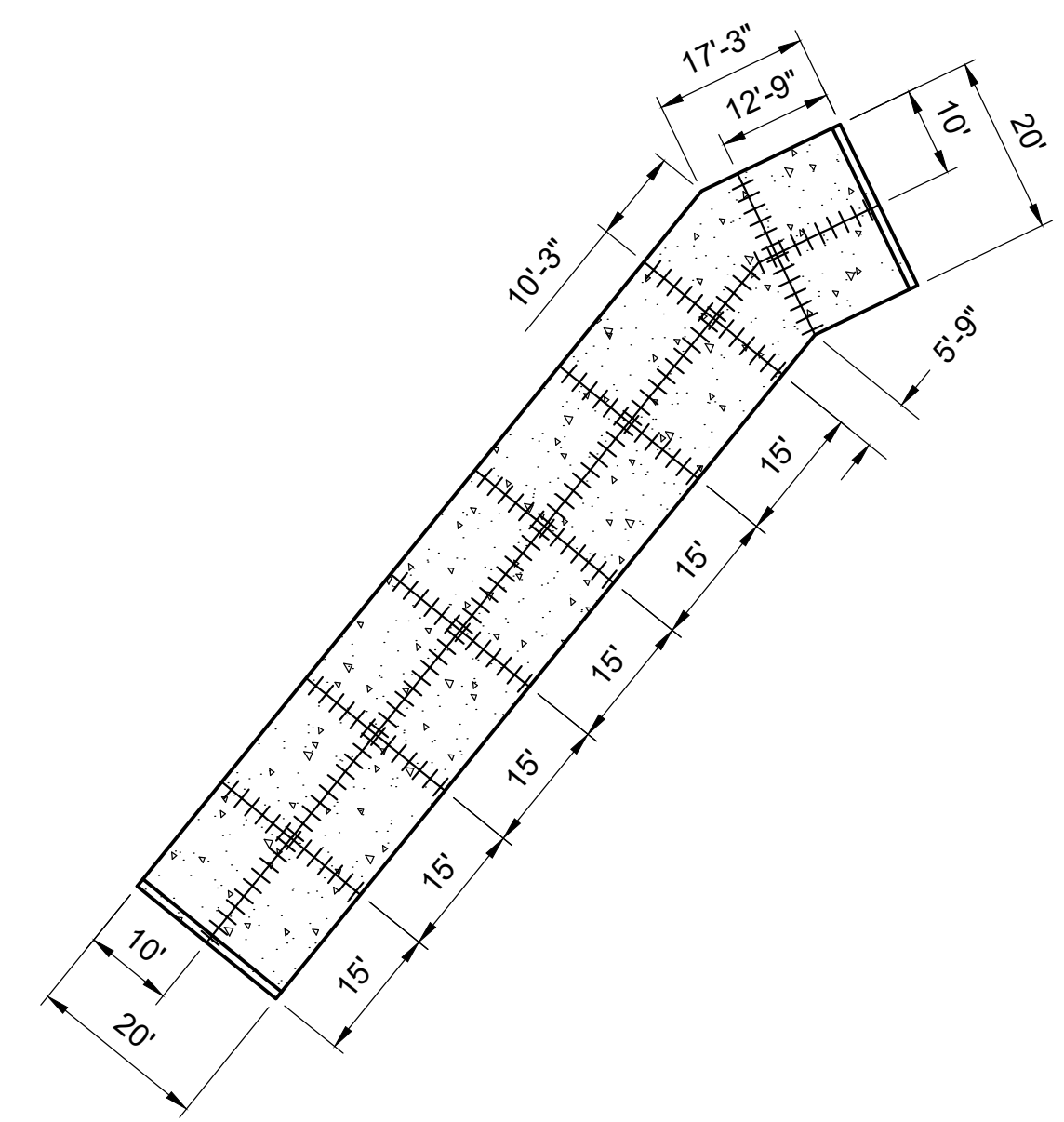
TP-10
SCALE: 1" = 20'



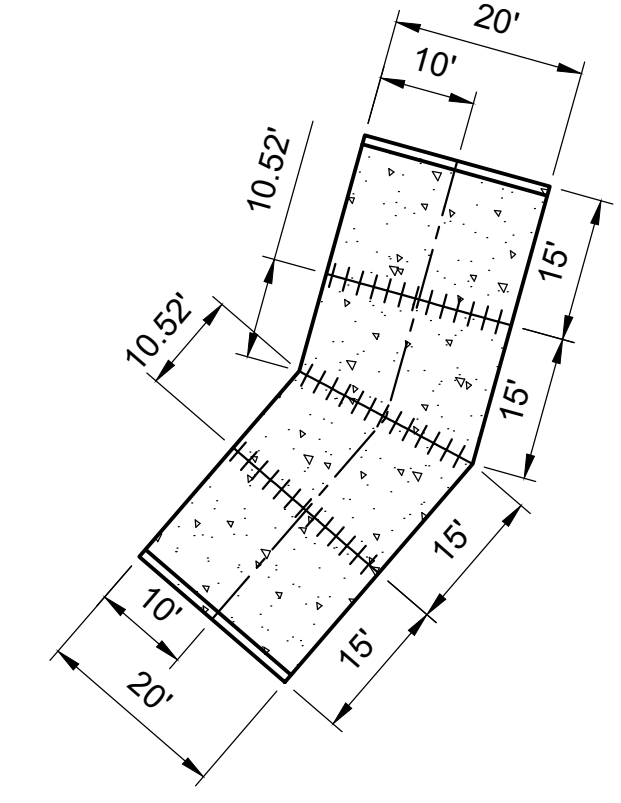
TP-13
SCALE: 1" = 20'



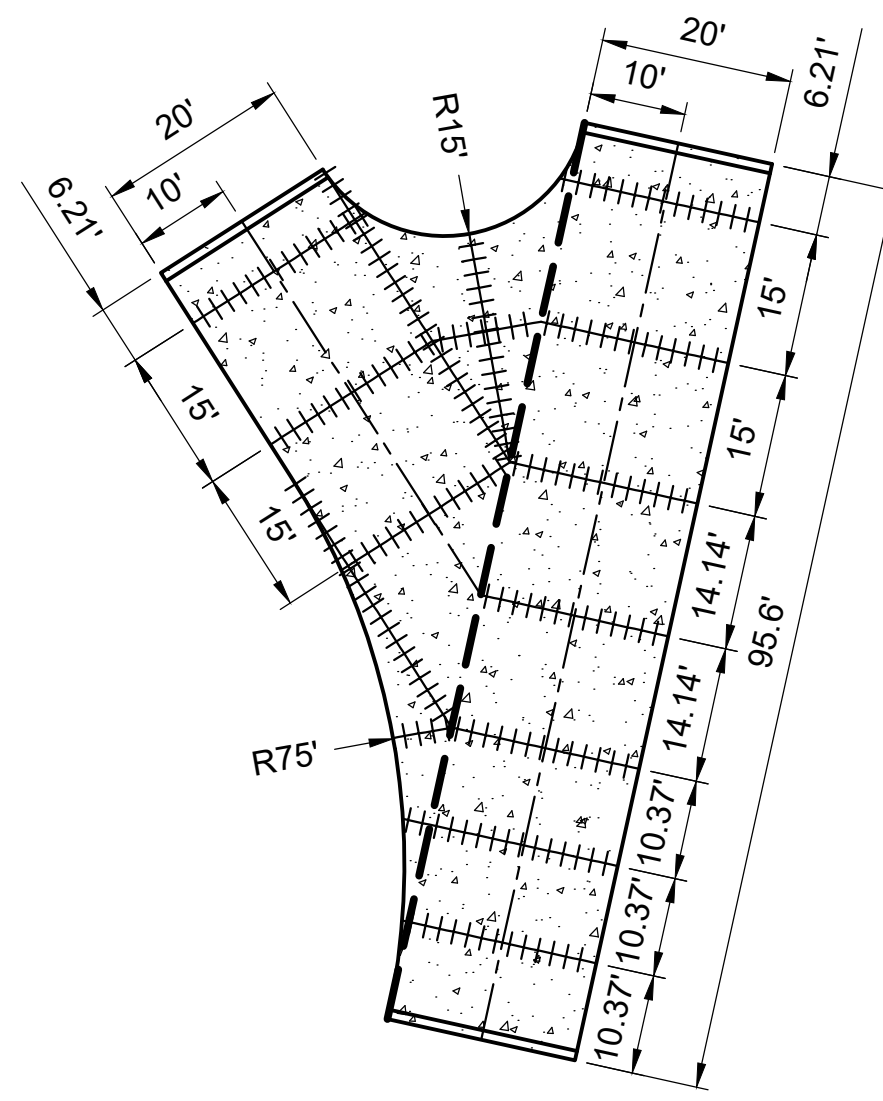
TP-14
SCALE: 1" = 20'



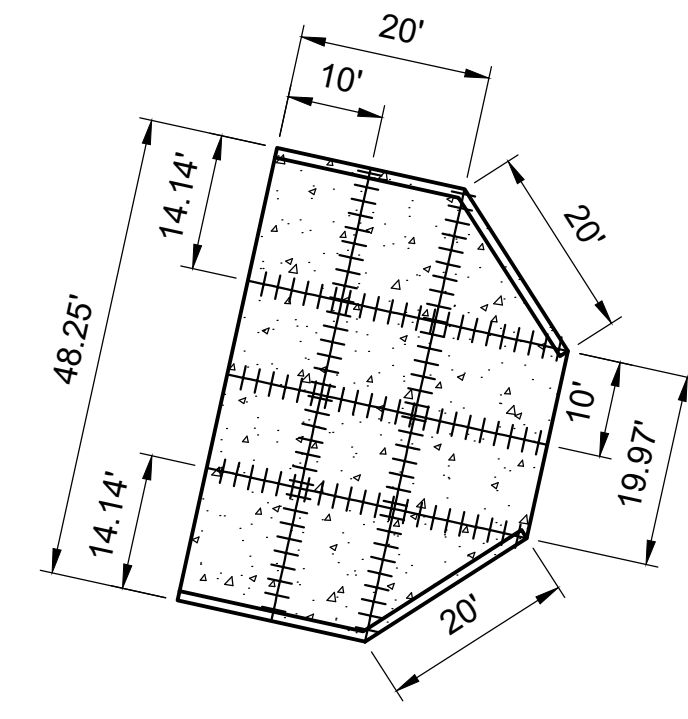
TP-15, 16
SCALE: 1" = 20'



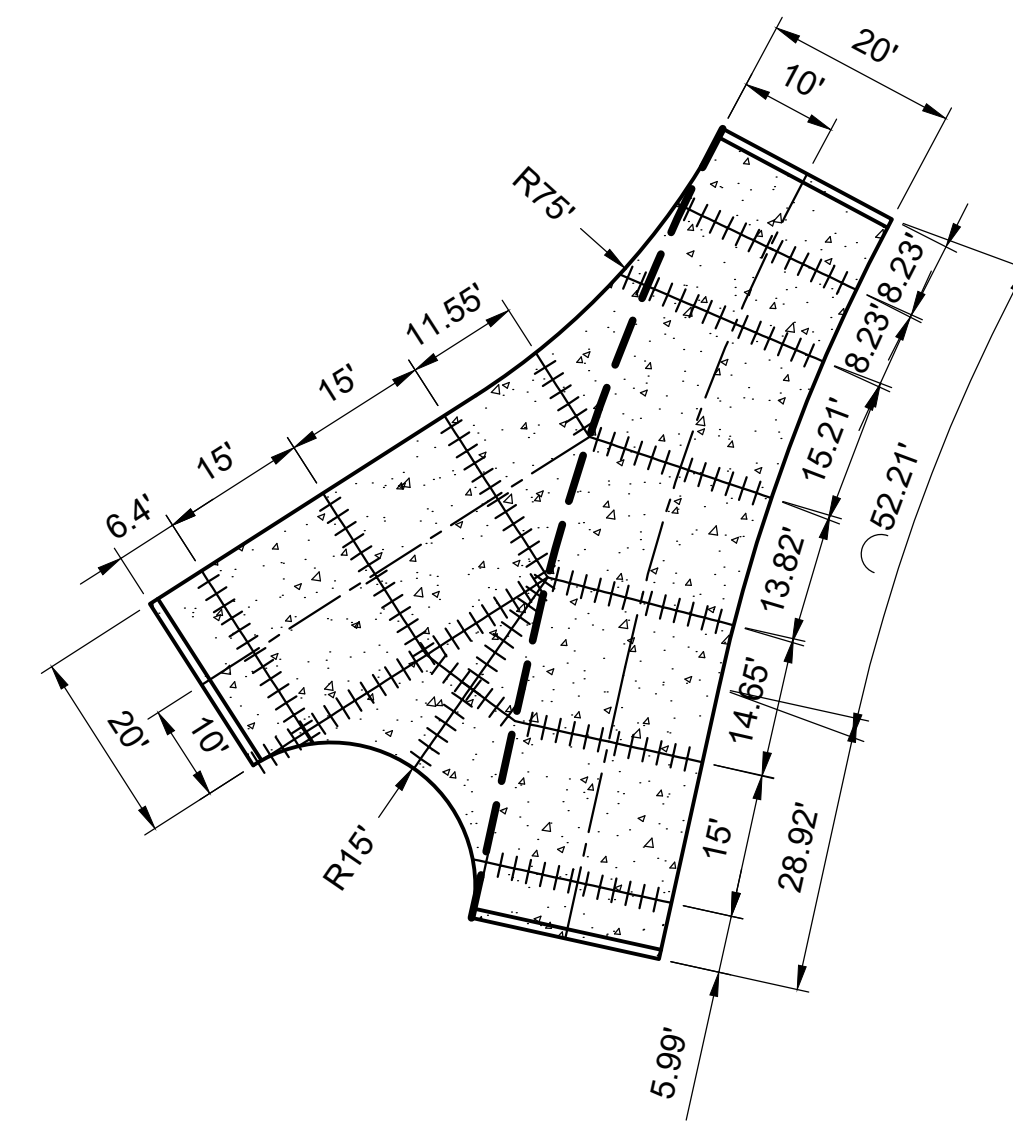
TP-17, 18
SCALE: 1" = 20'



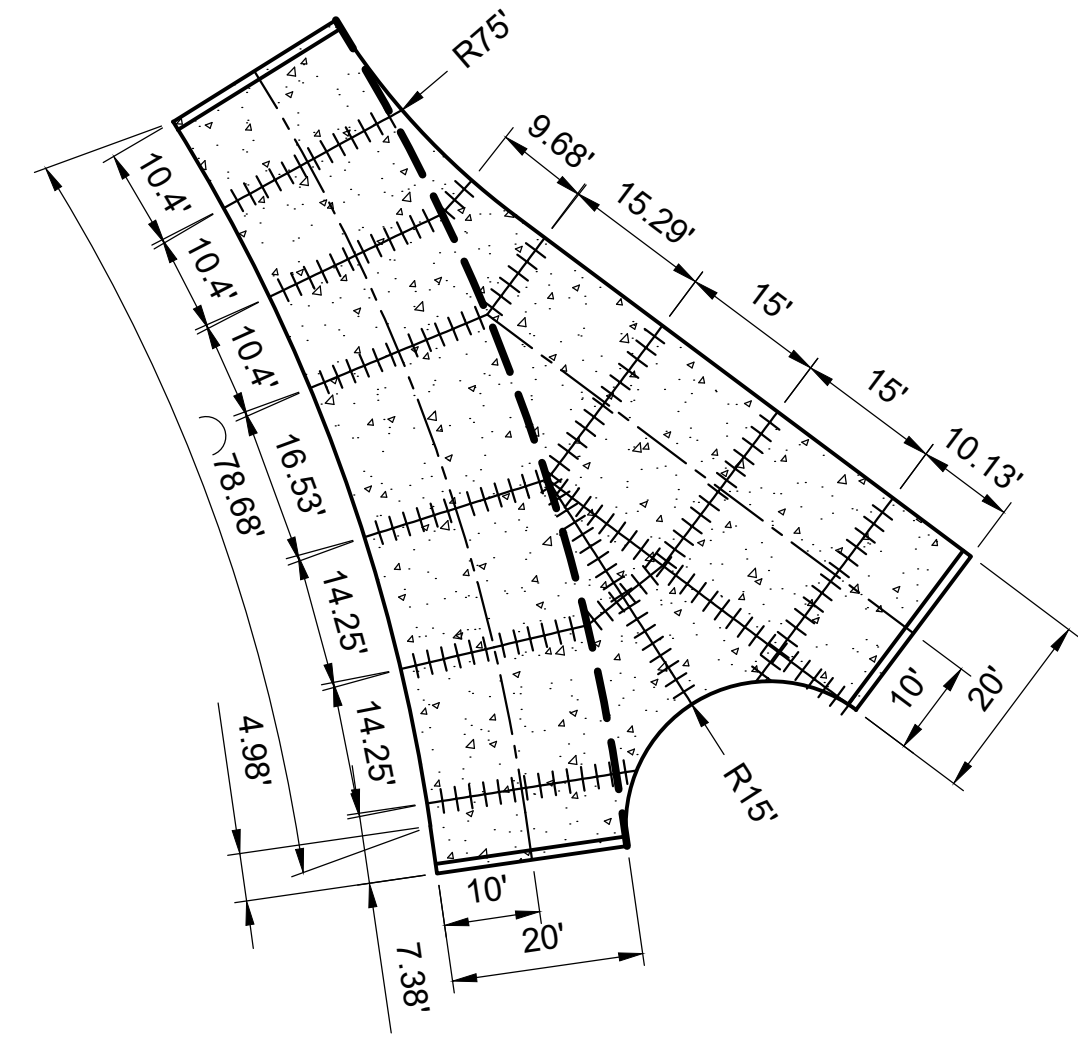
TP-19, 20
SCALE: 1" = 20'



TP-21, 22
SCALE: 1" = 20'



TP-24
SCALE: 1" = 20'



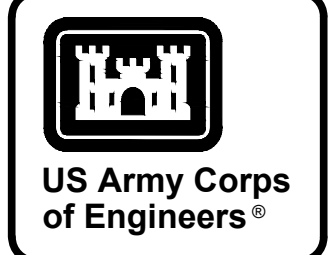
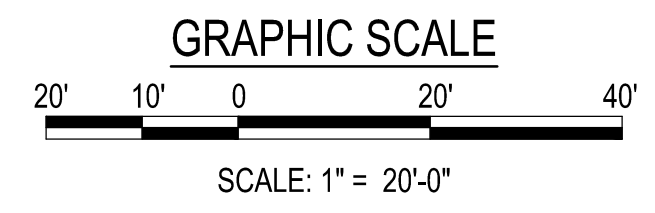
TP-25
SCALE: 1" = 20'

NOTES:

- LONGITUDINAL CONSTRUCTION JOINTS SHALL BE USED AT ALL COLD JOINTS AND AT ALL END OF DAY POURS.
- SEE SHEET CP504 FOR CONCRETE PAVING DETAILS.

LEGEND

- LONGITUDINAL CONTRACTION JOINT (L.C.J.)
- TRANSVERSE CONTRACTION JOINT (T.C.J.)
- EXPANSION JOINT (E.J.)
- L4x4x1/4 GALVANIZED ANGLE IRON EMBEDDED INTO CONCRETE (TYPICAL AT ALL EDGES)

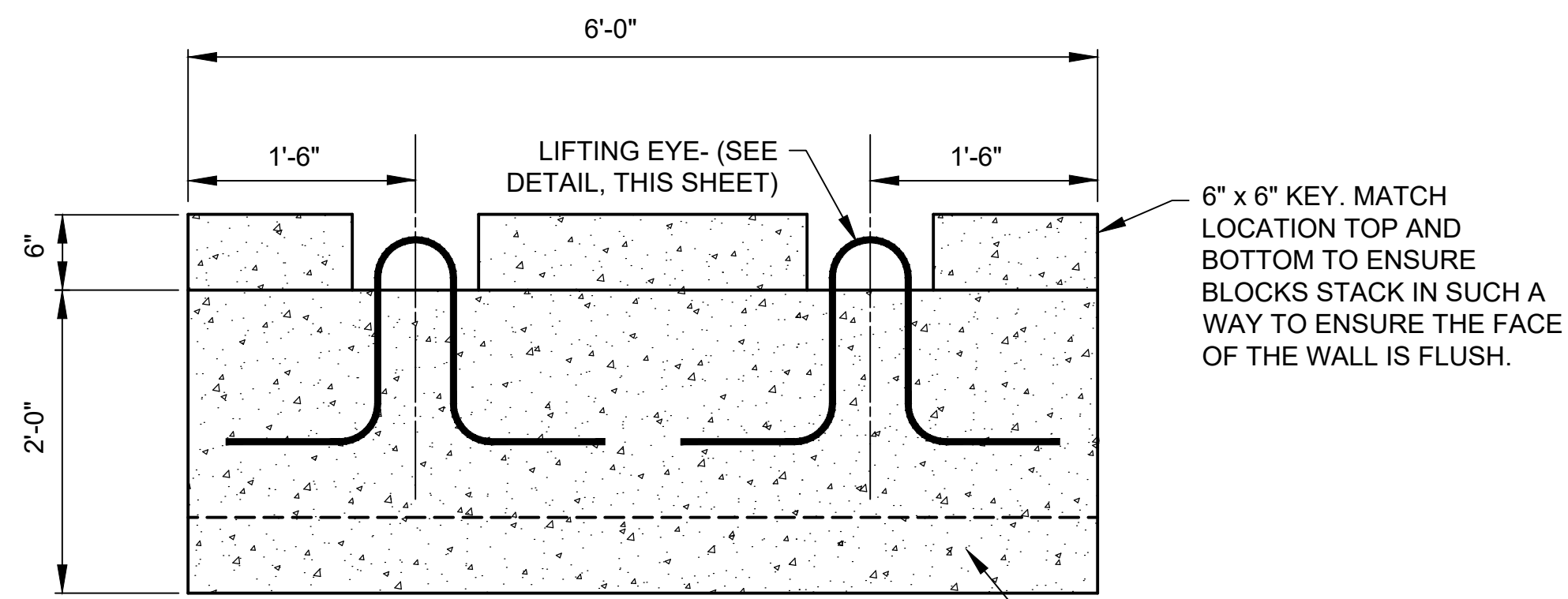


MARK	DESCRIPTION	DATE

DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. JOHNSON	NO. OF SHEETS: 10/24/24 & 3002
CONTRACT NO.:	CONTRACT NO.:
FILE NAME:	FILE NAME:
ANSI D:	ANSI D:
SIZE:	SIZE:
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36803 WWW.POLY-INC.COM / 334-799-4700

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 86182
VOLUMES 3 & 4 - DOWNRANGE
CONCRETE PAVING JOINT LAYOUT

SHEET ID
CP506

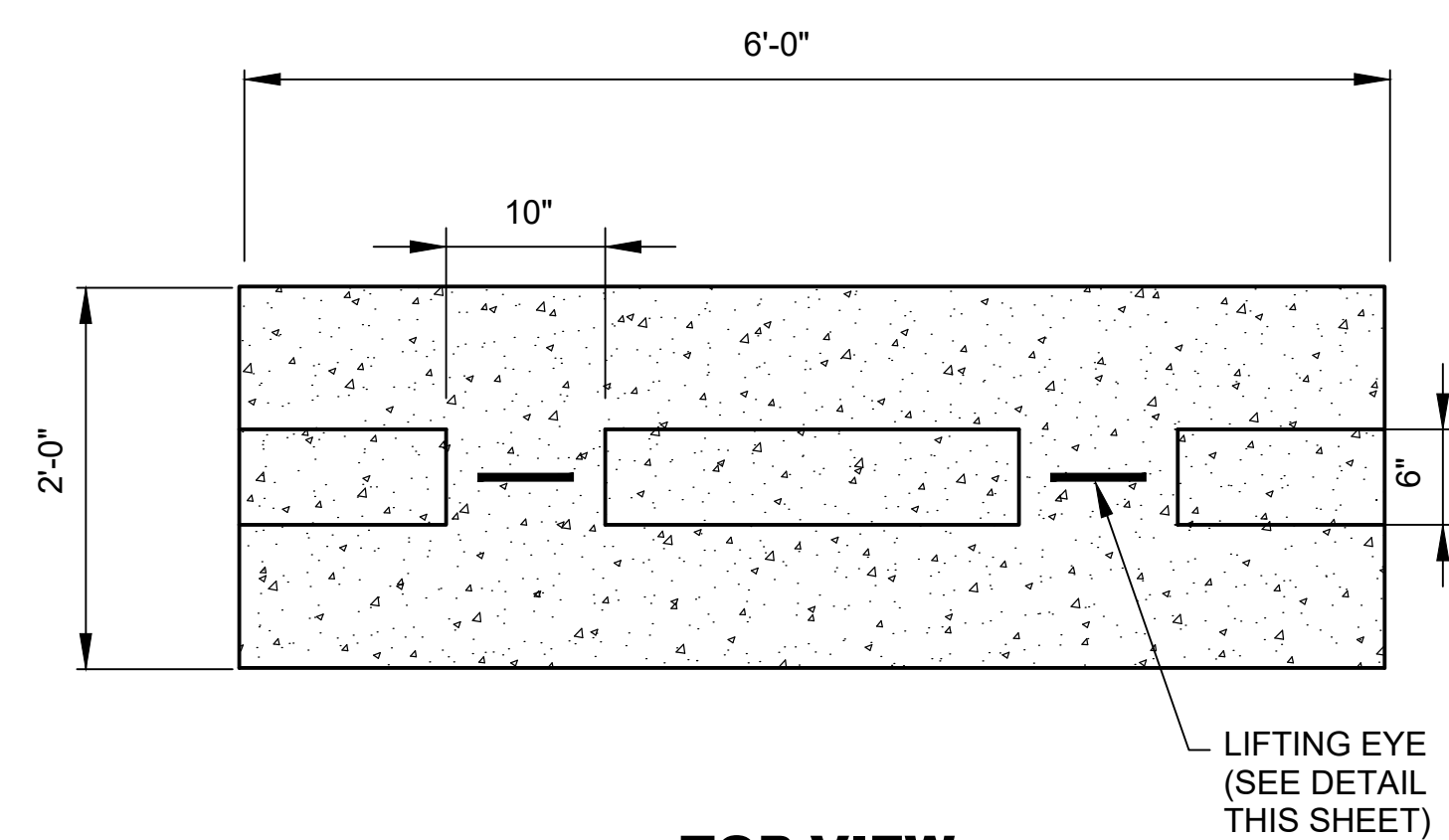


**SIDE VIEW
PRECAST WALL BLOCK**

SCALE: 1" = 1'

6" x 6" KEY. MATCH LOCATION TOP AND BOTTOM TO ENSURE BLOCKS STACK IN SUCH A WAY TO ENSURE THE FACE OF THE WALL IS FLUSH.

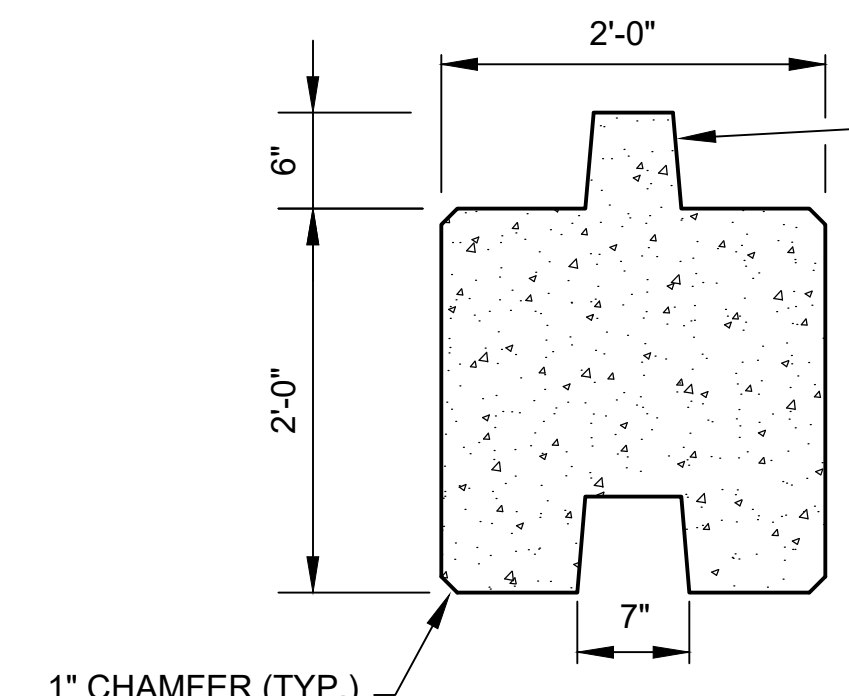
BOTTOM KEY WITHIN. SEE BLOCK DETAIL (END VIEW, THIS SHEET)



**TOP VIEW
PRECAST WALL BLOCK**

SCALE: 1" = 1'

LIFTING EYE (SEE DETAIL THIS SHEET)

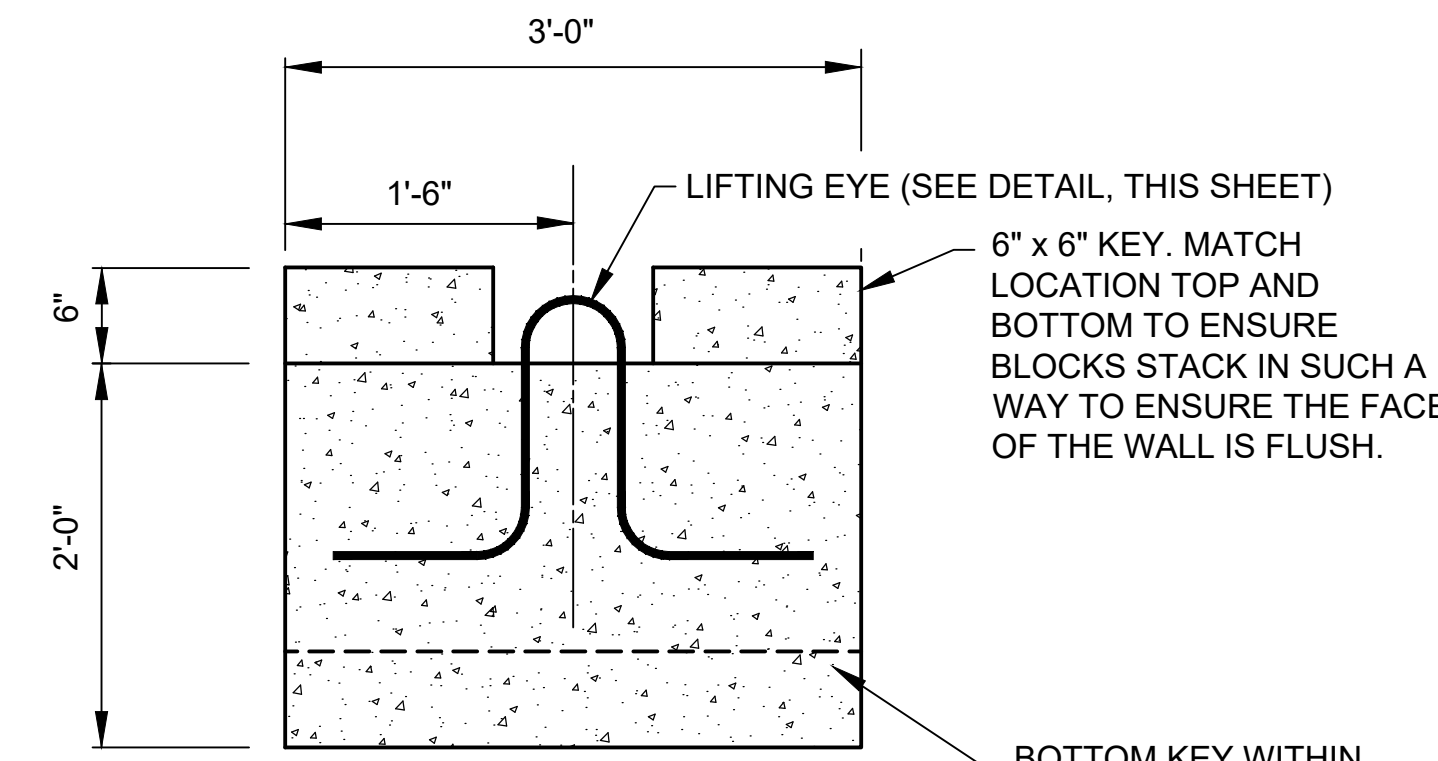


**END VIEW
PRECAST WALL BLOCK**

SCALE: 1" = 1'

1" CHAMFER (TYP.) ALL SIDES OF ALL BLOCKS

6" x 6" KEY. MATCH LOCATION TOP AND BOTTOM TO ENSURE BLOCKS STACK IN SUCH A WAY TO ENSURE THE FACE OF THE WALL IS FLUSH. NO TOP KEY IS REQUIRED FOR TOP BLOCK APPLICATIONS. BLANK KEY OFF WHEN FORMED.

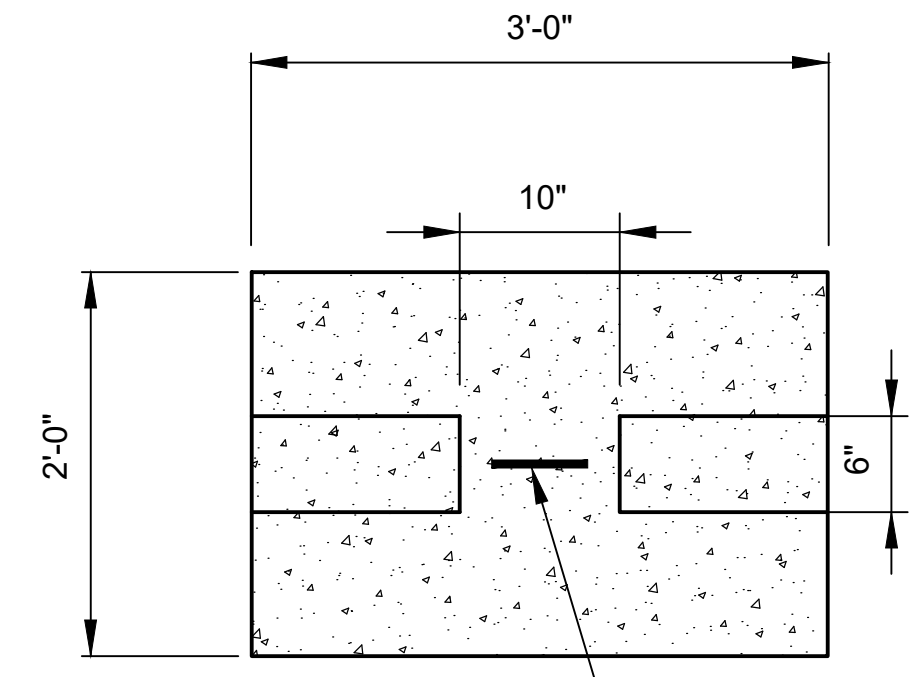


**SIDE VIEW
PRECAST WALL HALF BLOCK**

SCALE: 1" = 1'

6" x 6" KEY. MATCH LOCATION TOP AND BOTTOM TO ENSURE BLOCKS STACK IN SUCH A WAY TO ENSURE THE FACE OF THE WALL IS FLUSH.

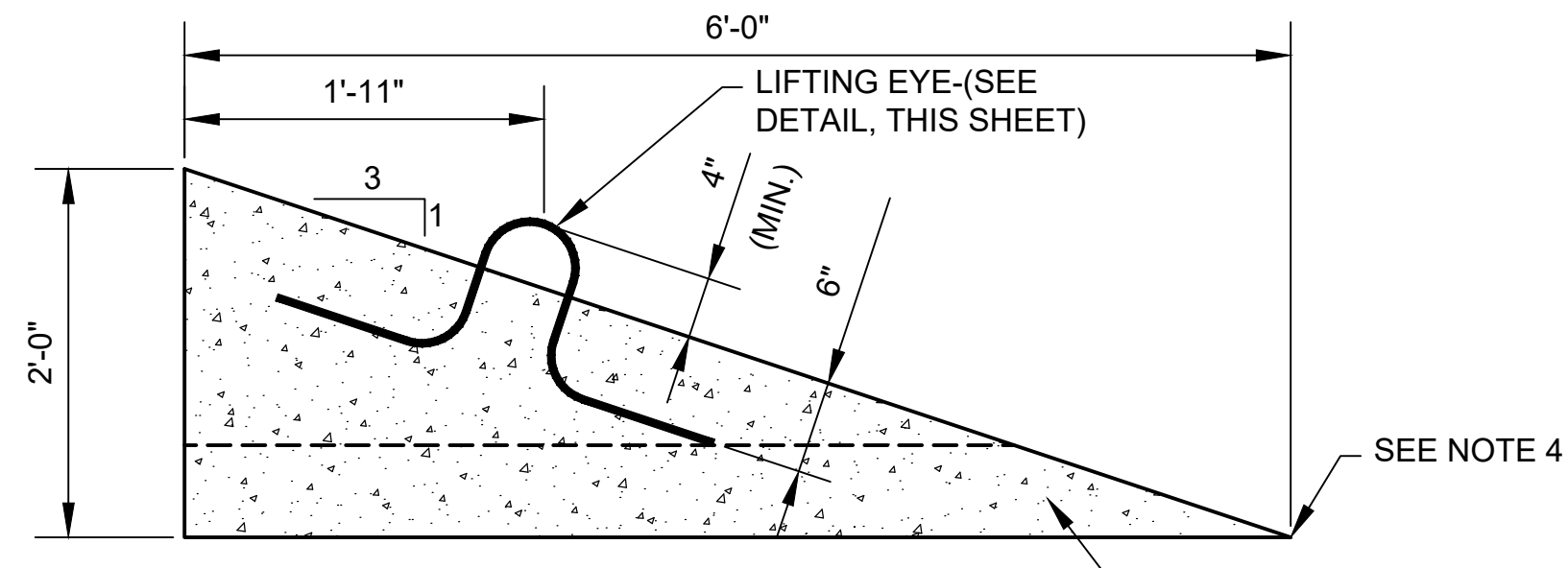
BOTTOM KEY WITHIN. SEE BLOCK DETAIL (END VIEW, THIS SHEET)



**TOP VIEW
PRECAST WALL HALF BLOCK**

SCALE: 1" = 1'

LIFTING EYE (SEE DETAIL THIS SHEET)

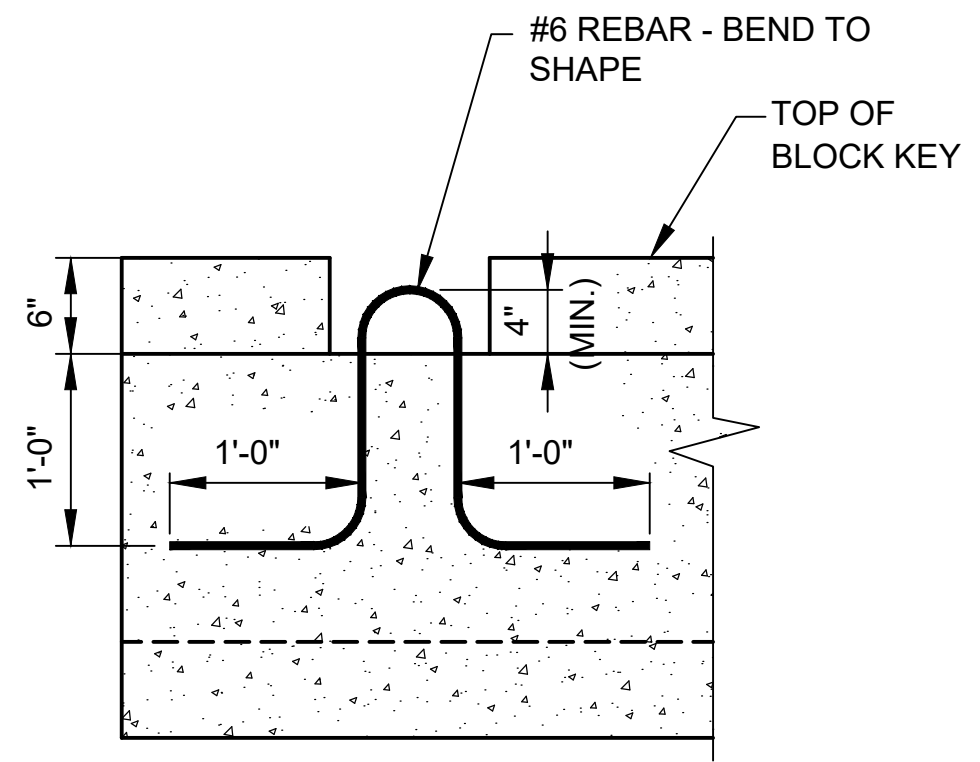


**SIDE VIEW
PRECAST WALL SLOPED END BLOCK**

SCALE: 1" = 1'

SEE NOTE 4

BOTTOM KEY WITHIN

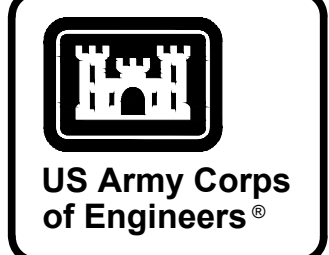
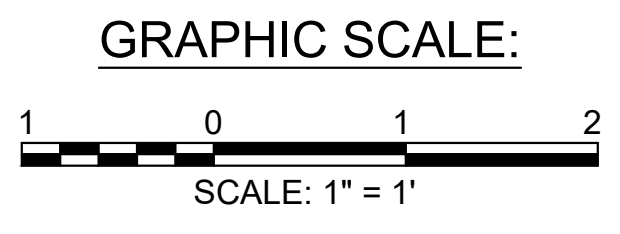


LIFTING EYE DETAIL

SCALE: 1" = 1'

NOTES:

1. CONCRETE TO BE 3,000 PSI @ 28 DAYS MIN. 5% BY VOLUME, AIR ENTRAINED.
2. ALL BLOCKS TO HAVE 1" CHAMFER ALONG ALL SIDES.
3. ALL REINFORCING STEEL SHALL BE PER ASTM A615, GRADE 60.
4. SLOPED END BLOCK MAY REQUIRE A THICKENED END INSTEAD OF COMING TO AN EXACT POINT AS SHOWN TO PREVENT SPALLING OF CONCRETE. VERIFY WITH BLOCK MANUFACTURER.
5. ALL LIFTING EYES EXPOSED ON TOP OF THE WALLS SHALL BE CUT FLUSH WITH THE TOP OF THE BLOCKS AND THE REMAINING HOLE SHALL BE FILLED WITH NON-SHRINK GROUT.



US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. JOHNSON	SCALE: AS SHOWN
CHECKED BY: J. BRANNON	CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-65-01
SIZE: ANSI D	FILE NAME:

U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT
100 W. OGLETHORPE AVE
SAVANNAH, GA 31401

POLY, INC.
1935 HEADLAND AVENUE
DOTHAN, AL 36503
WWW.POLY-INC.COM/3347-99-4700

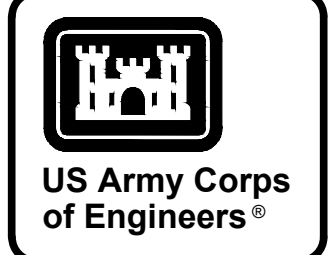
FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 96182
VOLUMES 3 & 4 - DOWNRANGE

PRECAST CONCRETE BLOCK DETAILS

SHEET ID
CS504

READY TO ADVERTISE (RTA)

G:\CLEAN\STUFF-15-28115376 BRAGG MPTTR\WP107_LRTA_FINAL_SUBMITTAL\04_CIVIL\500 DETAILS\B2ECS504.DWG



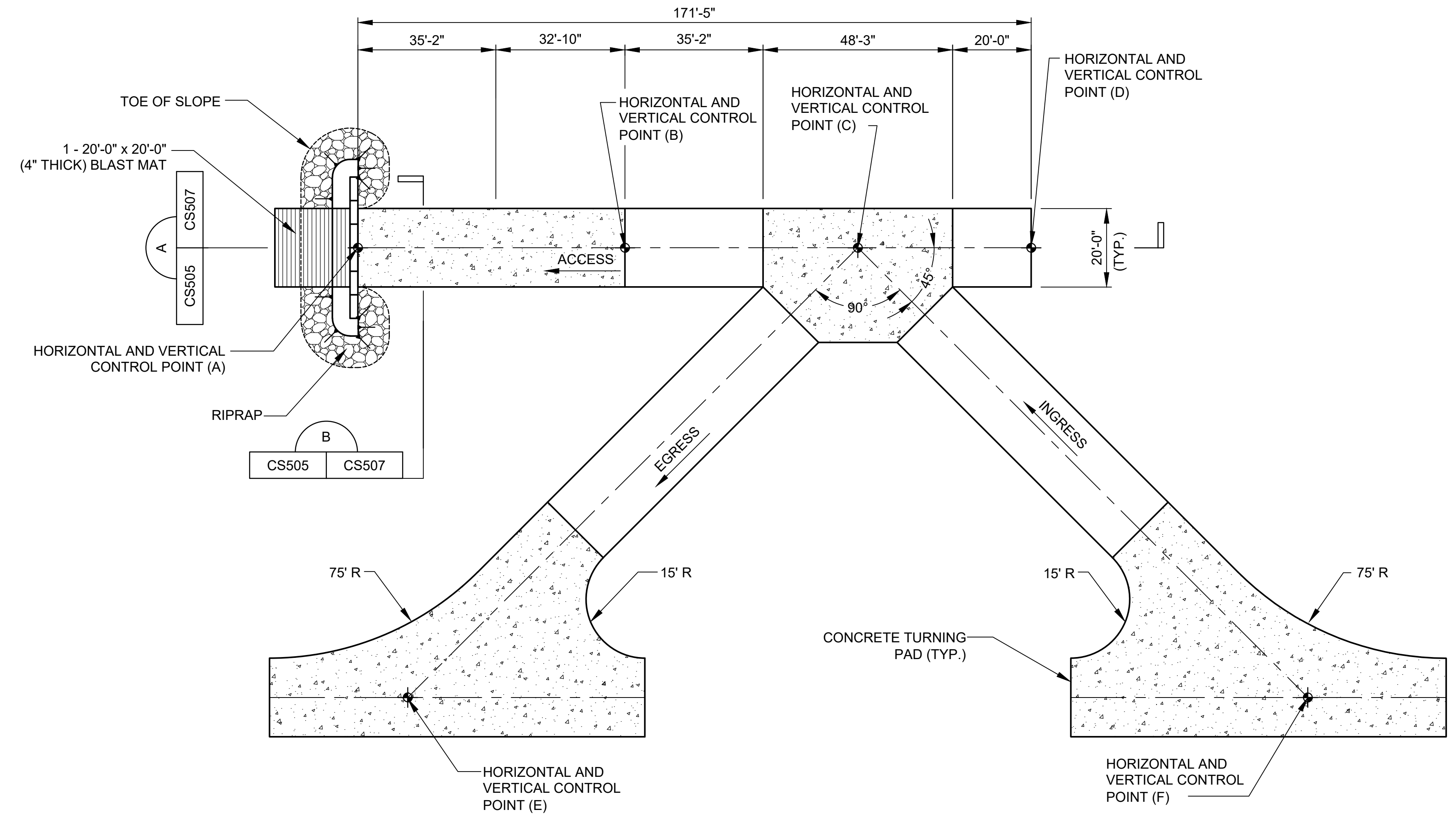
US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: K. SANDERS B. JOHNSON	ISSUE DATE: NOVEMBER 2023
CHECKED BY: J. BRANNON	DATE: NOV 21, 2023
SUBMITTED BY: B. BRADLEY	CONTRACT NO.:
FILE NAME: ANSID	CATEGORY CODE: 178-85-01
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36503 WWW.POLY-INC.COM / 334-779-4700

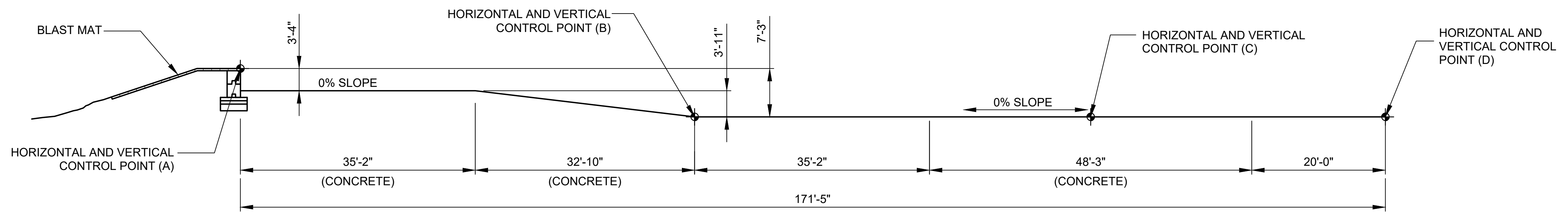
FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 86182
VOLUMES 3 & 4 - DOWNRANGE
DEFILADE DETAILS

SHEET ID
CS505



PLAN

SCALE: 1" = 20'



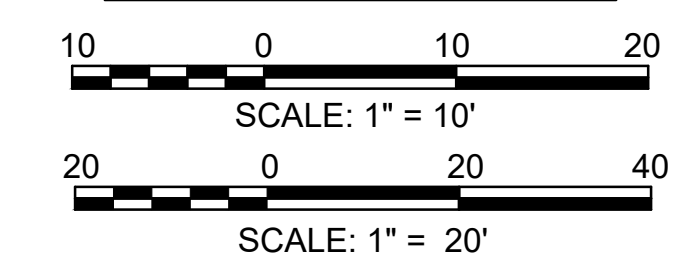
**ACCESS PROFILE
DEFILADE (TURRET DOWN)**

SCALE: 1" = 10'

NOTES :

- AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE REVEGETATED OR RESURFACED IN ACCORDANCE WITH THE SPECIFICATIONS. GROUND COVER SHALL NOT REDUCE TARGET VISIBILITY.
- BERMS SHALL BE CONSTRUCTED OF SATISFACTORY FILL MATERIALS AND COMPACTED @ 95% (ASTM D 1557).
- SEE SHEET CP502 FOR TYPICAL DEFILADE ROADWAY SECTIONS.
- SEE SHEET CS504 FOR PRECAST CONCRETE BLOCK DETAILS.
- SEE SHEET CP504 FOR TURNING PAD PAVEMENT SECTION.
- SEE SHEETS CP505 & CP506 FOR TURNING PAD JOINT LAYOUTS.
- SEE SHEET CS614 FOR HORIZONTAL AND VERTICAL CONTROL POINT DATA.
- INGRESS AND EGRESS LENGTHS VARY. SEE SITE PLAN AND CONTROL POINT DATA.
- OMITTED
- HORIZONTAL CONTROL POINT (C) EQUALS ENDING STATION ON DEFILADE INGRESS ROAD AND STATION 0+00.00 ON DEFILADE EGRESS ROAD.
- HORIZONTAL CONTROL POINT (D) EQUALS STA. 0+00.00 ON DEFILADE ACCESS ROAD.
- HORIZONTAL CONTROL POINT (E) EQUALS ENDING STATION ON DEFILADE EGRESS ROAD.
- HORIZONTAL CONTROL POINT (F) EQUALS STA. 0+00.00 ON DEFILADE INGRESS ROAD.
- THIS DETAIL APPLIES TO BP-01D AND BP-02D.

GRAPHIC SCALES:





US Army Corps of Engineers®

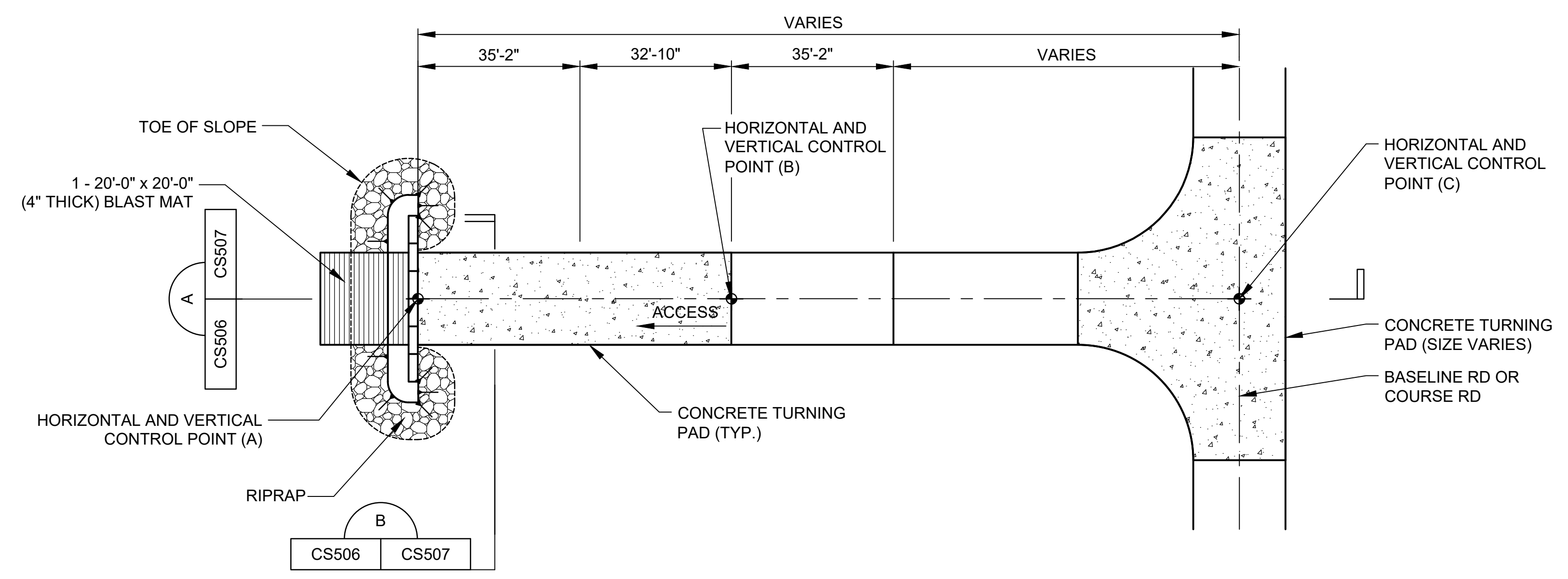
MARK	DESCRIPTION	DATE

DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2003
CHECKED BY: B. JOHNSON	PROJECT NO. / CONTRACT NO.:
SUBMITTED BY: J. BRANNON	CATEGORY CODE:
FILE NAME: B. BRADLEY	SIZE:
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36503 WWW.POLY-INC.COM / 334-799-4700

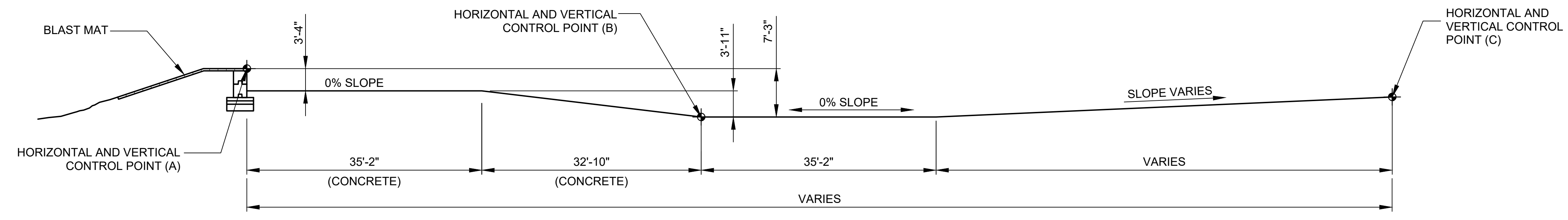
FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 86182
VOLUMES 3 & 4 - DOWNRANGE

DEFILADE DETAILS

SHEET ID
CS506

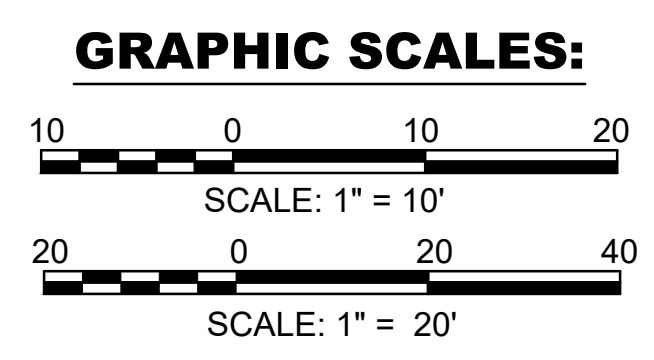


PLAN
SCALE: 1" = 20'



**ACCESS PROFILE
DEFILADE (TURRET DOWN)**
SCALE: 1" = 10'

- NOTES :**
- AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE REVEGETATED OR RESURFACED IN ACCORDANCE WITH THE SPECIFICATIONS. GROUND COVER SHALL NOT REDUCE TARGET VISIBILITY.
 - BERMS SHALL BE CONSTRUCTED OF SATISFACTORY FILL MATERIALS AND COMPACTED @ 95% (ASTM D 1557).
 - SEE SHEET CP502 FOR TYPICAL DEFILADE ROADWAY SECTIONS.
 - SEE SHEET CS504 FOR PRECAST CONCRETE BLOCK DETAILS.
 - SEE SHEET CP504 FOR TURNING PAD PAVEMENT SECTION.
 - SEE SHEETS CP505 & CP506 FOR TURNING PAD JOINT LAYOUTS.
 - SEE SHEET CS614 FOR HORIZONTAL AND VERTICAL CONTROL POINT ATA.
 - INGRESS AND EGRESS LENGTHS VARY. SEE SITE PLAN AND CONTROL POINT DATA.
 - THIS DETAIL APPLIES TO BP-01A, BP-01B, BP-02A, AND BP-02B.



READY TO ADVERTISE (RTA)

G:\CLEANSTUFF-15-28\15376 BRAGG MPTTR\WP07_LRTA_FINAL_SUBMITTAL\04_CIVIL\500 DETAIL\CS506.DWG



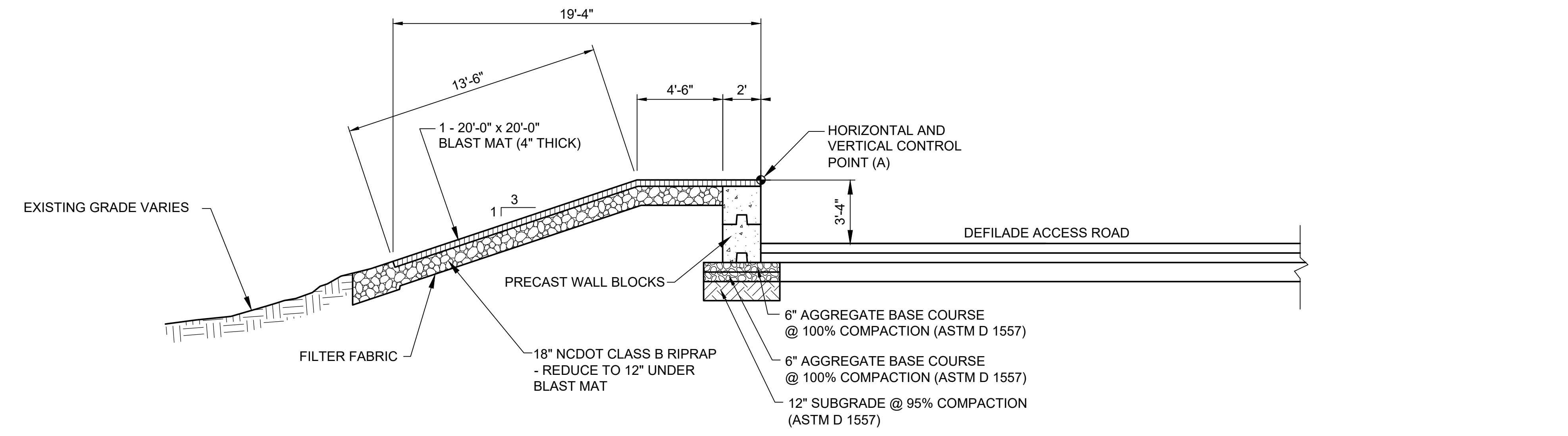
US Army Corps of Engineers

MARK	DESCRIPTION	DATE

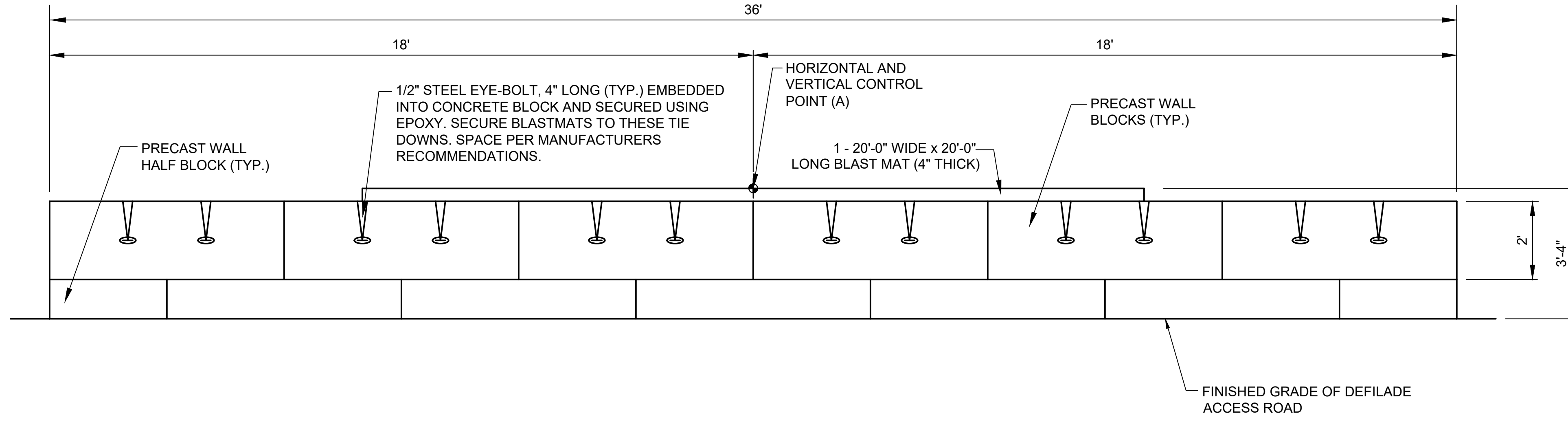
DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2003
CHECKED BY: B. JOHNSON	PROJECT NO.: W9134L2448.2002
SUBMITTED BY: J. BRANNON	CONTRACT NO.:
FILE NAME: B. BRADLEY	CATEGORY CODE: 178-65-01

FORT LIBERTY, NORTH CAROLINA
 AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
 FY23, PN 86182
 VOLUMES 3 & 4 - DOWNRANGE
 DEFILADE DETAILS

SHEET ID
CS507



SECTION A
 CS505 CS507
 CS506
SECTION
 SCALE: 1" = 4'

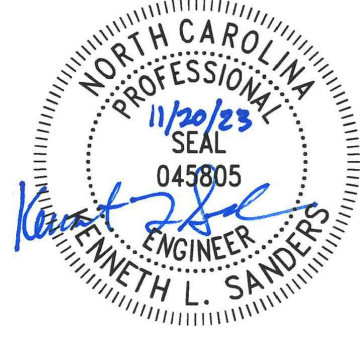
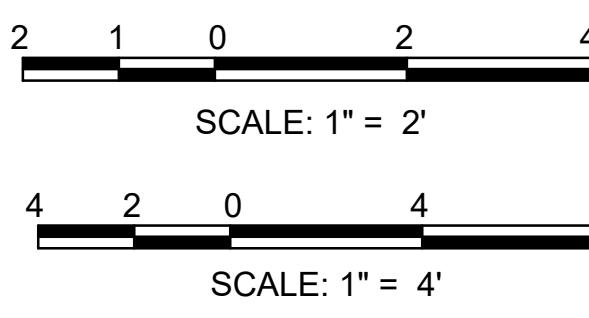


ELEVATION B
 CS505 CS507
 CS506
ELEVATION
 SCALE: 1" = 2'

NOTES :

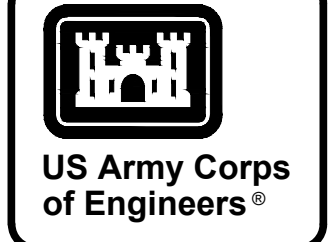
- AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE REVEGETATED OR RESURFACED IN ACCORDANCE WITH THE SPECIFICATIONS. GROUND COVER SHALL NOT REDUCE TARGET VISIBILITY.
- BERMS SHALL BE CONSTRUCTED OF SATISFACTORY FILL MATERIALS AND COMPACTED @ 95% (ASTM D 1557).
- RIPRAP SHALL EXTEND TO WHERE IT TIES TO EXISTING GROUND AND SHALL BE PLACED TO A TIGHT FIT.
- BLAST MATS SHALL BE FOUR STAR RUBBER BLASTING MATS, LEBANON JUNCTION, KENTUCKY, OR APPROVED EQUAL.
- BLAST MATS SHALL BE INSTALLED WITH THE LONGEST SECTION OF THE TIRES ORIENTED IN THE DIRECTION OF FIRE.
- BLAST MATS SHALL BE SECURED TO EACH OF THE PRECAST CONCRETE WALL BLOCK LIFTING EYES CLAMPED 5/8" STEEL-CORE CABLE.
- SEE SHEET CP502 FOR TYPICAL DEFILADE ROAD SECTIONS.
- SEE SHEET CS504 FOR PRECAST CONCRETE BLOCK DETAILS.
- SEE SHEET CS614 FOR HORIZONTAL AND VERTICAL CONTROL POINT DATA.
- PERMANENTLY LABEL EACH DEFILADE WALL. STENCIL DEFILADE NUMBERS PER THE CIVIL DESIGNATIONS ON EACH WALL. NUMBERS TO BE 4 INCH LETTERS PAINTED BLACK.

GRAPHIC SCALES:



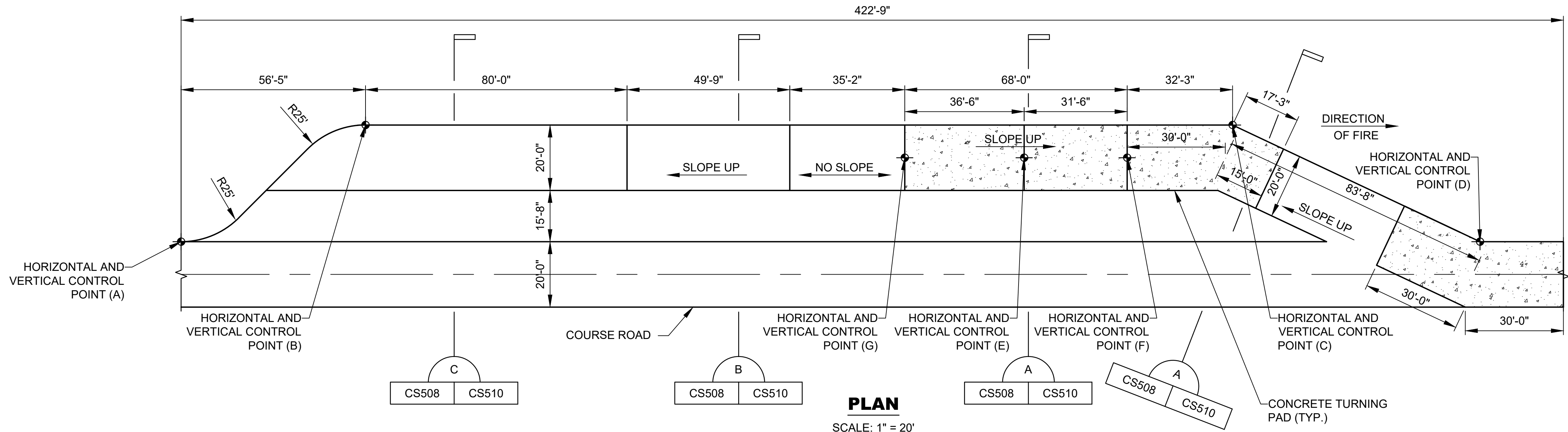
G:\CLEANSTUFF-15-28\15376 BRAGG MPTTR\WIP07_RTA_FINAL SUBMITTAL\04_CIVIL\500 DETAILS\B2ECS507.DWG

READY TO ADVERTISE (RTA)



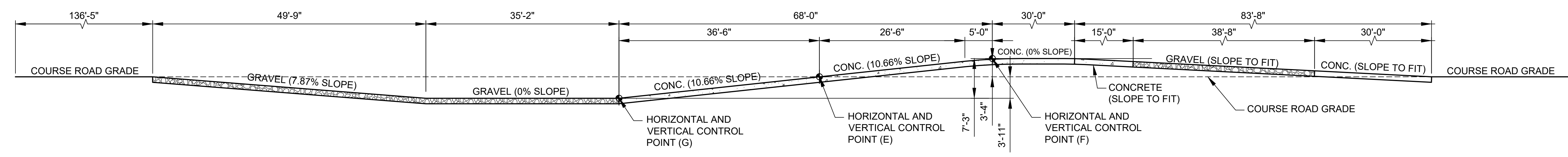
US Army Corps of Engineers®

MARK	DESCRIPTION	DATE



PLAN

SCALE: 1" = 20'



PROFILE

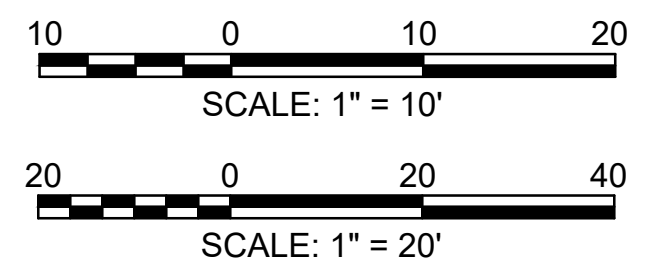
SCALE: 1" = 10'

REVERSE SLOPE BATTLE POSITION

NOTES:

- 1. DITCHES AND EMBANKMENTS SHALL BE MAINTAINED BY THE CONTRACTOR UNTIL THE END OF CONSTRUCTION AND/OR UNTIL A FULL STAND OF GRASS/GROUND COVER IS PRESENT.
- 2. THE DEGREE OF COMPACTION REQUIRED FOR SUBGRADE AND PAVEMENT LAYERS SHALL BE DETERMINED IN ACCORDANCE WITH ASTM D 1557.
- 3. SEE SPECIFICATIONS FOR MATERIAL/GRADATION REQUIREMENTS FOR ROAD CONSTRUCTION.
- 4. THE MOISTURE CONTENT SHALL BE MAINTAINED WITHIN THE LIMITS OF 2% BELOW OPTIMUM TO 1% ABOVE OPTIMUM DURING THE COMPACTION OF THE SUBGRADE.
- 10. SEE SHEET CP502 FOR AGGREGATE PAVING TYPICAL SECTION.
- 11. SEE SHEET CP504 FOR CONCRETE PAVING TYPICAL SECTION.
- 12. SEE SHEETS CP505 & CP506 FOR CONCRETE PAVING JOINT LAYOUTS.
- 13. SEE SHEET CS614 FOR HORIZONTAL AND VERTICAL CONTROL POINT DATA.
- 14. THIS DETAIL APPLIES TO RSBP-02C.

GRAPHIC SCALES:



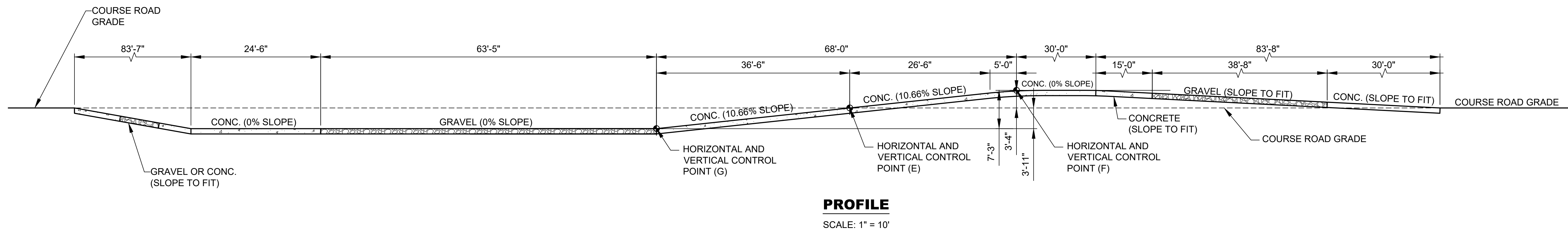
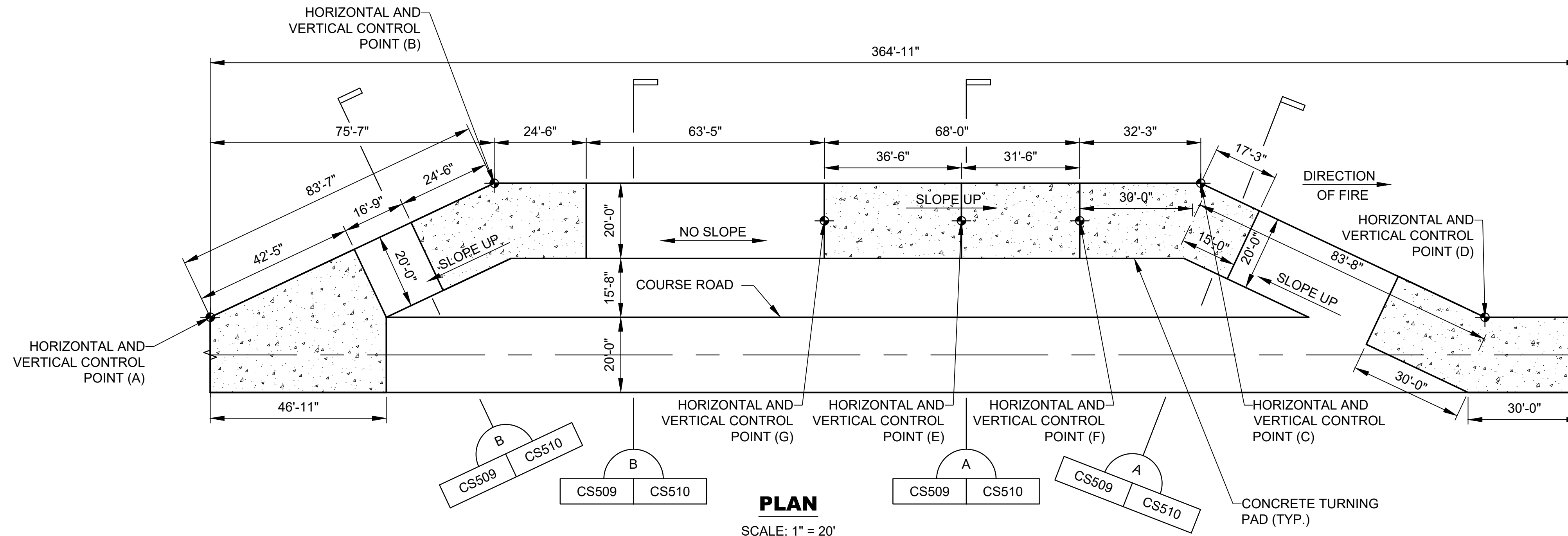
DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. JOHNSON	PROJECT NO. & DATE: W91PH12448.3002
SUBMITTED BY: B. BRADLEY	CONTRACT NO.:
FILE NAME: ANSID	CATEGORY CODE: 178-65-01
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36503 WWW.POLY-INC.COM/3347-99-4700

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 96182
VOLUMES 3 & 4 - DOWNRANGE
REVERSE SLOPE BATTLE POSITION DETAILS

SHEET ID
CS508



US Army Corps of Engineers®



REVERSE SLOPE BATTLE POSITION

NOTES:

- 1. DITCHES AND EMBANKMENTS SHALL BE MAINTAINED BY THE CONTRACTOR UNTIL THE END OF CONSTRUCTION AND/OR UNTIL A FULL STAND OF GRASS/GROUND COVER IS PRESENT.
- 2. THE DEGREE OF COMPACTION REQUIRED FOR SUBGRADE AND PAVEMENT LAYERS SHALL BE DETERMINED IN ACCORDANCE WITH ASTM D 1557.
- 3. SEE SPECIFICATIONS FOR MATERIAL/GRADATION REQUIREMENTS FOR ROAD CONSTRUCTION.
- 4. THE MOISTURE CONTENT SHALL BE MAINTAINED WITHIN THE LIMITS OF 2% BELOW OPTIMUM TO 1% ABOVE OPTIMUM DURING THE COMPACTION OF THE SUBGRADE.
- 10. SEE SHEET CP502 FOR AGGREGATE PAVING TYPICAL SECTION.
- 11. SEE SHEET CP504 FOR CONCRETE PAVING TYPICAL SECTION.
- 12. SEE SHEETS CP505 & CP506 FOR CONCRETE PAVING JOINT LAYOUTS.
- 13. SEE SHEET CS614 FOR HORIZONTAL AND VERTICAL CONTROL POINT DATA.
- 14. THIS DETAIL APPLIES TO RSBP-01C.

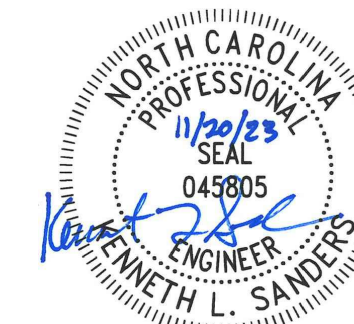
GRAPHIC SCALES:



SCALE: 1" = 10'



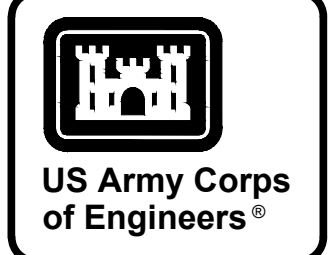
SCALE: 1" = 20'



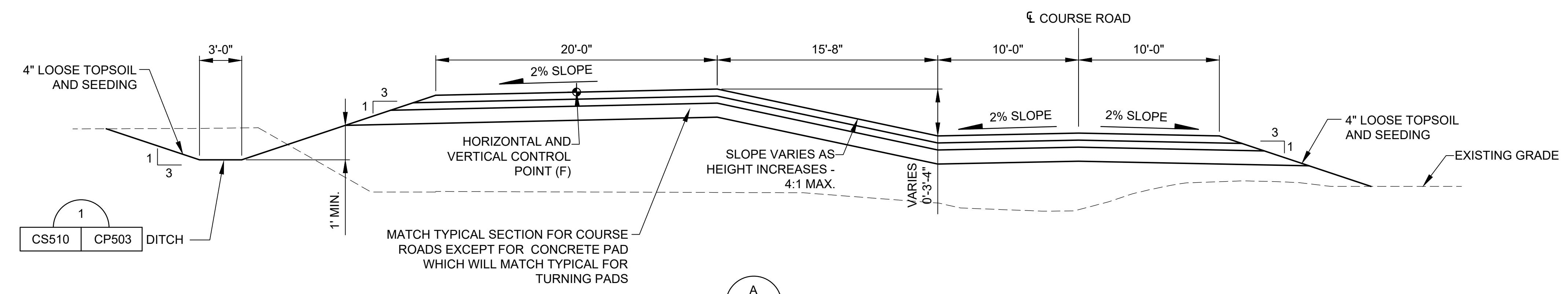
DESIGNED BY:	ISSUE DATE:
K. SANDERS	NOVEMBER 2023
B. JOHNSON	DATE PLOTTED:
J. BRANNON	11/20/23
B. BRADLEY	CHECKED BY:
B. BRADLEY	J. BRANNON
	CONTRACT NO.:
	1019H12448.002
	CATEGORY CODE:
	178-85-01
	FILE NAME:
	ANSID:
	178-85-01
U.S. ARMY CORPS OF ENGINEERS	
SAVANNAH DISTRICT	
100 W. OGLETHORPE AVE	
SAVANNAH, GA 31401	
POLY, INC.	
1935 HEADLAND AVENUE	
DOTHAN, AL 36503	
WWW.POLY-INC.COM/3347-99-4700	

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 86182
VOLUMES 3 & 4 - DOWNRANGE
REVERSE SLOPE BATTLE POSITION DETAILS

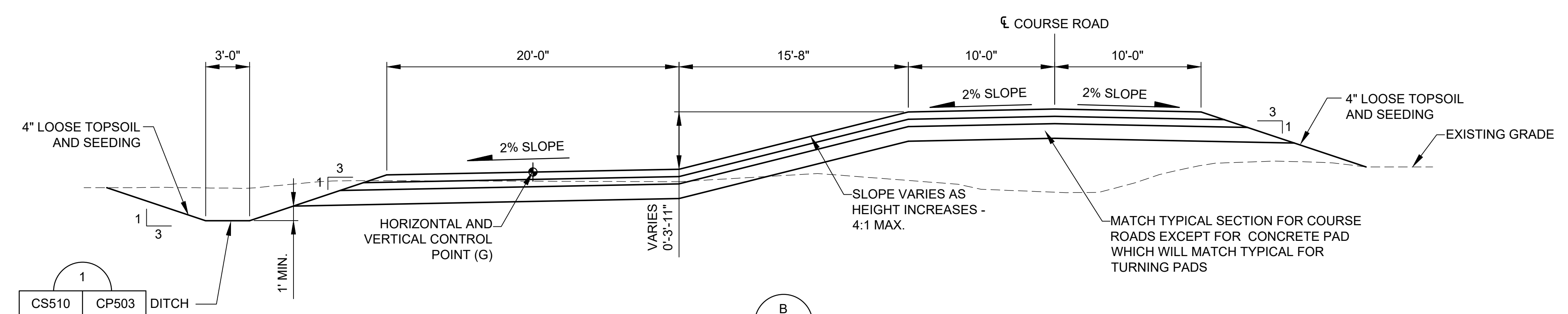
SHEET ID
CS509



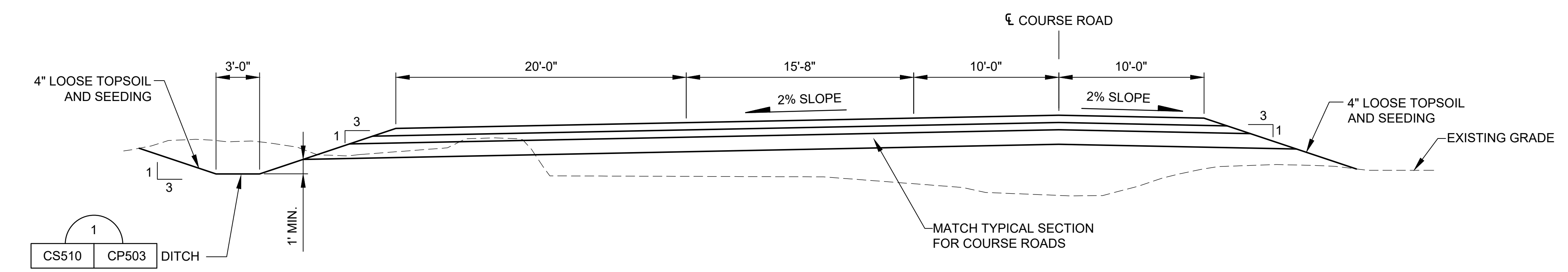
US Army Corps of Engineers®



SECTION A
 CS508 CS510
 CS509
 SCALE: 1" = 5'



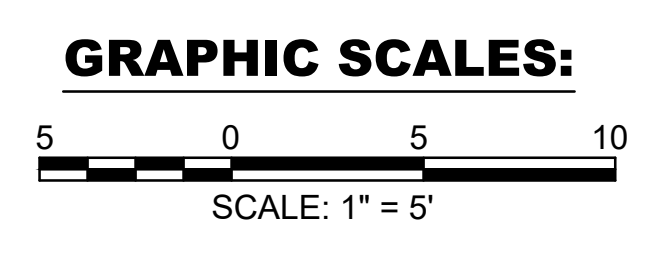
SECTION B
 CS508 CS510
 CS509
 SCALE: 1" = 5'



SECTION C
 CS508 CS510
 SCALE: 1" = 5'

NOTES:

- DITCHES AND EMBANKMENTS SHALL BE MAINTAINED BY THE CONTRACTOR UNTIL THE END OF CONSTRUCTION AND/OR UNTIL A FULL STAND OF GRASS/GROUND COVER IS PRESENT.
- THE DEGREE OF COMPACTION REQUIRED FOR SUBGRADE AND PAVEMENT LAYERS SHALL BE DETERMINED IN ACCORDANCE WITH ASTM D 1557.
- SEE SPECIFICATIONS FOR MATERIAL/GRADATION REQUIREMENTS FOR ROAD CONSTRUCTION.
- THE MOISTURE CONTENT SHALL BE MAINTAINED WITHIN THE LIMITS OF 2% BELOW OPTIMUM TO 1% ABOVE OPTIMUM DURING THE COMPACTION OF THE SUBGRADE.
- SEE SHEET CP502 FOR AGGREGATE PAVING TYPICAL SECTION.
- SEE SHEET CP504 FOR CONCRETE PAVING TYPICAL SECTION.
- SEE SHEETS CP505 & CP506 FOR CONCRETE PAVING JOINT LAYOUTS.
- SEE SHEET CS614 FOR HORIZONTAL AND VERTICAL CONTROL POINT DATA.

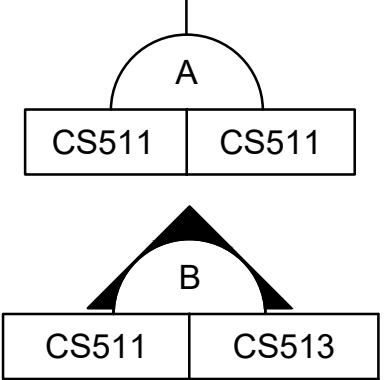
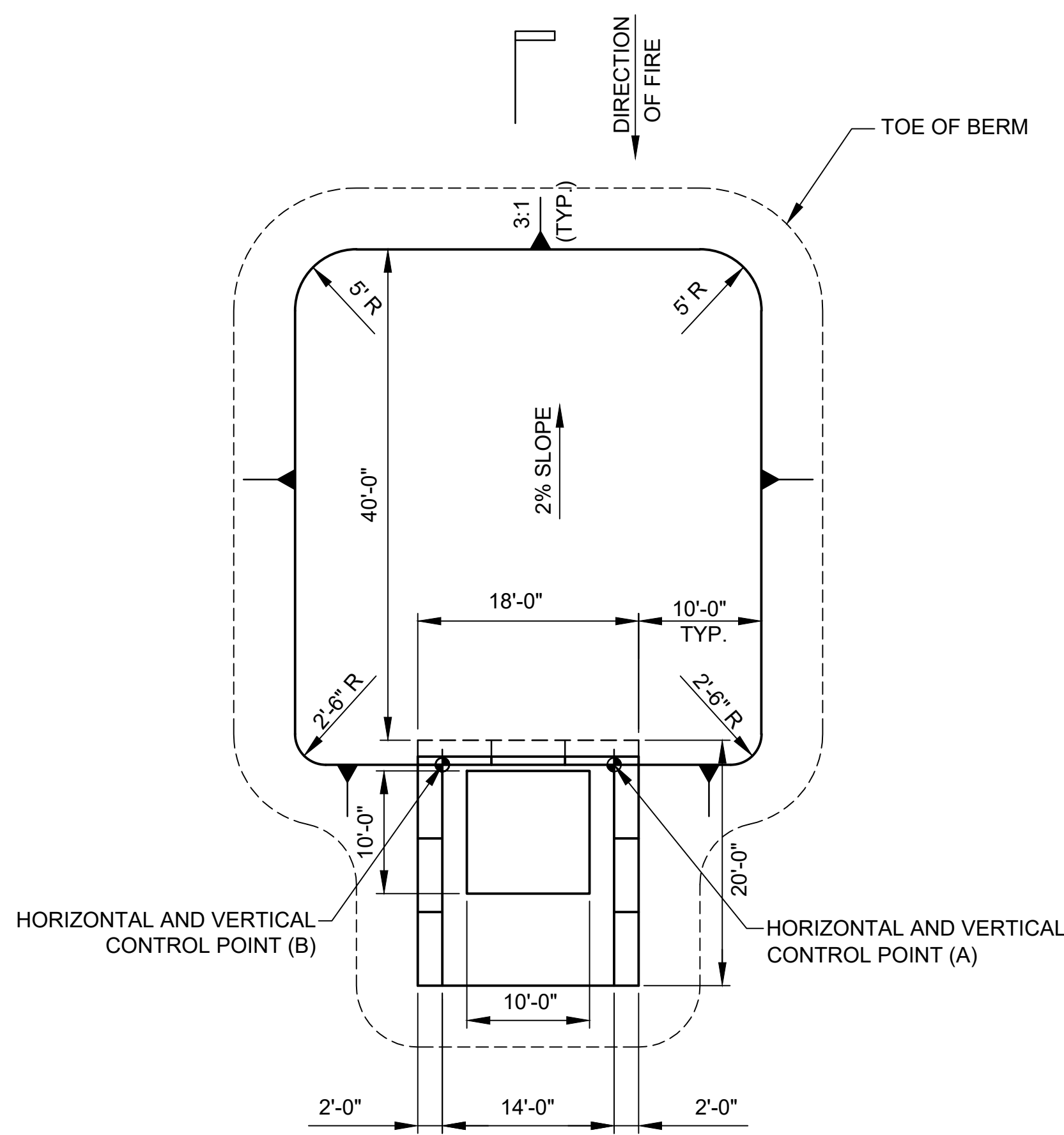


MARK	DESCRIPTION	DATE

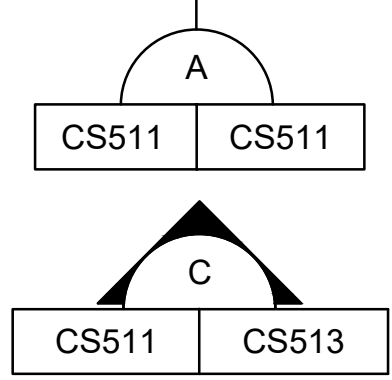
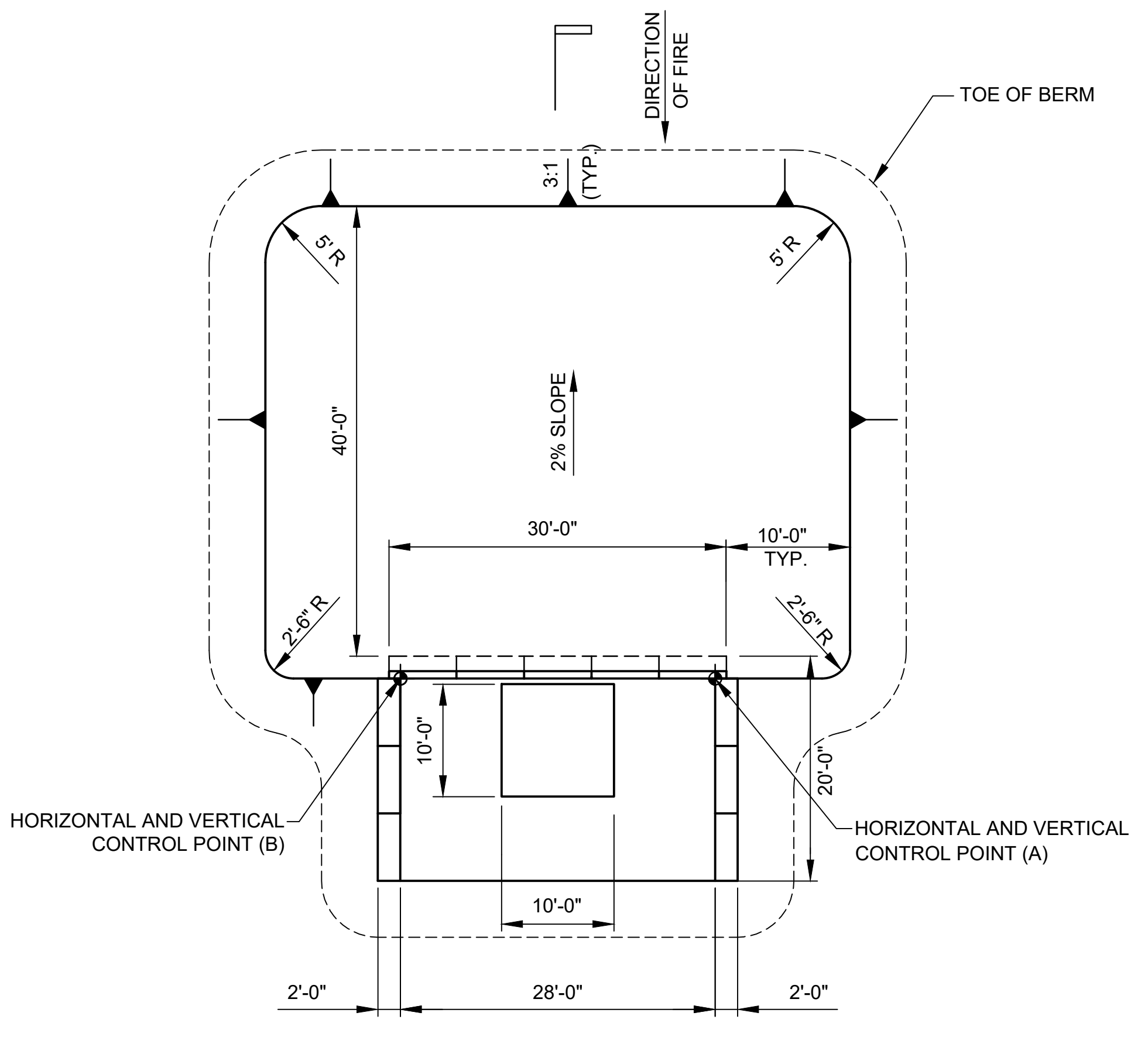
DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. JOHNSON	NOVEMBER 2023
SUBMITTED BY: J. BRANNON	NOVEMBER 2023
FILE NAME: B. BRADLEY	178-65-01
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401
POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36803 WWW.POLY-INC.COM/334799-4700	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36803 WWW.POLY-INC.COM/334799-4700

FORT LIBERTY, NORTH CAROLINA
 AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTR)
 FY23, PN 86182
 VOLUMES 3 & 4 - DOWNRANGE
 REVERSE SLOPE BATTLE POSITION DETAILS

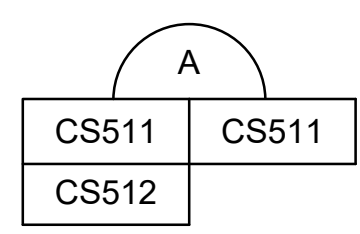
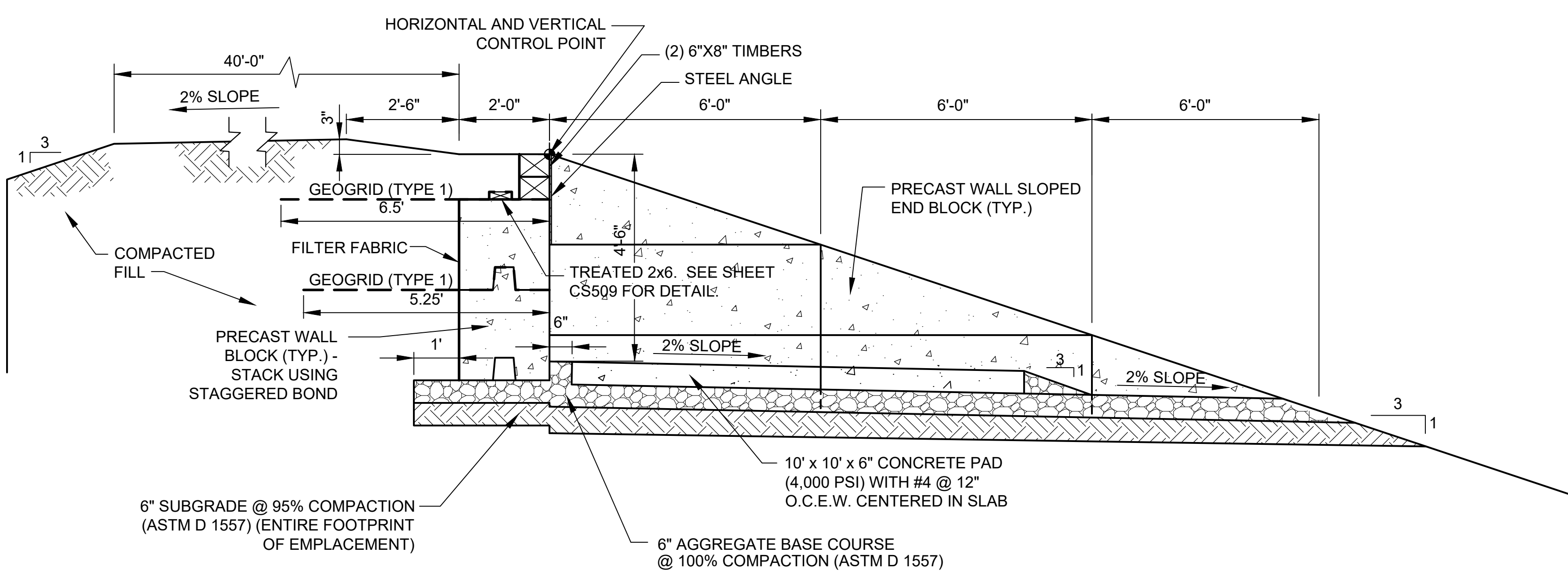
SHEET ID
CS510



FRONTAL
SCALE: 1" = 10'



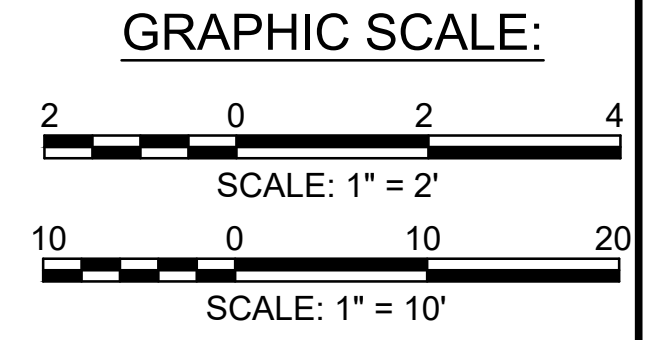
FLANK
SCALE: 1" = 10'



SECTION
SCALE: 1" = 2'

NOTES :

1. ALL REINFORCING STEEL SHALL BE PER ASTM A615, GRADE 60.
2. FILTER FABRIC SHALL BE INSTALLED BEHIND ALL PRECAST CONCRETE WALL BLOCKS. FABRIC SHALL EXTEND THE FULL HEIGHT OF THE WALL.
3. AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE REVEGETATED OR RESURFACED IN ACCORDANCE WITH THE SPECIFICATIONS. GROUND COVER SHALL NOT REDUCE TARGET VISIBILITY.
4. HORIZONTAL AND VERTICAL CONTROL POINT (A) IS LOCATED ON THE LEFT SIDE OF THE TARGET AS VIEWED FROM THE FIRING POSITION.
5. BERMS SHALL BE CONSTRUCTED OF SATISFACTORY FILL MATERIALS AND COMPACTED @ 95% (ASTM D 1557).
6. SEE SHEET CS504 FOR PRECAST CONCRETE BLOCK DETAILS.
7. SEE SHEET CS612 FOR HORIZONTAL AND VERTICAL CONTROL POINT DATA.
8. PERMANENTLY LABEL EACH EMPLACEMENT. STENCIL TARGET NUMBERS PER THE CIVIL DESIGNATIONS ON BOTH SIDE WALLS. TARGET NUMBERS TO BE 4 INCH LETTERS PAINTED BLACK.
9. BERMS SHALL BE CONSTRUCTED TO THE SPECIFIED DENSITY FOR THE FULL THICKNESS BEFORE TOPSOIL IS APPLIED FOR SEEDING.



US Army Corps of Engineers®

ISSUE DATE:	NOVEMBER 2023
DESIGNED BY:	K. SANDERS
CHECKED BY:	B. JOHNSON
CONTRACT NO.:	W9134L248 3002
CATEGORY CODE:	178-65-01
FILE NAME:	ANSID
MARK	DESCRIPTION
DATE	

U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT
100 W. OGLETHORPE AVE
SAVANNAH, GA 31401

POLY, INC.
1935 HEADLAND AVENUE
DOTHAN, AL 36503
WWW.POLY-INC.COM/334799-4700

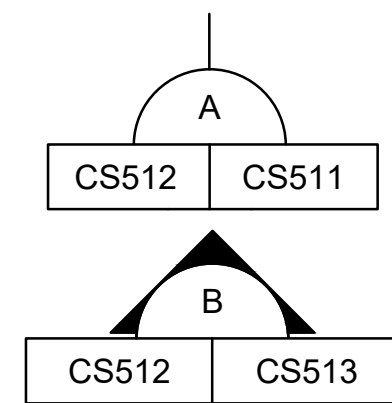
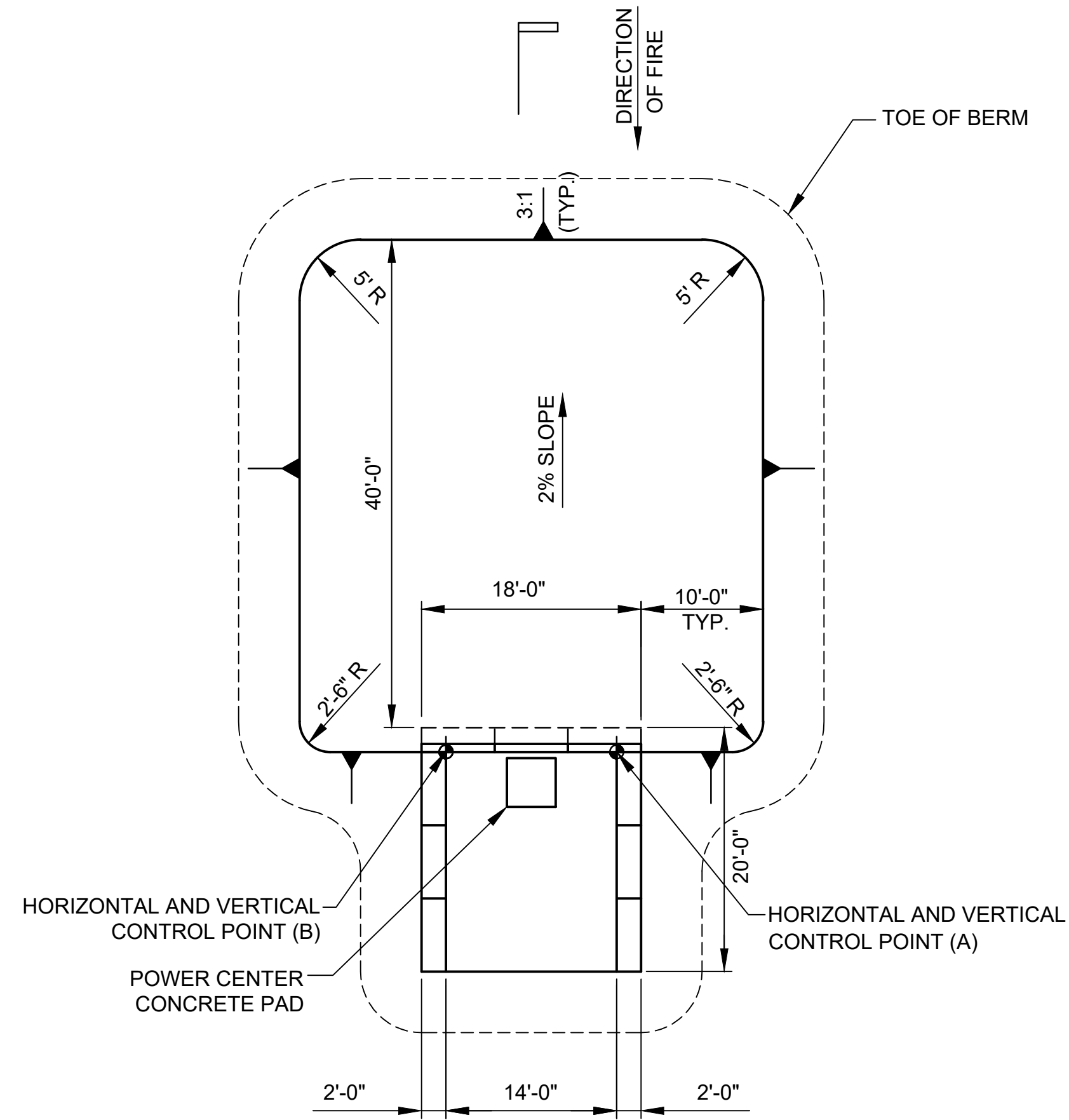
FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 96182
VOLUMES 3 & 4 - DOWNRANGE

STATIONARY ARMOR TARGET DETAILS

SHEET ID
CS511

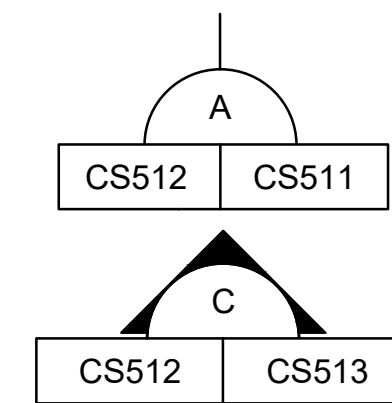
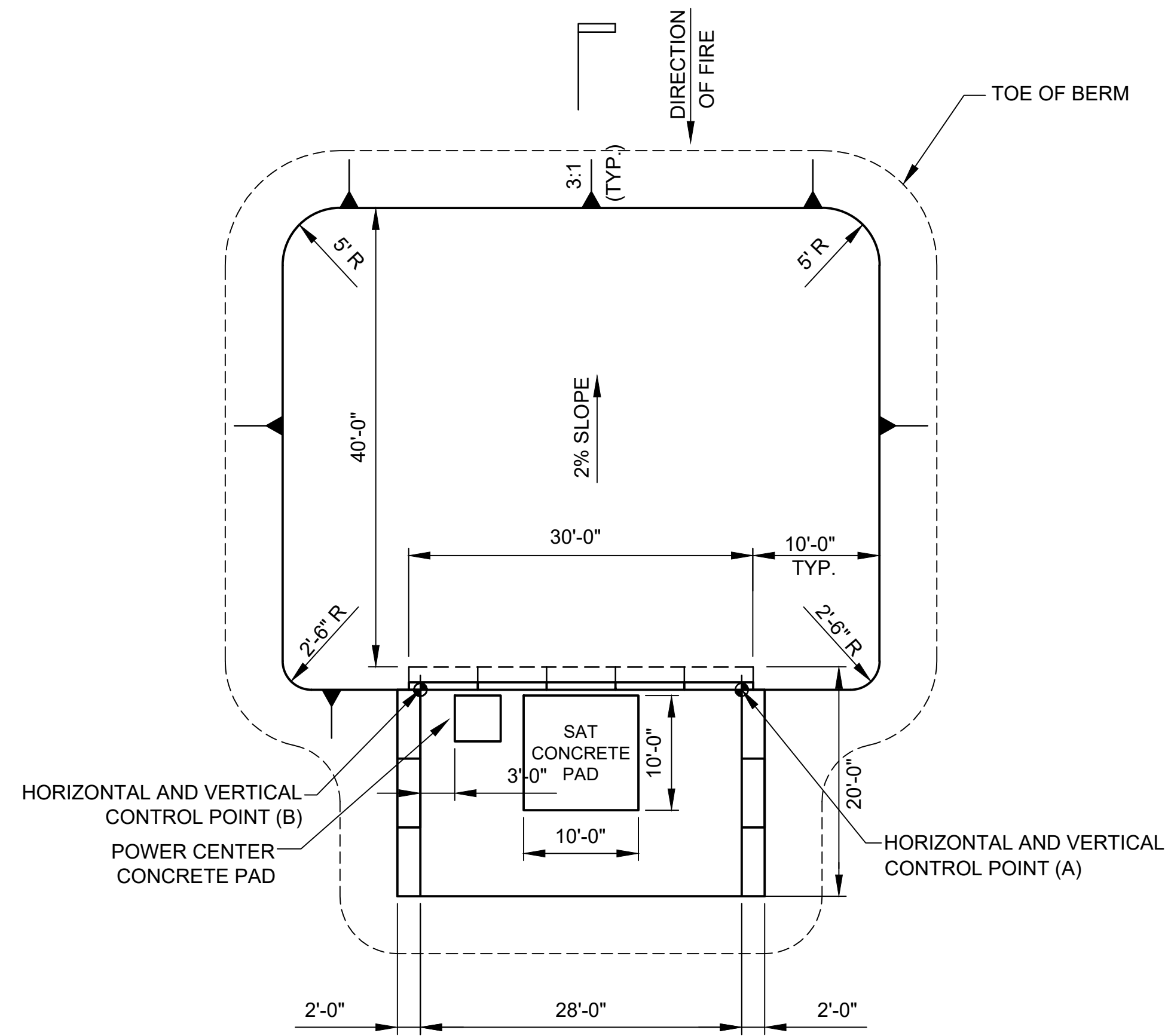
READY TO ADVERTISE (RTA)

G:\CLEAN\STUFF-15-28115376 BRAGG MPTTR\WP107_LRTA_FINAL_SUBMITTAL\04_CIVIL\500 DETAIL\B2ECS511.DWG



POWER CENTER

SCALE: 1" = 10'



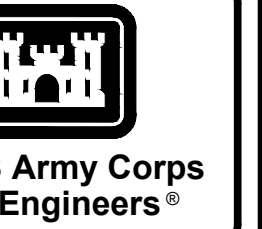
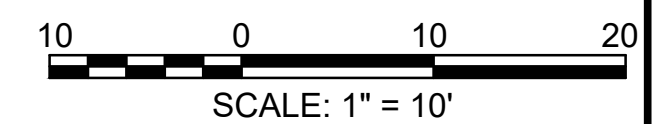
STATIONARY ARMOR TARGET WITH POWER CENTER

SCALE: 1" = 10'

NOTES :

1. ALL REINFORCING STEEL SHALL BE PER ASTM A615, GRADE 60.
2. FILTER FABRIC SHALL BE INSTALLED BEHIND ALL PRECAST CONCRETE WALL BLOCKS. FABRIC SHALL EXTEND THE FULL HEIGHT OF THE WALL.
3. AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE REVEGETATED OR RESURFACED IN ACCORDANCE WITH THE SPECIFICATIONS. GROUND COVER SHALL NOT REDUCE TARGET VISIBILITY.
4. HORIZONTAL AND VERTICAL CONTROL POINT (A) IS LOCATED ON THE LEFT SIDE OF THE TARGET AS VIEWED FROM THE FIRING POSITION.
5. BERMS SHALL BE CONSTRUCTED OF SATISFACTORY FILL MATERIALS AND COMPACTED @ 95% (ASTM D 1557).
6. CONTRACTOR TO SIZE POWER CENTER CONCRETE PAD BASED ON TRANSFORMER TO BE PROVIDED. CONTRACTOR TO COORDINATE WITH PRIVATIZED ELECTRICAL COMPANY (IF APPLICABLE) TO ENSURE ALL OF THEIR REQUIREMENTS ARE MET. THE TRANSFORMER SHALL BE PLACED NO FARTHER AWAY FROM THE SAT WALL THAN 6 INCHES.
7. SEE SHEET CS504 FOR PRECAST CONCRETE BLOCK DETAILS.
8. SEE SHEET CS612 FOR HORIZONTAL AND VERTICAL CONTROL POINT DATA.
9. PERMANENTLY LABEL EACH EMPLACEMENT. STENCIL TARGET NUMBERS PER THE CIVIL DESIGNATIONS ON BOTH SIDE WALLS. TARGET NUMBERS TO BE 4 INCH LETTERS PAINTED BLACK.
10. BERMS SHALL BE CONSTRUCTED TO THE SPECIFIED DENSITY FOR THE FULL THICKNESS BEFORE TOPSOIL IS APPLIED FOR SEEDING.

GRAPHIC SCALE:



US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. JOHNSON	PROJECT NO. / CONTRACT NO.:
SUBMITTED BY: J. BRANNON	CATEGORY CODE: 178-85-01
FILE NAME: B. BRADLEY	ANSI D:
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36803 WWW.POLY-INC.COM / 334-799-4700

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
VOLUMES 3 & 4 - DOWNRANGE
POWER CENTER & STATIONARY ARMOR TARGET
w/ POWER CENTER DETAILS

SHEET ID
CS512



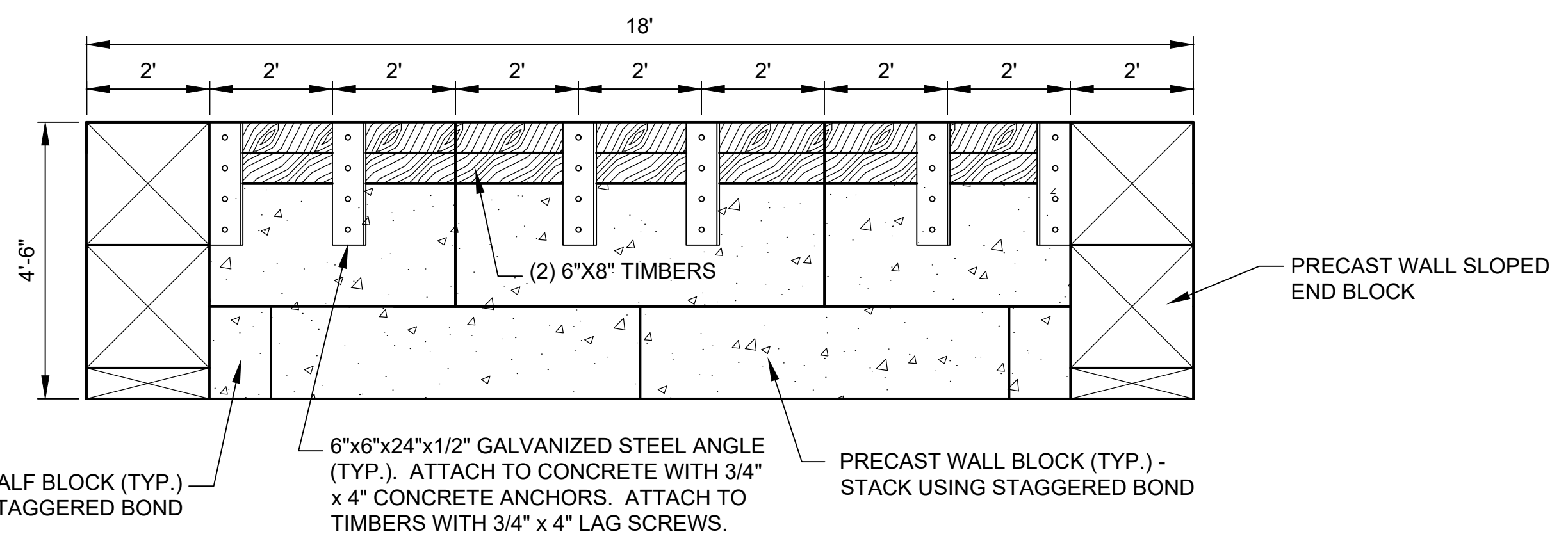
US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

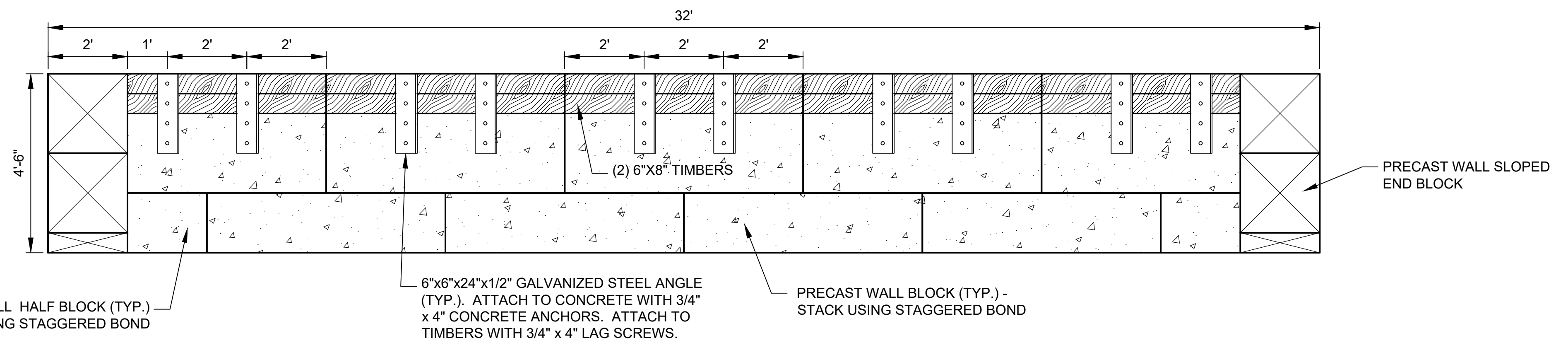
DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2003
CHECKED BY: B. JOHNSON	NOVEMBER 2003
CHECKED BY: J. BRANNON	NOVEMBER 2003
SUBMITTED BY: B. BRADLEY	NOVEMBER 2003
ANSI D	FILE NAME: 178-65-01
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36803 WWW.POLY-INC.COM/334799-4700

FORT LIBERTY, NORTH CAROLINA
 AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
 FY23, PN 86182
 VOLUMES 3 & 4 - DOWNRANGE
 STATIONARY ARMOR TARGET DETAILS

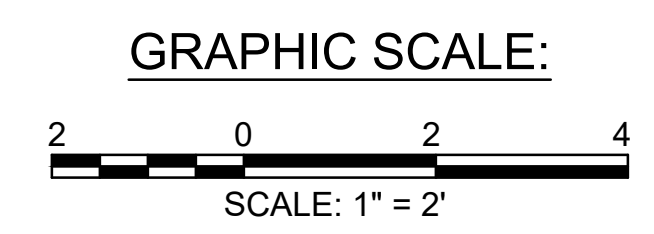
SHEET ID
CS513

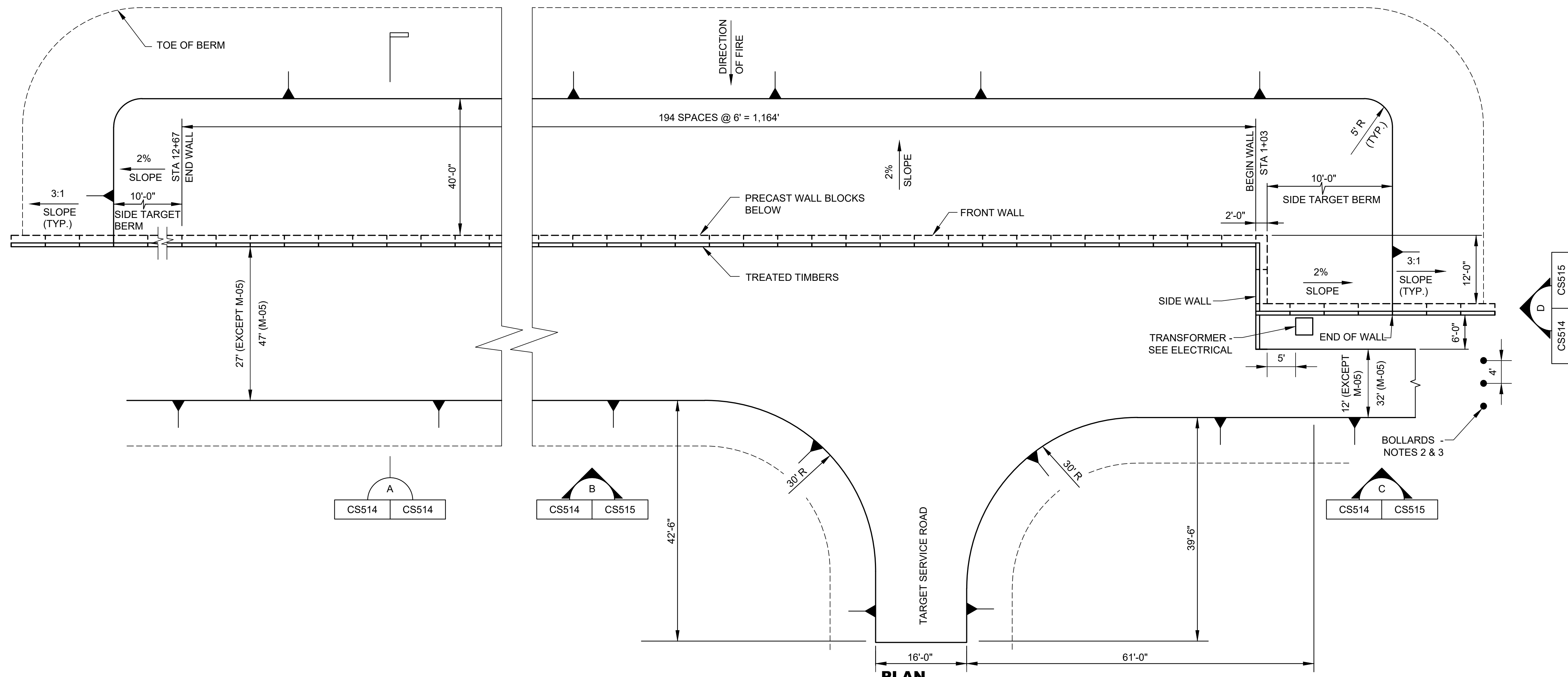


B
FRONT WALL ELEVATION
 CS511 CS513
 CS512
 SCALE: 1" = 2'

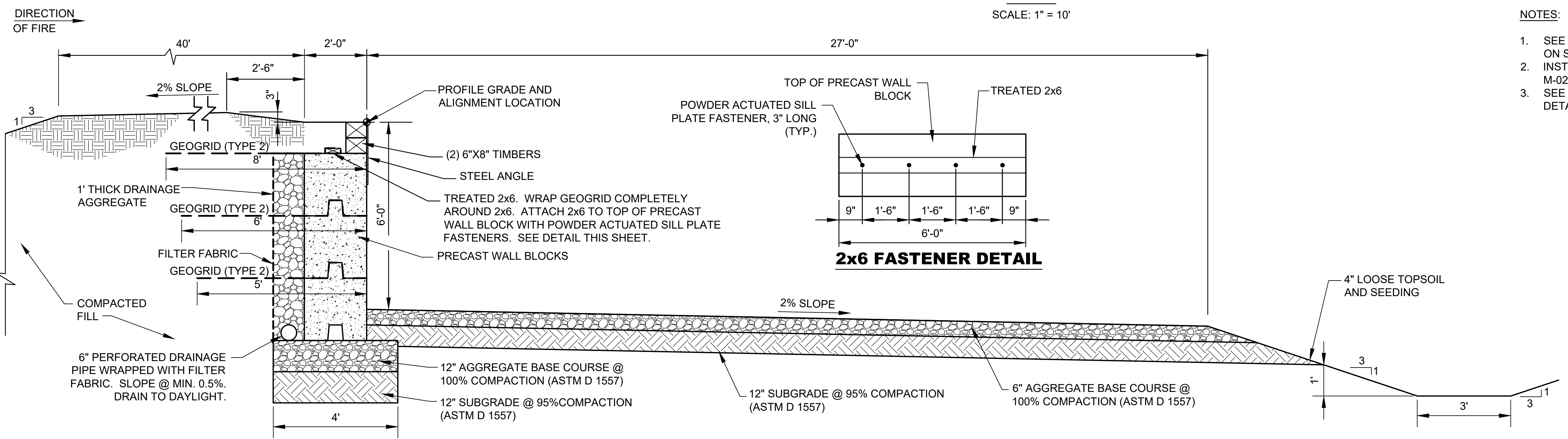


C
FRONT WALL ELEVATION
 CS511 CS513
 CS512
 SCALE: 1" = 2'



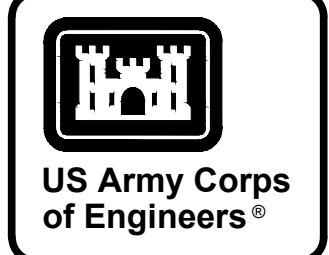
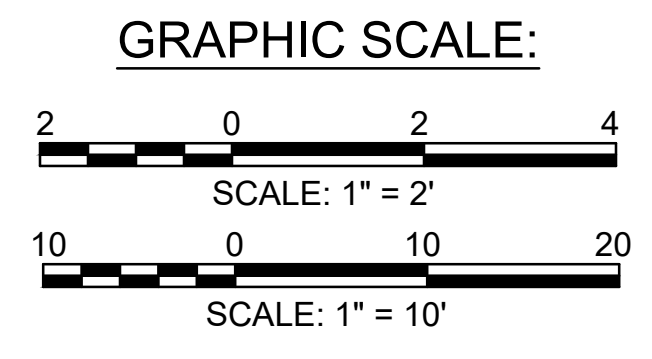


PLAN
SCALE: 1" = 10'



SECTION A
SCALE: 1" = 2'

- NOTES:
- SEE MOVING ARMOR TARGET NOTES ON SHEET CS515.
 - INSTALL BOLLARDS ON POWER END OF M-02 AND M-06 ONLY.
 - SEE SHEET CP503 FOR BOLLARD DETAIL.



MARK	DESCRIPTION	DATE

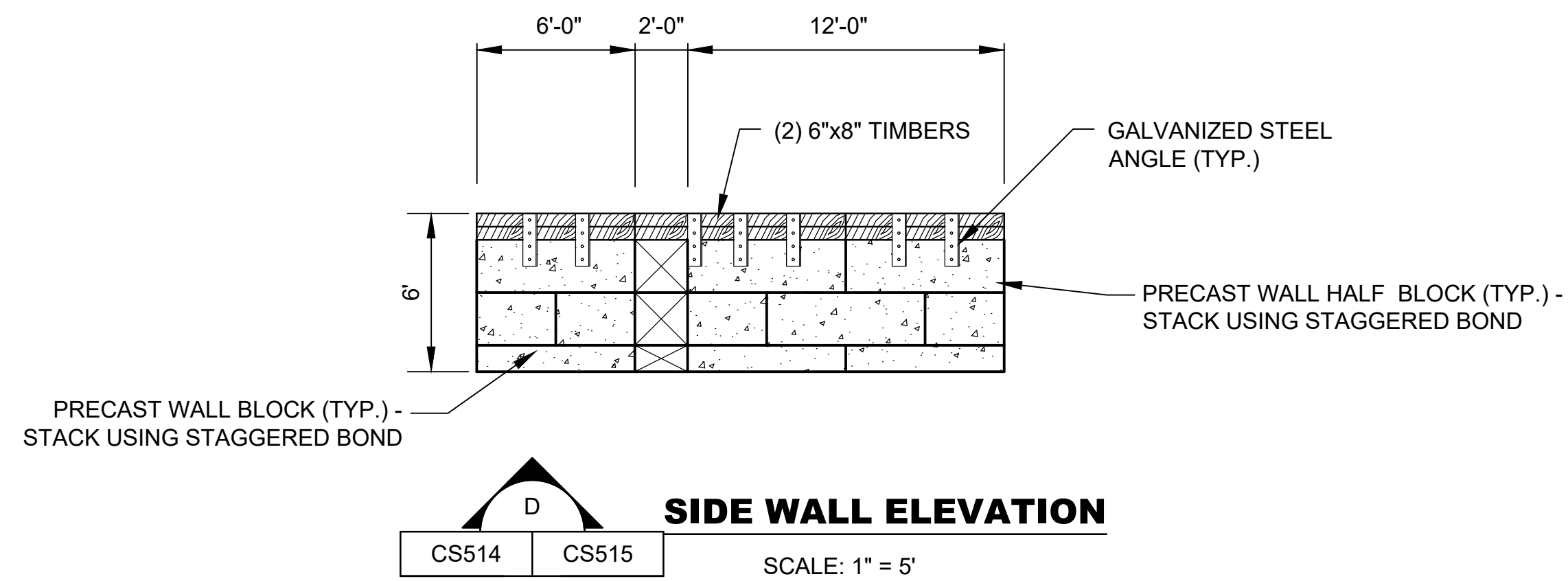
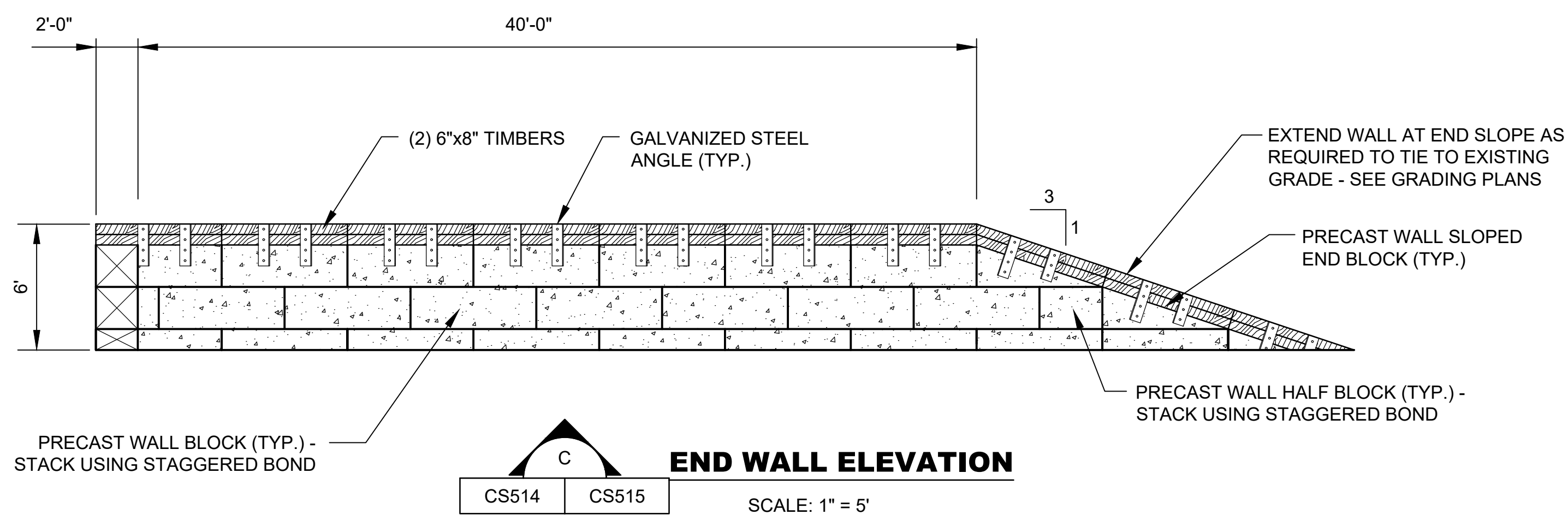
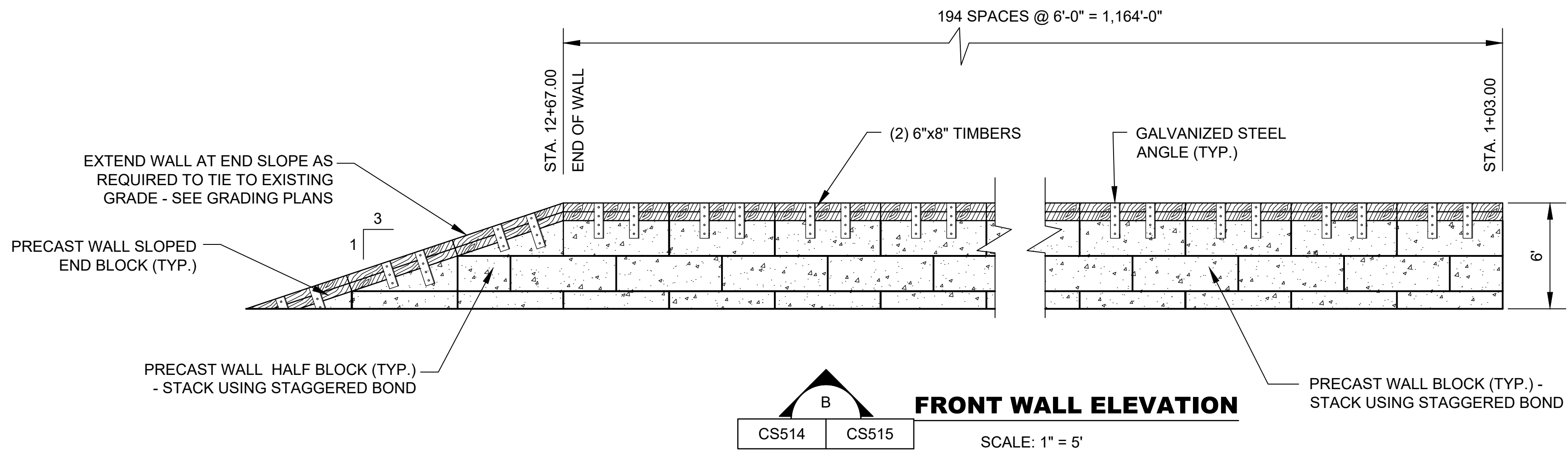
DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. JOHNSON	NO. OF REVISIONS: 1
CONTRACT NO.:	CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-85-01
SIZE: ANSI D	FILE NAME:
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	
POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36503 WWW.POLY-INC.COM/3347-99-4700	

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
VOLUMES 3 & 4 - DOWNRANGE
MOVING ARMOR TARGET DETAILS

SHEET ID
CS514

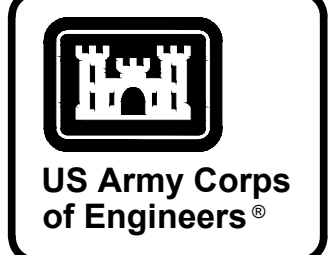
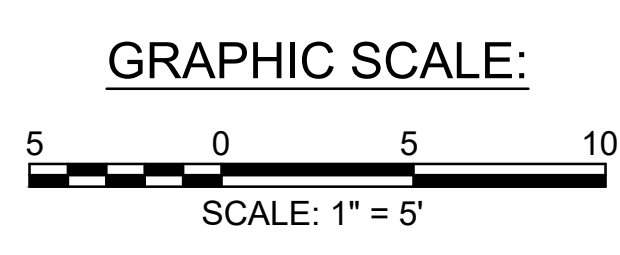
5:\CLEAN\STUFF-15-28115376 BRAGG MPTTR\MIP07_1.RTA_FINAL_SUBMITTAL\04_CIVIL\500_DETAILS\B2ECS514.DWG
READY TO ADVERTISE (RTA)

P
N
M
L
K
J
H
G
F
E
D
C
B
A



NOTES :

1. FILTER FABRIC SHALL BE INSTALLED BEHIND ALL PRECAST CONCRETE WALL BLOCKS. FABRIC SHALL EXTEND THE FULL HEIGHT OF THE WALL.
2. AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE REVEGETATED OR RESURFACED IN ACCORDANCE WITH THE SPECIFICATIONS. GROUND COVER SHALL NOT REDUCE TARGET VISIBILITY.
3. BERMS SHALL BE CONSTRUCTED OF SATISFACTORY FILL MATERIALS AND COMPACTED @ 90% (ASTM D 1557).
4. COMPOSITE DRAIN BOARD MAY BE SUBSTITUTED FOR THE DRAINAGE AGGREGATE AND FILTER FABRIC IN ACCORDANCE WITH THE SPECIFICATIONS.
5. SEE SHEET CS513 FOR GALVANIZED STEEL ANGLE DETAILS. ANGLES ON SLOPED END BLOCKS SHALL BE 1.5 FEET LONG.
6. STA 1+03.00 IS ALWAYS LOCATED ON THE TRANSFORMER END OF THE TARGET.
7. SEE PLATE CS504 FOR PRECAST CONCRETE BLOCK DETAILS.
8. PERMANENTLY LABEL EACH EMPLACEMENT. STENCIL TARGET NUMBERS PER THE CIVIL DESIGNATIONS ON THE SIDE WALL THAT IS VISIBLE AS IT IS APPROACHED FROM THE SERVICE ROAD. TARGET NUMBERS TO BE 4 INCH LETTERS PAINTED BLACK.
9. BERMS SHALL BE CONSTRUCTED TO THE SPECIFIED DENSITY FOR THE FULL THICKNESS BEFORE TOPSOIL IS APPLIED FOR SEEDING.
10. THE TRANSFORMER SHALL BE PLACED NO FARTHER AWAY FROM THE FRONT OF THE MAT WALL THAN 6 INCHES.

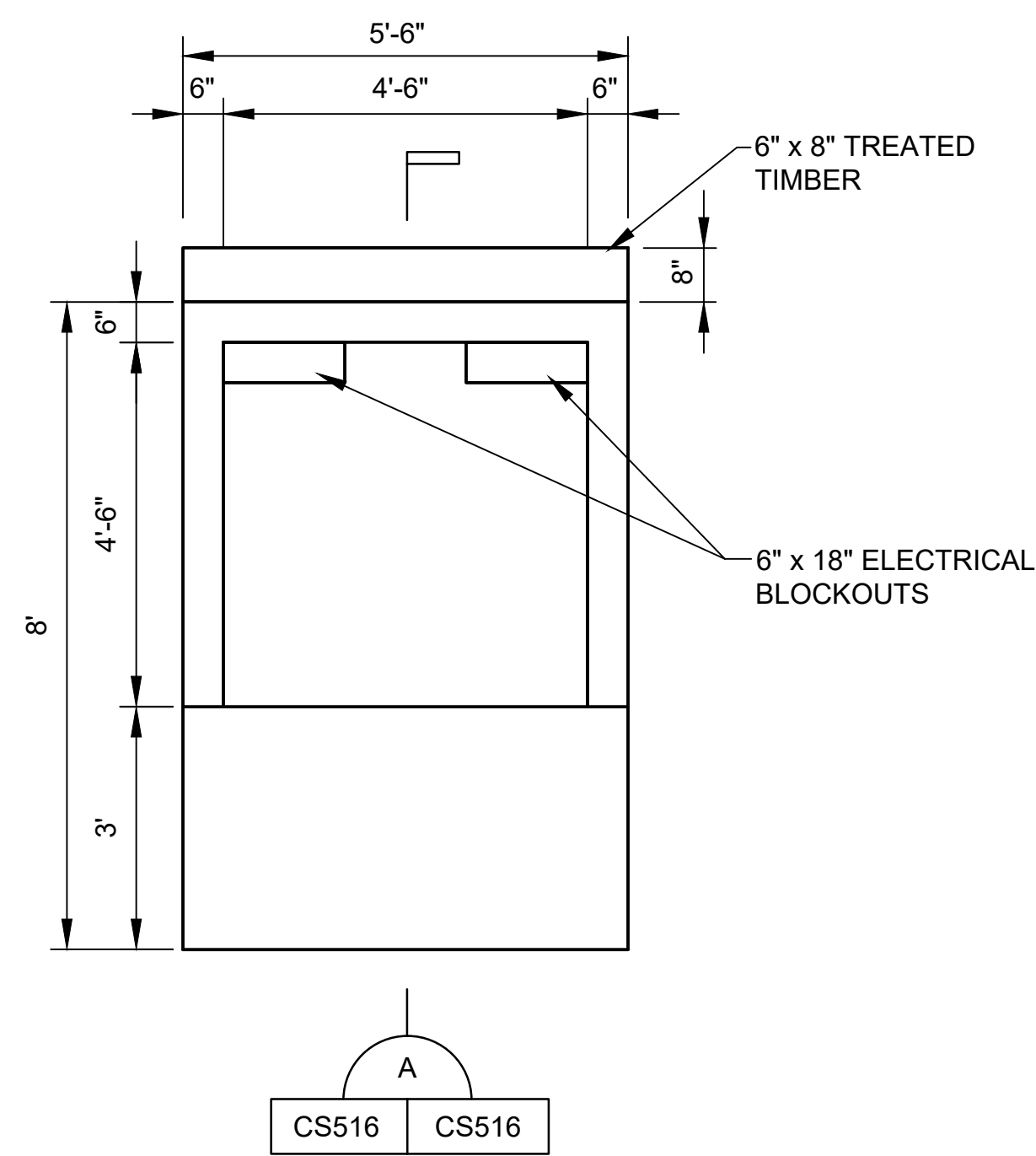


MARK	DESCRIPTION	DATE

DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. JOHNSON	NO. OF SHEETS: 104 OF 144
SUBMITTED BY: J. BRANNON	CONTRACT NO.:
FILE NAME: B. BRADLEY	CATEGORY CODE: 178-65-01
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36503 WWW.POLY-INC.COM/3347-99-4700

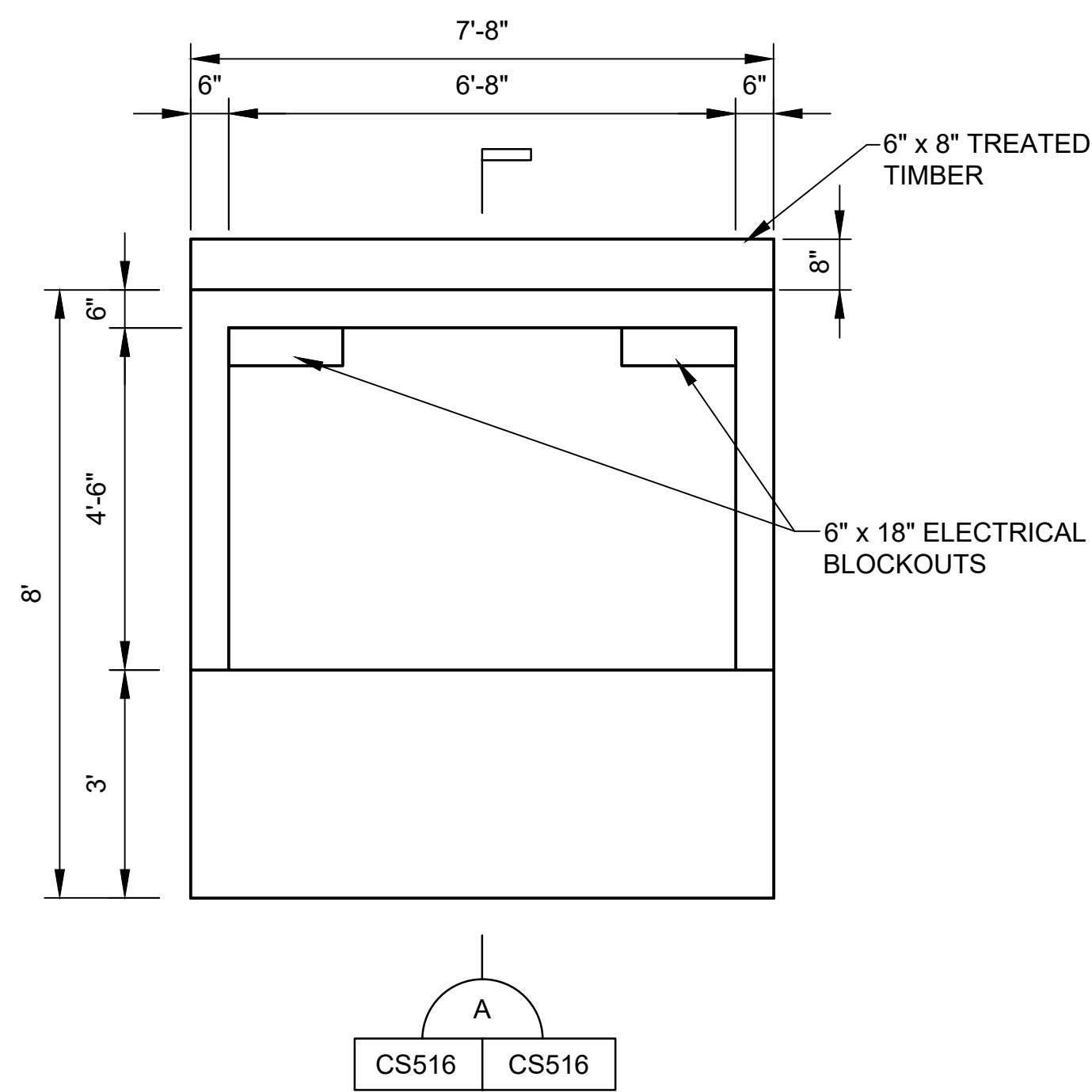
FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 86182
VOLUMES 3 & 4 - DOWNRANGE
MOVING ARMOR TARGET DETAILS

SHEET ID
CS515



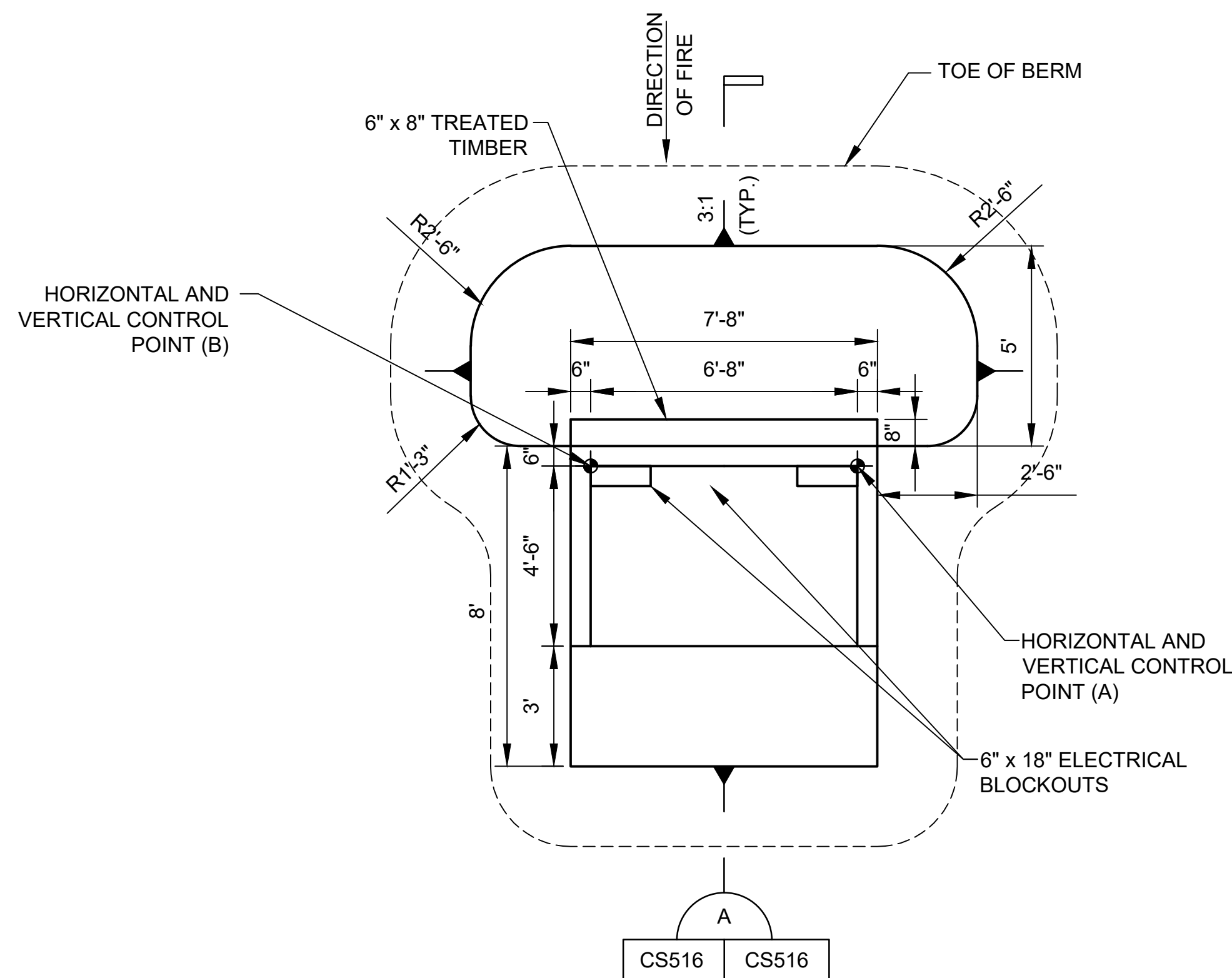
PLAN
STATIONARY INFANTRY TARGET

SCALE: 1" = 2'



PLAN
WIDENED STATIONARY INFANTRY TARGET

SCALE: 1" = 2'

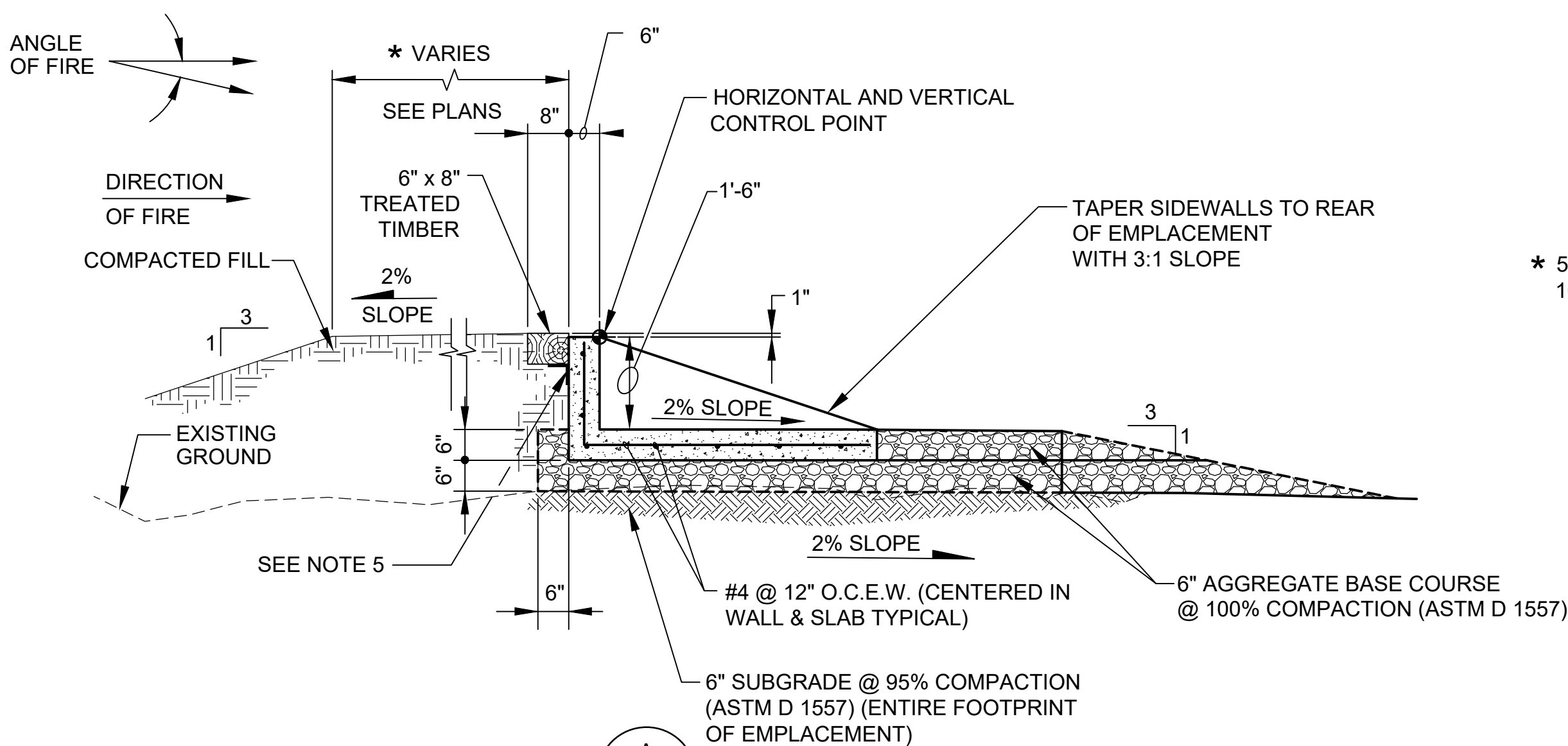


PLAN
WIDENED STATIONARY INFANTRY TARGET AT FACADES

SCALE: 1" = 3'

NOTES :

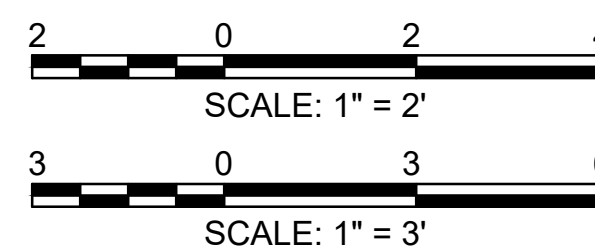
- CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI IN 28 DAYS.
- EMPLACEMENTS SHALL BE CONSTRUCTED OF REINFORCED CONCRETE. CONCRETE STRUCTURES SHALL BE PRECAST OR CAST-IN-PLACE. PRECAST STRUCTURES SHALL HAVE LIFTING EYES CUT FLUSH AND REMAINING HOLES SHALL BE FILLED WITH NON-SHRINK GROUT.
- ALL REINFORCING STEEL SHALL BE PER ASTM A615, GRADE 60.
- AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE REVEGETATED OR RESURFACED IN ACCORDANCE WITH THE SPECIFICATIONS. GROUND COVER SHALL NOT REDUCE TARGET VISIBILITY.
- PLACE TREATED TIMBERS AGAINST CONCRETE WALL ON 4" x 4" x 1/2" x 4" GALVANIZED STEEL ANGLES SPACED A MAXIMUM OF 3' O.C. ATTACH ANGLE TO CONCRETE WITH CONCRETE ANCHORS.
- HORIZONTAL AND VERTICAL CONTROL POINT (A) IS LOCATED ON THE LEFT SIDE OF THE TARGET AS VIEWED FROM THE FIRING POSITION.
- PROVIDE 1/2" CHAMFER ON ALL EXPOSED CONCRETE SURFACES.
- BERMS SHALL BE CONSTRUCTED OF SATISFACTORY FILL MATERIALS AND COMPACTED @ 95% (ASTM D 1557).
- SEE SHEETS CS613 FOR HORIZONTAL AND VERTICAL CONTROL POINT DATA.
- PERMANENTLY LABEL EACH EMPLACEMENT. STENCIL TARGET NUMBERS PER THE CIVIL DESIGNATIONS ON BOTH SIDE WALLS. SERVICE ROAD. TARGET NUMBERS TO BE 4 INCH LETTERS PAINTED BLACK.
- BERMS SHALL BE CONSTRUCTED TO THE SPECIFIED DENSITY FOR THE FULL THICKNESS BEFORE TOPSOIL IS APPLIED FOR SEEDING.



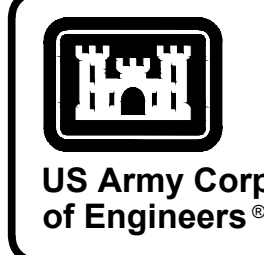
SECTION

SCALE: 1" = 2'

GRAPHIC SCALE:



* 5' FOR WIDENED SITs AT FACADES
10' FOR 6-MAN AND 7-MAN CLUSTERS



US Army Corps of Engineers

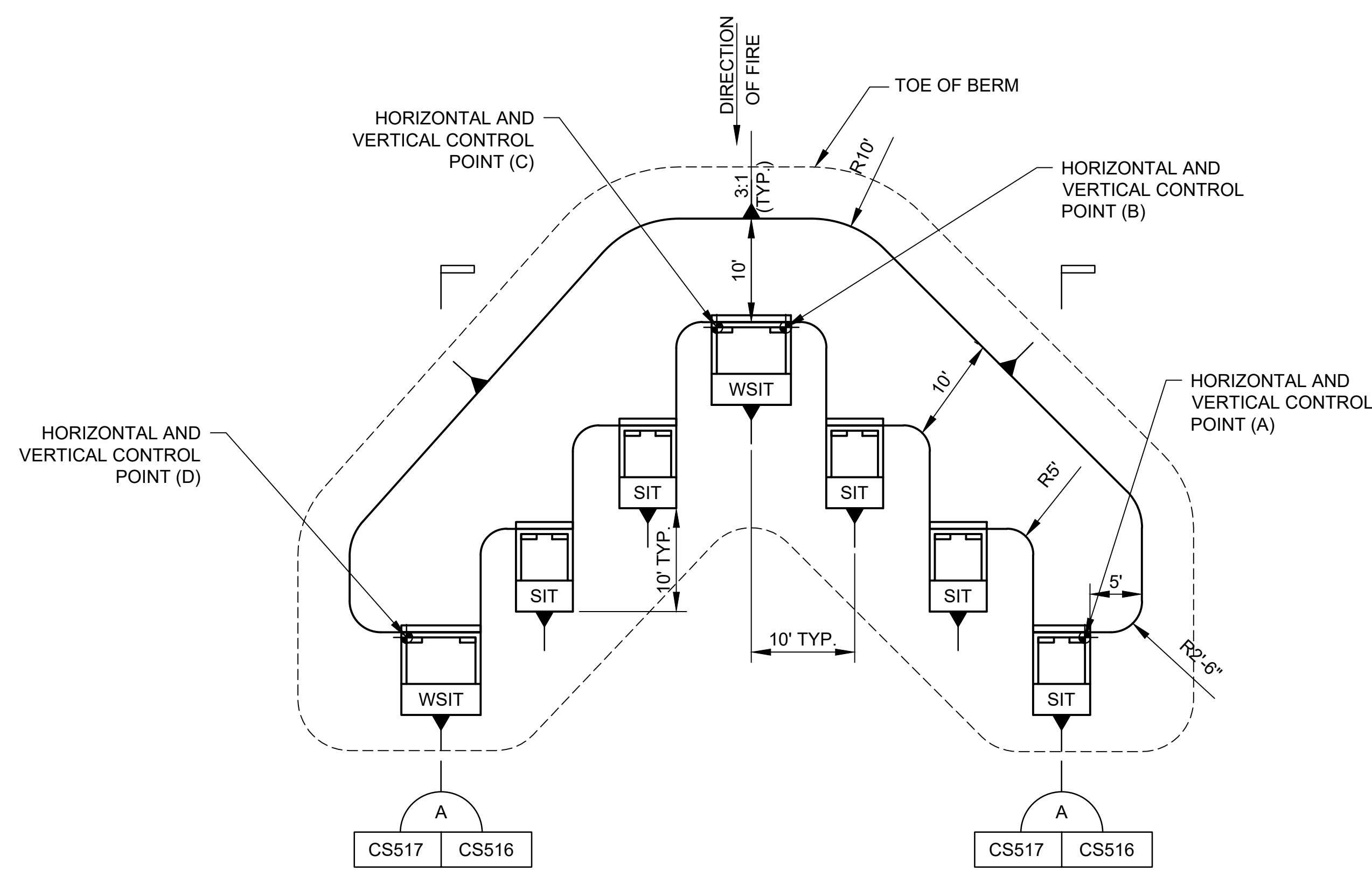
MARK	DESCRIPTION	DATE

DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2003
CHECKED BY: B. JOHNSON	DATE: NOV 2003
CHECKED BY: J. BRANNON	CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-85-01
SIZE: ANSI D	FILE NAME:
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	
POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36803 WWW.POLY-INC.COM/334798-4700	

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 96182
VOLUMES 3 & 4 - DOWNRANGE
STATIONARY INFANTRY TARGET DETAILS



SHEET ID
CS516

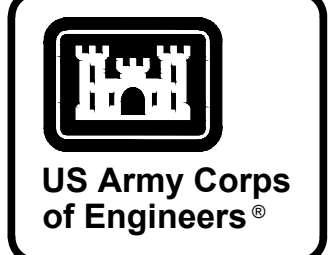
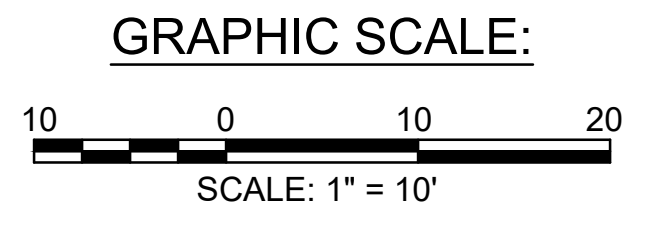


STATIONARY INFANTRY TARGET CLUSTER (7-MAN V)

SCALE: 1" = 10'

NOTES:

1. CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI IN 28 DAYS.
2. EMPLACEMENTS SHALL BE CONSTRUCTED OF REINFORCED CONCRETE; CONCRETE STRUCTURES SHALL BE PRECAST OR CAST-IN-PLACE. PRECAST STRUCTURES SHALL HAVE LIFTING EYES CUT FLUSH AND REMAINING HOLES SHALL BE FILLED WITH NON-SHRINK GROUT. PRECAST SECTIONS SHALL BE KEYPED OR DOWELED INTO EACH OTHER TO PREVENT DIFFERENTIAL SETTLEMENT. PRECAST SECTIONS SHALL NOT EXCEED 6' LONG. CONTRACTOR SHALL INSTALL 1" EXPANSION JOINTS BETWEEN ALL PRECAST SECTIONS. SUBMIT PLAN FOR KEYING AND/OR DOWELING TO ENGINEER FOR APPROVAL.
3. AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE REVEGETATED OR RESURFACED IN ACCORDANCE WITH THE SPECIFICATIONS. GROUND COVER SHALL NOT REDUCE TARGET VISIBILITY.
4. HORIZONTAL AND VERTICAL CONTROL POINT (A) IS LOCATED ON THE LEFT SIDE OF THE TARGET AS VIEWED FROM THE FIRING POSITION. WHEN THE TARGET IS MIRRORED, THE CONTROL POINTS ARE MIRRORED AS WELL.
5. BERMS SHALL BE CONSTRUCTED OF SATISFACTORY FILL MATERIALS AND COMPACTED AT 95% (ASTM D 1557).
6. THE 7-MAN CLUSTER IS NOT CONNECTED TO A MOVING INFANTRY TARGET.
7. SEE SHEET CS516 FOR STATIONARY INFANTRY TARGET NOTES AND DETAILS.
8. SEE SHEET CS613 FOR HORIZONTAL AND VERTICAL CONTROL POINT DATA.
9. PERMANENTLY LABEL EACH EMPLACEMENT. STENCIL TARGET NUMBERS PER THE CIVIL DESIGNATIONS ON BOTH SIDE WALLS. TARGET NUMBERS TO BE 4 INCH LETTERS PAINTED BLACK.
10. BERMS SHALL BE CONSTRUCTED TO THE SPECIFIED DENSITY FOR THE FULL THICKNESS BEFORE TOPSOIL IS APPLIED FOR SEEDING.
11. SIT = STATIONARY INFANTRY TARGET.
12. WSIT = WIDENED STATIONARY INFANTRY TARGET.

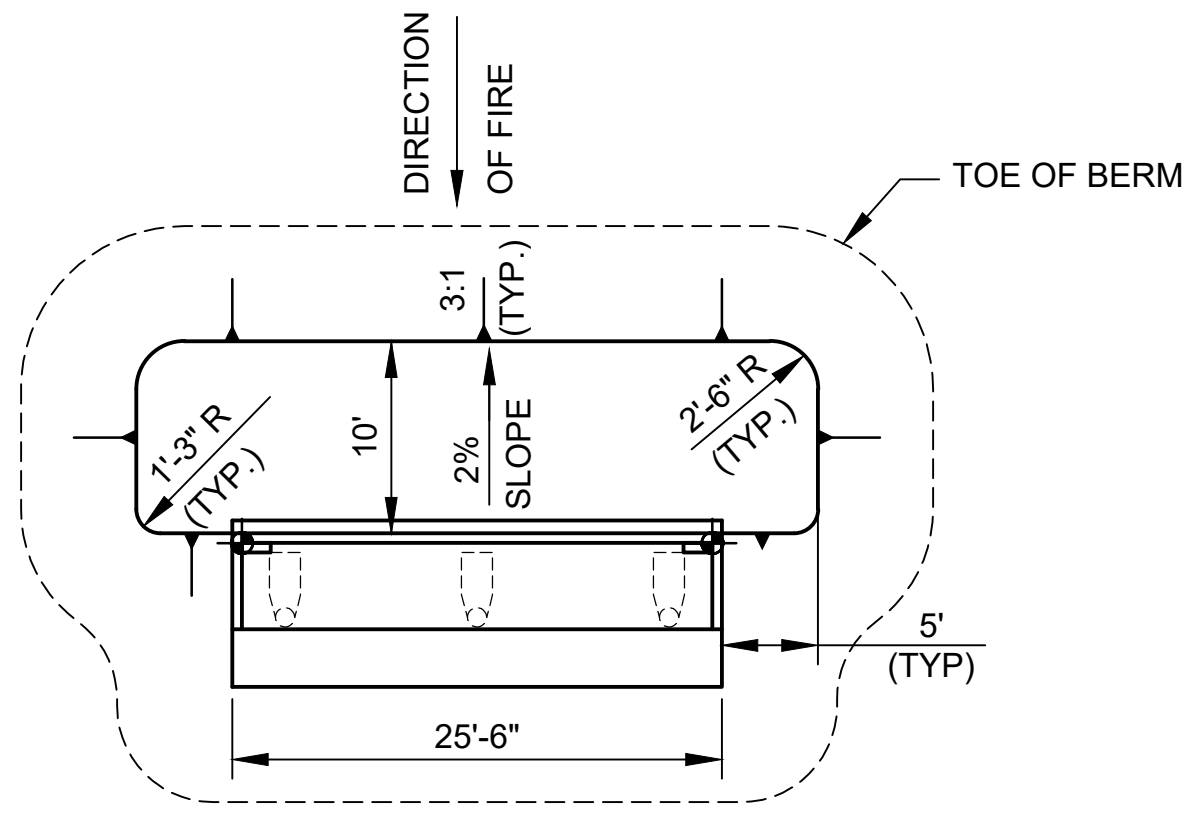


MARK	DESCRIPTION	DATE

DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. JOHNSON	PROJECT NO. / CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-65-01
FILE NAME:	ANSI D:
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36503 WWW.POLY-INC.COM / 334-799-4700

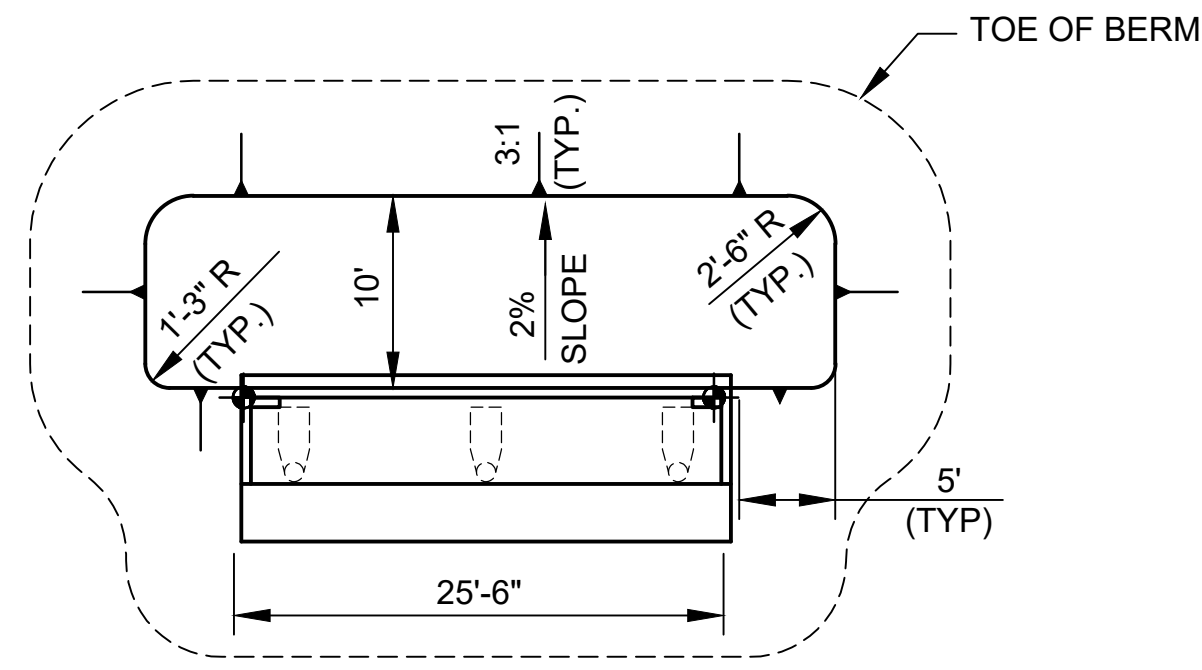
STATIONARY INFANTRY TARGET CLUSTER DETAILS

SHEET ID
CS517



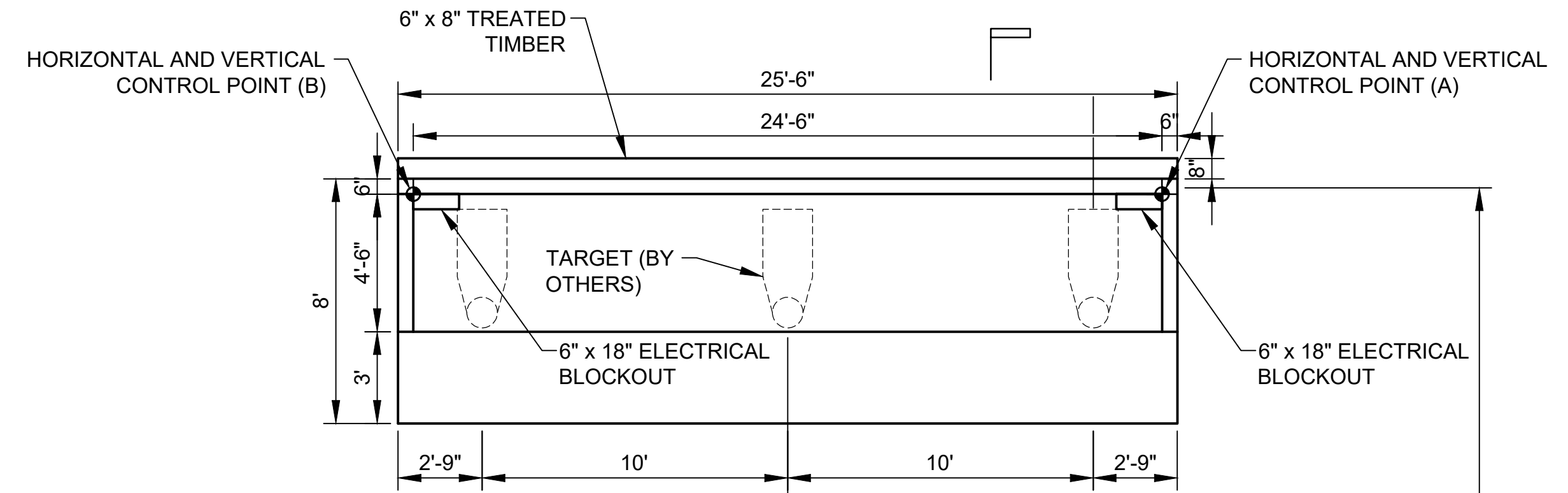
FRONT TARGET

SCALE: 1" = 10'



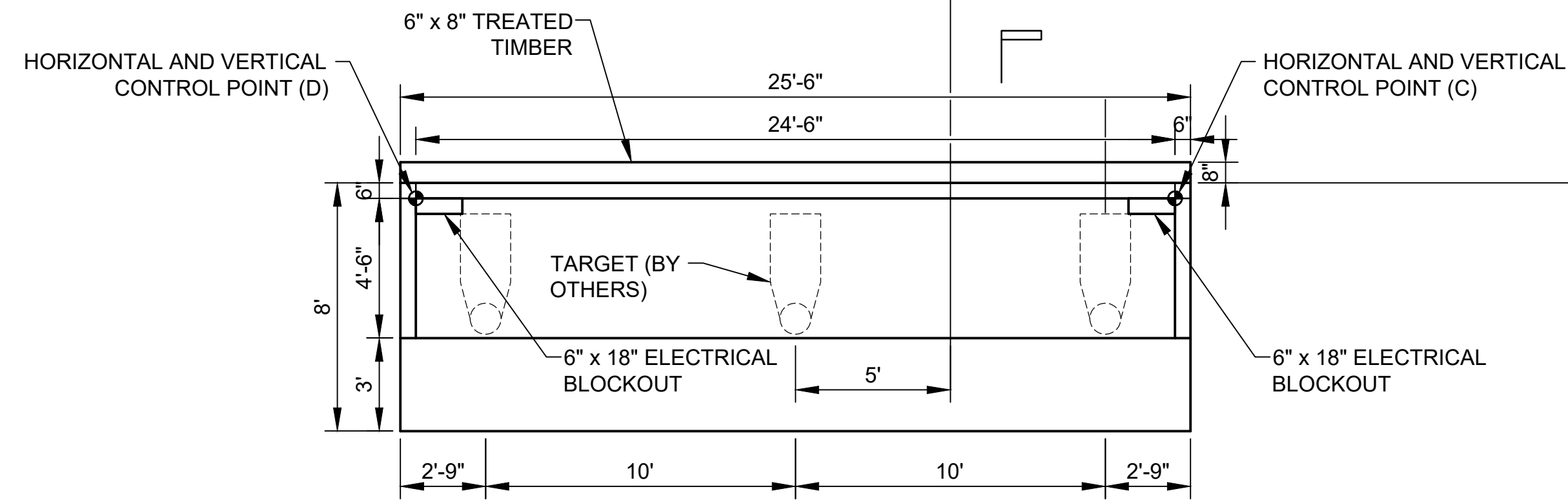
BACK TARGET

SCALE: 1" = 10'



FRONT TARGET

SCALE: 1" = 4'



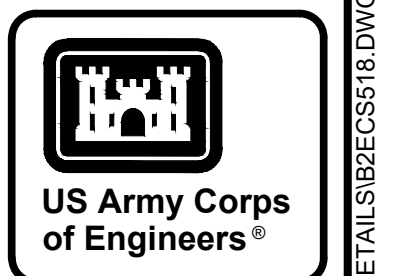
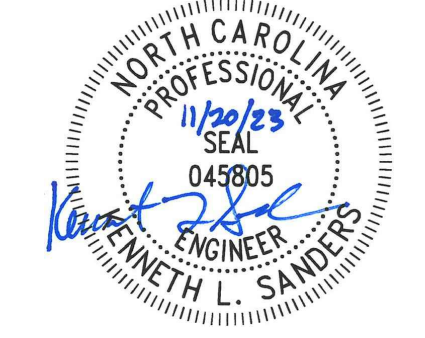
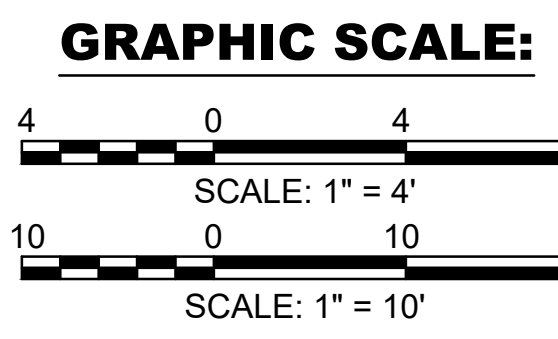
BACK TARGET

SCALE: 1" = 4'

**STATIONARY INFANTRY TARGET CLUSTER
(6-MAN LINEAR)**

NOTES:

- CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI IN 28 DAYS.
- EMPLACEMENTS SHALL BE CONSTRUCTED OF REINFORCED CONCRETE; CONCRETE STRUCTURES SHALL BE PRECAST OR CAST-IN-PLACE. PRECAST STRUCTURES SHALL HAVE LIFTING EYES CUT FLUSH AND REMAINING HOLES SHALL BE FILLED WITH NON-SHRINK GROUT. PRECAST SECTIONS SHALL BE KEyed OR DOWELED INTO EACH OTHER TO PREVENT DIFFERENTIAL SETTLEMENT. PRECAST SECTIONS SHALL NOT EXCEED 6' LONG. CONTRACTOR SHALL INSTALL 1" EXPANSION JOINTS BETWEEN ALL PRECAST SECTIONS. SUBMIT PLAN FOR KEYING AND/OR DOWELING TO ENGINEER FOR APPROVAL.
- AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE REVEGETATED OR RESURFACED IN ACCORDANCE WITH THE SPECIFICATIONS. GROUND COVER SHALL NOT REDUCE TARGET VISIBILITY.
- HORIZONTAL AND VERTICAL CONTROL POINT (A) IS LOCATED ON THE LEFT SIDE OF THE TARGET AS VIEWED FROM THE FIRING POSITION. WHEN THE TARGET IS MIRRORRED, THE CONTROL POINTS ARE MIRRORRED AS WELL.
- BERMS SHALL BE CONSTRUCTED OF SATISFACTORY FILL MATERIALS AND COMPACTED AT 95% (ASTM D 1557).
- THE 6-MAN PLAN IS FOR LAYOUT PURPOSES ONLY. ALL 6-MAN EMPLACEMENTS ARE CONNECTED TO A MOVING INFANTRY TARGET.
- SEE SHEET CS516 FOR STATIONARY INFANTRY TARGET NOTES AND DETAILS.
- SEE SHEET CS520 FOR STATIONARY AND MOVING INFANTRY TARGET CLUSTER DETAILS.
- SEE SHEET CS613 FOR HORIZONTAL AND VERTICAL CONTROL POINT DATA.
- PERMANENTLY LABEL EACH EMPLACEMENT. STENCIL TARGET NUMBERS PER THE CIVIL DESIGNATIONS ON BOTH SIDE WALLS. TARGET NUMBERS TO BE 4 INCH LETTERS PAINTED BLACK.
- BERMS SHALL BE CONSTRUCTED TO THE SPECIFIED DENSITY FOR THE FULL THICKNESS BEFORE TOPSOIL IS APPLIED FOR SEEDING.



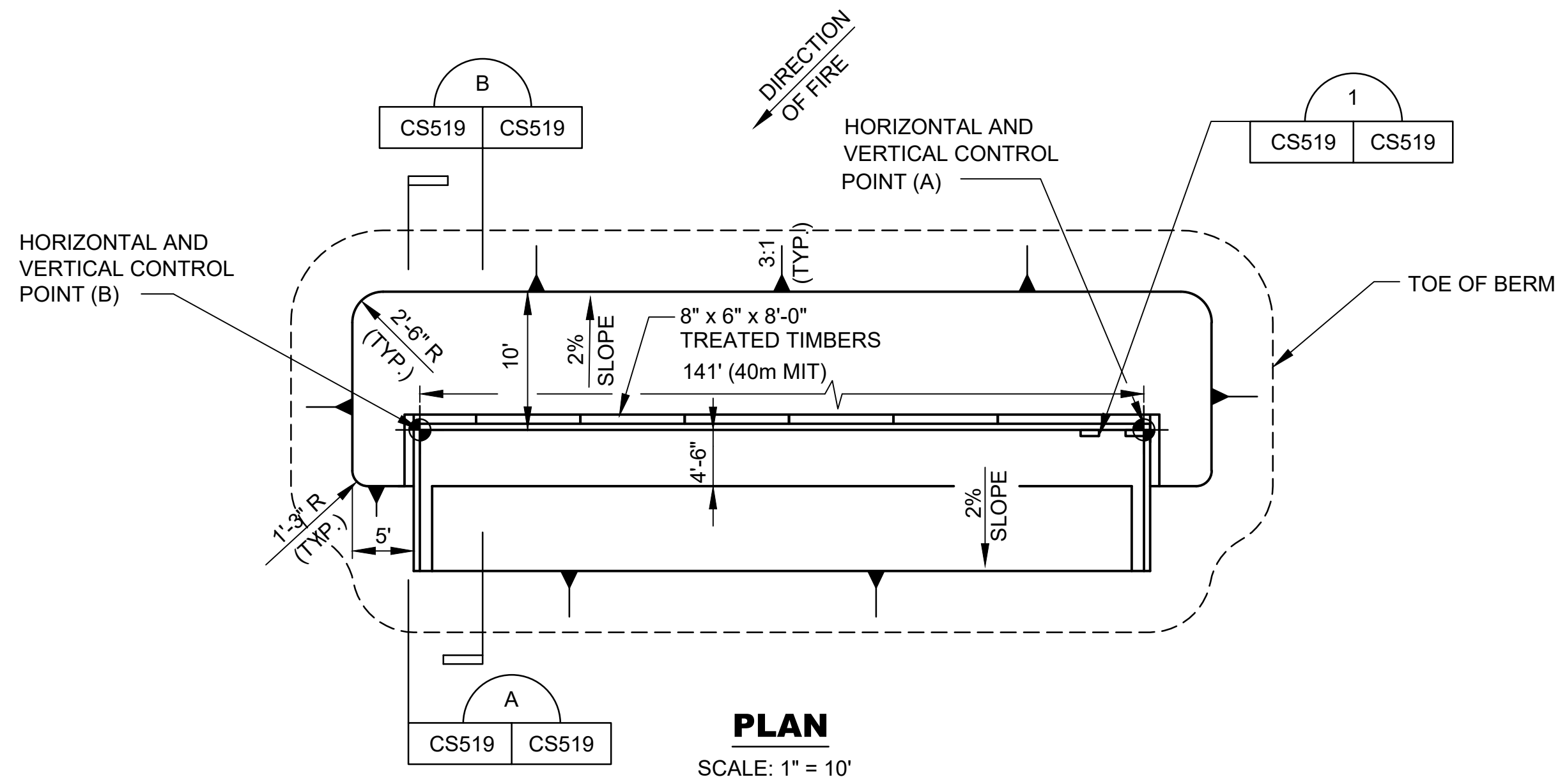
MARK	DESCRIPTION	DATE

DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2013
CHECKED BY: B. JOHNSON	NO. OF SHEETS: 10/14/14-8-2002
SUBMITTED BY: J. BRANNON	CONTRACT NO.:
FILE NAME: B. BRADLEY	CATEGORY CODE: 178-85-01
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	ANSID
POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36503 WWW.POLY-INC.COM/3347-98-4700	SIZE:

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 96182
VOLUMES 3 & 4 - DOWNRANGE

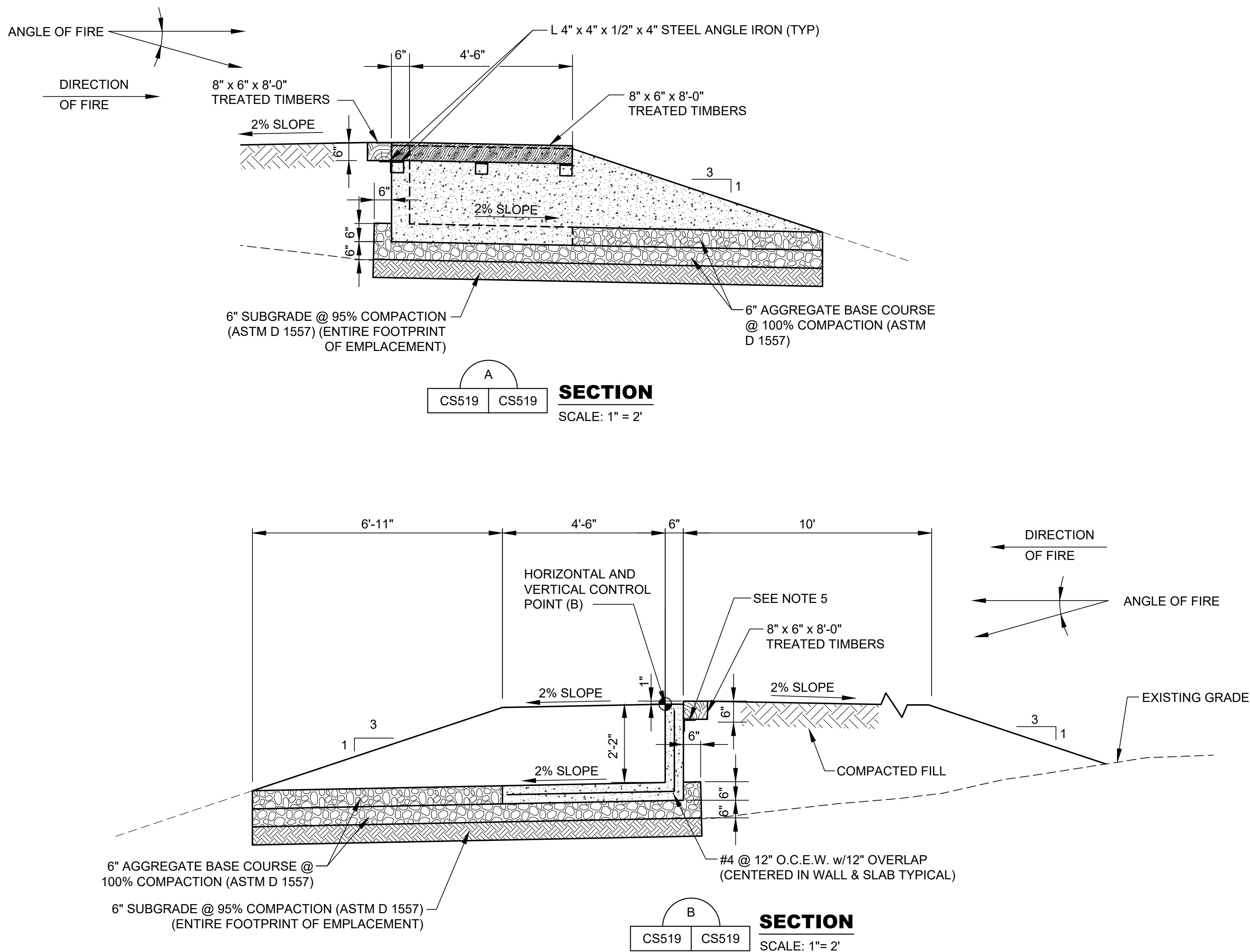
STATIONARY INFANTRY TARGET CLUSTER DETAILS

SHEET ID
CS518



PLAN

SCALE: 1" = 10'

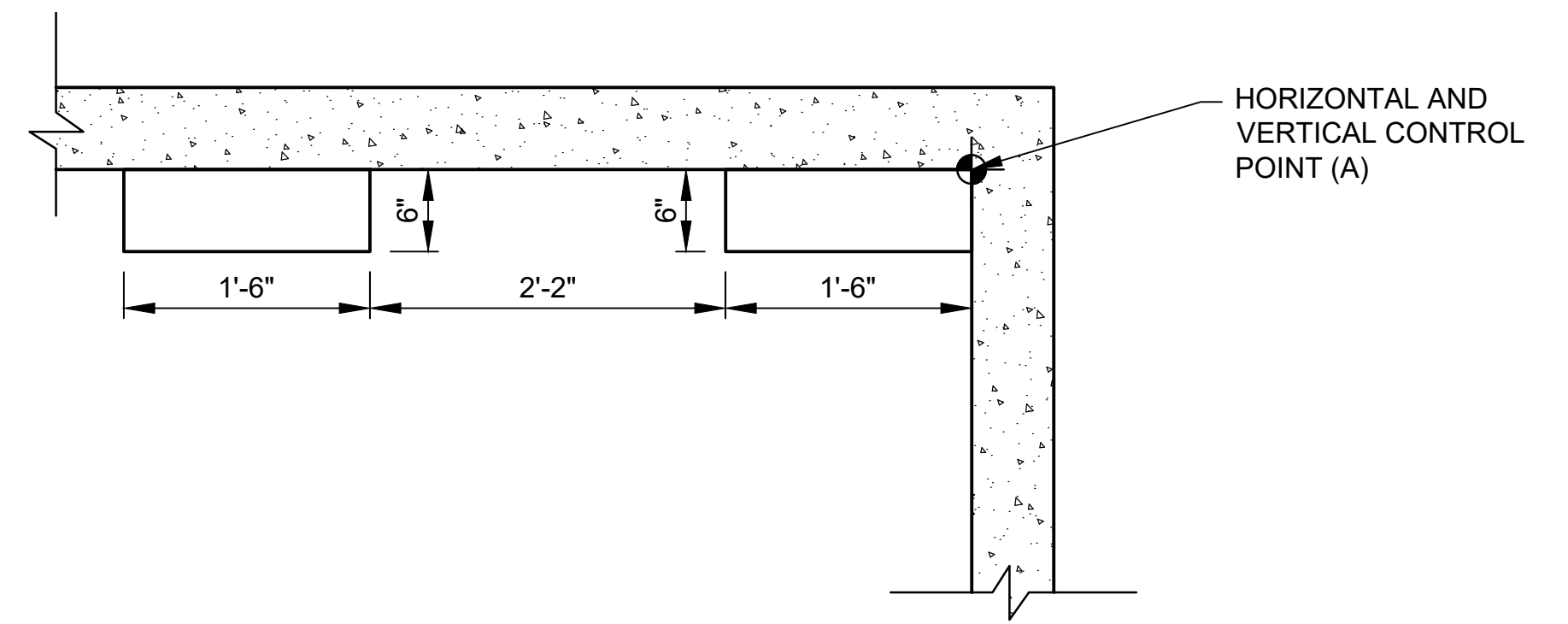


SECTION A

SCALE: 1" = 2'

SECTION B

SCALE: 1" = 2'



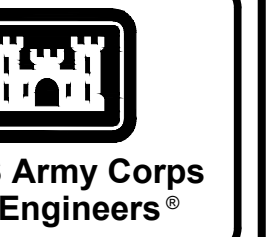
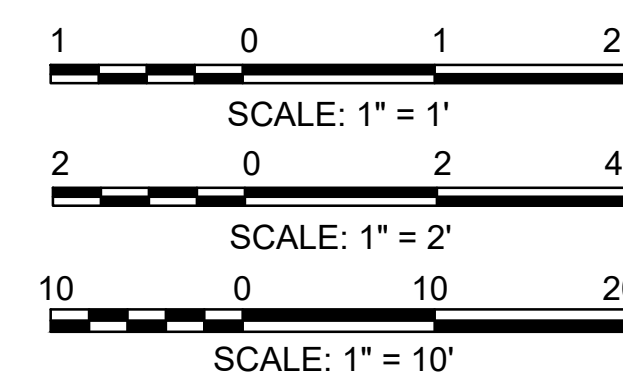
ELECTRICAL BLOCKOUT DETAIL

SCALE: 1" = 1'

NOTES:

1. CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI IN 28 DAYS.
2. EMBLEMMENTS SHALL BE CONSTRUCTED OF REINFORCED CONCRETE; CONCRETE STRUCTURES SHALL BE PRECAST OR CAST-IN-PLACE. PRECAST STRUCTURES SHALL HAVE LIFTING EYES CUT FLUSH AND REMAINING HOLES SHALL BE FILLED WITH NON-SHRINK GROUT. PRECAST SECTIONS SHALL BE KEYPED OR DOWELED INTO EACH OTHER TO PREVENT DIFFERENTIAL SETTLEMENT. PRECAST SECTIONS SHALL NOT EXCEED 6' LONG. CONTRACTOR SHALL INSTALL 1" EXPANSION JOINTS BETWEEN ALL PRECAST SECTIONS. SUBMIT PLAN FOR KEYING AND/OR DOWELING TO ENGINEER FOR APPROVAL.
3. ALL REINFORCING STEEL SHALL BE PER ASTM A615, GRADE 60.
4. AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE REVEGETATED OR RESURFACED IN ACCORDANCE WITH THE SPECIFICATIONS. GROUND COVER SHALL NOT REDUCE TARGET VISIBILITY.
5. PLACE TREATED TIMBERS AGAINST CONCRETE WALL ON 4" x 4" x 1/2" x 4" GALVANIZED STEEL ANGLES SPACED A MAXIMUM OF 3' O.C. ATTACH ANGLE TO CONCRETE WALL WITH CONCRETE ANCHORS.
6. HORIZONTAL CONTROL POINT (A) IS LOCATED ON POWER SIDE OF TARGET.
7. PROVIDE 1/2" CHAMFER ON ALL EXPOSED CONCRETE SURFACES.
8. BERMS SHALL BE CONSTRUCTED OF SATISFACTORY FILL MATERIALS AND COMPACTED @ 95% (ASTM D 1557).
9. SEE SHEET CS613 FOR HORIZONTAL AND VERTICAL CONTROL POINT DATA.
10. PERMANENTLY LABEL EACH EMBLEMMENT. STENCIL TARGET NUMBERS PER THE CIVIL DESIGNATIONS ON BOTH SIDE WALLS. TARGET NUMBERS TO BE 4 INCH LETTERS PAINTED BLACK.
11. OMITTED
12. BERMS SHALL BE CONSTRUCTED TO THE SPECIFIED DENSITY FOR THE FULL THICKNESS BEFORE TOPSOIL IS APPLIED FOR SEEDING.
13. SEE SHEET CS520 FOR STATIONARY AND MOVING INFANTRY TARGET CLUSTER DETAILS.
14. ALL MOVING INFANTRY TARGETS ARE CONNECTED TO 6-MAN LINEAR STATIONARY INFANTRY TARGET CLUSTERS.

GRAPHIC SCALE:



US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. JOHNSON	DATE: NOV 14 2023
CHECKED BY: J. BRANNON	CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-65-01
FILE NAME: ANSID	SIZE: 178-65-01

U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36803 WWW.POLY-INC.COM/3347-95-4700
--	---

FORT LIBERTY, NORTH CAROLINA AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR) FY23, PN 96182 VOLUMES 3 & 4 - DOWNRANGE	MOVING INFANTRY TARGET DETAILS
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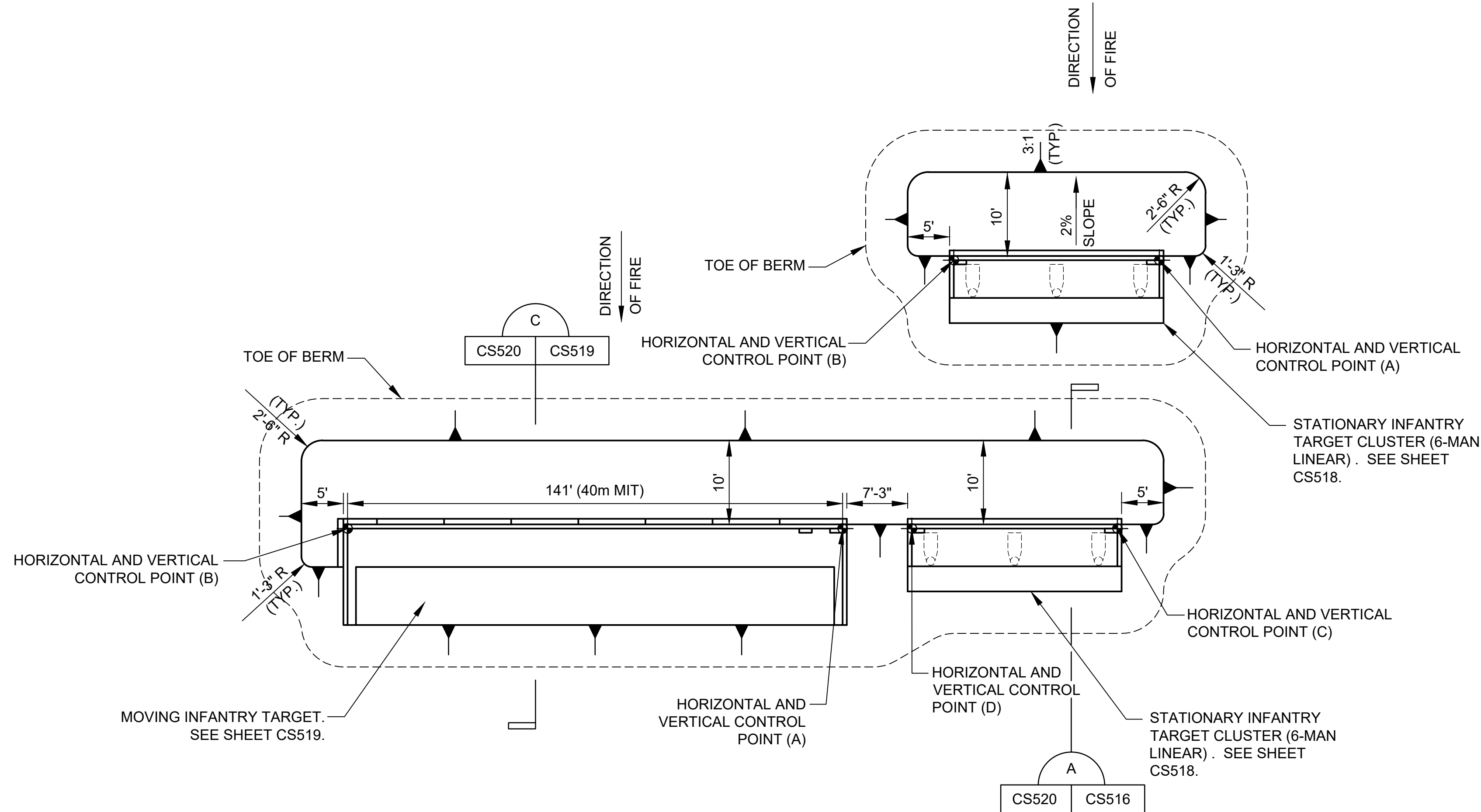
SHEET ID	CS519
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G:\CLEANSTUFF-15-28\15376 BRAGG MPTTR\IP07_RTA_FINAL_SUBMITTAL\04_CIVIL\500 DETAIL\CS519.DWG

READY TO ADVERTISE (RTA)

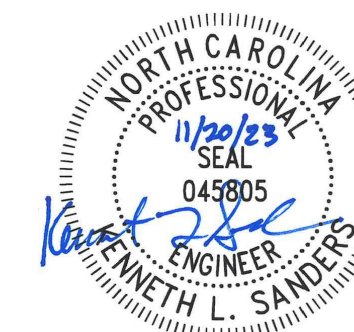
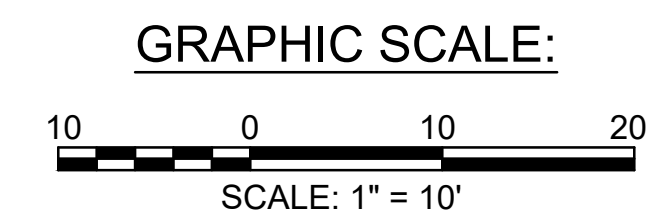
NOTES:

1. CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI IN 28 DAYS.
2. EMPLACEMENTS SHALL BE CONSTRUCTED OF REINFORCED CONCRETE; CONCRETE STRUCTURES SHALL BE PRECAST OR CAST-IN-PLACE. PRECAST STRUCTURES SHALL HAVE LIFTING EYES CUT FLUSH AND REMAINING HOLES SHALL BE FILLED WITH NON-SHRINK GROUT. PRECAST SECTIONS SHALL BE KEYED OR DOWELED INTO EACH OTHER TO PREVENT DIFFERENTIAL SETTLEMENT. PRECAST SECTIONS SHALL NOT EXCEED 6' LONG. CONTRACTOR SHALL INSTALL 1" EXPANSION JOINTS BETWEEN ALL PRECAST SECTIONS. SUBMIT PLAN FOR KEYING AND/OR DOWELING TO ENGINEER FOR APPROVAL.
3. AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE REVEGETATED OR RESURFACED IN ACCORDANCE WITH THE SPECIFICATIONS. GROUND COVER SHALL NOT REDUCE TARGET VISIBILITY.
4. HORIZONTAL AND VERTICAL CONTROL POINT (A) IS LOCATED ON THE LEFT SIDE OF THE TARGET AS VIEWED FROM THE FIRING POSITION. WHEN THE TARGET IS MIRRORED, THE CONTROL POINTS ARE MIRRORED AS WELL.
5. BERMS SHALL BE CONSTRUCTED OF SATISFACTORY FILL MATERIALS AND COMPACTED AT 95% (ASTM D 1557).
6. SEE SHEET CS516 FOR STATIONARY INFANTRY TARGET NOTES AND DETAILS.
7. SEE SHEET CS518 FOR STATIONARY INFANTRY TARGET CLUSTER DETAILS.
8. SEE SHEET CS519 FOR MOVING INFANTRY TARGET DETAILS.
9. SEE SHEET CS613 FOR HORIZONTAL AND VERTICAL CONTROL POINT DATA.
10. OFFSET DIMENSIONS FOR STATIONARY INFANTRY TARGETS ARE AS SHOWN ON SHEET CS518.
11. PERMANENTLY LABEL EACH EMPLACEMENT. STENCIL TARGET NUMBERS PER THE CIVIL DESIGNATIONS ON BOTH SIDE WALLS. TARGET NUMBERS TO BE 4 INCH LETTERS PAINTED BLACK.
12. BERMS SHALL BE CONSTRUCTED TO THE SPECIFIED DENSITY FOR THE FULL THICKNESS BEFORE TOPSOIL IS APPLIED FOR SEEDING.

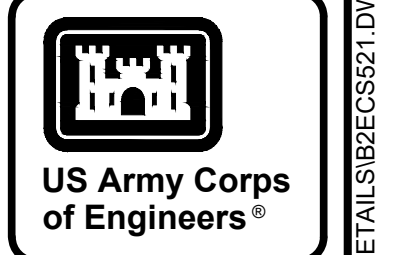


**STATIONARY AND MOVING INFANTRY
TARGET CLUSTER
(6-MAN LINEAR SIT & 40m MIT)**

SCALE: 1" = 10'



<p>US Army Corps of Engineers®</p>	
<p>DESIGNED BY: K. SANDERS B. JOHNSON</p> <p>CHECKED BY: J. BRANNON</p> <p>SUBMITTED BY: B. BRADLEY</p> <p>SIZE: ANSI D</p>	<p>ISSUE DATE: NOVEMBER 2023</p> <p>SCALE: AS SHOWN</p> <p>CONTRACT NO.:</p> <p>CATEGORY CODE: 178-85-01</p> <p>FILE NAME: 178-85-01</p>
<p>U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401</p>	<p>POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36503 WWW.POLY-INC.COM/3347-99-4700</p>
<p>FORT LIBERTY, NORTH CAROLINA AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR) FY23, PN 861822 VOLUMES 3 & 4 - DOWNRANGE</p>	<p>STATIONARY & MOVING INFANTRY TARGET CLUSTER DETAILS</p>
<p>SHEET ID</p> <p align="center">CS520</p>	<p>MARK</p> <p>DESCRIPTION</p> <p>DATE</p>

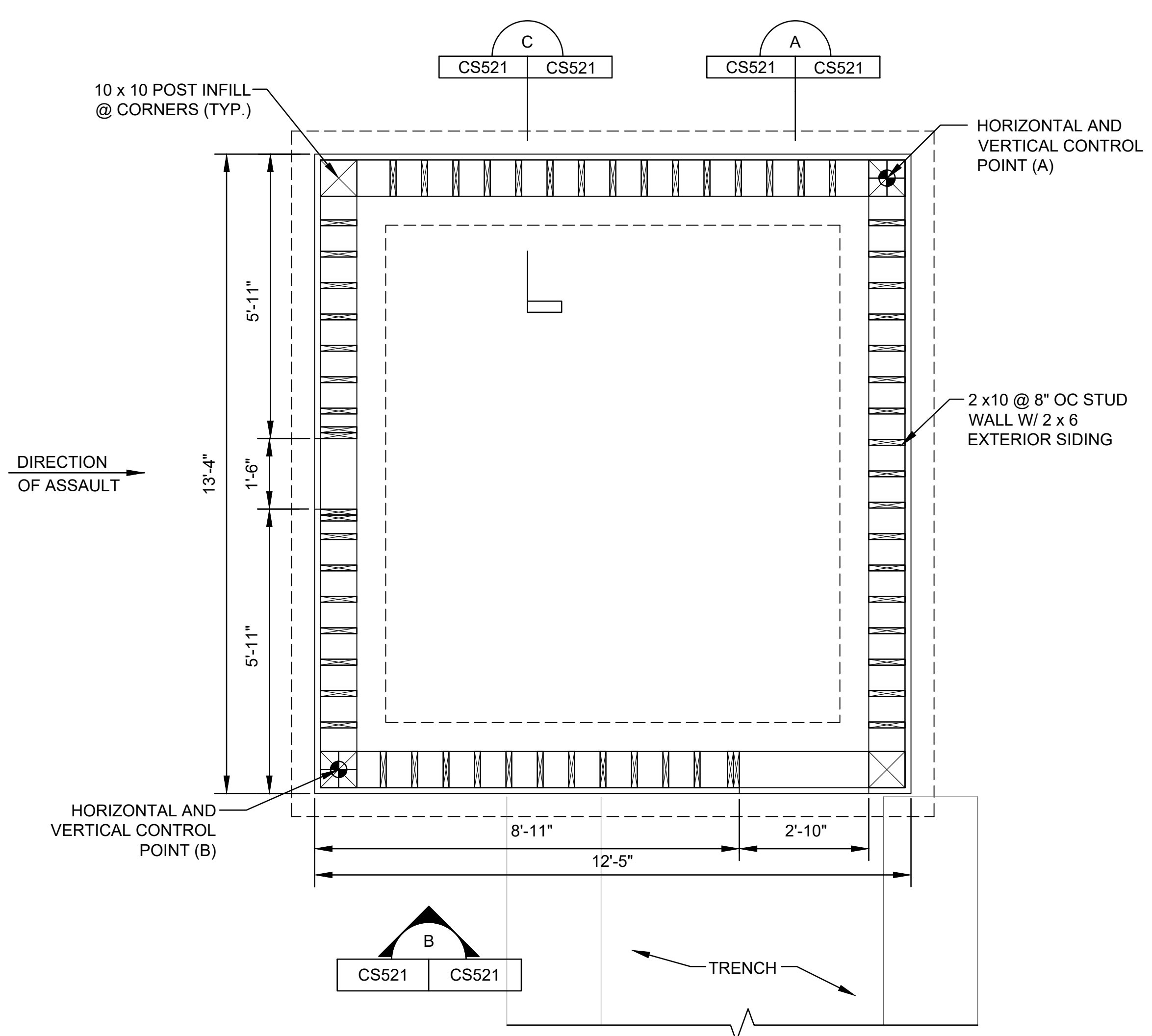


MARK	DESCRIPTION	DATE

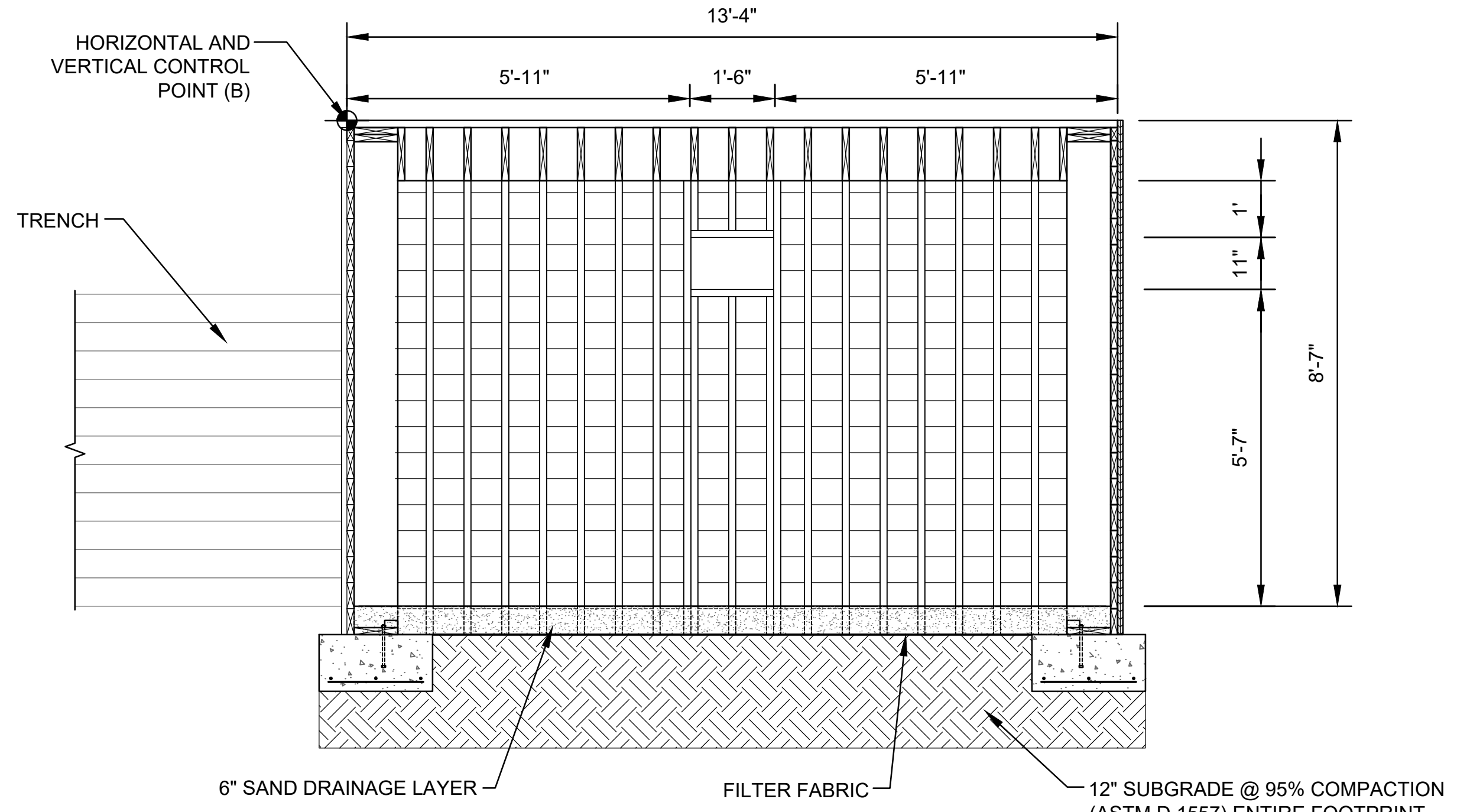
DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2003
CHECKED BY: B. JOHNSON	DESIGNED BY: B. JOHNSON
SUBMITTED BY: B. BRADLEY	CHECKED BY: J. BRANNON
FILE NAME: 178-85-01	CONTRACT NO.:
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	CATEGORY CODE: 178-85-01
POLY, INC. 1985 HEADLAND AVENUE DOTHAN, AL 36503 WWW.POLY-INC.COM/3347-98-4700	

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
VOLUMES 3 & 4 - DOWNRANGE
MACHINE GUN BUNKER DETAILS

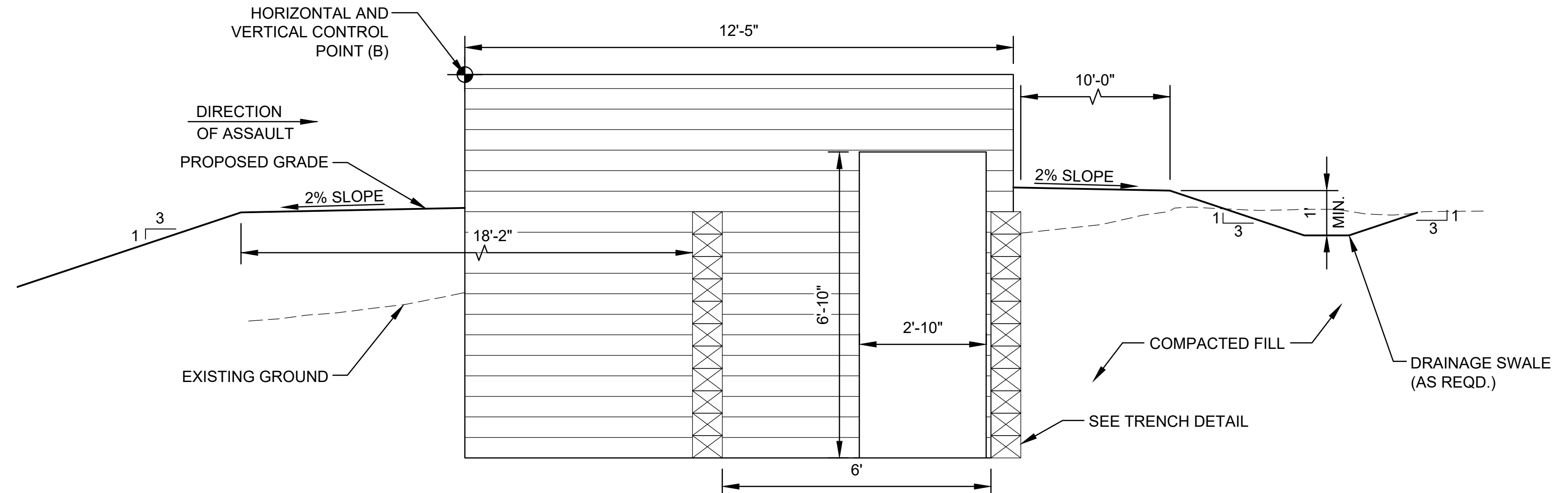
SHEET ID
CS521



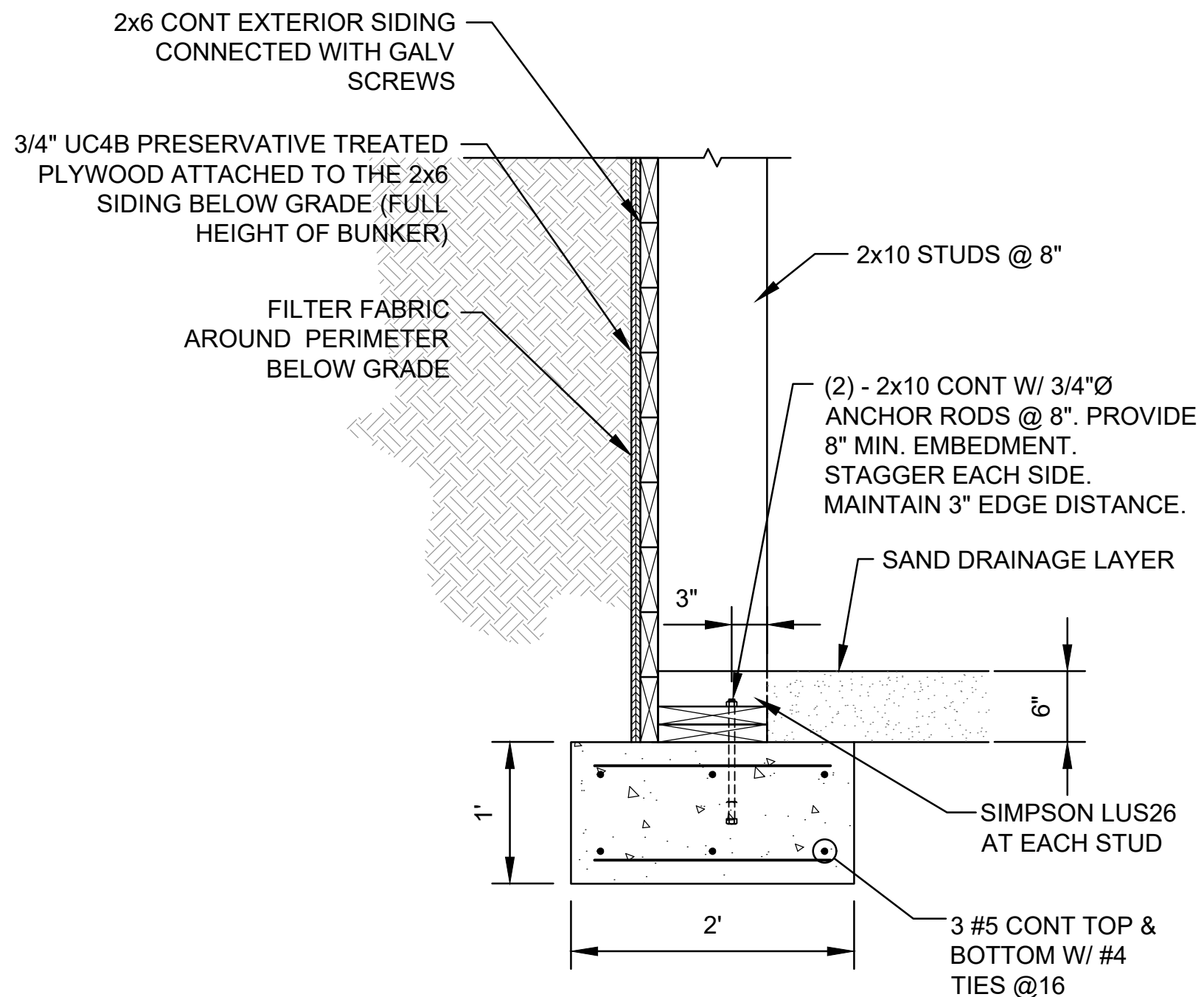
PLAN
SCALE: 1" = 2'



SECTION
SCALE: 1" = 2'



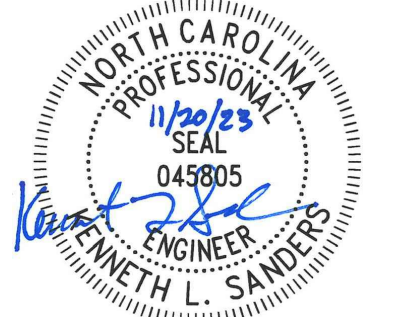
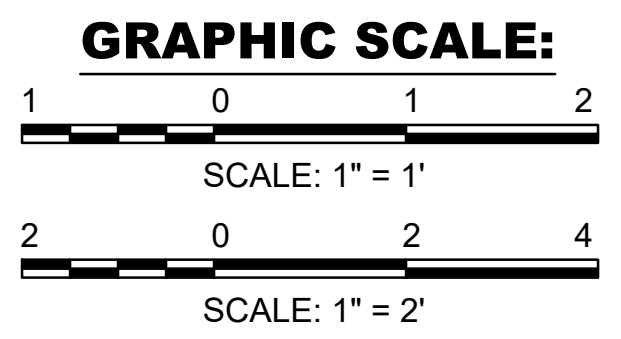
ELEVATION
SCALE: 1" = 2'

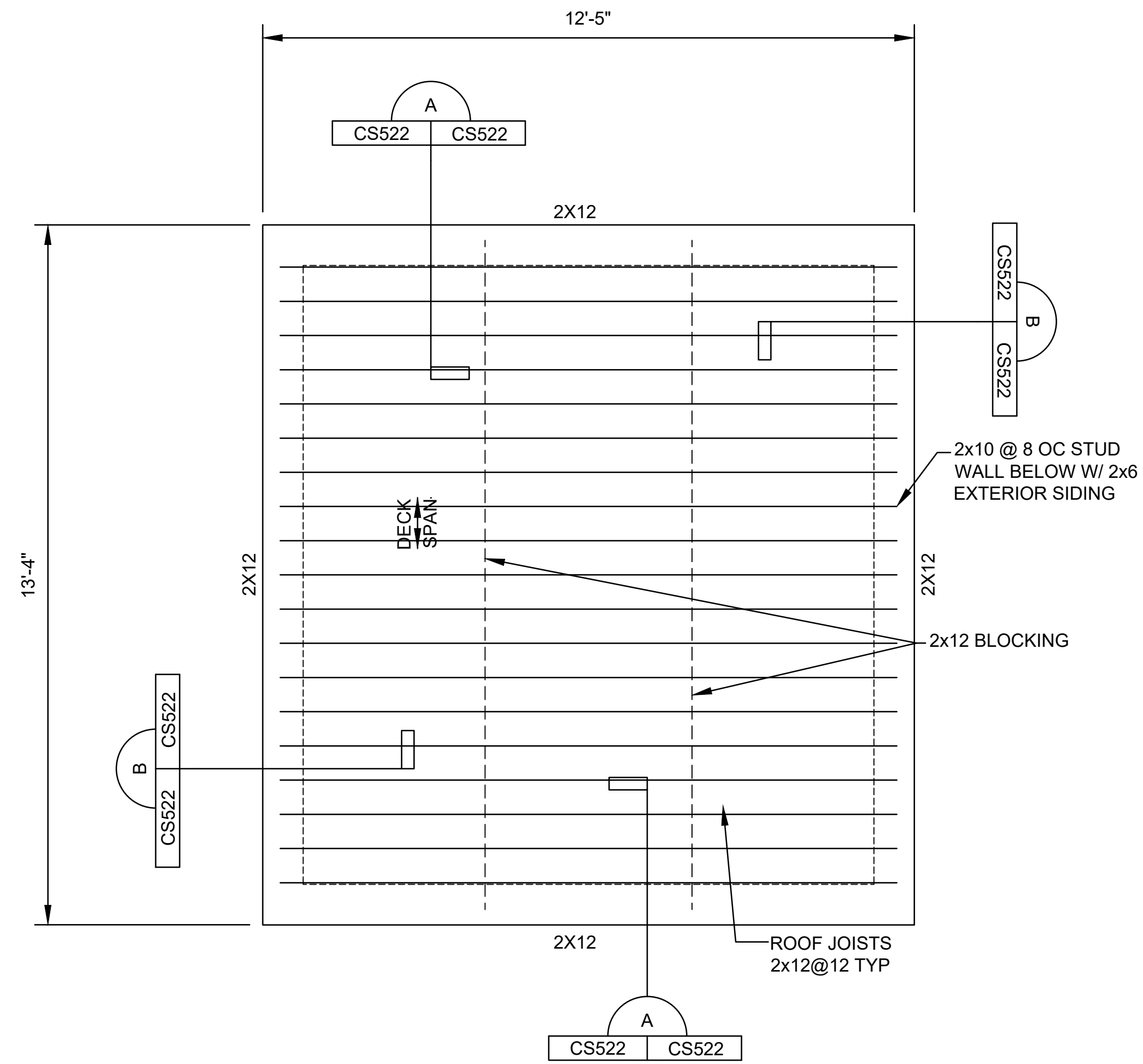


SECTION
SCALE: 1" = 1'

NOTES:

- BUNKER SHALL BE CONSTRUCTED OF TREATED TIMBERS. FILTER FABRIC SHALL BE INSTALLED ABOVE ROOF AND BEHIND ALL WOOD WALLS BELOW GRADE.
- AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE REVEGETATED OR RESURFACED IN ACCORDANCE WITH THE SPECIFICATIONS. GROUND COVER SHALL NOT REDUCE TARGET VISIBILITY.
- 2x6 SIDING ATTACHED AT EACH SUPPORT WITH (3) #10 X 3-1/2" HOT-DIPPED GALVANIZED WOOD SCREWS. PLYWOOD LAYER APPLIED TO SIDING BELOW GRADE TO BE 3/4" UC4B PRESERVATIVE TREATED. PLYWOOD TO BE ATTACHED TO SIDING WITH #7 X 2" HOT-DIPPED GALVANIZED WOOD SCREWS AT 6 INCHES AT ALL FOUR PANEL EDGES AND 12" EACH WAY AT PANEL INTERIOR.
- THE BUNKER SHALL INCLUDE AN UNDERDRAIN SYSTEM THAT IS AN EXTENSION OF THE TRENCH UNDERDRAIN.
- SEE SHEETS CS523 AND CS524 FOR TRENCH DETAIL.
- SEE SHEET CS615 FOR HORIZONTAL AND VERTICAL CONTROL POINT DATA.
- BERMS SHALL BE CONSTRUCTED TO THE SPECIFIED DENSITY FOR THE FULL THICKNESS BEFORE TOPSOIL IS APPLIED FOR SEEDING.
- WOOD FRAMING MEMBERS SHALL BE VISUALLY GRADED #2 SOUTHERN PINE OR APPROVED EQUAL. ALL FRAMING SHALL BE PRESSURE TREATED IN ACCORDANCE WITH AMERICAN WOOD PROTECTION ASSOCIATION (AWPA) STANDARD U1, USE CATEGORY UC4A / GROUND CONTACT.
- SAND DRAINAGE LAYER SHALL CONFORM TO ASTM C33 FOR FINE AGGREGATE GRADING WITH A MAXIMUM OF 3% BY WEIGHT PASSING THE NO. 200 SIEVE (WASH).
- ALL BUNKERS ARE ATTACHED TO TRENCHES.



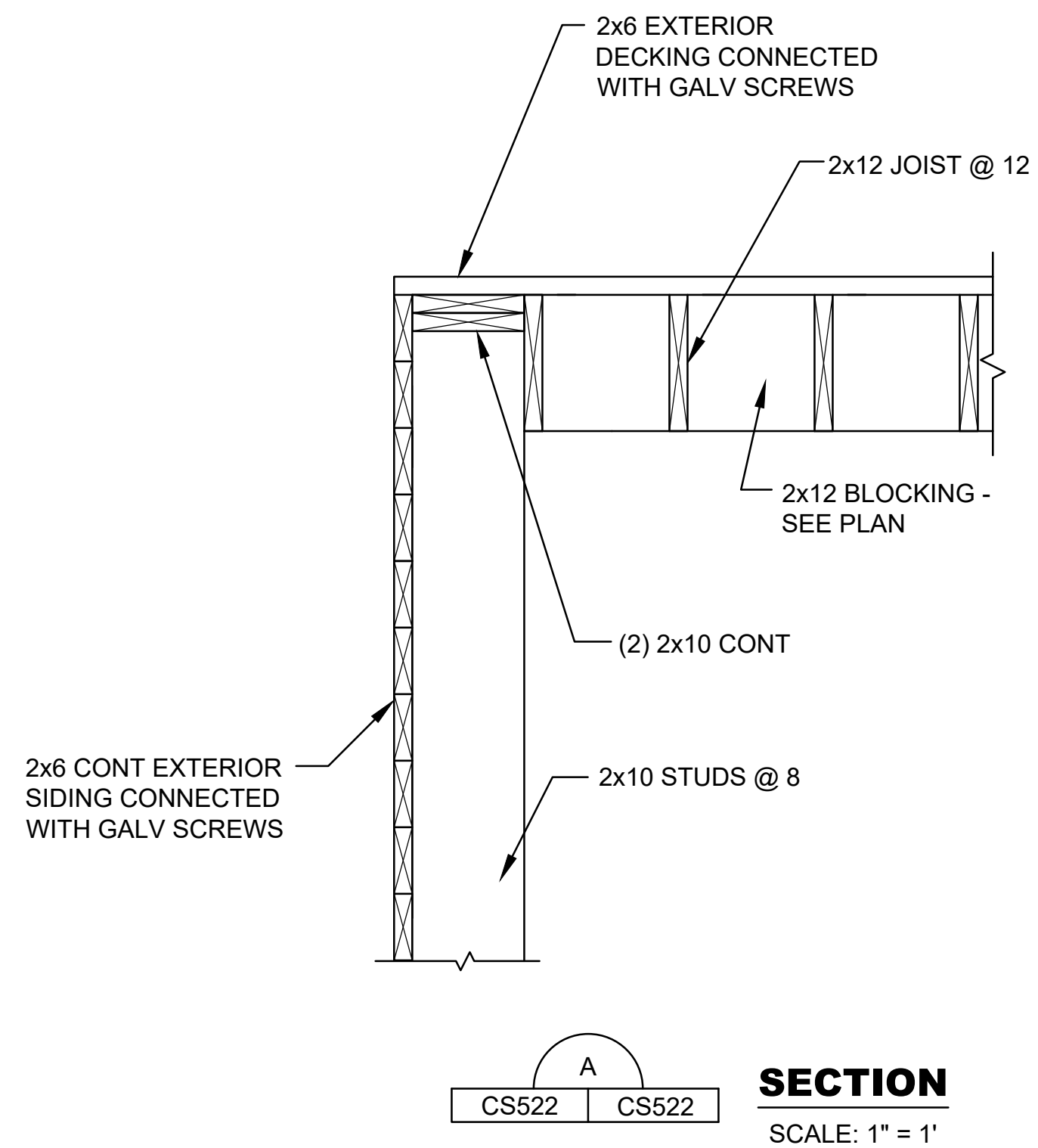
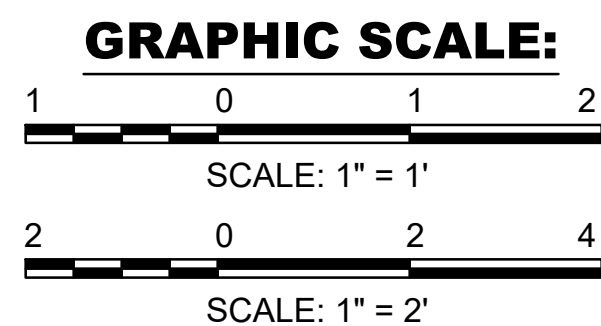


ROOF FRAMING PLAN

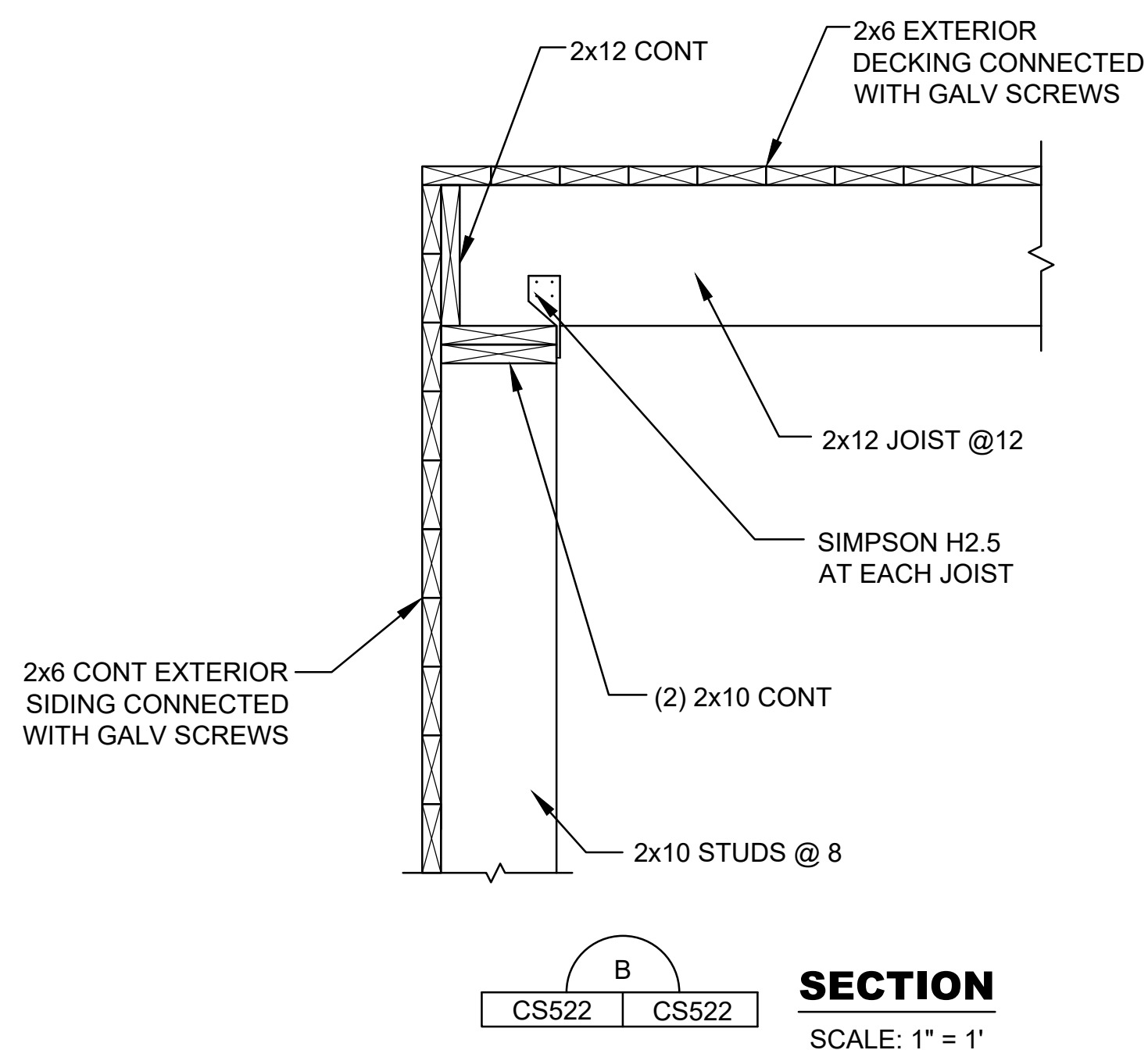
SCALE: 1" = 2'

NOTES:

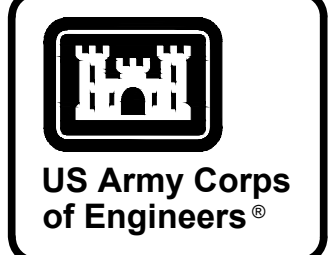
- BUNKER SHALL BE CONSTRUCTED OF TREATED TIMBERS. FILTER FABRIC SHALL BE INSTALLED ABOVE ROOF AND BEHIND ALL WOOD WALLS BELOW GRADE.
- AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE REVEGETATED OR RESURFACED IN ACCORDANCE WITH THE SPECIFICATIONS. GROUND COVER SHALL NOT REDUCE TARGET VISIBILITY.
- 2x6 SIDING ATTACHED AT EACH SUPPORT WITH (3) #10 X 3-1/2" HOT-DIPPED GALVANIZED WOOD SCREWS. PLYWOOD LAYER APPLIED TO SIDING BELOW GRADE TO BE 3/4" UC4B PRESERVATIVE TREATED. PLYWOOD TO BE ATTACHED TO SIDING WITH #7 X 2" HOT-DIPPED GALVANIZED WOOD SCREWS AT 6 INCHES AT ALL FOUR PANEL EDGES AND 12" EACH WAY AT PANEL INTERIOR.
- THE BUNKER SHALL INCLUDE AN UNDERDRAIN SYSTEM THAT IS AN EXTENSION OF THE TRENCH UNDERDRAIN.
- SEE SHEETS CS523 AND CS524 FOR TRENCH DETAIL.
- SEE SHEET CS615 FOR HORIZONTAL AND VERTICAL CONTROL POINT DATA.
- WOOD FRAMING MEMBERS SHALL BE VISUALLY GRADED #2 SOUTHERN PINE OR APPROVED EQUAL. ALL FRAMING SHALL BE PRESSURE TREATED IN ACCORDANCE WITH AMERICAN WOOD PROTECTION ASSOCIATION (AWPA) STANDARD U1, USE CATEGORY UC4A / GROUND CONTACT.
- ALL BUNKERS ARE ATTACHED TO TRENCHES.
- BUNKER ROOF DESIGN LIVE LOAD = 80 PSF.



SECTION A
SCALE: 1" = 1'



SECTION B
SCALE: 1" = 1'



MARK	DESCRIPTION	DATE

DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. JOHNSON	PROJECT NO. / CONTRACT NO.:
SUBMITTED BY: J. BRANNON	CATEGORY CODE: 178-85-01
FILE NAME: ANSID	

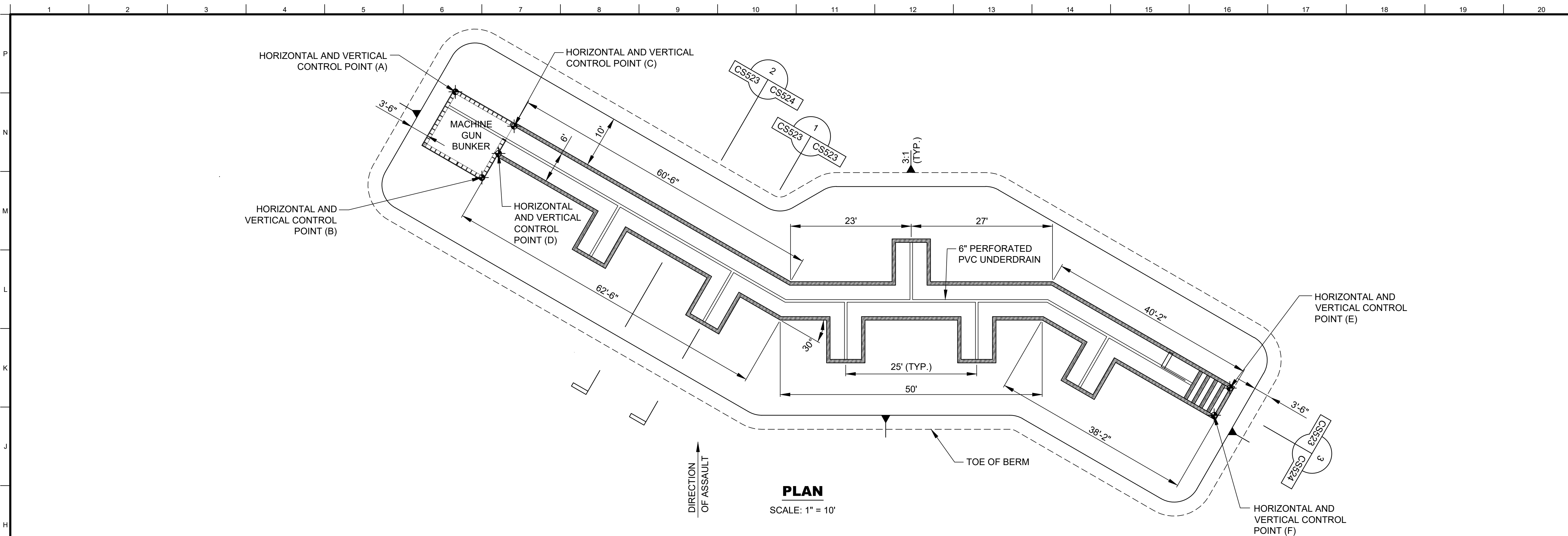
U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT
100 W. OGLETHORPE AVE
SAVANNAH, GA 31401

POLY, INC.
1935 HEADLAND AVENUE
DOTHAN, AL 36503
WWW.POLY-INC.COM / 334-798-4700

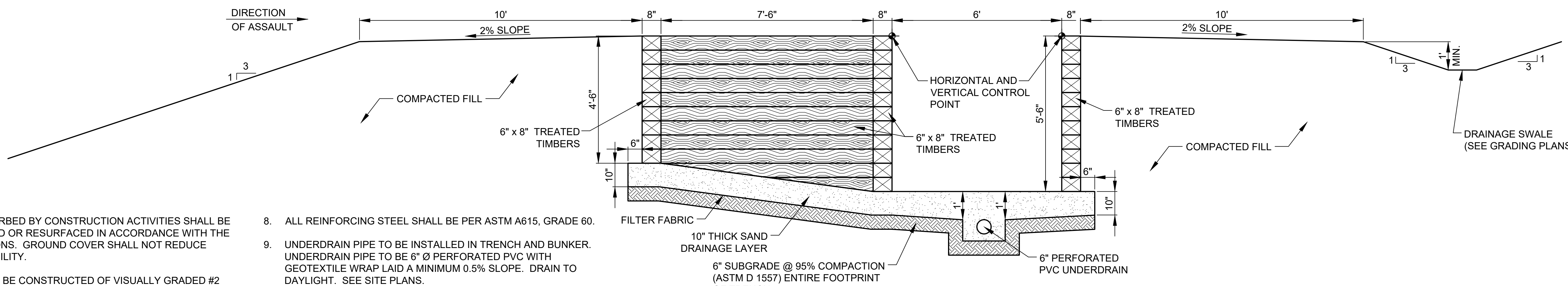
FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 96182
VOLUMES 3 & 4 - DOWNRANGE

MACHINE GUN BUNKER DETAILS

SHEET ID
CS522

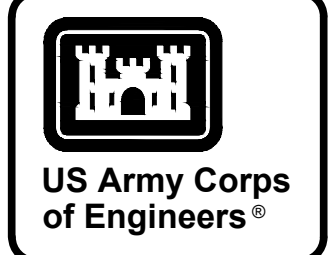
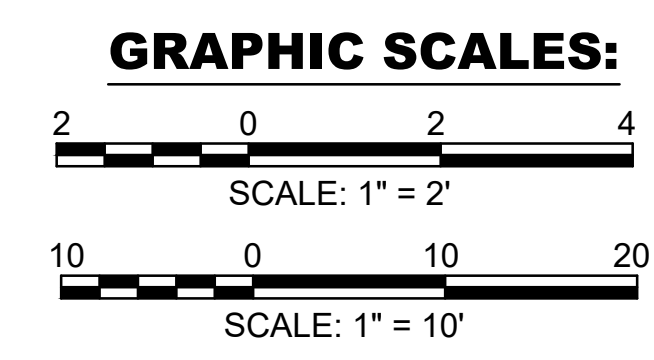


PLAN
SCALE: 1" = 10'



SECTION
SCALE: 1" = 2'

- NOTES:**
- AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE REVEGETATED OR RESURFACED IN ACCORDANCE WITH THE SPECIFICATIONS. GROUND COVER SHALL NOT REDUCE TARGET VISIBILITY.
 - WALLS SHALL BE CONSTRUCTED OF VISUALLY GRADED #2 SOUTHERN PINE OR APPROVED EQUAL. ALL WOOD MEMBERS SHALL BE PRESSURE TREATED IN ACCORDANCE WITH AMERICAN WOOD PROTECTION ASSOCIATION (AWPA) STANDARD U1, USE CATEGORY UC4A / GROUND CONTACT.
 - FILTER FABRIC SHALL BE INSTALLED BEHIND ALL WOOD WALLS BELOW GRADE. FABRIC SHALL EXTEND THE FULL HEIGHT OF THE WALL.
 - SAND DRAINAGE LAYER SHALL CONFORM TO ASTM C33 FOR FINE AGGREGATE GRADING WITH A MAXIMUM 3% BY WEIGHT PASSING THE ASTM D1140, NO. 200 SIEVE (WASH).
 - TRENCHES CONSTRUCTED ON STANDARD TRAINING RANGES SHALL NOT BE USED FOR LIVE FIRE GRENADE TRAINING.
 - BERMS SHALL BE CONSTRUCTED OF SAND (SP) OR SAND WITH SILT (SP-SM) AND COMPACTED @ 95% (ASTM D 1557).
 - BERMS SHALL BE CONSTRUCTED TO THE SPECIFIED DENSITY FOR THE FULL THICKNESS BEFORE TOPSOIL IS APPLIED FOR SEEDING.
 - ALL REINFORCING STEEL SHALL BE PER ASTM A615, GRADE 60.
 - UNDERDRAIN PIPE TO BE INSTALLED IN TRENCH AND BUNKER. UNDERDRAIN PIPE TO BE 6" Ø PERFORATED PVC WITH GEOTEXTILE WRAP LAID A MINIMUM 0.5% SLOPE. DRAIN TO DAYLIGHT. SEE SITE PLANS.
 - TIMBER TIE-BACKS AND FILTER FABRIC TO BE INSTALLED IN ENTIRE WALL. ALL AREAS NOT SHOWN IN SECTIONS FOR CLARITY.
 - SEE SHEETS CS521 AND CS522 FOR MACHINE GUN BUNKER DETAIL.
 - SEE SHEET CS615 FOR HORIZONTAL AND VERTICAL CONTROL POINT DATA.
 - SEE TIMBER CONNECTION DETAILS ON SHEET CS524.
 - ALL TRENCHES ARE ATTACHED TO MACHINE GUN BUNKERS.
 - RETAINING WALL IS BASED ON THE GEOTECHNICAL REPORT BY USACE SAVANNAH DISTRICT, GEOTECHNICAL & HTRW BRANCH, TITLED SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGINEERING REPORT, AUTOMATED MULTIPURPOSE TRAINING RANGE, P.N. 91682, FY-23, FORT BRAGG, NORTH CAROLINA DATED MARCH 2022. THE CONTRACTOR SHALL OBTAIN A COPY OF THE GEOTECHNICAL REPORT FROM THE CONTRACTING OFFICER AND FOLLOW ALL REQUIREMENTS AND RECOMMENDATIONS.

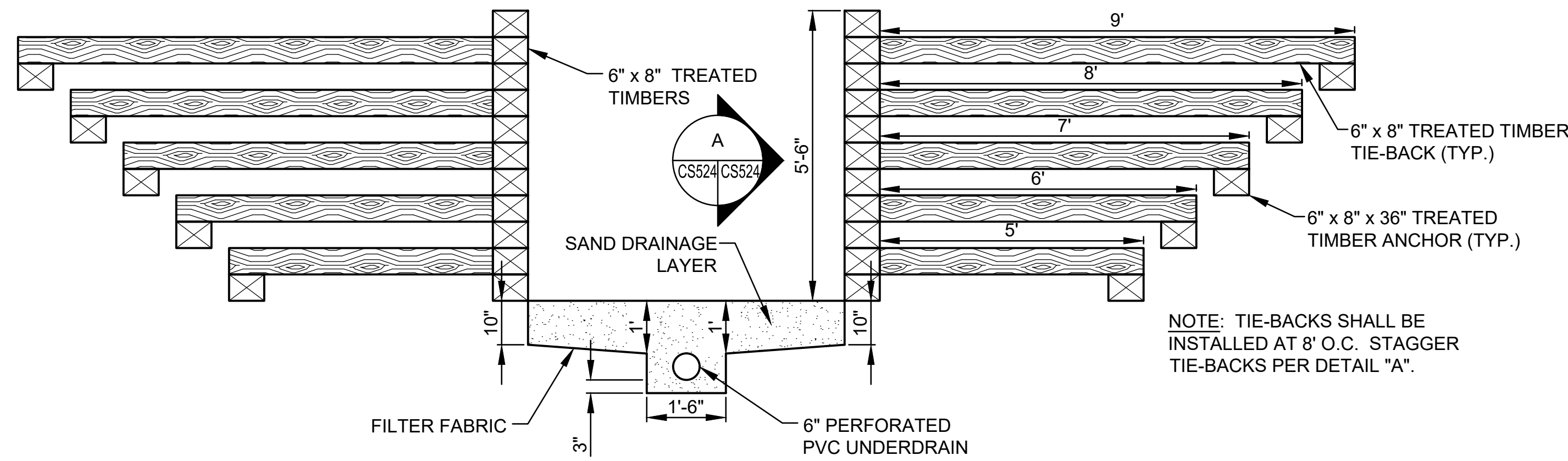


MARK	DESCRIPTION	DATE

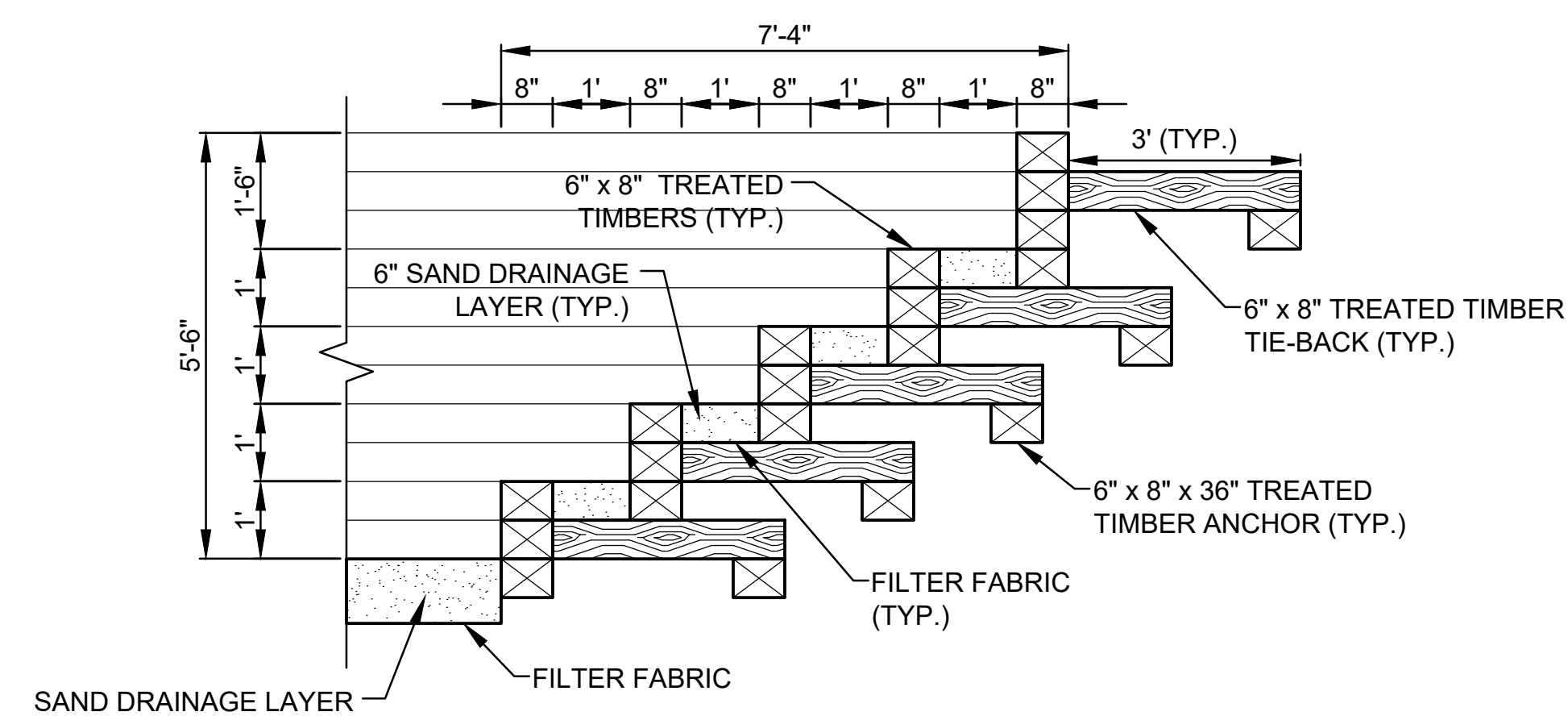
DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. JOHNSON	NO. 19412448.3002
SUBMITTED BY: J. BRANNON	CONTRACT NO.:
FILE NAME: B. BRADLEY	CATEGORY CODE: 178-85-01
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36503 WWW.POLY-INC.COM / 334-799-4700

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 96182
VOLUMES 3 & 4 - DOWNRANGE
TRENCH DETAILS

SHEET ID
CS523



SECTION 2
SCALE: 1" = 2'

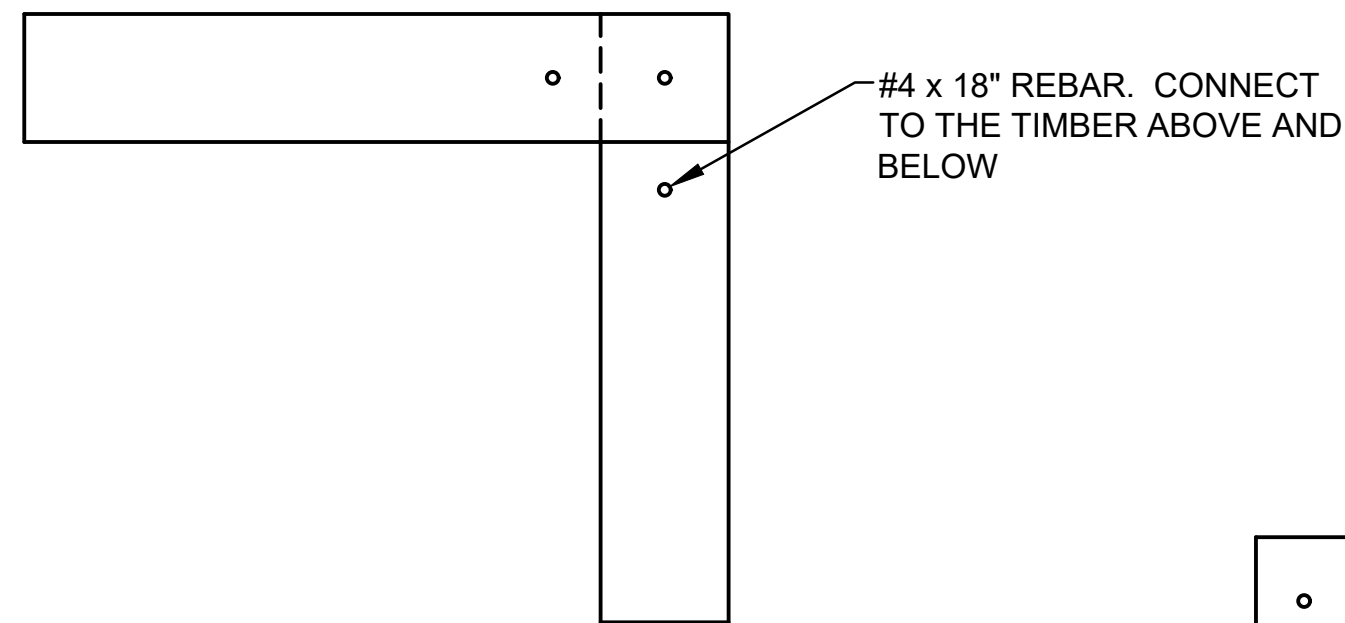


SECTION 3
SCALE: 1" = 2'

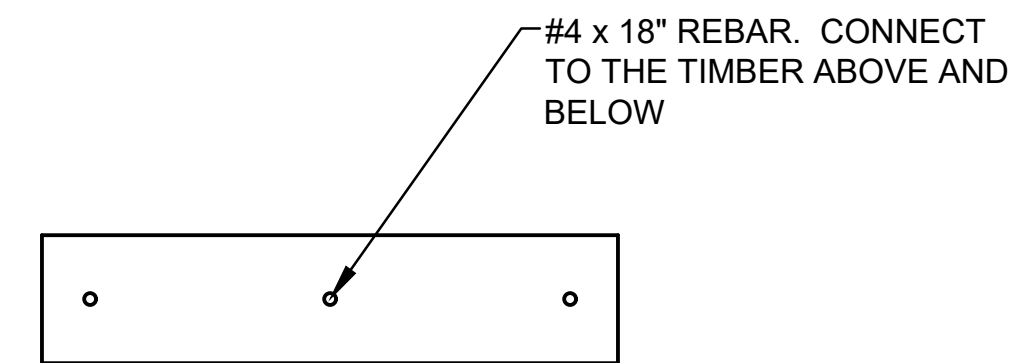
NOTES:

- AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE REVEGETATED OR RESURFACED IN ACCORDANCE WITH THE SPECIFICATIONS. GROUND COVER SHALL NOT REDUCE TARGET VISIBILITY.
- WALLS SHALL BE CONSTRUCTED OF VISUALLY GRADED #2 SOUTHERN PINE OR APPROVED EQUAL. ALL WOOD MEMBERS SHALL BE PRESSURE TREATED IN ACCORDANCE WITH AMERICAN WOOD PROTECTION ASSOCIATION (AWPA) STANDARD U1, USE CATEGORY UC4A / GROUND CONTACT.
- FILTER FABRIC SHALL BE INSTALLED BEHIND ALL WOOD WALLS BELOW GRADE. FABRIC SHALL EXTEND THE FULL HEIGHT OF THE WALL.
- SAND DRAINAGE LAYER SHALL CONFORM TO ASTM C33 FOR FINE AGGREGATE GRADING WITH A MAXIMUM 3% BY WEIGHT PASSING THE ASTM D1140, NO. 200 SIEVE (WASH).
- TRENCHES CONSTRUCTED ON STANDARD TRAINING RANGES SHALL NOT BE USED FOR LIVE FIRE GRENADE TRAINING.
- BERMS SHALL BE CONSTRUCTED OF SAND (SP) OR SAND WITH SILT (SP-SM) AND COMPACTED @ 95% (ASTM D 1557).
- BERMS SHALL BE CONSTRUCTED TO THE SPECIFIED DENSITY FOR THE FULL THICKNESS BEFORE TOPSOIL IS APPLIED FOR SEEDING.
- ALL REINFORCING STEEL SHALL BE PER ASTM A615, GRADE 60.
- UNDERDRAIN PIPE TO BE INSTALLED IN TRENCH AND BUNKER. UNDERDRAIN PIPE TO BE 6" Ø PERFORATED PVC WITH GEOTEXTILE WRAP LAID A MINIMUM 0.5% SLOPE. DRAIN TO DAYLIGHT. SEE SITE PLANS.
- TIMBER TIE-BACKS AND FILTER FABRIC TO BE INSTALLED IN ENTIRE WALL. ALL AREAS NOT SHOWN IN SECTIONS FOR CLARITY.
- SEE SHEETS CS521 AND CS522 FOR MACHINE GUN BUNKER DETAIL.
- SEE SHEET CS615 FOR HORIZONTAL AND VERTICAL CONTROL POINT DATA.
- OMITTED
- ALL TRENCHES ARE ATTACHED TO MACHINE GUN BUNKERS.
- RETAINING WALL IS BASED ON THE GEOTECHNICAL REPORT BY USACE SAVANNAH DISTRICT, GEOTECHNICAL & HTRW BRANCH, TITLED SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGINEERING REPORT, AUTOMATED MULTIPURPOSE TRAINING RANGE, P.N. 91682, FY-23, FORT BRAGG, NORTH CAROLINA DATED MARCH 2022. THE CONTRACTOR SHALL OBTAIN A COPY OF THE GEOTECHNICAL REPORT FROM THE CONTRACTING OFFICER AND FOLLOW ALL REQUIREMENTS AND RECOMMENDATIONS

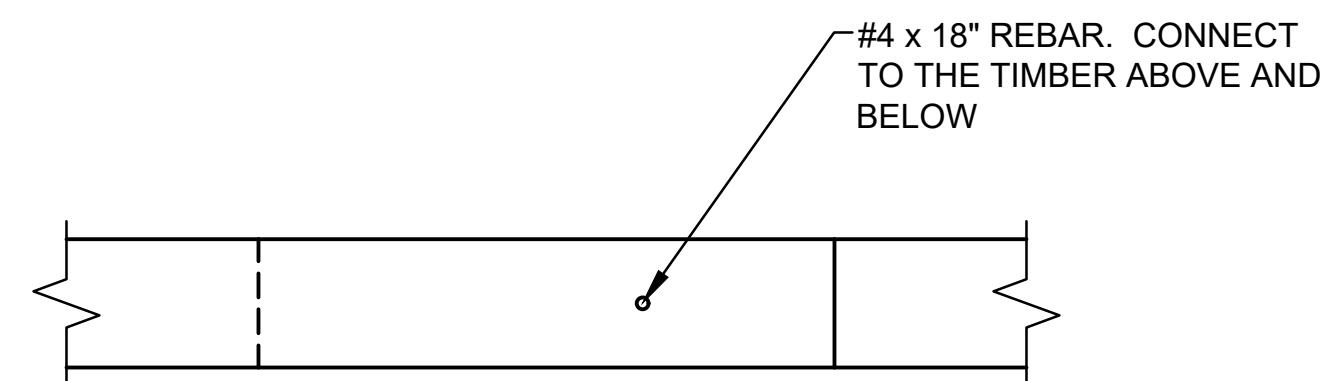
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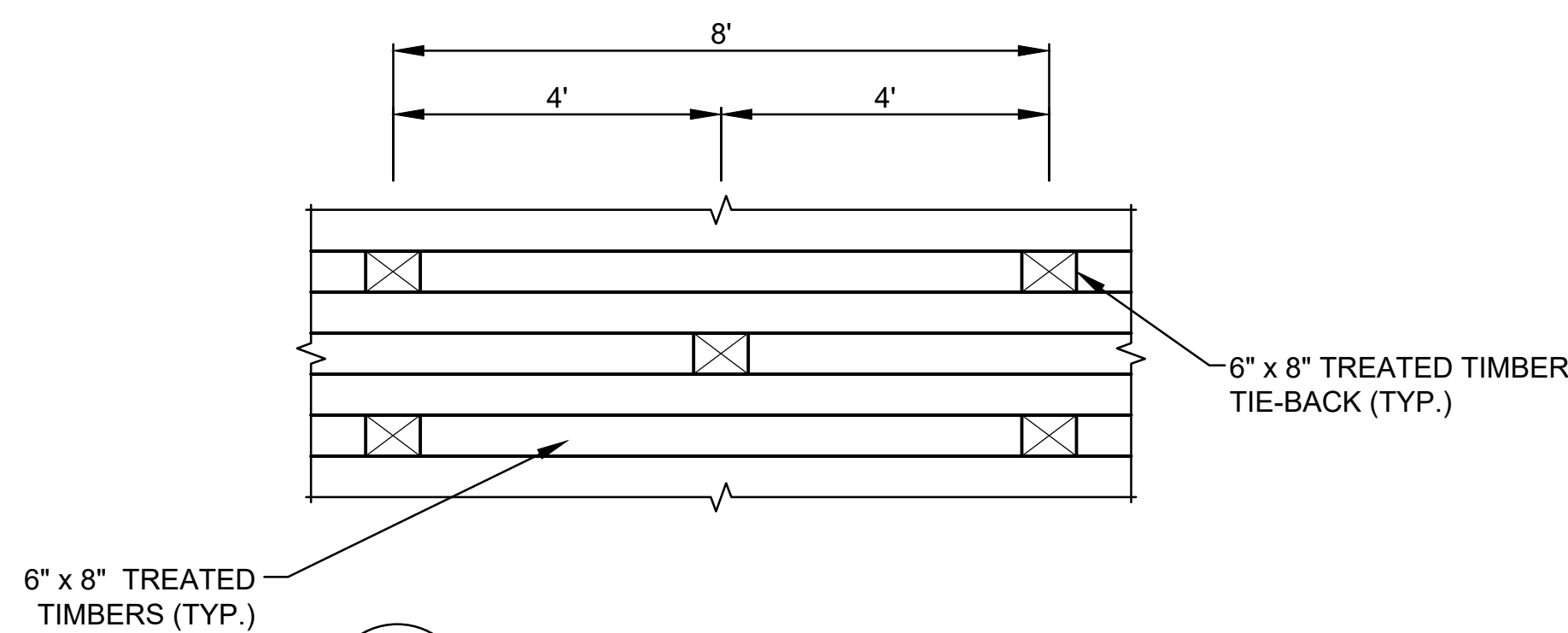
TIMBER CORNER CONNECTION
SCALE: N.T.S.



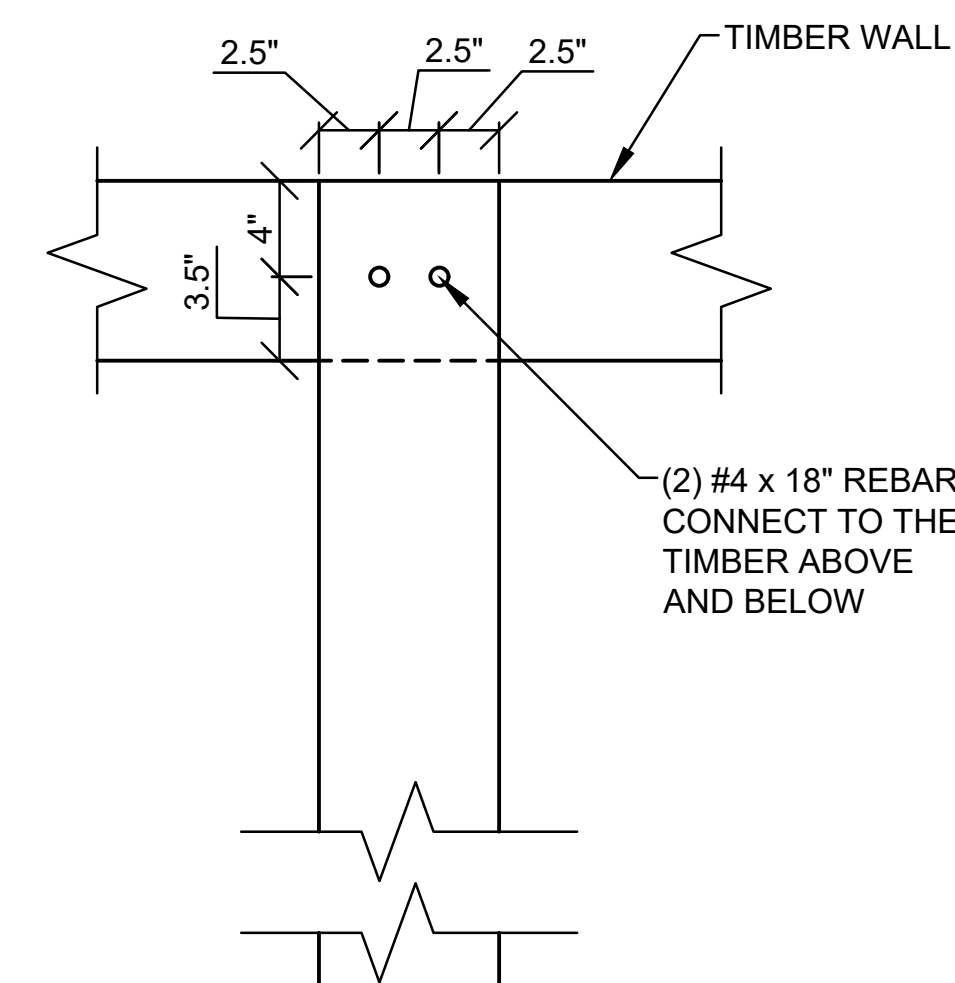
STAIR CONNECTION
SCALE: N.T.S.



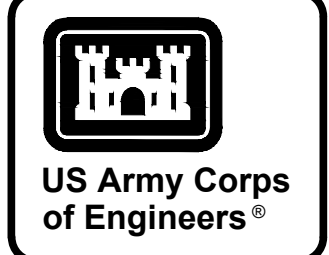
TIMBER TO TIMBER CONNECTION
SCALE: N.T.S.



TIE-BACK STAGGER DETAIL
SCALE: 1" = 2'



TIMBER TIE-BACK CONNECTION
SCALE: N.T.S.



MARK	DESCRIPTION	DATE

DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. JOHNSON	PROJECT NO. / CONTRACT NO.:
SUBMITTED BY: J. BRANNON	CATEGORY CODE: 178-65-01
FILE NAME: ANSI.D	

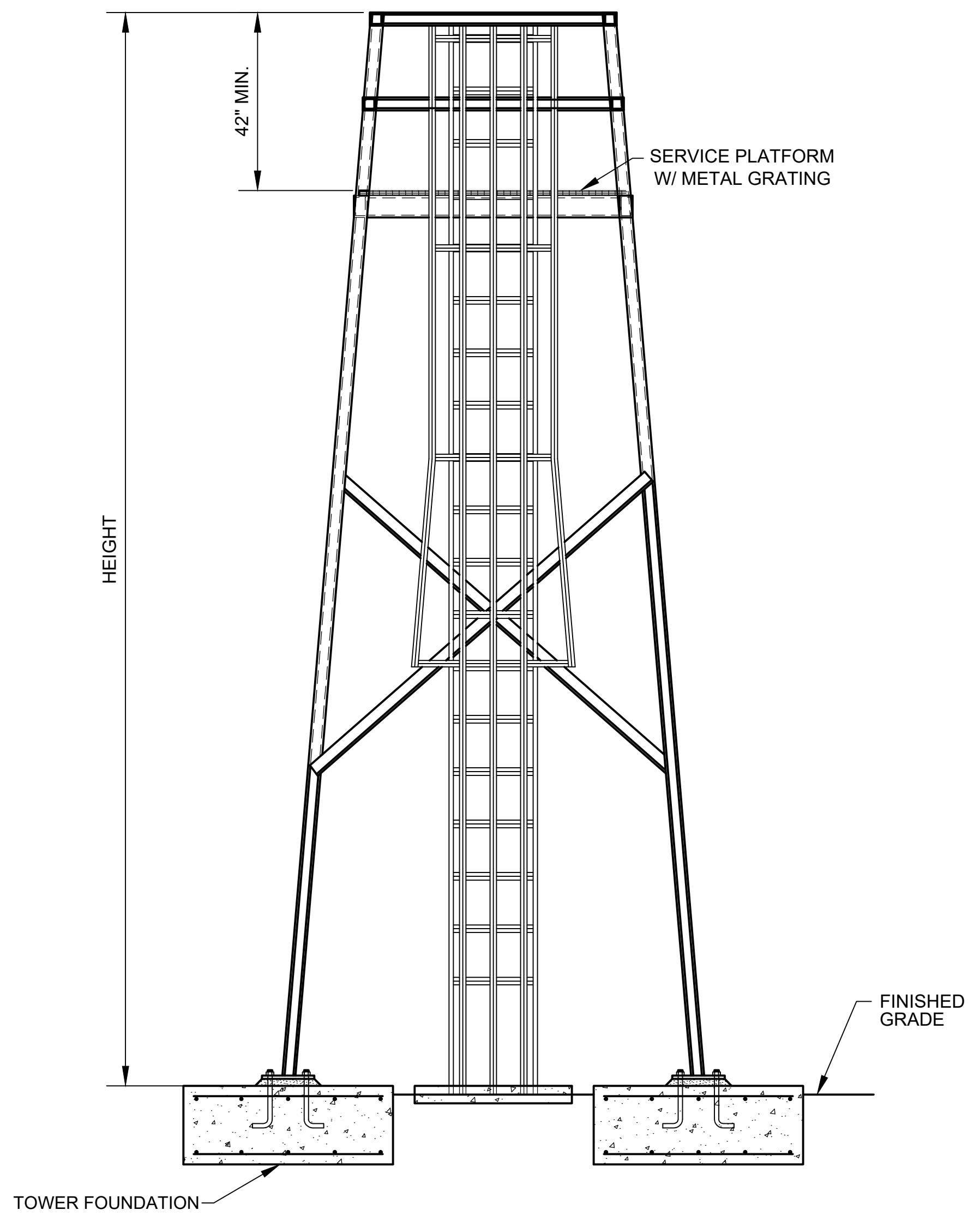
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36503 WWW.POLY-INC.COM / 334-799-4700
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FORT LIBERTY, NORTH CAROLINA AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR) FY23, PN 96182 VOLUMES 3 & 4 - DOWNRANGE	TRENCH DETAILS
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SHEET ID
CS524

G:\CLEANSTUFF-15-28\15376 BRAGG MPTTR\WP107_LRTA_FINAL_SUBMITTAL\04_CIVIL\500 DETAIL\CS524.DWG

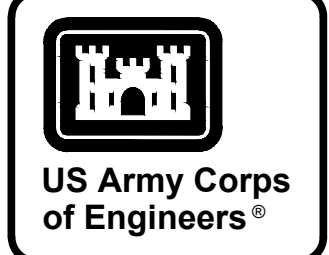
READY TO ADVERTISE (RTA)



CAMERA TOWER
SCALE: N.T.S.

NOTES :

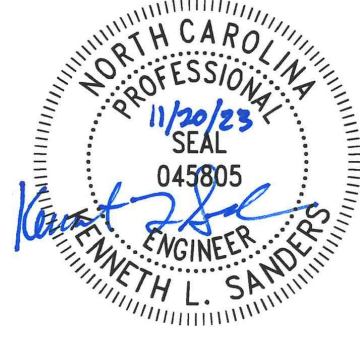
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF THE CAMERA TOWER AND FOUNDATION.
2. THE TOWER SHALL BE DESIGNED TO MEET THE CRITERIA OUTLINED ON THIS SHEET AND PER THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT FOR THIS PROJECT. THE GEOTECHNICAL REPORT IS AVAILABLE FOR REVIEW BY REQUESTING FROM THE CONTRACTING OFFICER.
3. THE TOWER AND FOUNDATION SHOWN ON THIS SHEET ARE TYPICAL AND FOR ILLUSTRATIVE PURPOSES ONLY; HOWEVER, A 4-LEG, DEER STAND TYPE TOWER IS REQUIRED. THE TOWER SHALL HAVE A SERVICE PLATFORM WITH MINIMUM DIMENSIONS OF 5' X 5'.
4. SEE CONTROL POINT DATA FOR REQUIRED TOWER HEIGHT.
5. TOWER DESIGN SHALL CONFORM TO STANDARD EIA/TIA-22-F FOR 125 MPH BASIC WIND SPEED WITH NO ICE.
6. MATERIAL FOR CONSTRUCTION OF THE TOWER SHALL BE AS IS ACCEPTED AS STANDARD PRACTICE WITHIN THE TOWER INDUSTRY. ALL EXPOSED STEEL SHALL BE GALVANIZED.
7. THE TOWER SHALL BE GROUNDED IN ACCORDANCE WITH EIA STANDARDS.
8. THE FOUNDATION SHOWN IS TYPICAL. THE CONTRACTOR SHALL PROVIDE A DESIGN SUBMITTAL PACKAGE TO THE CONTRACTING OFFICER THAT IS STAMPED BY AN ENGINEER REGISTERED IN THE STATE OF CONSTRUCTION.
9. THE TOWER IS TO BE LOCATED AS SHOWN IN THE PLANS. CONTRACTOR SHALL VERIFY SOIL CONDITIONS AND STRENGTHS PRIOR TO THE DESIGN OF THE FOUNDATION.
10. THE FOUNDATION DESIGN PACKAGE SHALL INCLUDE ALL RELATIVE INFORMATION THE ENGINEER USED TO DETERMINE HIS DESIGN, INCLUDING (BUT NOT LIMITED TO) SOIL PRESSURE, CONCRETE STRENGTH, REBAR SIZING AND MATERIAL, EXCAVATION AND BACKFILL REQUIREMENTS, SOIL TYPE, SOIL COHESION, SOIL UNIT WEIGHT, INTERNAL ANGLE OF FRICTION, GROUND WATER ASSUMPTIONS, AND FROST ACTION CONSIDERATIONS.
11. THE CONTRACTOR SHALL COMPLETE TOWER ASSEMBLY DRAWINGS, MATERIAL LISTS, DESIGN CALCULATIONS, TOWER INSTALLATION DETAILS, AND ACCESSORY LISTS AND SUBMIT TO THE CONTRACTING OFFICER FOR APPROVAL.
12. THE TOWER SHALL NOT BE GUYED AND MUST BE FULLY SELF-SUPPORTING UNDER ALL OUTLINED DESIGN CRITERIA.
13. THE TOWER IS LOCATED IN A SEISMIC ZONE AND SHALL BE IN CONFORMANCE WITH ALL LOCAL CODES.
14. THE TOWER SHALL BE DESIGNED TO ALLOW A MAXIMUM SWAY AT THE TOP OF 1/2 INCH FROM DEAD CENTER IN ANY DIRECTION WITH A 60 LB 3 FT CUBE AT 35 MPH SUSTAINED WINDS.
15. LADDERS ARE TO FACE THE INTERIOR OF THE RANGE.
16. TOWER TO INCLUDE CAMERA MOUNTING PLATE IN ONE CORNER OF THE TOP OF THE STRUCTURE. MOUNTING PLATE TO BE PER ELECTRICAL DETAIL FOR CAMERA MOUNTING PLATE ON THE RANGE CONTROL TOWER. SEE ELECTRICAL.
17. SEE SHEET CS615 FOR HORIZONTAL AND VERTICAL CONTROL POINT DATA.



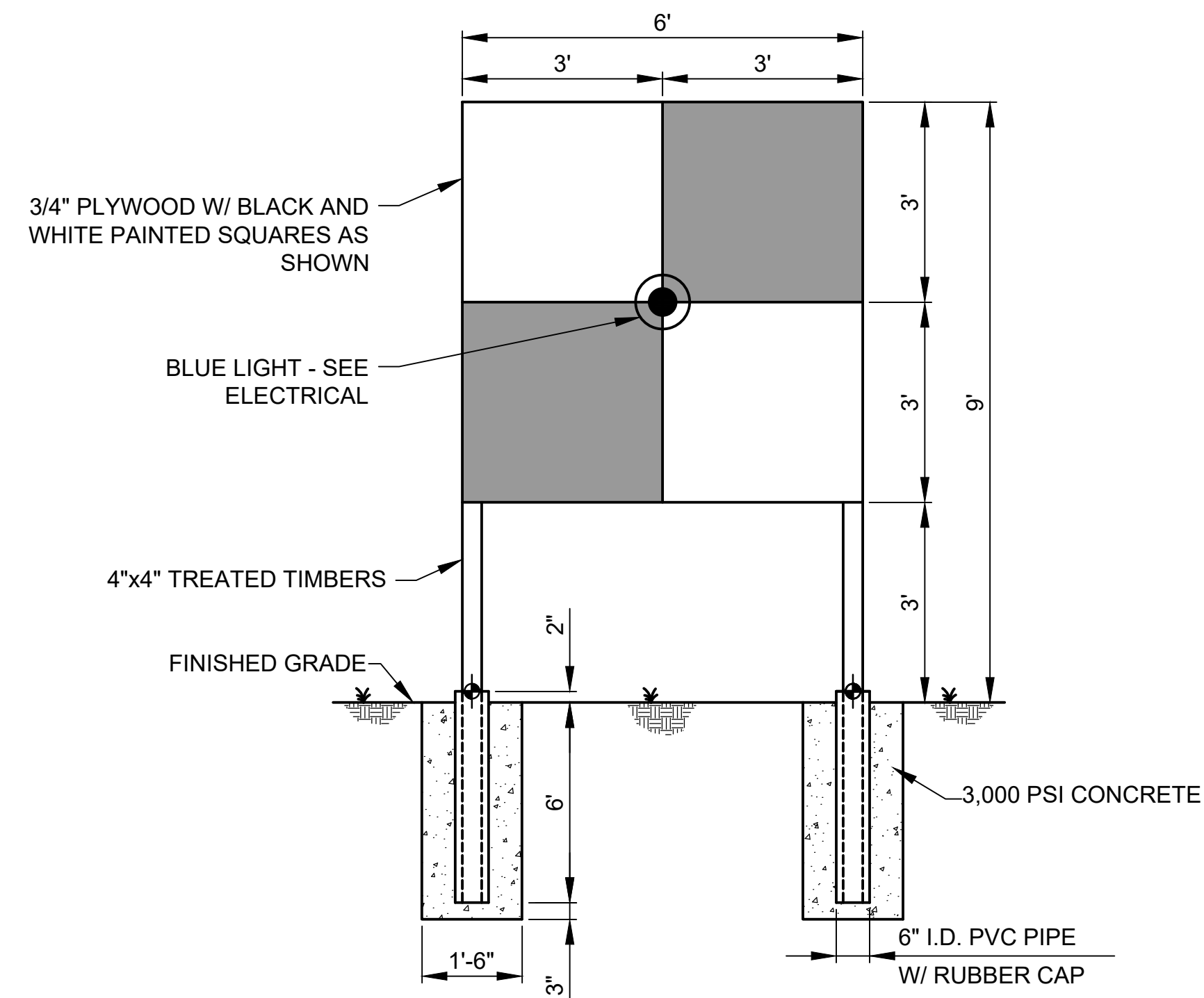
MARK	DESCRIPTION	DATE

DESIGNED BY: K. SANDERS CHECKED BY: B. JOHNSON SUBMITTED BY: B. BRADLEY	U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	ISSUE DATE: NOVEMBER 2003 CONTRACT NO.: W9134H2448 2002 CATEGORY CODE: 178-65-01	FILE NAME: ANSID
POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36303 WWW.POLY-INC.COM/334799-4700	U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	ISSUE DATE: NOVEMBER 2003 CONTRACT NO.: W9134H2448 2002 CATEGORY CODE: 178-65-01	FILE NAME: ANSID

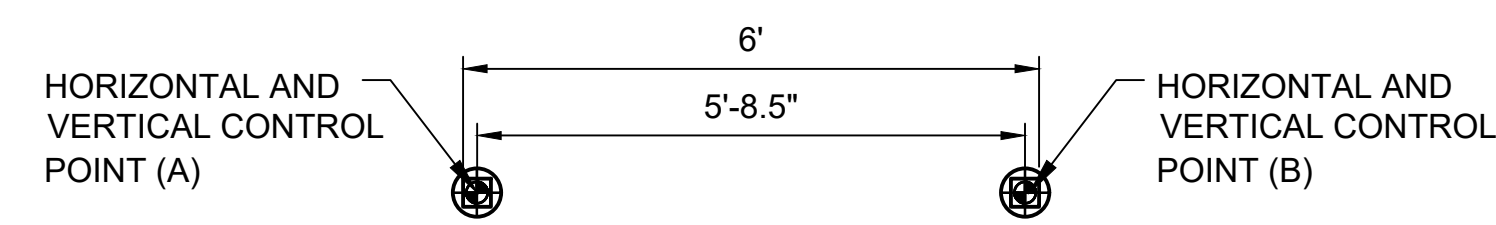
FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTR)
FY23, PN 86182
VOLUMES 3 & 4 - DOWNRANGE
CAMERA TOWER DETAILS



SHEET ID
CS525



ELEVATION

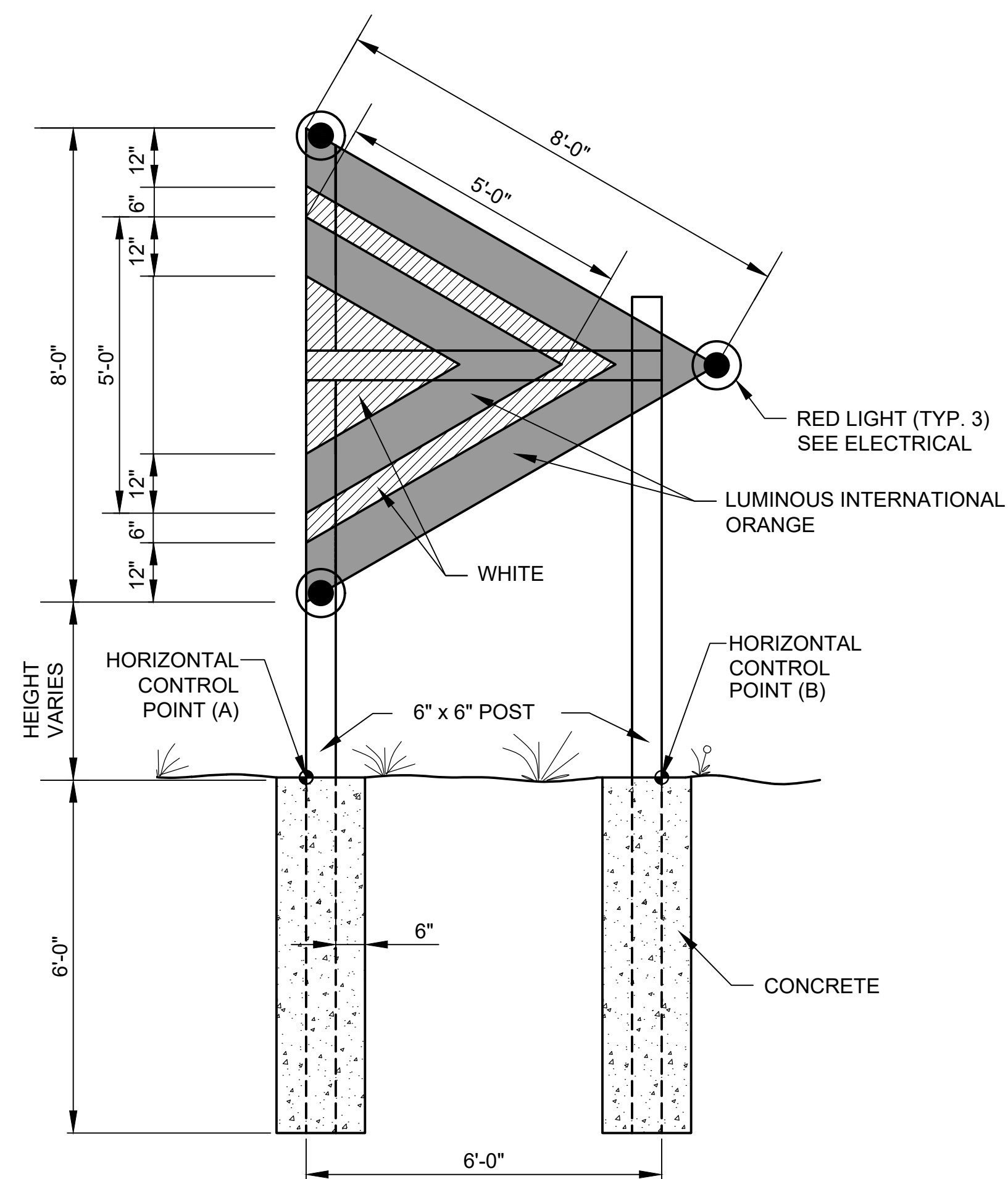


PLAN
BORESIGHT PANEL

SCALE: 1" = 2'

NOTES:

1. SEE SHEET CS606 FOR HORIZONTAL AND VERTICAL CONTROL POINT DATA.



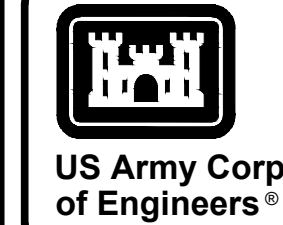
RANGE LIMIT MARKER

SCALE: 1" = 2'

NOTES:

1. THE LIMIT MARKER PANEL SHALL BE A PLASTIC MOLDING MANUFACTURED BY US MOLDERS OF REYNOLDS, INDIANA OR APPROVED EQUAL.
2. ATTACH LIMIT MARKER PANEL TO POSTS PER MANUFACTURER'S RECOMMENDATIONS.
3. ALL HARDWARE SHALL BE GALVANIZED.
4. ALL WOOD TO BE PRESERVATIVE TREATED.
5. LEFT SIDE MARKER IS SHOWN; RIGHT SIDE MARKER OPPOSITE HAND.
6. HEIGHT IS MEASURED FROM FINISHED GRADE TO THE BASE OF THE TRIANGLE OF THE RLM.
7. SEE ELECTRICAL FOR COORDINATION.
8. SEE SHEET CS615 FOR HORIZONTAL AND VERTICAL CONTROL POINT DATA AND RLM HEIGHT.

GRAPHIC SCALES:



US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

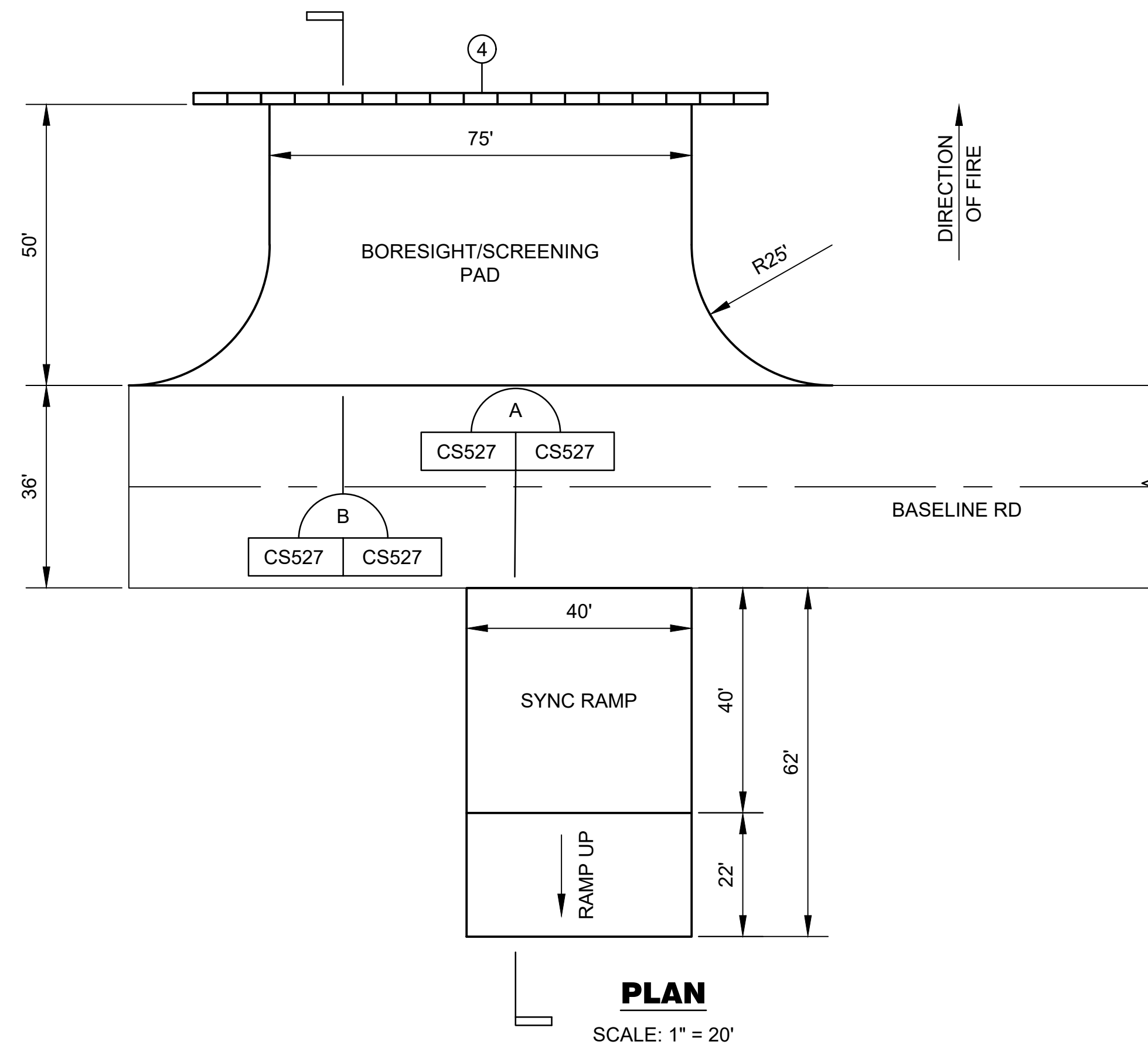
DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. JOHNSON	SCALE: AS SHOWN
SUBMITTED BY: J. BRANNON	CONTRACT NO.:
FILE NAME: B. BRADLEY	CATEGORY CODE: 178-85-01
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1985 HEADLAND AVENUE DOTHAN, AL 36503 WWW.POLY-INC.COM/3347-99-4700

FORT LIBERTY, NORTH CAROLINA AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTR) FY23, PN 86182 VOLUMES 3 & 4 - DOWNRANGE	RANGE LIMIT MARKER AND BORESIGHT PANEL DETAILS
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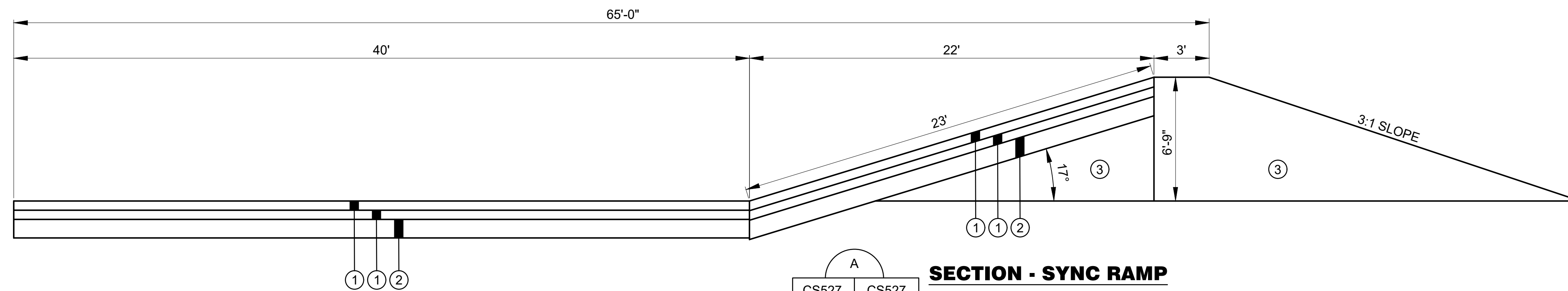
SHEET ID CS526

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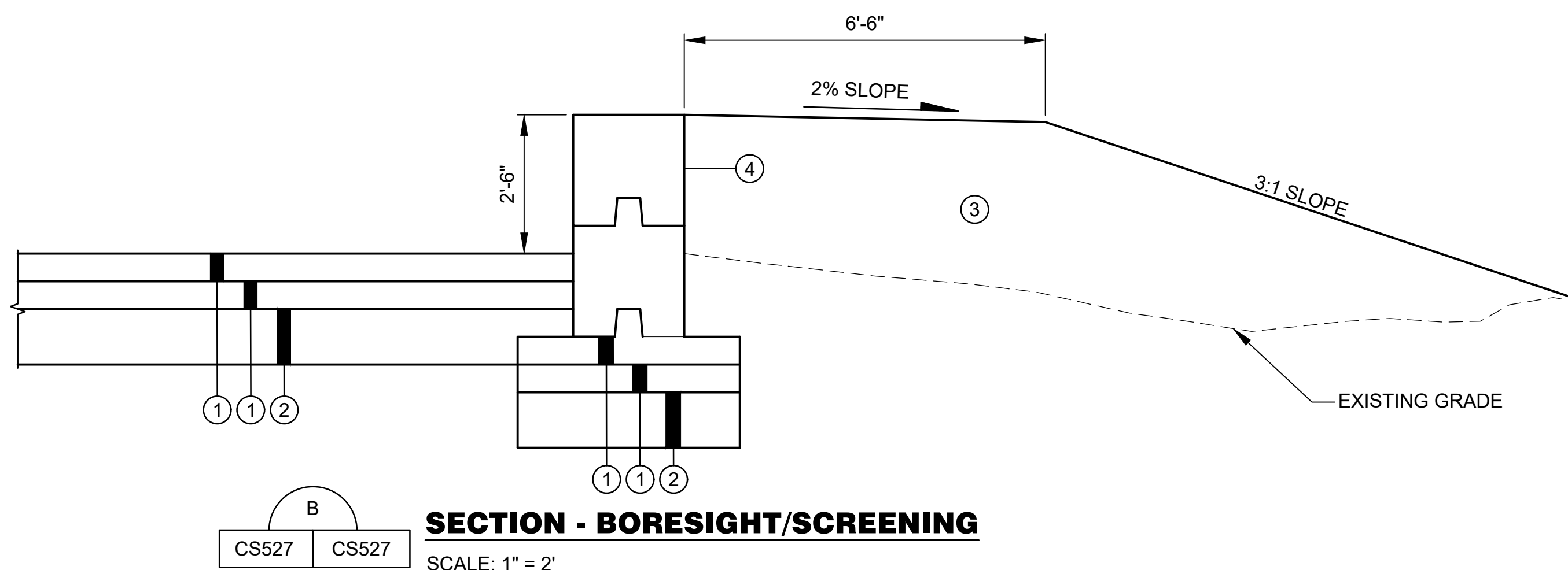
READY TO ADVERTISE (RTA)



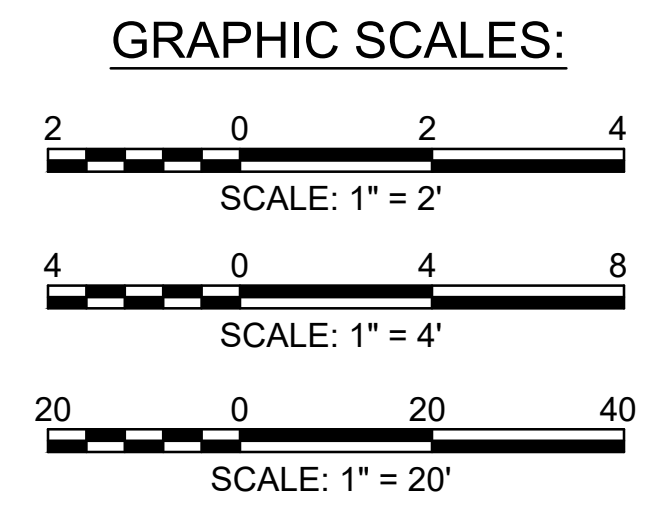
PLAN
SCALE: 1" = 20'



SECTION - SYNC RAMP
SCALE: 1" = 4'



SECTION - BORESIGHT/SCREENING
SCALE: 1" = 2'

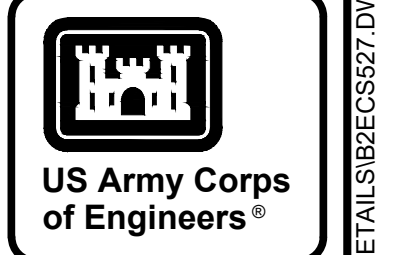


LEGEND

- ① 6" AGGREGATE BASE COURSE @ 100% COMPACTION (ASTM D 1557)
- ② 12" SUBGRADE @ 95% COMPACTION (ASTM D 1557)
- ③ APPROVED BACKFILL MATERIAL @ 95% COMPACTION (ASTM D 1557)
- ④ PRECAST WALL BLOCKS - FINAL 2 BLOCKS ON EACH END SHALL BE SLOPED END BLOCKS

NOTES:

- 1. SEE CS504 FOR CONCRETE BLOCK DETAILS.
- 2. BERMS SHALL BE CONSTRUCTED OF SATISFACTORY FILL MATERIALS AND COMPACTED @ 95% (ASTM D 1557).

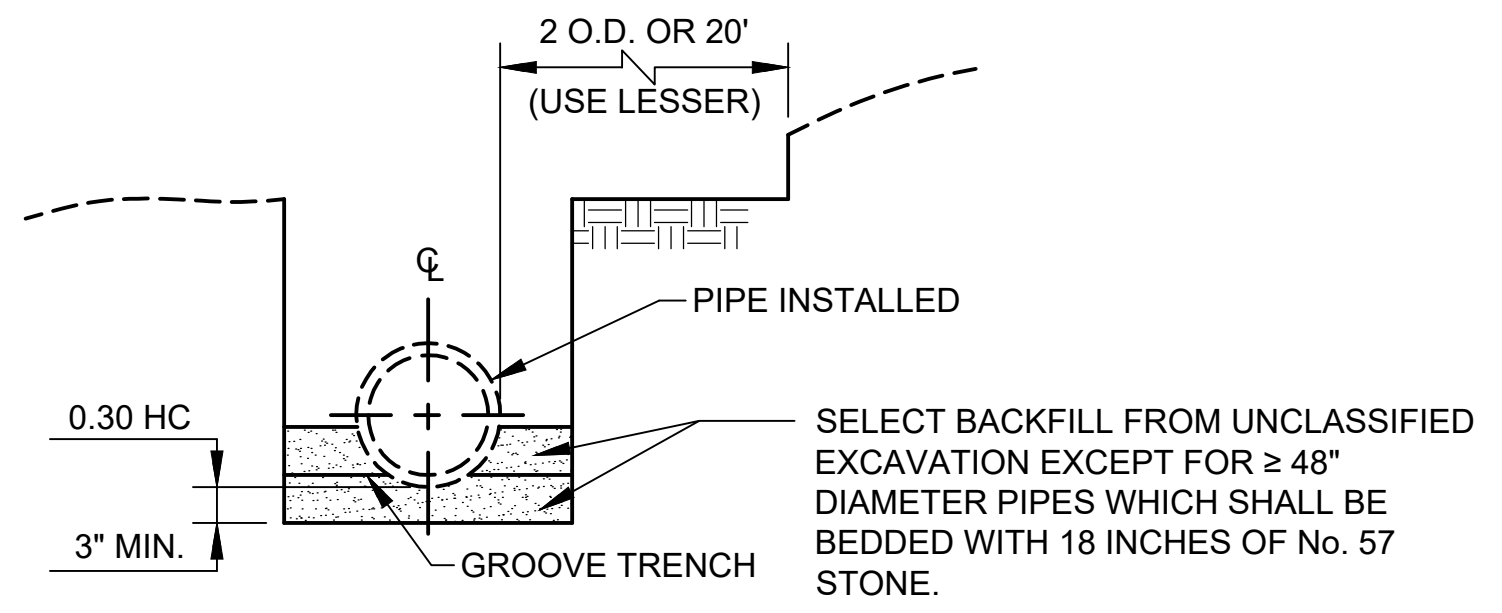


MARK	DESCRIPTION	DATE

DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. JOHNSON	DATE: NOV 14 2023
CONTRACT NO.: J. BRANNON	CONTRACT NO.: 178-65-01
CATEGORY CODE: B. BRADLEY	FILE NAME: ANSID
SIZE: 1935 HEADLAND AVENUE DOTHAN, AL 36803 WWW.POLY-INC.COM/334799-4700	

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
VOLUMES 3 & 4 - DOWNRANGE
BORESIGHT/SCREENING PAD & SYNC RAMP DETAILS

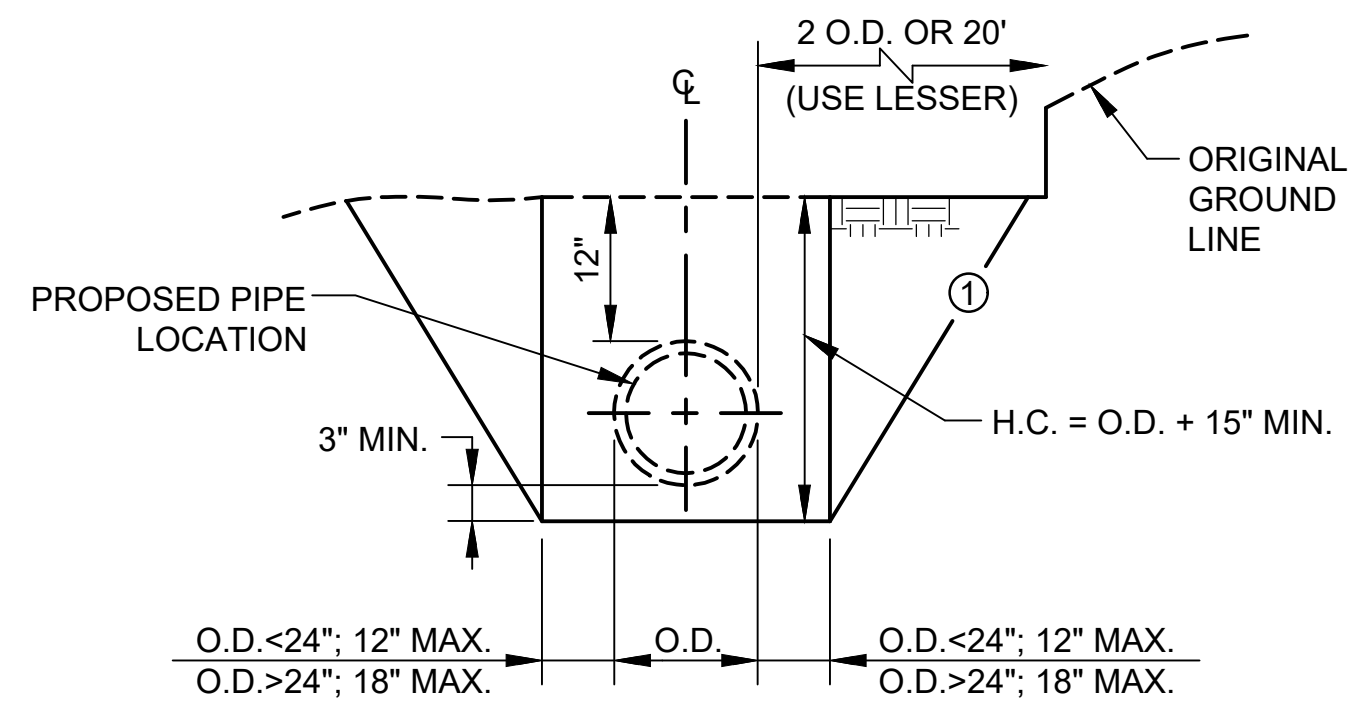
SHEET ID
CS527



EXCAVATE GROOVE IN SAND TO CONFORM WITH OUTSIDE OF PIPE. RETAIN A MINIMUM CLEAR DISTANCE FROM OUTSIDE OF PIPE TO TRENCH BOTTOM OF 3".

PIPE BEDDING IN EARTH DETAIL

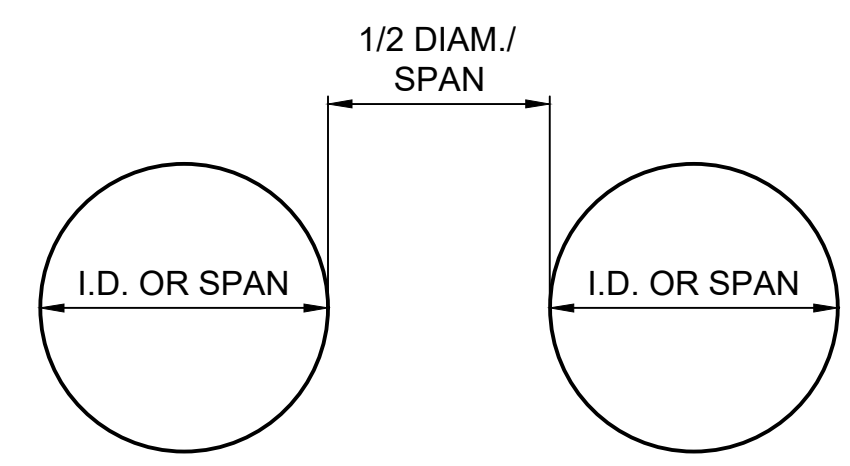
N.T.S.



① FOR H.C. OVER 48", COMPLY WITH OSHA REQUIREMENTS.

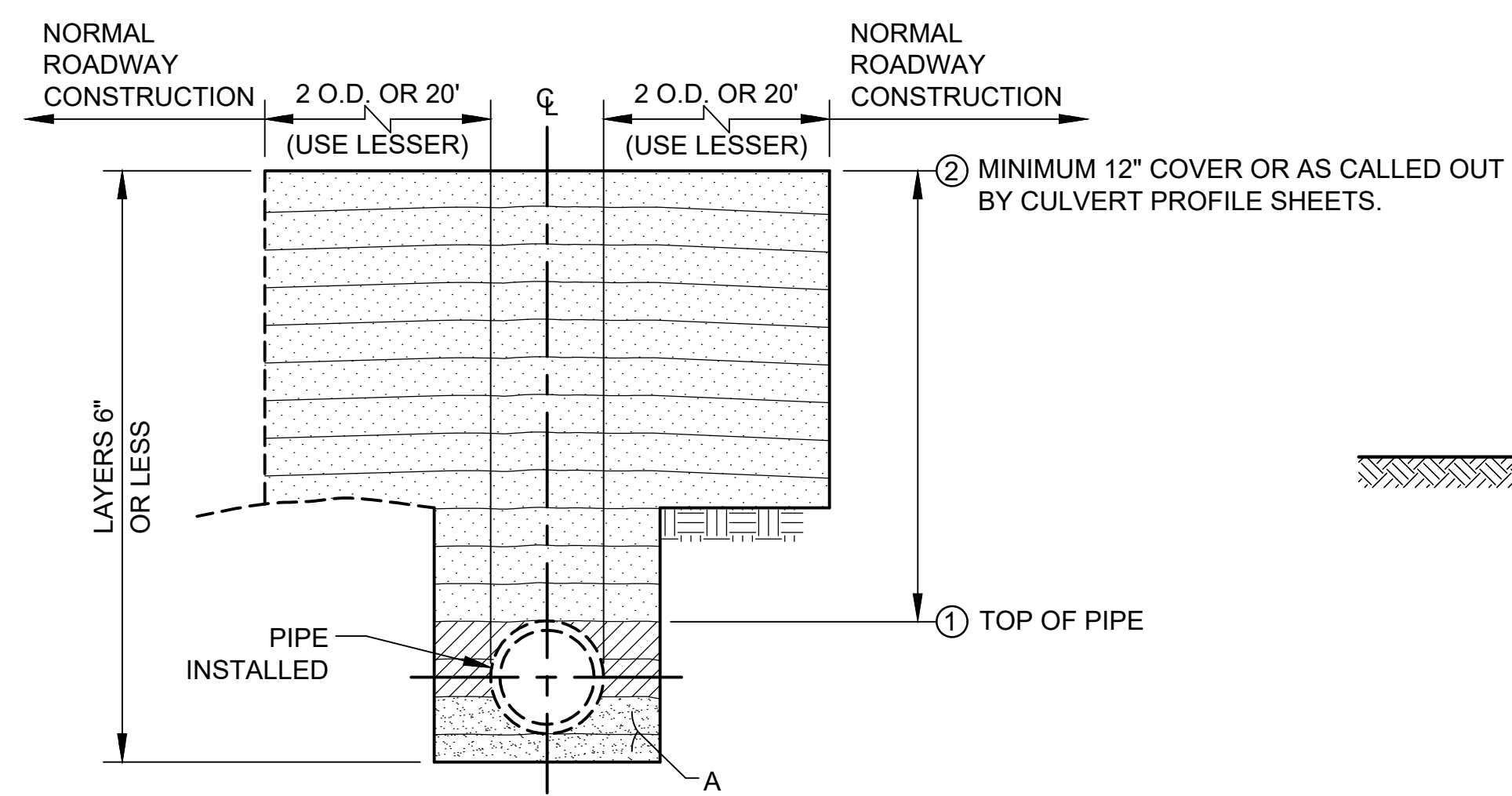
MINIMUM EARTH TRENCH EXCAVATION

N.T.S.



MULTIPLE PIPE CULVERT SPACING

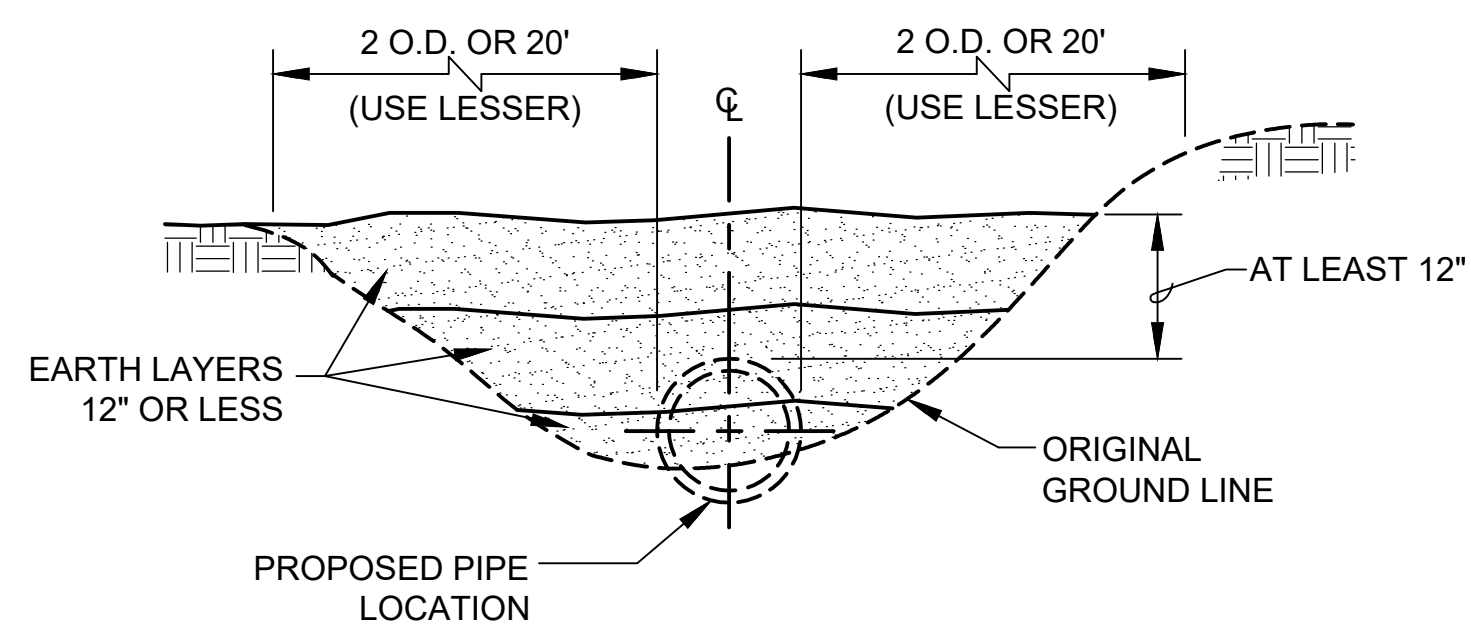
N.T.S.



- A. COMPACT SELECT BACKFILL IN LAYERS 6" OR LESS TO TOP OF THE PIPE. (ELEVATION ①). FOR ≥ 48" DIAMETER PIPES, BED WITH 18 INCHES OF No. 57 STONE.
- B. COMPACT SELECTED FINE SOIL TO ELEVATION ② ABOVE TOP OF PIPE. MEET DENSITY REQUIREMENTS FOR ADJACENT EMBANKMENTS.
- C. PROCEED WITH NORMAL ROADWAY CONSTRUCTION.

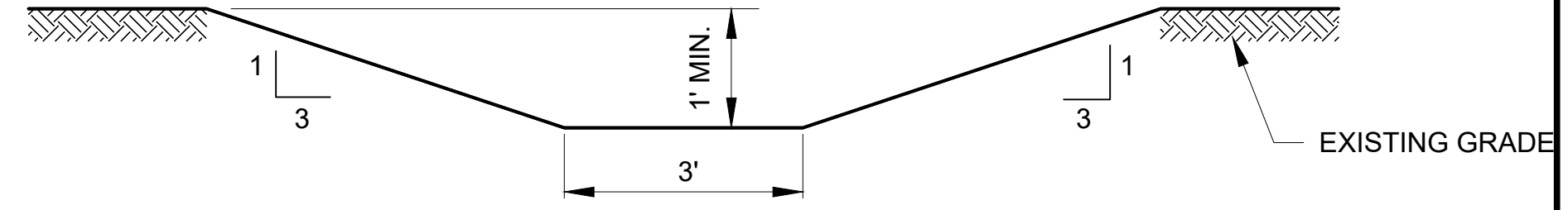
PIPE BACK FILL DETAIL

N.T.S.



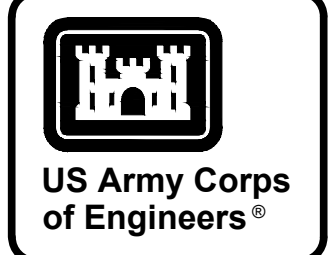
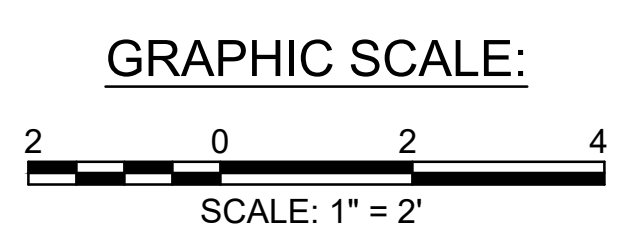
MINIMUM COMPACTED FILL PRIOR TO TRENCH EXCAVATION

N.T.S.



DRAINAGE SWALE

SCALE: 1" = 2'



MARK	DESCRIPTION	DATE

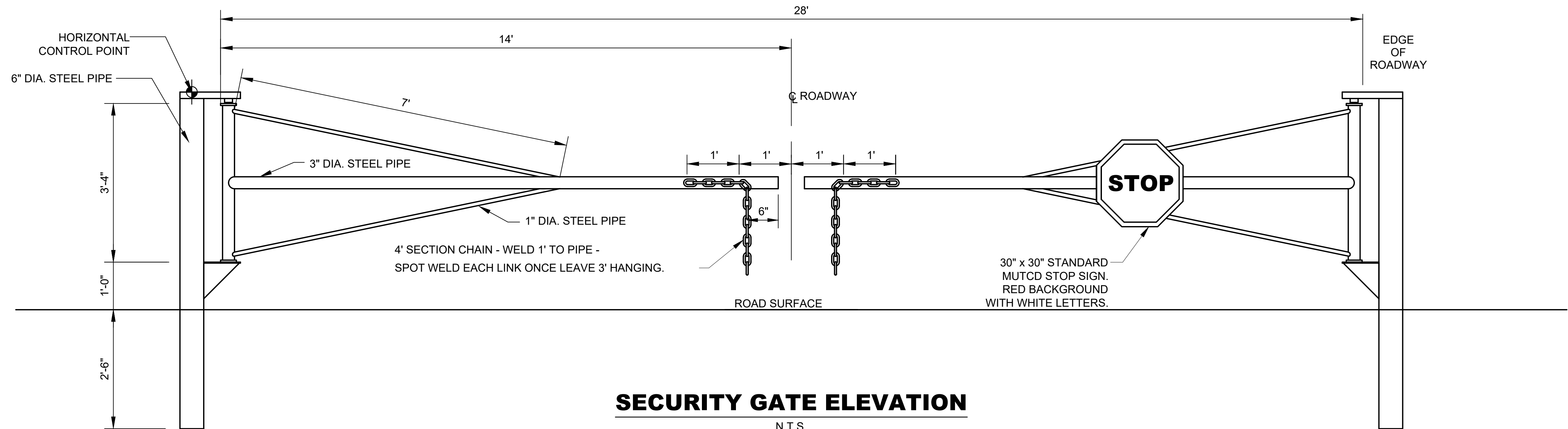
DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. JOHNSON	SCALE: AS SHOWN
PROJECT NO.:	CONTRACT NO.:
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	CATEGORY CODE: 178-65-01
POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36303 WWW.POLY-INC.COM/3347-99-4700	FILE NAME:

FORT LIBERTY, NORTH CAROLINA AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR) FY23, PN 86182 VOLUMES 3 & 4 - DOWNRANGE	DRAINAGE DETAILS
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SHEET ID
CS528

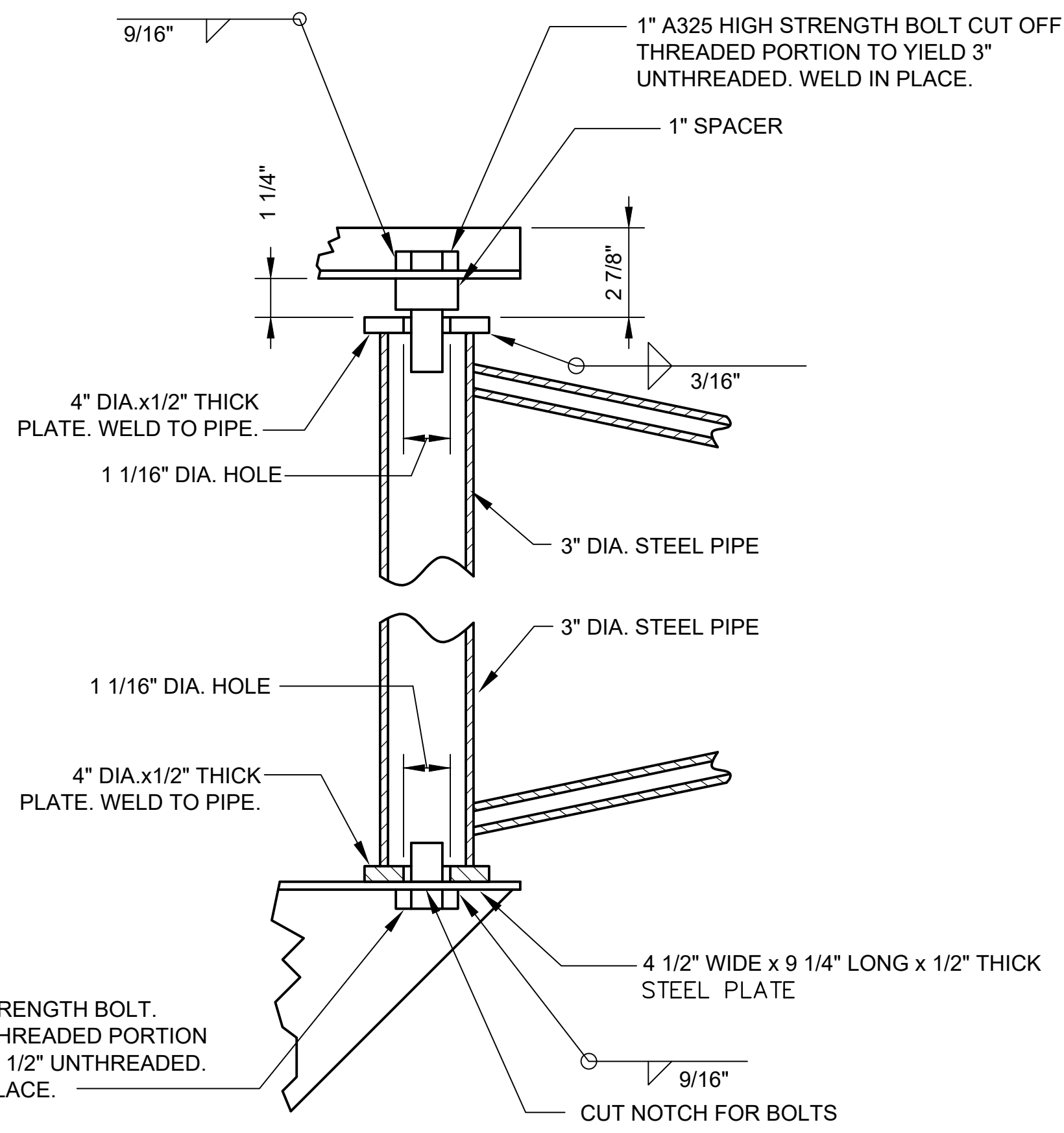
G:\CLEANSTUFF-15-28\15376 BRAGG MPTTR\IP07_1.RTA FINAL SUBMITTAL\04 CIVIL\500 DETAILS\BZEC528.DWG

READY TO ADVERTISE (RTA)



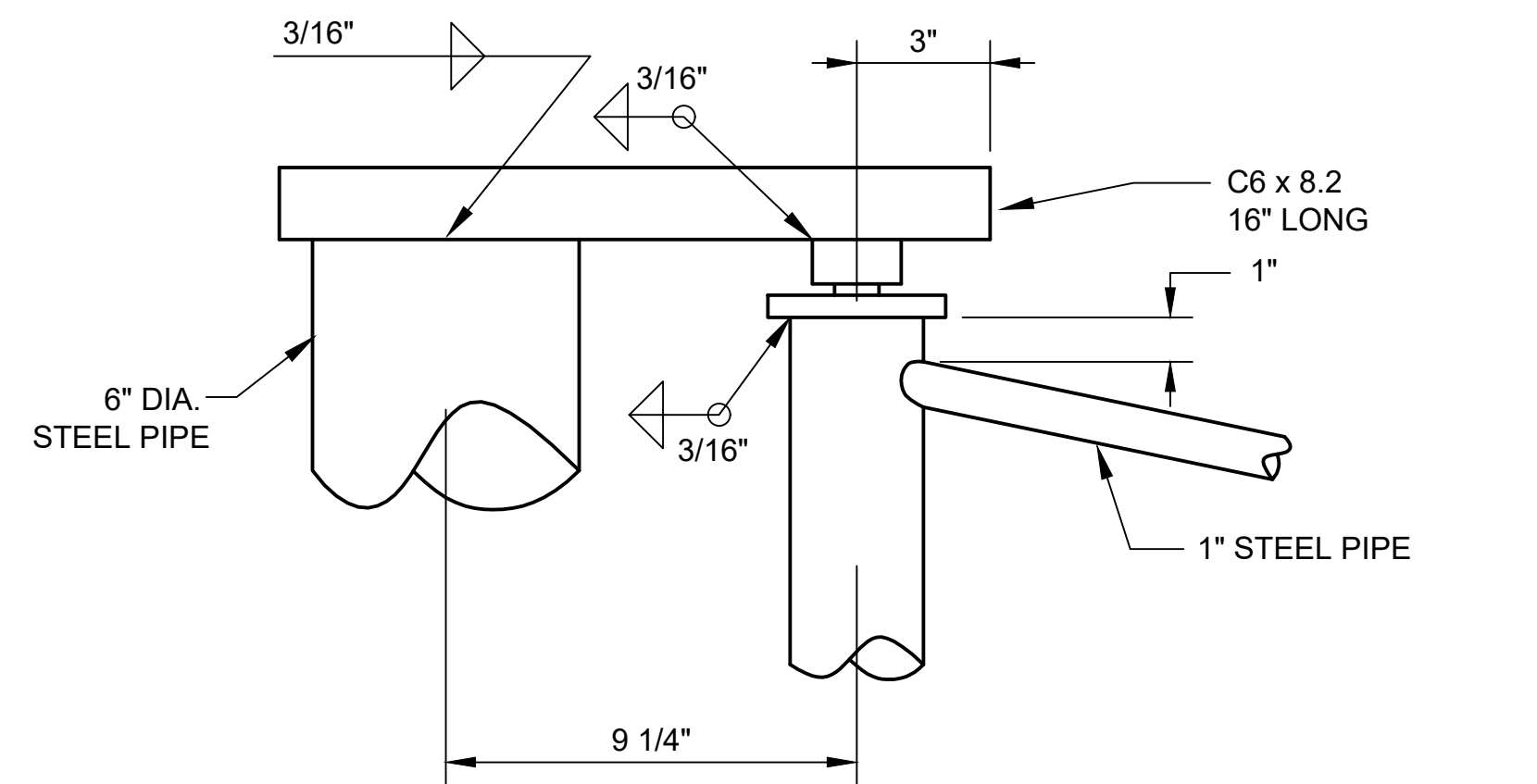
SECURITY GATE ELEVATION

N.T.S.



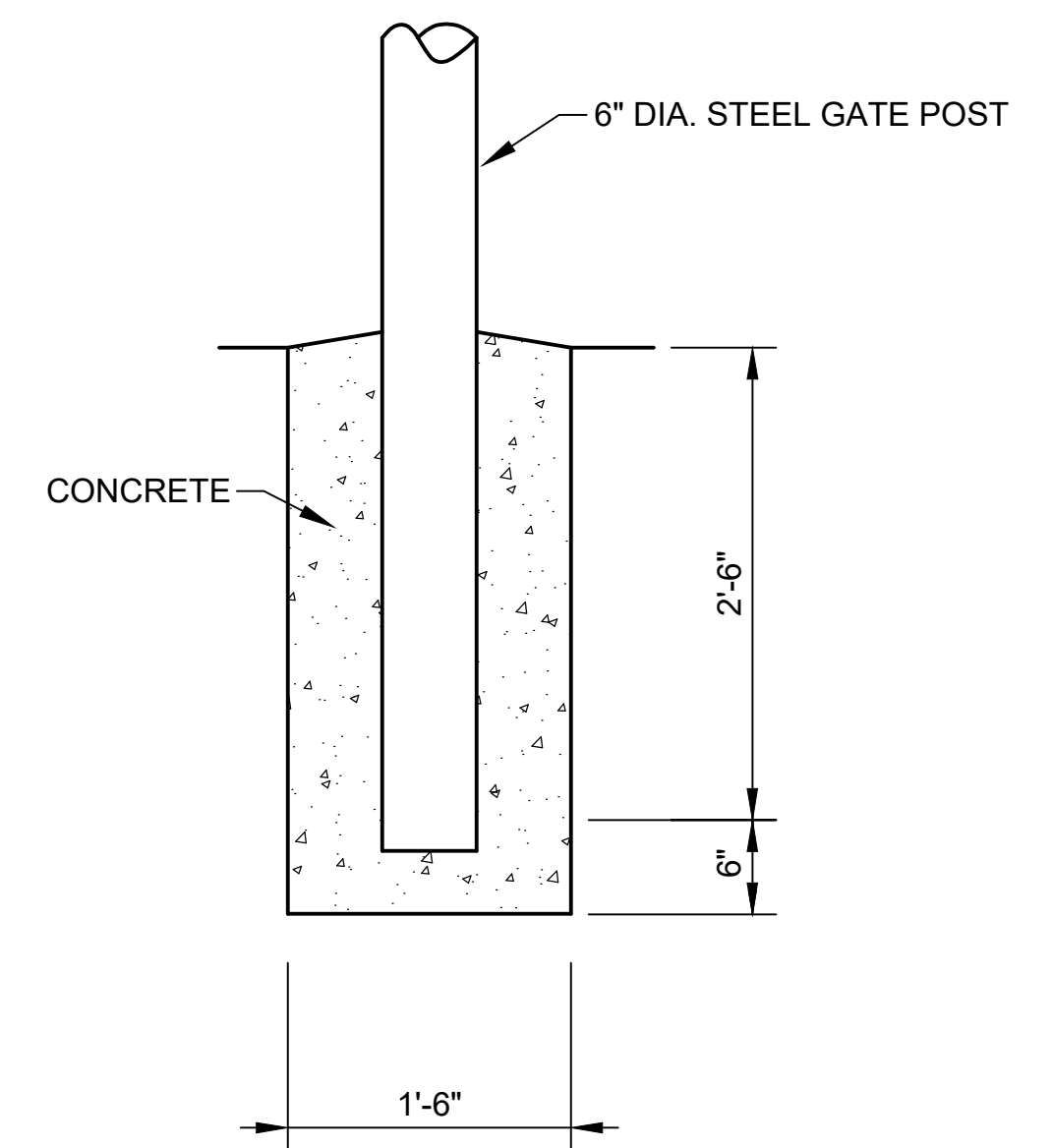
DETAIL "A"

N.T.S.



DETAIL "B"

N.T.S.

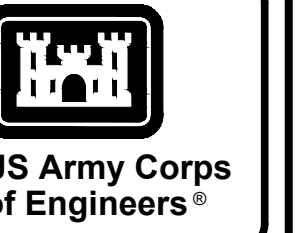
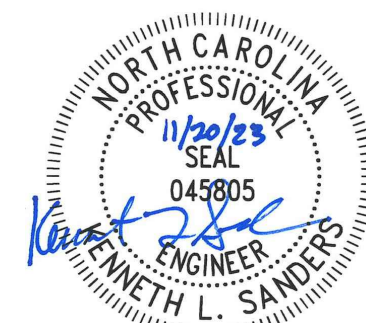


GATE POST FOUNDATION

N.T.S.

NOTES:

1. ALL GATE PARTS TO BE GALVANIZED.
2. ALL STEEL PIPE TO BE SCHEDULE 40.
3. PROVIDE 2 ADDITIONAL POSTS TO SECURE THE GATE LEAVES TO WHEN IN THE OPEN POSITION. OPEN TO THE INSIDE OF THE RANGE.



US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

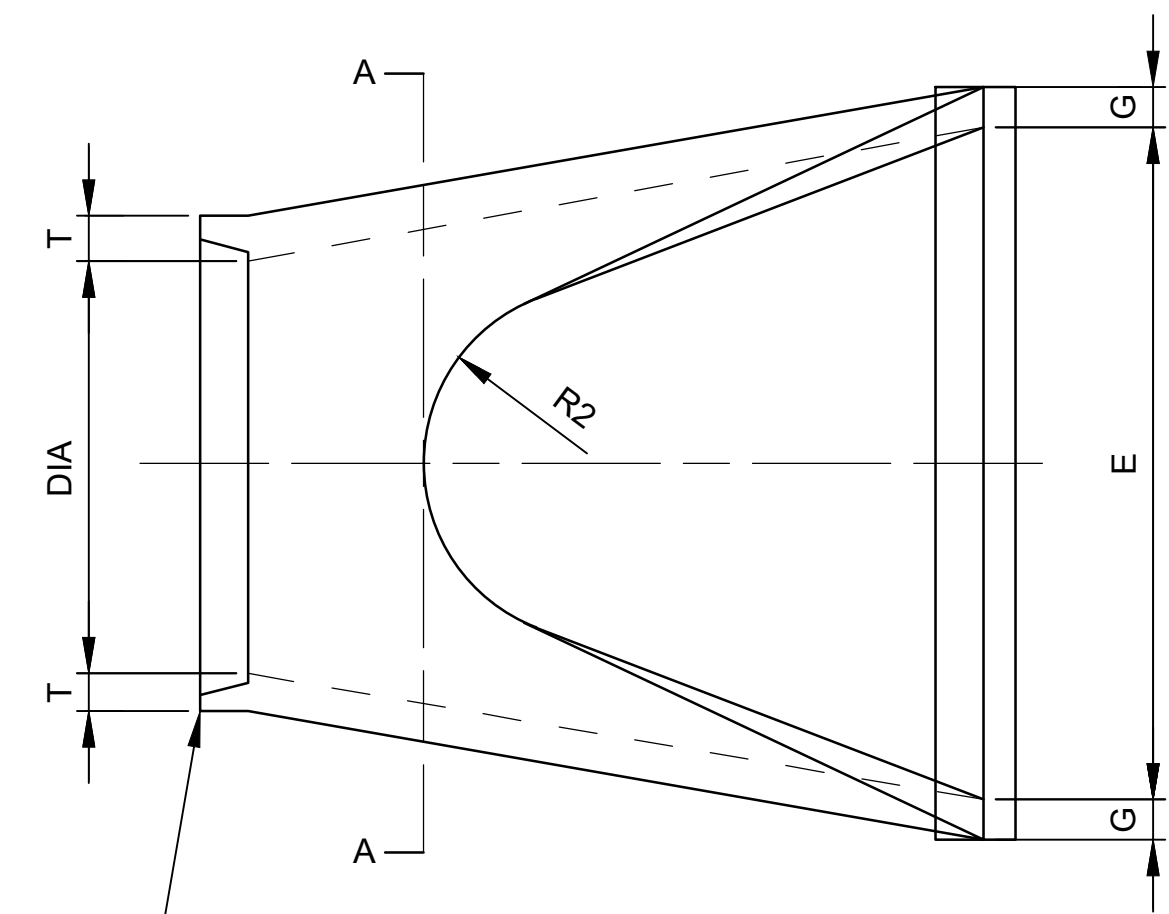
DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. JOHNSON	SCALE: AS SHOWN
DESIGNED BY: J. BRANNON	CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-85-01
FILE NAME:	
ANSID:	
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36803 WWW.POLY-INC.COM/3347-95-4700

FORT LIBERTY, NORTH CAROLINA AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR) FY23, PN 86182 VOLUMES 3 & 4 - DOWNRANGE	SECURITY GATE DETAILS
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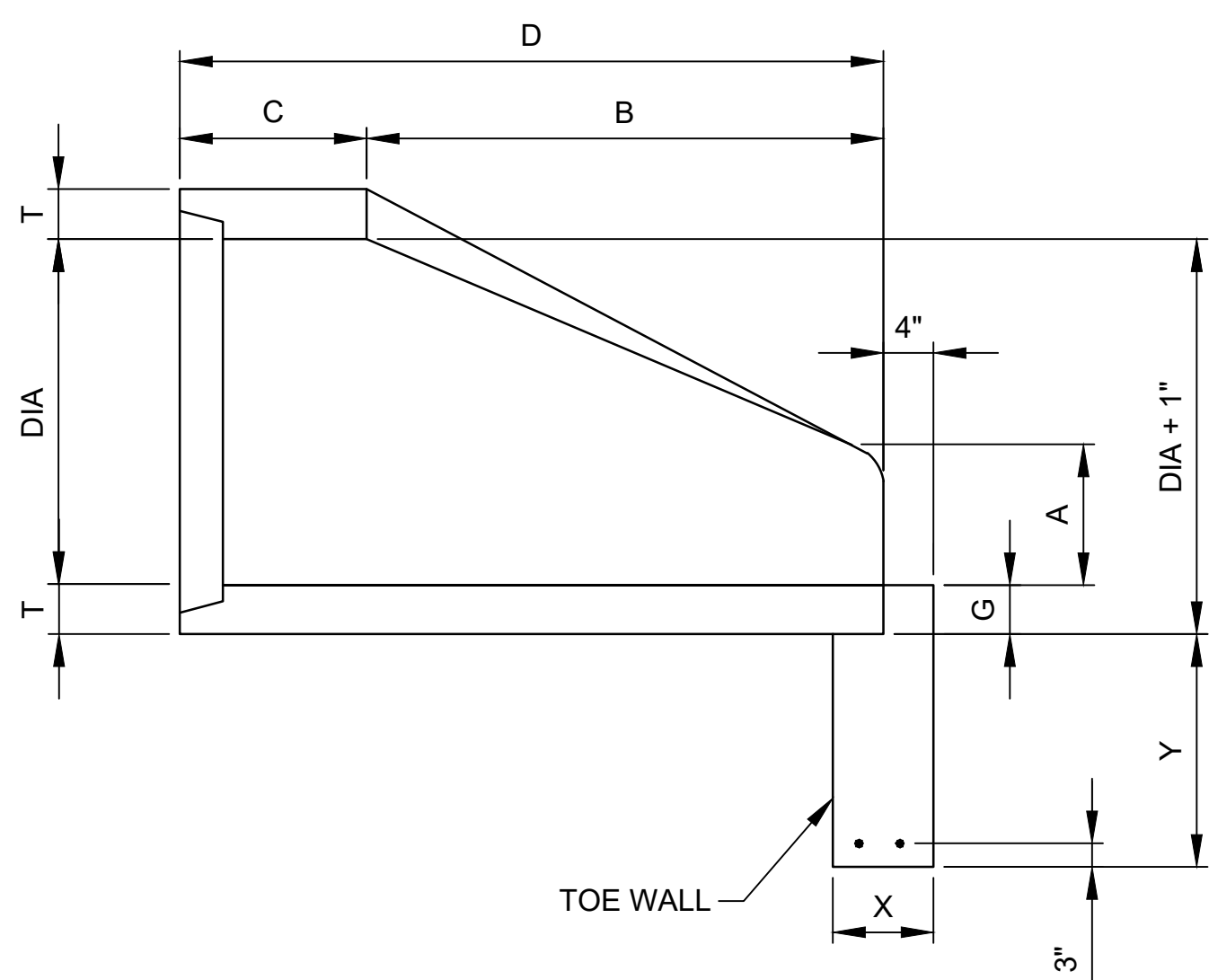
SHEET ID
CS530

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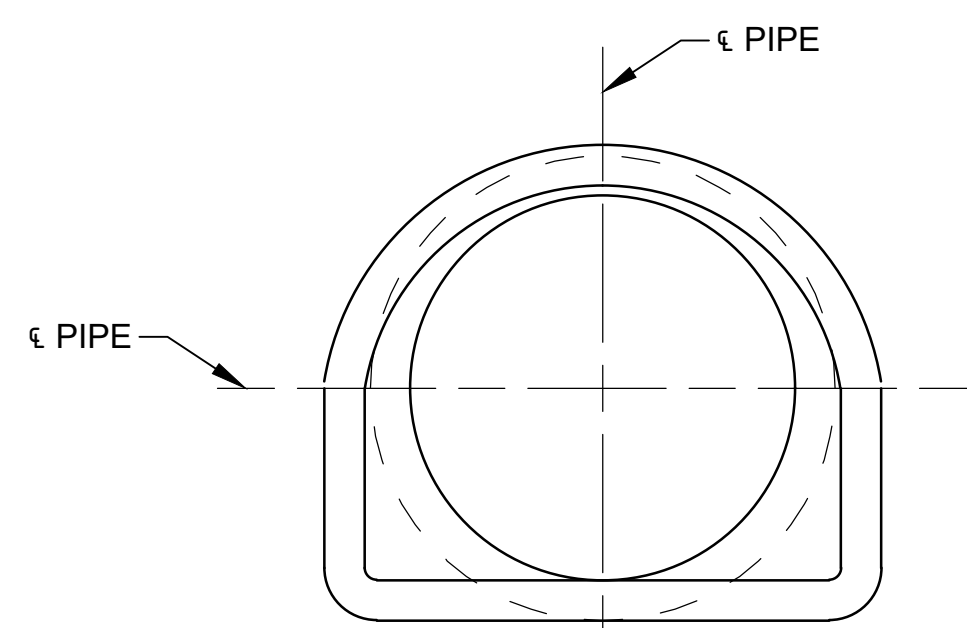
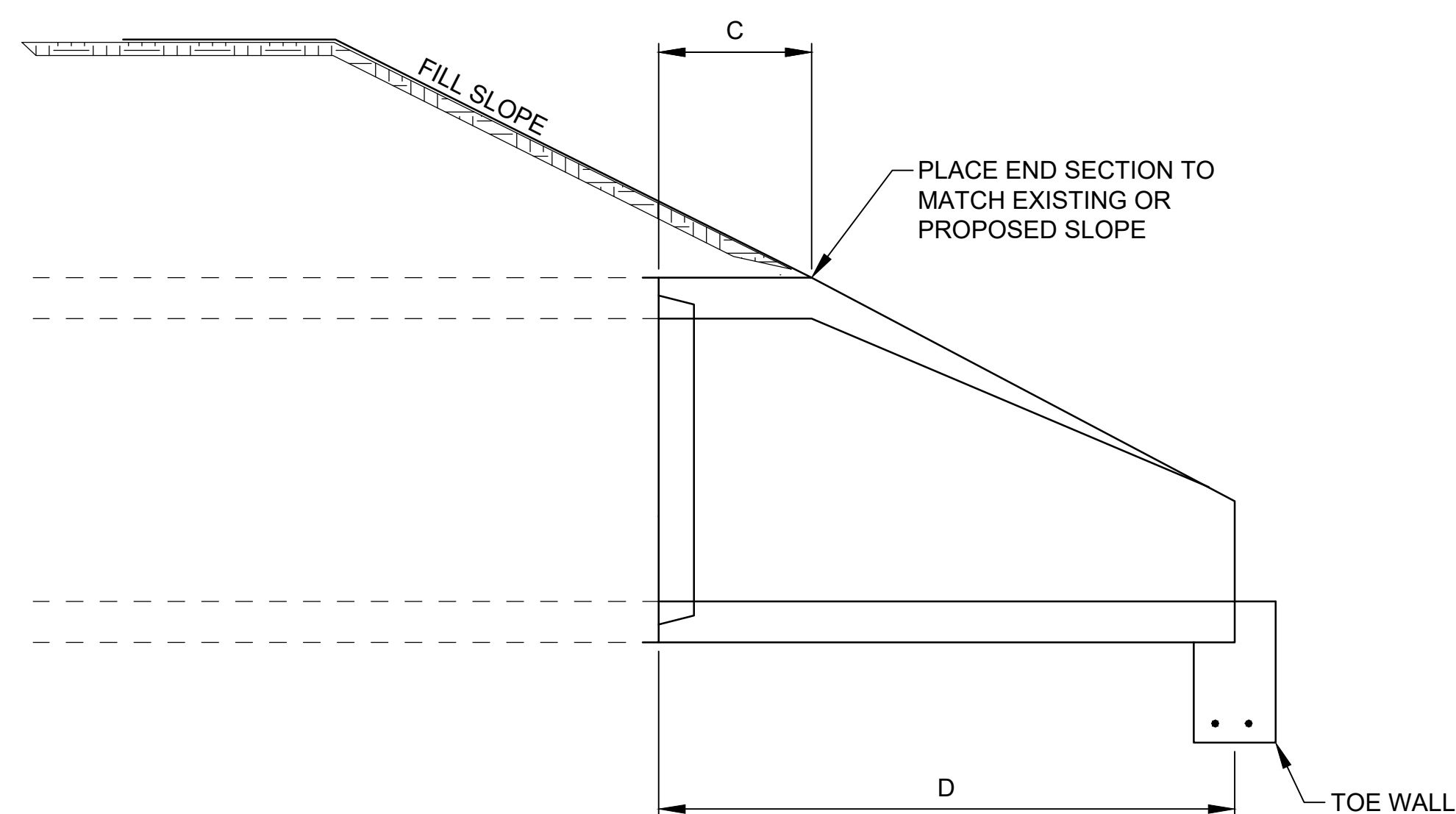
READY TO ADVERTISE (RTA)



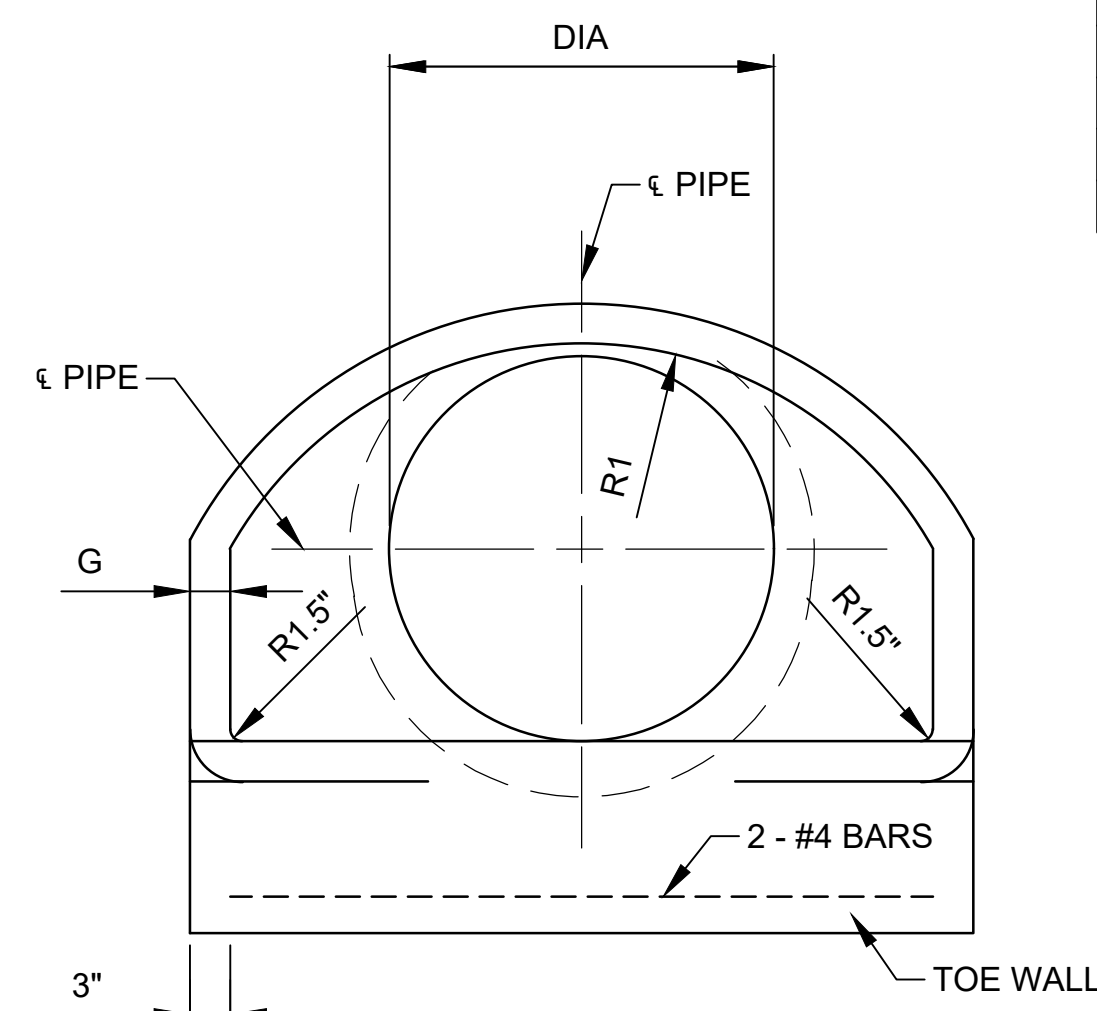
PLAN
N.T.S.



LONGITUDINAL SECTION
N.T.S.



SECTION A-A
N.T.S.



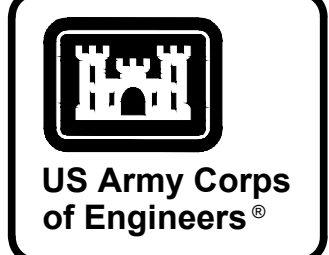
END ELEVATION
N.T.S.

DIMENSION TABLE											
DIA.	T (MIN.)	A (MIN.)	B	C	D	E	R1	R2	X	Y	REINF (SQ IN/LF)
12"	2"	4"	24"	49"	73"	24"	10 1/8"	9"	8"	28"	0.07
15"	2.25"	6"	27"	46"	73"	30"	12 1/2"	11"	8"	28"	0.07
18"	2.5"	9"	27"	46"	73"	36"	15 1/2"	12"	8"	28"	0.07
21"	2.75"	9"	35"	38"	73"	42"	16 1/4"	13"	8"	28"	0.07
24"	3"	9.5"	44"	30"	74"	48"	16 13/16"	14"	8"	28"	0.07
30"	3.5"	12"	54"	20"	74"	60"	18 1/2"	15"	8"	28"	0.148
36"	4"	15"	63"	35"	98"	72"	24 5/16"	20"	8"	28"	0.148
42"	4.5"	21"	63"	35"	98"	78"	27 1/2"	22"	10"	28"	0.148
48"	5"	24"	72"	26"	98"	84"	28 3/4"	22"	10"	28"	0.148
54"	5.5"	27"	65"	35"	100"	90"	33 1/2"	24"	10"	28"	0.174
60"	6"	30"	60"	39"	99"	96"	36 11/16"	24"	12"	30"	0.174
66"	6.5"	24"	78"	21"	99"	102"	36 3/8"	24"	12"	30"	0.174
72"	7"	24"	78"	21"	99"	108"	38 15/16"	24"	12"	30"	0.174
78"	7.5"	24"	78"	21"	99"	114"	#	#	12"	30"	0.174
84"	8"	36"	91"	21"	112"	120"	#	#	12"	30"	0.174

- RADIUS AS FURNISHED BY THE MANUFACTURER

NOTES:

1. FLARED END SECTIONS MAY BE USED IN LIEU OF SLOPED PAVED HEADWALLS. INSTALL AT INLET AND OUTLET OF ALL CULVERTS.
2. SHALL MEET REQUIREMENTS OF ASTM C76 EXCEPT AS MODIFIED BY THIS DETAIL.
3. END SECTIONS SHALL MATCH THE CLASS OF PIPE THEY ARE ATTACHED TO.
4. THE END OF THE PIPE CULVERT SHALL BE PLACED IN THE CONCRETE END SECTION SO THAT THE FLOW LINES ARE FLUSH.



DATE	08/02/2023
DESCRIPTION	SHEET ADDED BY AMENDMENT 0002
MARK	

DESIGNED BY:	K. SANDERS	ISSUE DATE:	NOVEMBER 2023
CHECKED BY:	B. JOHNSON	PROJECT NO.:	W91PH12448-2002
SUBMITTED BY:	J. BRANNON	CONTRACT NO.:	
FILE NAME:	B. BRADLEY	CATEGORY CODE:	178-65-01
ANSID		SIZE:	

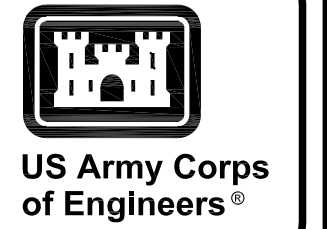
U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT
100 W. OGLETHORPE AVE
SAVANNAH, GA 31401

POLY, INC.
1935 HEADLAND AVENUE
DOTHAN, AL 36503
WWW.POLY-INC.COM/334799-4700

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 86182
VOLUMES 3 & 4 - DOWNRANGE
FLARED END SECTION DETAILS



SHEET ID
CS531



US Army Corps of Engineers

BASELINE ROAD																	
SEGMENT No.	BEGIN STATION	BEGIN NORTHING	BEGIN EASTING	DISTANCE	DIRECTION	END STATION	END NORTHING	END EASTING	DELTA	DEGREE OF CURVE	TANGENT LENGTH	RADIUS	ARC LENGTH	CHORD LENGTH	PI NORTHING	PI EASTING	PI STATION
L2	0+00.00	477,527.44	1,917,500.47	573.79	N84°28'41"E	5+73.79	477,582.65	1,918,071.61									
C2					N86°53'58"E				4°50'34"	3°49'11"	63.43	1,500.00	126.78	126.74	477,588.76	1,918,134.74	6+37.22
L3	7+00.58	477,589.51	1,918,198.16	597.67	N89°19'14"E	12+98.25	477,596.60	1,918,795.79									
C1					S88°37'58"E				4°05'36"	2°51'53"	71.47	2,000.00	142.88	142.85	477,597.44	1,918,867.26	13+69.72
L1	14+41.13	477,593.19	1,918,938.60	174.01	S86°35'10"E	16+15.14	477,582.83	1,919,112.31									

COURSE ROAD No. 1																	
SEGMENT No.	BEGIN STATION	BEGIN NORTHING	BEGIN EASTING	DISTANCE	DIRECTION	END STATION	END NORTHING	END EASTING	DELTA	DEGREE OF CURVE	TANGENT LENGTH	RADIUS	ARC LENGTH	CHORD LENGTH	PI NORTHING	PI EASTING	PI STATION
L11	0+00.00	477,576.88	1,918,011.84	113.26	N5°31'19"W	1+13.26	477,689.61	1,918,000.94									
C9					N6°48'02"E				24°38'43"	5°43'46"	218.45	1,000.00	430.14	426.83	477,907.05	1,917,979.92	3+31.71
L12	5+43.41	478,113.44	1,918,051.49	130.90	N19°07'24"E	6+74.31	478,237.12	1,918,094.37									
C10					N12°01'54"E				14°11'00"	5°43'46"	124.41	1,000.00	247.54	246.91	478,354.66	1,918,135.13	7+98.71
L10	9+21.85	478,478.61	1,918,145.84	1,371.85	N4°56'24"E	22+93.70	479,845.36	1,918,263.97									
C3					N25°06'32"E				40°20'16"	14°19'26"	146.92	400.00	281.61	275.83	479,991.74	1,918,276.62	24+40.62
L4	25+75.31	480,095.13	1,918,381.02	272.47	N45°16'40"E	28+47.78	480,286.86	1,918,574.62									
C4					N52°56'38"E				15°19'57"	5°43'46"	134.61	1,000.00	267.60	266.80	480,381.58	1,918,670.26	29+82.39
L5	31+15.38	480,447.63	1,918,787.54	465.35	N60°36'37"E	35+80.73	480,676.00	1,919,193.00									
C5					N49°50'51"E				21°31'32"	11°27'33"	95.04	500.00	187.85	186.74	480,722.64	1,919,275.81	36+75.77
L6	37+68.57	480,796.42	1,919,335.73	503.27	N39°05'05"E	42+71.84	481,187.06	1,919,653.02									
C6					N25°44'42"E				26°40'46"	19°05'55"	71.14	300.00	139.69	138.43	481,242.28	1,919,697.87	43+42.98
L7	44+11.53	481,311.75	1,919,713.15	1,417.95	N12°24'19"E	58+29.48	482,696.60	1,920,017.77									
C7					N39°38'40"E				54°28'42"	28°38'52"	102.96	200.00	190.17	183.08	482,797.15	1,920,039.89	59+32.44
L8	60+19.65	482,837.57	1,920,134.58	50.83	N66°53'01"E	60+70.48	482,857.53	1,920,181.33									
C8					N77°09'15"E				20°32'28"	14°19'26"	72.48	400.00	143.40	142.64	482,885.98	1,920,247.99	61+42.96
L9	62+13.88	482,889.24	1,920,320.39	11.76	N87°25'29"E	62+25.64	482,889.77	1,920,332.14									

COURSE ROAD No. 2																	
SEGMENT No.	BEGIN STATION	BEGIN NORTHING	BEGIN EASTING	DISTANCE	DIRECTION	END STATION	END NORTHING	END EASTING	DELTA	DEGREE OF CURVE	TANGENT LENGTH	RADIUS	ARC LENGTH	CHORD LENGTH	PI NORTHING	PI EASTING	PI STATION
L21	0+00.00	477,593.93	1,918,925.49	380.23	N4°25'06"W	3+80.23	477,973.02	1,918,896.20									
C19					N4°45'33"W				0°40'54"	2°17'31"	14.87	2,500.00	29.74	29.74	477,987.85	1,918,895.06	3+95.10
L22	4+09.97	478,002.66	1,918,893.73	952.12	N5°06'00"W	13+62.09	478,951.01	1,918,809.10									
C18					N11°13'49"E				32°39'38"	11°27'33"	146.50	500.00	285.02	281.17	479,096.93	1,918,796.07	15+08.59
L20	16+47.11	479,226.80	1,918,863.86	929.21	N27°33'38"E	25+76.31	480,050.56	1,919,293.79									
C11					N35°20'03"E				15°32'49"	5°43'46"	136.51	1,000.00	271.34	270.51	480,171.58	1,919,356.95	27+12.82
L13	28+47.66	480,271.25	1,919,450.24	269.69	N43°06'27"E	31+17.35	480,468.14	1,919,634.54									
C12					N29°19'04"E				27°34'46"	11°27'33"	122.72	500.00	240.68	238.36	480,557.73	1,919,718.40	32+40.07
L14	33+58.02	480,675.97	1,919,751.25	478.18	N15°31'41"E	38+36.21	481,136.70	1,919,879.27									
C13					N37°04'08"E				43°04'53"	22°55'06"	98.68	250.00	187.98	183.58	481,231.78	1,919,905.68	39+34.89
L15	40+24.19	481,283.18	1,919,989.92	80.44	N58°36'35"E	41+04.62	481,325.08	1,920,058.59									
C14					N44°57'26"E				27°18'17"	11°27'33"	121.45	500.00	238.28	236.03	481,388.33	1,920,162.26	42+26.07
L16	43+42.90	481,492.10	1,920,225.36	760.39	N31°18'17"E	51+03.29	482,141.79	1,920,620.45									
C15					N11°32'45"E				39°31'05"	11°27'33"	179.61	500.00	344.86	338.06	482,295.25	1,920,713.78	52+82.90
L17	54+48.15	482,473.01	1,920,688.12	228.81	N8°12'47"W	56+76.96	482,699.48	1,920,655.43									
C16					N41°03'35"W				65°41'37"	28°38'52"	129.12	200.00	229.31	216.96	482,827.28	1,920,636.99	58+06.09
L18	59+06.28	482,863.07	1,920,512.92	42.94	N73°54'24"W	59+49.22	482,874.98	1,920,471.66									
C17					N83°14'02"W				18°39'16"	14°19'26"	65.70	400.00	130.23	129.66	482,893.19	1,920,408.54	60+14.92
L19	60+79.45	482,890.25	1,920,342.91	10.78	S87°26'20"W	60+90.23	482,889.77	1,920,332.14									

MARK	DESCRIPTION	DATE

DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. BRADLEY	PROJECT NO.: W91P4A-23-3012
SUBMITTED BY: B. BRADLEY	CONTRACT NO.:
FILE NAME: ANSID	CATEGORY CODE: 178-85-01
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36302 WWW.POLY-INC.COM/3347-99-4700

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPT)
FY23, PN 96182
VOLUMES 3 & 4 - DOWNRANGE
DATA CHARTS
ROADS



SHEET ID
CS600

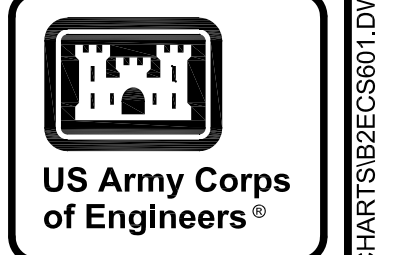
CROSSOVER ROAD																	
SEGMENT No.	BEGIN STATION	BEGIN NORTHING	BEGIN EASTING	DISTANCE	DIRECTION	END STATION	END NORTHING	END EASTING	DELTA	DEGREE OF CURVE	TANGENT LENGTH	RADIUS	ARC LENGTH	CHORD LENGTH	PI NORTHING	PI EASTING	PI STATION
L23	0+00.00	479,701.93	1,918,154.13	919.78	S85°03'36"E	9+19.78	479,622.72	1,919,070.49									

TSR No. 1																	
SEGMENT No.	BEGIN STATION	BEGIN NORTHING	BEGIN EASTING	DISTANCE	DIRECTION	END STATION	END NORTHING	END EASTING	DELTA	DEGREE OF CURVE	TANGENT LENGTH	RADIUS	ARC LENGTH	CHORD LENGTH	PI NORTHING	PI EASTING	PI STATION
L32	0+00.00	479,148.50	1,918,203.74	241.25	N89°43'22"W	2+41.25	479,149.67	1,917,962.49									
C22					N83°20'41"W				12°45'24"	22°55'06"	27.95	250.00	55.66	55.55	479,149.81	1,917,934.54	2+69.20
L33	2+96.91	479,156.11	1,917,907.32	79.77	N76°57'59"W	3+76.68	479,174.10	1,917,829.60									
C23					N83°58'59"W				14°02'01"	22°55'06"	30.77	250.00	61.23	61.08	479,181.04	1,917,799.63	4+07.45
L34	4+37.92	479,180.50	1,917,768.86	42.31	S89°00'00"W	4+80.23	479,179.76	1,917,726.56									
C24					S82°53'39"W				12°12'41"	22°55'06"	26.74	250.00	53.28	53.18	479,179.30	1,917,699.82	5+06.97
L35	5+33.51	479,173.18	1,917,673.78	67.63	S76°47'19"W	6+01.14	479,157.73	1,917,607.95									
C25					S82°56'59"W				12°19'21"	22°55'06"	26.99	250.00	53.77	53.66	479,151.56	1,917,581.67	6+28.12
L36	6+54.90	479,151.14	1,917,554.69	21.23	S89°06'40"W	6+76.14	479,150.81	1,917,533.46									
C26					N74°49'17"W				32°08'06"	57°17'45"	28.80	100.00	56.09	55.35	479,150.36	1,917,504.66	7+04.94
L37	7+32.22	479,165.31	1,917,480.04	42.99	N58°45'14"W	7+75.21	479,187.61	1,917,443.28									

TSR No. 2																	
SEGMENT No.	BEGIN STATION	BEGIN NORTHING	BEGIN EASTING	DISTANCE	DIRECTION	END STATION	END NORTHING	END EASTING	DELTA	DEGREE OF CURVE	TANGENT LENGTH	RADIUS	ARC LENGTH	CHORD LENGTH	PI NORTHING	PI EASTING	PI STATION
L38	0+00.00	479,148.51	1,918,203.74	56.20	S85°03'18"E	0+56.20	479,143.66	1,918,259.73									
C27					N85°59'16"E				17°54'52"	22°55'06"	39.40	250.00	78.17	77.85	479,140.27	1,918,298.99	0+95.61
L39	1+34.37	479,149.11	1,918,337.39	25.49	N77°01'50"E	1+59.86	479,154.83	1,918,362.23									
C28					N85°21'34"E				16°39'28"	22°55'06"	36.60	250.00	72.68	72.43	479,163.05	1,918,397.89	1+96.46
L40	2+32.54	479,160.69	1,918,434.42	104.26	S86°18'42"E	3+36.79	479,153.98	1,918,538.46									
C29					S77°20'33"E				17°56'17"	22°55'06"	39.46	250.00	78.27	77.95	479,151.45	1,918,577.83	3+76.25
L41	4+15.06	479,136.90	1,918,614.51	4.21	S68°22'25"E	4+19.27	479,135.35	1,918,618.43									
C30					S79°11'13"E				21°37'35"	22°55'06"	47.75	250.00	94.36	93.80	479,117.75	1,918,662.81	4+67.02
L42	5+13.64	479,117.75	1,918,710.56	30.08	N90°00'00"E	5+43.72	479,117.75	1,918,740.65									
C31					S84°01'58"E				11°56'03"	28°38'52"	20.90	200.00	41.66	41.58	479,117.75	1,918,761.55	5+64.62
L43	5+85.38	479,113.43	1,918,782.00	38.21	S78°03'57"E	6+23.58	479,105.53	1,918,819.38									

TSR No. 3																	
SEGMENT No.	BEGIN STATION	BEGIN NORTHING	BEGIN EASTING	DISTANCE	DIRECTION	END STATION	END NORTHING	END EASTING	DELTA	DEGREE OF CURVE	TANGENT LENGTH	RADIUS	ARC LENGTH	CHORD LENGTH	PI NORTHING	PI EASTING	PI STATION
L44	0+00.00	479,701.93	1,918,154.13	78.87	S73°54'06"W	0+78.87	479,680.06	1,918,078.35									
C32					S77°17'31"W				6°46'49"	19°05'55"	17.77	300.00	35.50	35.48	479,675.13	1,918,061.28	0+96.64
L45	1+14.37	479,672.25	1,918,043.74	84.15	S80°40'56"W	1+98.52	479,658.63	1,917,960.70									

TSR No. 4																	
SEGMENT No.	BEGIN STATION	BEGIN NORTHING	BEGIN EASTING	DISTANCE	DIRECTION	END STATION	END NORTHING	END EASTING	DELTA	DEGREE OF CURVE	TANGENT LENGTH	RADIUS	ARC LENGTH	CHORD LENGTH	PI NORTHING	PI EASTING	PI STATION
L46	0+00.00	479,633.86	1,918,245.69	16.90	S85°03'36"E	0+16.90	479,632.40	1,918,262.53									
C33					S89°22'47"E				8°38'23"	28°38'52"	15.11	200.00	30.16	30.13	479,631.10	1,918,277.58	0+32.01
L47	0+47.06	479,632.08	1,918,292.66	99.79	N86°18'02"E	1+46.85	479,638.52	1,918,392.24									
C34					N74°38'12"E				23°19'39"	57°17'45"	20.64	100.00	40.71	40.43	479,639.85	1,918,412.84	1+67.49
L48	1+87.56	479,649.23	1,918,431.23	54.10	N62°58'23"E	2+41.66	479,673.81	1,918,479.42									



MARK	DESCRIPTION	DATE

DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. BRADLEY	PROJECT NO.:
CONTRACT NO.:	DATE:
FILE NAME:	CONTRACT NO.:
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	CATEGORY CODE: 178-85-01
POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36803 WWW.POLY-INC.COM/3347-95-4700	

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 86182
VOLUMES 3 & 4 - DOWNRANGE
DATA CHARTS
ROADS



TSR No. 19

SEGMENT No.	BEGIN STATION	BEGIN NORTHING	BEGIN EASTING	DISTANCE	DIRECTION	END STATION	END NORTHING	END EASTING	DELTA	DEGREE OF CURVE	TANGENT LENGTH	RADIUS	ARC LENGTH	CHORD LENGTH	PI NORTHING	PI EASTING	PI STATION
L80	0+00.00	482,428.11	1,918,574.07	93.70	N76°02'05"E	0+93.70	482,450.72	1,918,664.99									
C52					S58°09'05"E				91°37'39"	114°35'30"	51.44	50.00	79.96	71.71	482,463.14	1,918,714.91	1+45.14
L81	1+73.66	482,412.88	1,918,725.90	27.72	S12°20'16"E	2+01.37	482,385.81	1,918,731.83									

TSR No. 20

SEGMENT No.	BEGIN STATION	BEGIN NORTHING	BEGIN EASTING	DISTANCE	DIRECTION	END STATION	END NORTHING	END EASTING	DELTA	DEGREE OF CURVE	TANGENT LENGTH	RADIUS	ARC LENGTH	CHORD LENGTH	PI NORTHING	PI EASTING	PI STATION
L82	0+00.00	482,489.41	1,918,249.05	92.12	S14°50'20"E	0+92.12	482,400.36	1,918,272.64									
C53					S12°12'20"E				5°16'00"	11°27'33"	23.00	500.00	45.96	45.94	482,378.13	1,918,278.53	1+15.12
L83	1+38.08	482,355.46	1,918,282.35	323.46	S9°34'20"E	4+61.54	482,036.50	1,918,336.14									
C54					S51°38'32"E				84°08'24"	114°35'30"	45.13	50.00	73.43	67.00	481,992.00	1,918,343.64	5+06.67
L84	5+34.96	481,994.92	1,918,388.68	39.00	N86°17'16"E	5+73.96	481,997.45	1,918,427.60									

TSR No. 21

SEGMENT No.	BEGIN STATION	BEGIN NORTHING	BEGIN EASTING	DISTANCE	DIRECTION	END STATION	END NORTHING	END EASTING	DELTA	DEGREE OF CURVE	TANGENT LENGTH	RADIUS	ARC LENGTH	CHORD LENGTH	PI NORTHING	PI EASTING	PI STATION
L85	0+00.00	482,462.06	1,918,145.82	35.28	N14°50'20"W	0+35.28	482,496.16	1,918,136.78									
C55					N51°30'19"W				73°19'58"	57°17'45"	74.45	100.00	127.99	119.43	482,568.13	1,918,117.71	1+09.73
L86	1+63.27	482,570.50	1,918,043.31	53.92	N88°10'18"W	2+17.19	482,572.22	1,917,989.42									

TSR No. 22

SEGMENT No.	BEGIN STATION	BEGIN NORTHING	BEGIN EASTING	DISTANCE	DIRECTION	END STATION	END NORTHING	END EASTING	DELTA	DEGREE OF CURVE	TANGENT LENGTH	RADIUS	ARC LENGTH	CHORD LENGTH	PI NORTHING	PI EASTING	PI STATION
L87	0+00.00	482,423.77	1,918,001.29	168.82	S13°57'55"E	1+68.82	482,259.93	1,918,042.03									

TSR No. 23

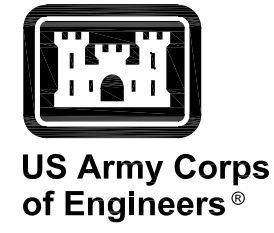
SEGMENT No.	BEGIN STATION	BEGIN NORTHING	BEGIN EASTING	DISTANCE	DIRECTION	END STATION	END NORTHING	END EASTING	DELTA	DEGREE OF CURVE	TANGENT LENGTH	RADIUS	ARC LENGTH	CHORD LENGTH	PI NORTHING	PI EASTING	PI STATION
L88	0+00.00	482,376.57	1,917,823.12	126.50	N14°50'20"W	1+26.50	482,498.85	1,917,790.73									
C56					N51°53'26"W				74°06'13"	57°17'45"	75.50	100.00	129.34	120.51	482,571.83	1,917,771.39	2+02.00
L89	2+55.84	482,573.22	1,917,695.91	33.01	N88°56'33"W	2+88.85	482,573.83	1,917,662.90									

TSR No. 24

SEGMENT No.	BEGIN STATION	BEGIN NORTHING	BEGIN EASTING	DISTANCE	DIRECTION	END STATION	END NORTHING	END EASTING	DELTA	DEGREE OF CURVE	TANGENT LENGTH	RADIUS	ARC LENGTH	CHORD LENGTH	PI NORTHING	PI EASTING	PI STATION
L90	0+00.00	482,327.76	1,917,633.77	88.24	S13°21'00"E	0+88.24	482,241.90	1,917,654.14									
C57					S0°47'10"E				25°07'40"	19°05'55"	66.86	300.00	131.57	130.52	482,176.85	1,917,669.58	1+55.10
L91	2+19.81	482,111.40	1,917,655.93	307.19	S11°46'41"W	5+27.00	481,810.67	1,917,593.23									
C58					S6°01'55"W				11°29'31"	11°27'33"	50.31	500.00	100.29	100.12	481,761.42	1,917,582.96	5+77.31
L92	6+27.28	481,711.11	1,917,582.71	104.22	S0°17'10"W	7+31.50	481,606.90	1,917,582.19									

TSR No. 25

SEGMENT No.	BEGIN STATION	BEGIN NORTHING	BEGIN EASTING	DISTANCE	DIRECTION	END STATION	END NORTHING	END EASTING	DELTA	DEGREE OF CURVE	TANGENT LENGTH	RADIUS	ARC LENGTH	CHORD LENGTH	PI NORTHING	PI EASTING	PI STATION
L93	0+00.00	481,606.69	1,917,624.56	119.58	N89°42'50"W	1+19.58	481,607.28	1,917,504.98									
C59					S79°20'13"W				21°53'54"	27°17'01"	40.63	210.00	80.26	79.77	481,607.49	1,917,464.35	1+60.21
L94	1+99.85	481,592.52	1,917,426.58	85.15	S68°23'16"W	2+84.99	481,561.16	1,917,347.42									
C60					S76°25'58"W				16°05'25"	28°38'52"	28.27	200.00	56.17	55.98	481,550.75	1,917,321.14	3+13.26
L95	3+41.16	481,548.03	1,917,293.00	68.08	S84°28'41"W	4+09.24	481,541.48	1,917,225.24									



MARK	DESCRIPTION	DATE

DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. BRADLEY	PROJECT NO.: 178-85-01
SUBMITTED BY: B. BRADLEY	CONTRACT NO.:
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	CATEGORY CODE: 178-85-01
POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36503 WWW.POLY-INC.COM/3347-99-4700	FILE NAME:

FORT LIBERTY, NORTH CAROLINA AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR) FY23, PN 96182 VOLUMES 3 & 4 - DOWNRANGE	DATA CHARTS ROADS
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SHEET ID
CS604



TSR No. 26

SEGMENT No.	BEGIN STATION	BEGIN NORTHING	BEGIN EASTING	DISTANCE	DIRECTION	END STATION	END NORTHING	END EASTING	DELTA	DEGREE OF CURVE	TANGENT LENGTH	RADIUS	ARC LENGTH	CHORD LENGTH	PI NORTHING	PI EASTING	PI STATION
L96	0+00.00	483,520.20	1,920,177.56	98.30	N89°15'10"W	0+98.30	483,521.48	1,920,079.26									

TSR No. 27

SEGMENT No.	BEGIN STATION	BEGIN NORTHING	BEGIN EASTING	DISTANCE	DIRECTION	END STATION	END NORTHING	END EASTING	DELTA	DEGREE OF CURVE	TANGENT LENGTH	RADIUS	ARC LENGTH	CHORD LENGTH	PI NORTHING	PI EASTING	PI STATION
L97	0+00.00	483,578.56	1,920,196.30	21.08	S86°25'51"E	0+21.08	483,577.25	1,920,217.35									
C61					N85°28'55"E				16°10'27"	57°17'45"	14.21	100.00	28.23	28.14	483,576.36	1,920,231.53	0+35.29
L98	0+49.31	483,579.46	1,920,245.39	124.72	N77°23'41"E	1+74.03	483,606.68	1,920,367.10									

TSR No. 28

SEGMENT No.	BEGIN STATION	BEGIN NORTHING	BEGIN EASTING	DISTANCE	DIRECTION	END STATION	END NORTHING	END EASTING	DELTA	DEGREE OF CURVE	TANGENT LENGTH	RADIUS	ARC LENGTH	CHORD LENGTH	PI NORTHING	PI EASTING	PI STATION
L99	0+00.00	483,735.14	1,920,193.75	288.20	S80°04'00"W	2+88.20	483,685.42	1,919,909.87									
L100	2+88.20	483,685.42	1,919,909.87	1,067.91	S79°23'30"W	13+56.12	483,488.83	1,918,860.21									
L101	13+56.12	483,488.83	1,918,860.21	172.70	S79°34'22"W	15+28.81	483,457.57	1,918,690.36									
C62					S82°56'34"W				6°44'25"	11°27'33"	29.44	500.00	58.82	58.79	483,452.25	1,918,661.40	15+58.26
L102	15+87.63	483,450.35	1,918,632.02	142.07	S86°18'46"W	17+29.70	483,441.22	1,918,490.24									

TSR No. 29

SEGMENT No.	BEGIN STATION	BEGIN NORTHING	BEGIN EASTING	DISTANCE	DIRECTION	END STATION	END NORTHING	END EASTING	DELTA	DEGREE OF CURVE	TANGENT LENGTH	RADIUS	ARC LENGTH	CHORD LENGTH	PI NORTHING	PI EASTING	PI STATION
L103	0+00.00	483,685.42	1,919,909.87	135.37	N35°17'33"W	1+35.37	483,795.91	1,919,831.66									
C63					N37°47'10"W				4°59'13"	11°27'33"	21.77	500.00	43.52	43.51	483,813.69	1,919,819.08	1+57.14
L104	1+78.89	483,830.30	1,919,805.00	109.29	N40°16'46"W	2+88.18	483,913.67	1,919,734.34									
C64					N44°31'16"W				8°29'00"	11°27'33"	37.08	500.00	74.03	73.96	483,941.97	1,919,710.37	3+25.26
L105	3+62.21	483,966.41	1,919,682.48	347.83	N48°45'46"W	7+10.04	484,195.69	1,919,420.91									
C65					N46°16'38"W				4°58'17"	11°27'33"	21.70	500.00	43.38	43.37	484,210.00	1,919,404.59	7+31.75
L106	7+53.43	484,225.67	1,919,389.57	160.36	N43°47'30"W	9+13.78	484,341.43	1,919,278.60									
C66					N52°38'21"W				17°41'42"	11°27'33"	77.83	500.00	154.42	153.81	484,397.61	1,919,224.74	9+91.61
L107	10+68.20	484,434.76	1,919,156.35	31.80	N61°29'12"W	11+00.00	484,449.94	1,919,128.41									

TSR No. 30

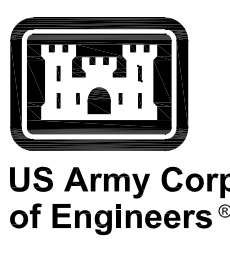
SEGMENT No.	BEGIN STATION	BEGIN NORTHING	BEGIN EASTING	DISTANCE	DIRECTION	END STATION	END NORTHING	END EASTING	DELTA	DEGREE OF CURVE	TANGENT LENGTH	RADIUS	ARC LENGTH	CHORD LENGTH	PI NORTHING	PI EASTING	PI STATION
L108	0+00.00	483,849.77	1,919,788.50	101.80	S86°53'11"W	1+01.80	483,844.24	1,919,686.85									

TSR No. 31

SEGMENT No.	BEGIN STATION	BEGIN NORTHING	BEGIN EASTING	DISTANCE	DIRECTION	END STATION	END NORTHING	END EASTING	DELTA	DEGREE OF CURVE	TANGENT LENGTH	RADIUS	ARC LENGTH	CHORD LENGTH	PI NORTHING	PI EASTING	PI STATION
L109	0+00.00	483,918.56	1,919,730.15	102.55	S81°04'07"W	1+02.55	483,902.64	1,919,628.85									

TSR No. 32

SEGMENT No.	BEGIN STATION	BEGIN NORTHING	BEGIN EASTING	DISTANCE	DIRECTION	END STATION	END NORTHING	END EASTING	DELTA	DEGREE OF CURVE	TANGENT LENGTH	RADIUS	ARC LENGTH	CHORD LENGTH	PI NORTHING	PI EASTING	PI STATION
L110	0+00.00	484,216.21	1,919,398.89	134.92	S89°45'22"W	1+34.92	484,215.63	1,919,263.97									



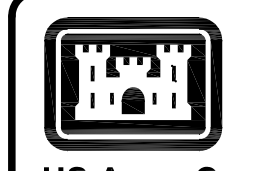
MARK	DESCRIPTION	DATE

DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. BRADLEY	FILE NO.:
CHECKED BY: B. BRADLEY	PROJECT NO.:
SUBMITTED BY: B. BRADLEY	CONTRACT NO.:
SIZE:	CATEGORY CODE: 178-85-01
ANSI D:	FILE NAME:
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	
POLY, INC. 1985 HEADLAND AVENUE DOTHAN, AL 36503 WWW.POLY-INC.COM/334795-4700	

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 96182
VOLUMES 3 & 4 - DOWNRANGE
DATA CHARTS
ROADS

SHEET ID
CS605





US Army Corps of Engineers

TSR No. 33

Table with 17 columns: SEGMENT No., BEGIN STATION, BEGIN NORTHING, BEGIN EASTING, DISTANCE, DIRECTION, END STATION, END NORTHING, END EASTING, DELTA, DEGREE OF CURVE, TANGENT LENGTH, RADIUS, ARC LENGTH, CHORD LENGTH, PI NORTHING, PI EASTING, PI STATION. Rows include L111, C67, L112, C68, L113.

TSR No. 34

Table with 17 columns: SEGMENT No., BEGIN STATION, BEGIN NORTHING, BEGIN EASTING, DISTANCE, DIRECTION, END STATION, END NORTHING, END EASTING, DELTA, DEGREE OF CURVE, TANGENT LENGTH, RADIUS, ARC LENGTH, CHORD LENGTH, PI NORTHING, PI EASTING, PI STATION. Rows include L114, C69, L115.

TSR No. 36

Table with 17 columns: SEGMENT No., BEGIN STATION, BEGIN NORTHING, BEGIN EASTING, DISTANCE, DIRECTION, END STATION, END NORTHING, END EASTING, DELTA, DEGREE OF CURVE, TANGENT LENGTH, RADIUS, ARC LENGTH, CHORD LENGTH, PI NORTHING, PI EASTING, PI STATION. Row includes L116.

TSR No. 37

Table with 17 columns: SEGMENT No., BEGIN STATION, BEGIN NORTHING, BEGIN EASTING, DISTANCE, DIRECTION, END STATION, END NORTHING, END EASTING, DELTA, DEGREE OF CURVE, TANGENT LENGTH, RADIUS, ARC LENGTH, CHORD LENGTH, PI NORTHING, PI EASTING, PI STATION. Rows include L117, C70, L118.

TSR No. 38

Table with 17 columns: SEGMENT No., BEGIN STATION, BEGIN NORTHING, BEGIN EASTING, DISTANCE, DIRECTION, END STATION, END NORTHING, END EASTING, DELTA, DEGREE OF CURVE, TANGENT LENGTH, RADIUS, ARC LENGTH, CHORD LENGTH, PI NORTHING, PI EASTING, PI STATION. Rows include L119, C71, L120.

TSR No. 39

Table with 17 columns: SEGMENT No., BEGIN STATION, BEGIN NORTHING, BEGIN EASTING, DISTANCE, DIRECTION, END STATION, END NORTHING, END EASTING, DELTA, DEGREE OF CURVE, TANGENT LENGTH, RADIUS, ARC LENGTH, CHORD LENGTH, PI NORTHING, PI EASTING, PI STATION. Row includes L121.

TSR No. 40

Table with 17 columns: SEGMENT No., BEGIN STATION, BEGIN NORTHING, BEGIN EASTING, DISTANCE, DIRECTION, END STATION, END NORTHING, END EASTING, DELTA, DEGREE OF CURVE, TANGENT LENGTH, RADIUS, ARC LENGTH, CHORD LENGTH, PI NORTHING, PI EASTING, PI STATION. Rows include L122, C72, L123.

TSR No. 41

Table with 17 columns: SEGMENT No., BEGIN STATION, BEGIN NORTHING, BEGIN EASTING, DISTANCE, DIRECTION, END STATION, END NORTHING, END EASTING, DELTA, DEGREE OF CURVE, TANGENT LENGTH, RADIUS, ARC LENGTH, CHORD LENGTH, PI NORTHING, PI EASTING, PI STATION. Row includes L124.

Table with 2 columns: MARK, DESCRIPTION. Includes a DATE column.

Table with 2 columns: ANSID, FILE NAME. Includes a SIZE column.

DESIGNED BY: K. SANDERS
CHECKED BY: B. BRADLEY
SUBMITTED BY: B. BRADLEY
ISSUE DATE: NOVEMBER 2023
DRAWING NO.: 104-184-33012
CONTRACT NO.:
CATEGORY CODE: 178-65-01

U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT
100 W. OGLETHORPE AVE
SAVANNAH, GA 31401
POLY, INC.
1935 HEADLAND AVENUE
DOTHAN, AL 36803
WWW.POLY-INC.COM/394799-4700

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTI)
FY23, PN 96182
VOLUMES 3 & 4 - DOWNRANGE

DATA CHARTS
ROADS
SHEET ID
CS606



TSR No. 42																	
SEGMENT No.	BEGIN STATION	BEGIN NORTHING	BEGIN EASTING	DISTANCE	DIRECTION	END STATION	END NORTHING	END EASTING	DELTA	DEGREE OF CURVE	TANGENT LENGTH	RADIUS	ARC LENGTH	CHORD LENGTH	PI NORTHING	PI EASTING	PI STATION
L125	0+00.00	484,093.30	1,920,234.14	217.74	S89°59'36"E	2+17.74	484,093.28	1,920,451.88									

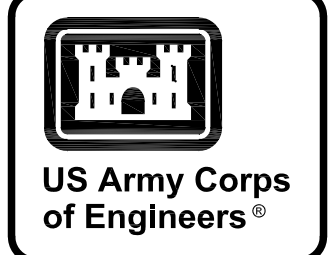
TSR No. 43																	
SEGMENT No.	BEGIN STATION	BEGIN NORTHING	BEGIN EASTING	DISTANCE	DIRECTION	END STATION	END NORTHING	END EASTING	DELTA	DEGREE OF CURVE	TANGENT LENGTH	RADIUS	ARC LENGTH	CHORD LENGTH	PI NORTHING	PI EASTING	PI STATION
L128	0+00.00	484,802.82	1,921,368.64	274.10	N87°59'30"W	2+74.10	484,812.42	1,921,094.71									
C75					N87°07'20"W				1°44'19"	5°43'46"	15.17	1,000.00	30.34	30.34	484,812.95	1,921,079.54	2+89.28
L129	3+04.45	484,813.95	1,921,064.40	169.38	N86°15'11"W	4+73.83	484,825.01	1,920,895.38									
C76					N87°12'39"W				1°54'56"	5°43'46"	16.72	1,000.00	33.43	33.43	484,826.11	1,920,878.70	4+90.55
L130	5+07.26	484,826.64	1,920,861.99	268.92	N88°10'07"W	7+76.18	484,835.24	1,920,593.21									
C77					N86°44'29"W				2°51'16"	5°43'46"	24.91	1,000.00	49.82	49.81	484,836.03	1,920,568.31	8+01.10
L131	8+26.00	484,838.07	1,920,543.48	114.46	N85°18'51"W	9+40.46	484,847.42	1,920,429.40									
C78					S86°54'23"W				15°33'32"	22°55'06"	34.15	250.00	67.89	67.68	484,850.21	1,920,395.36	9+74.62
L132	10+08.35	484,843.77	1,920,361.81	30.48	S79°07'37"W	10+38.83	484,838.02	1,920,331.88									
C79					S64°32'16"W				29°10'43"	22°55'06"	65.07	250.00	127.32	125.94	484,825.74	1,920,267.98	11+03.90
L133	11+66.14	484,783.87	1,920,218.17	14.84	S49°56'54"W	11+80.98	484,774.33	1,920,206.82									
C80					S70°51'51"W				41°49'53"	28°38'52"	76.44	200.00	146.02	142.80	484,725.14	1,920,148.31	12+57.41
L134	13+27.00	484,727.51	1,920,071.91	106.63	N88°13'12"W	14+33.63	484,730.83	1,919,965.33									

TSR No. 44																	
SEGMENT No.	BEGIN STATION	BEGIN NORTHING	BEGIN EASTING	DISTANCE	DIRECTION	END STATION	END NORTHING	END EASTING	DELTA	DEGREE OF CURVE	TANGENT LENGTH	RADIUS	ARC LENGTH	CHORD LENGTH	PI NORTHING	PI EASTING	PI STATION
L135	0+00.00	484,804.22	1,921,328.67	31.44	S2°00'30"W	0+31.44	484,772.80	1,921,327.57									
C81					S30°22'22"E				64°45'44"	114°35'30"	31.71	50.00	56.52	53.55	484,741.11	1,921,326.45	0+63.15
L136	0+87.95	484,726.60	1,921,354.64	287.01	S62°45'14"E	3+74.96	484,595.20	1,921,609.81									

TSR No. 45																	
SEGMENT No.	BEGIN STATION	BEGIN NORTHING	BEGIN EASTING	DISTANCE	DIRECTION	END STATION	END NORTHING	END EASTING	DELTA	DEGREE OF CURVE	TANGENT LENGTH	RADIUS	ARC LENGTH	CHORD LENGTH	PI NORTHING	PI EASTING	PI STATION
L137	0+00.00	484,828.12	1,920,815.61	54.68	N0°00'00"E	0+54.68	484,882.80	1,920,815.61									
C82					N30°02'35"W				60°05'09"	57°17'45"	57.83	100.00	104.87	100.13	484,940.64	1,920,815.61	1+12.51
L138	1+59.55	484,969.48	1,920,765.48	200.85	N60°05'09"W	3+60.39	485,069.64	1,920,591.39									
C83					N51°28'42"W				17°12'54"	22°55'06"	37.84	250.00	75.11	74.83	485,088.51	1,920,558.59	3+98.23
L139	4+35.51	485,116.25	1,920,532.84	32.22	N42°52'15"W	4+67.72	485,139.86	1,920,510.92									
C84					N63°22'08"W				40°59'45"	57°17'45"	37.38	100.00	71.55	70.03	485,167.26	1,920,485.49	5+05.11
L140	5+39.28	485,171.25	1,920,448.32	154.93	N83°52'00"W	6+94.20	485,187.80	1,920,294.27									

TSR No. 46																	
SEGMENT No.	BEGIN STATION	BEGIN NORTHING	BEGIN EASTING	DISTANCE	DIRECTION	END STATION	END NORTHING	END EASTING	DELTA	DEGREE OF CURVE	TANGENT LENGTH	RADIUS	ARC LENGTH	CHORD LENGTH	PI NORTHING	PI EASTING	PI STATION
L141	0+00.00	484,842.46	1,920,489.94	72.39	N16°29'15"W	0+72.39	484,911.87	1,920,469.39									
C85					N61°23'07"W				89°47'45"	76°23'40"	74.73	75.00	117.54	105.88	484,983.53	1,920,448.18	1+47.12
L142	1+89.93	484,962.57	1,920,376.45	73.52	S73°43'00"W	2+63.44	484,941.96	1,920,305.88									

TSR No. 47																	
SEGMENT No.	BEGIN STATION	BEGIN NORTHING	BEGIN EASTING	DISTANCE	DIRECTION	END STATION	END NORTHING	END EASTING	DELTA	DEGREE OF CURVE	TANGENT LENGTH	RADIUS	ARC LENGTH	CHORD LENGTH	PI NORTHING	PI EASTING	PI STATION
L143	0+00.00	484,958.41	1,920,362.21	222.40	N0°41'48"W	2+22.40	485,180.79	1,920,359.51									



MARK	DESCRIPTION	DATE

DESIGNED BY: K. SANDERS
 CHECKED BY: B. BRADLEY
 SUBMITTED BY: B. BRADLEY
 SIZE: A
 FILE NAME: ANSID

U.S. ARMY CORPS OF ENGINEERS
 SAVANNAH DISTRICT
 100 W. OGLETHORPE AVE
 SAVANNAH, GA 31401

POLY, INC.
 1985 HEADLAND AVENUE
 DOTHAN, AL 36803
 WWW.POLY-INC.COM/3347-99-4700

ISSUE DATE: NOVEMBER 2023
 PROJECT NO.: W91PAW23-3002
 CONTRACT NO.:
 CATEGORY CODE: 178-65-01

FORT LIBERTY, NORTH CAROLINA
 AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTF)
 FY23, PN 96182
 VOLUMES 3 & 4 - DOWNRANGE
 DATA CHARTS
 ROADS



SHEET ID
CS607

TSR No. 55 (CONTINUED)

Table with 17 columns: SEGMENT No., BEGIN STATION, BEGIN NORTHING, BEGIN EASTING, DISTANCE, DIRECTION, END STATION, END NORTHING, END EASTING, DELTA, DEGREE OF CURVE, TANGENT LENGTH, RADIUS, ARC LENGTH, CHORD LENGTH, PI NORTHING, PI EASTING, PI STATION. Rows include segments L158, C93, L159, C94, L160.

TSR No. 56

Table with 17 columns: SEGMENT No., BEGIN STATION, BEGIN NORTHING, BEGIN EASTING, DISTANCE, DIRECTION, END STATION, END NORTHING, END EASTING, DELTA, DEGREE OF CURVE, TANGENT LENGTH, RADIUS, ARC LENGTH, CHORD LENGTH, PI NORTHING, PI EASTING, PI STATION. Row includes segment L161.

TSR No. 57

Table with 17 columns: SEGMENT No., BEGIN STATION, BEGIN NORTHING, BEGIN EASTING, DISTANCE, DIRECTION, END STATION, END NORTHING, END EASTING, DELTA, DEGREE OF CURVE, TANGENT LENGTH, RADIUS, ARC LENGTH, CHORD LENGTH, PI NORTHING, PI EASTING, PI STATION. Rows include segments L162, C95, L163, C96, L164, C97, L165.

TSR No. 58

Table with 17 columns: SEGMENT No., BEGIN STATION, BEGIN NORTHING, BEGIN EASTING, DISTANCE, DIRECTION, END STATION, END NORTHING, END EASTING, DELTA, DEGREE OF CURVE, TANGENT LENGTH, RADIUS, ARC LENGTH, CHORD LENGTH, PI NORTHING, PI EASTING, PI STATION. Rows include segments L166, C98, L167.

TSR No. 59

Table with 17 columns: SEGMENT No., BEGIN STATION, BEGIN NORTHING, BEGIN EASTING, DISTANCE, DIRECTION, END STATION, END NORTHING, END EASTING, DELTA, DEGREE OF CURVE, TANGENT LENGTH, RADIUS, ARC LENGTH, CHORD LENGTH, PI NORTHING, PI EASTING, PI STATION. Rows include segments L168, C99, L169.

TSR No. 60

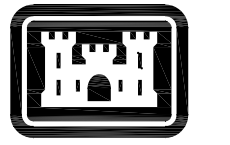
Table with 17 columns: SEGMENT No., BEGIN STATION, BEGIN NORTHING, BEGIN EASTING, DISTANCE, DIRECTION, END STATION, END NORTHING, END EASTING, DELTA, DEGREE OF CURVE, TANGENT LENGTH, RADIUS, ARC LENGTH, CHORD LENGTH, PI NORTHING, PI EASTING, PI STATION. Row includes segment L170.

TSR No. 61

Table with 17 columns: SEGMENT No., BEGIN STATION, BEGIN NORTHING, BEGIN EASTING, DISTANCE, DIRECTION, END STATION, END NORTHING, END EASTING, DELTA, DEGREE OF CURVE, TANGENT LENGTH, RADIUS, ARC LENGTH, CHORD LENGTH, PI NORTHING, PI EASTING, PI STATION. Row includes segment L171.

TSR No. 62

Table with 17 columns: SEGMENT No., BEGIN STATION, BEGIN NORTHING, BEGIN EASTING, DISTANCE, DIRECTION, END STATION, END NORTHING, END EASTING, DELTA, DEGREE OF CURVE, TANGENT LENGTH, RADIUS, ARC LENGTH, CHORD LENGTH, PI NORTHING, PI EASTING, PI STATION. Rows include segments L181, C104, L182, C103, L180.



US Army Corps of Engineers

Table with 2 columns: MARK, DESCRIPTION, DATE. Multiple empty rows.

Table with 2 columns: ANSID, FILE NAME. Row includes ANSID and FILE NAME.

DESIGNED BY: K. SANDERS
CHECKED BY: B. BRADLEY
SUBMITTED BY: B. BRADLEY
U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT
100 W. OGLETHORPE AVE
SAVANNAH, GA 31401
POLY, INC.
1935 HEADLAND AVENUE
DOTHAN, AL 36503
WWW.POLY-INC.COM/3347-95-4700

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 96182
VOLUMES 3 & 4 - DOWNRANGE
DATA CHARTS
ROADS



SHEET ID
CS609



US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: K. SANDERS
 U.S. ARMY CORPS OF ENGINEERS
 SAVANNAH DISTRICT
 100 W. OGLETHORPE AVE
 SAVANNAH, GA 31401
 WWW.POLY-INC.COM/3347-93-4700
 ISSUE DATE: NOVEMBER 2023
 SHEET NO.: 045805
 CONTRACT NO.: 3347-93-4700
 CHECKED BY: B. BRADLEY
 SUBMITTED BY: B. BRADLEY
 CATEGORY CODE: 178-65-01
 FILE NAME: ANSID

FORT LIBERTY, NORTH CAROLINA
 AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTR)
 FY23, PN 96182
 VOLUMES 3 & 4 - DOWNRANGE
 DATA CHARTS
 SITS & MITS

SHEET ID
CS613

STATIONARY INFANTRY TARGETS (SIT) 7 MAN V CLUSTER (P)

TARGET	SHEET ID	NORTHING	EASTING	ELEVATION
P-01-A	CG130	479,126.25	1,918,447.89	304.25
P-01-B	CG130	479,094.38	1,918,475.90	304.25
P-01-C	CG130	479,093.95	1,918,482.55	304.25
P-01-D	CG130	479,122.03	1,918,513.34	304.25
P-02-A	CG130	479,594.26	1,918,320.04	303.25
P-02-B	CG130	479,566.26	1,918,351.91	303.25
P-02-C	CG130	479,566.69	1,918,358.57	303.25
P-02-D	CG130	479,598.49	1,918,385.49	303.25
P-03-A	CG130	479,576.89	1,919,112.12	312.70
P-03-B	CG130	479,542.93	1,919,137.55	312.70
P-03-C	CG130	479,541.99	1,919,144.15	312.70
P-03-D	CG130	479,567.57	1,919,177.04	312.70
P-04-A	CG129	479,912.47	1,917,986.27	302.90
P-04-B	CG129	479,889.54	1,918,021.16	302.90
P-04-C	CG129	479,890.89	1,918,027.69	302.90
P-04-D	CG129	479,925.57	1,918,049.57	302.90
P-05-A	CG130	479,929.18	1,919,007.77	312.95
P-05-B	CG130	479,894.24	1,919,031.83	312.95
P-05-C	CG130	479,893.03	1,919,038.39	312.95
P-05-D	CG130	479,917.29	1,919,072.26	312.95
P-06-A	CG136	481,019.33	1,918,908.84	312.35
P-06-B	CG136	480,991.32	1,918,940.72	312.35
P-06-C	CG136	480,991.75	1,918,947.37	312.35
P-06-D	CG136	481,023.56	1,918,974.29	312.35
P-07-A	CG137	481,002.58	1,919,595.59	330.25
P-07-B	CG137	480,974.58	1,919,627.47	330.25
P-07-C	CG137	480,975.01	1,919,634.12	330.25
P-07-D	CG137	481,006.81	1,919,661.04	330.25

STATIONARY INFANTRY TARGETS (SIT) 7 MAN V CLUSTER (P)

TARGET	SHEET ID	NORTHING	EASTING	ELEVATION
P-08-A	CG137	481,723.35	1,919,693.86	327.90
P-08-B	CG137	481,695.35	1,919,725.73	327.90
P-08-C	CG137	481,695.78	1,919,732.39	327.90
P-08-D	CG137	481,727.59	1,919,759.31	327.90
P-09-A	CG136	481,959.75	1,918,364.05	306.50
P-09-B	CG136	481,931.75	1,918,395.92	306.50
P-09-C	CG136	481,932.18	1,918,402.57	306.50
P-09-D	CG136	481,963.98	1,918,429.50	306.50
P-10-A	CG141	482,361.71	1,918,703.53	311.00
P-10-B	CG141	482,338.81	1,918,739.25	311.00
P-10-C	CG141	482,340.23	1,918,745.76	311.00
P-10-D	CG141	482,375.72	1,918,767.60	311.00
P-11-A	CG142	482,509.58	1,920,215.63	320.80
P-11-B	CG142	482,472.69	1,920,236.59	320.80
P-11-C	CG142	482,470.92	1,920,243.02	320.80
P-11-D	CG142	482,492.16	1,920,278.87	320.80
P-14-A	CG146	483,488.13	1,920,067.32	323.75
P-14-B	CG146	483,457.75	1,920,096.93	323.75
P-14-C	CG146	483,457.66	1,920,103.60	323.75
P-14-D	CG146	483,487.28	1,920,132.90	323.75
P-15-A	CG146	483,708.12	1,919,597.46	321.75
P-15-B	CG146	483,678.12	1,919,627.45	321.75
P-15-C	CG146	483,678.12	1,919,634.12	321.75
P-15-D	CG146	483,708.12	1,919,663.04	321.75
P-16-A	CG150	484,059.78	1,920,385.79	329.00
P-16-B	CG150	484,029.78	1,920,415.78	329.00
P-16-C	CG150	484,029.77	1,920,422.45	329.00
P-16-D	CG150	484,059.77	1,920,451.37	329.00

STATIONARY INFANTRY TARGETS (SIT) 6 MAN LINEAR CLUSTER (P)

TARGET	SHEET ID	NORTHING	EASTING	ELEVATION
P-12-A	CG145	483,146.66	1,918,695.36	322.75
P-12-B	CG145	483,141.39	1,918,671.43	322.75
P-12-C	CG145	483,176.84	1,918,683.58	323.25
P-12-D	CG145	483,171.56	1,918,659.66	323.25
P-13-A	CG145	483,216.62	1,919,355.87	319.65
P-13-B	CG145	483,220.12	1,919,380.12	319.65
P-13-C	CG145	483,249.01	1,919,356.25	320.15
P-13-D	CG145	483,252.50	1,919,380.50	320.15
P-17-A	CG149	484,784.51	1,919,402.28	345.75
P-17-B	CG149	484,785.59	1,919,377.80	345.75
P-17-C	CG149	484,816.70	1,919,398.69	346.25
P-17-D	CG149	484,817.78	1,919,374.22	346.25
P-18-A	CG150	484,759.46	1,920,320.35	336.25
P-18-B	CG150	484,756.48	1,920,344.66	336.25
P-18-C	CG150	484,790.62	1,920,329.20	336.75
P-18-D	CG150	484,787.64	1,920,353.52	336.75

MOVING INFANTRY TARGETS (MIT) (IM)

TARGET	SHEET ID	NORTHING	EASTING	ELEVATION
IM-01-A	CG145	483,169.78	1,918,651.60	323.25
IM-01-B	CG145	483,139.42	1,918,513.91	323.25
IM-02-A	CG145/46	483,253.68	1,919,388.67	320.15
IM-02-B	CG145/46	483,273.81	1,919,528.22	320.15
IM-03-A	CG149	484,818.15	1,919,365.98	346.25
IM-03-B	CG149	484,824.36	1,919,225.11	346.25
IM-04-A	CG150	484,786.63	1,920,361.71	336.75
IM-04-B	CG150	484,769.48	1,920,501.66	336.75

STATIONARY INFANTRY TARGETS (SIT) @ FACADES (F)

TARGET	SHEET ID	NORTHING	EASTING	ELEVATION
F1-01-SIT-A	CG155	485,358.90	1,921,498.11	325.50
F1-01-SIT-B	CG155	485,358.03	1,921,504.72	325.50
F2-01-SIT-A	CG155	485,339.88	1,921,535.95	325.15
F2-01-SIT-B	CG155	485,339.01	1,921,542.56	325.15
F3-01-SIT-A	CG155	485,481.09	1,921,709.73	322.15
F3-01-SIT-B	CG155	485,480.22	1,921,716.34	322.15
F4-01-SIT-A	CG155	485,475.86	1,921,749.39	321.75
F4-01-SIT-B	CG155	485,474.99	1,921,756.00	321.75
F5-01-SIT-A	CG155	485,654.27	1,921,682.72	321.15
F5-01-SIT-B	CG155	485,653.39	1,921,689.33	321.15



MACHINE GUN BUNKER (B)

TARGET	SHEET ID	NORTHING	EASTING	ELEVATION
B-01-A	CG154	485,043.66	1,920,555.66	346.18
B-01-B	CG154	485,026.54	1,920,556.17	346.18
B-02-A	CG151	484,562.84	1,921,483.59	335.08
B-02-B	CG151	484,555.53	1,921,468.10	335.08

TRENCH (TR)

TARGET	SHEET ID	NORTHING	EASTING	ELEVATION
TR-01-C	CG151/54	485,034.35	1,920,564.72	343.10
TR-01-D	CG151/54	485,030.14	1,920,560.44	343.10
TR-01-E	CG151/54	484,949.75	1,920,683.05	337.60
TR-01-F	CG151/54	484,945.54	1,920,678.77	337.60
TR-02-C	CG151	484,566.44	1,921,471.23	332.00
TR-02-D	CG151	484,563.73	1,921,470.38	332.00
TR-02-E	CG151	484,633.80	1,921,342.13	332.00
TR-02-F	CG151	484,628.08	1,921,340.31	332.00

RANGE LIMIT MARKERS (RLM)

TARGET	SHEET ID	NORTHING	EASTING	ELEVATION	HEIGHT
RLM-01-A	CG129	479,114.80	1,917,541.44	286.60	4'
RLM-01-B	CG129	479,114.17	1,917,547.41	286.60	4'
RLM-02-A	CG134	480,248.92	1,920,003.32	333.95	4'
RLM-02-B	CG134	480,249.83	1,919,997.39	333.95	4'
RLM-03-A	CG140	482,160.47	1,917,267.56	333.80	4'
RLM-03-B	CG140	482,159.84	1,917,273.52	333.80	4"
RLM-04-A	CG137	481,785.15	1,920,602.87	340.25	4'
RLM-04-B	CG137	481,786.08	1,920,596.94	340.25	4'
RLM-05-A	CG152	485,593.98	1,917,882.36	346.25	4'
RLM-05-B	CG152	485,593.36	1,917,888.33	346.25	4'
RLM-06-A	CG151	484,510.10	1,921,527.93	330.30	4'
RLM-06-B	CG151	484,511.02	1,921,522.00	330.30	4'

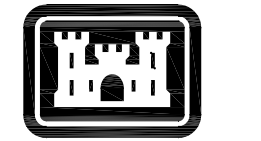
BORESIGHT PANEL (BS)

TARGET	SHEET ID	NORTHING	EASTING	ELEVATION
BS-A	CG135	481,515.60	1,917,227.74	301.60
BS-B	CG135	481,516.15	1,917,233.42	301.60

CAMERA TOWERS (FC)

TARGET	SHEET ID	NORTHING	EASTING	ELEVATION	TOWER HEIGHT
FC-01	CG124	477,247.67	1,918,790.41	*	*
FC-02	CG124	477,247.67	1,918,810.41	*	*
FC-03	CG140	482,150.68	1,917,204.21	332.30	20'
FC-04	CG151	484,561.62	1,921,615.33	330.20	20'

NOTE: * FC-01 & FC-02 ARE LOCATED ON THE TOP OF THE HANDRAIL ON THE TOP LEVEL OF THE RANGE CONTROL TOWER. SEE ARCHITECTURAL AND ELECTRICAL.



US Army Corps of Engineers

MARK	DESCRIPTION	DATE

DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. BRADLEY	PROJECT NO.: 10419A-23-3012
SUBMITTED BY: B. BRADLEY	CONTRACT NO.:
SIZE: ANSI D	CATEGORY CODE: 178-65-01
FILE NAME: ANSI D	

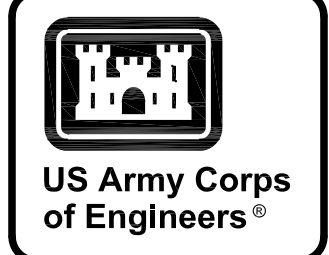
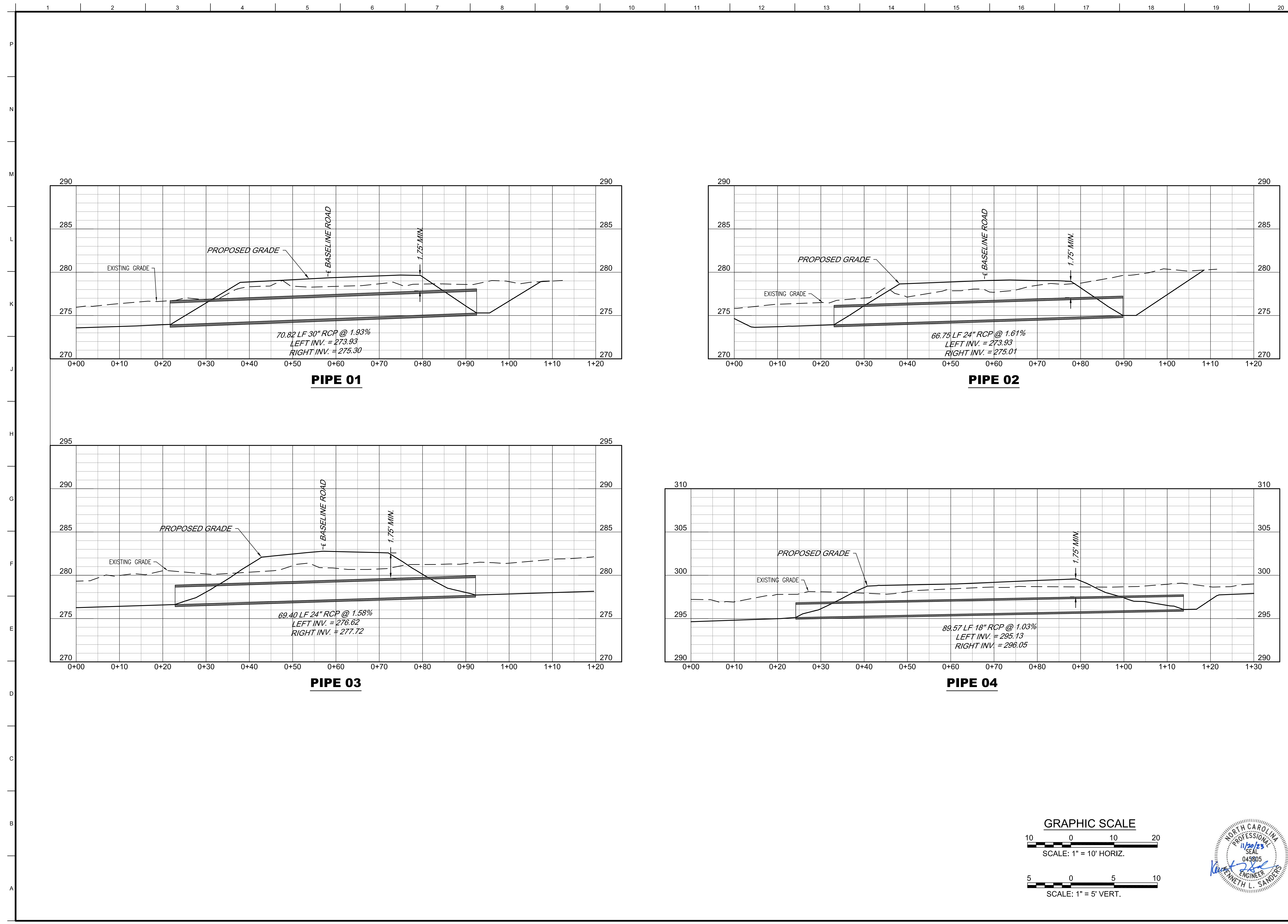
U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT
100 W. OGLETHORPE AVE
SAVANNAH, GA 31401

POLY, INC.
1995 HEADLAND AVENUE
DOTHAN, AL 36303
WWW.POLY-INC.COM / 334-799-4700



FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTR)
FY23, PN 96182
VOLUMES 3 & 4 - DOWNRANGE
DATA CHARTS
MISCELLANEOUS

SHEET ID
CS615

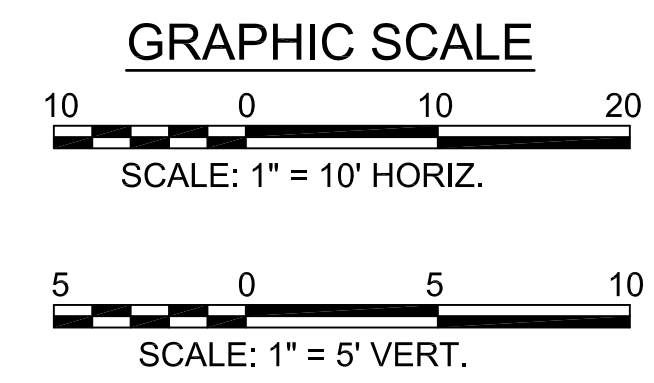


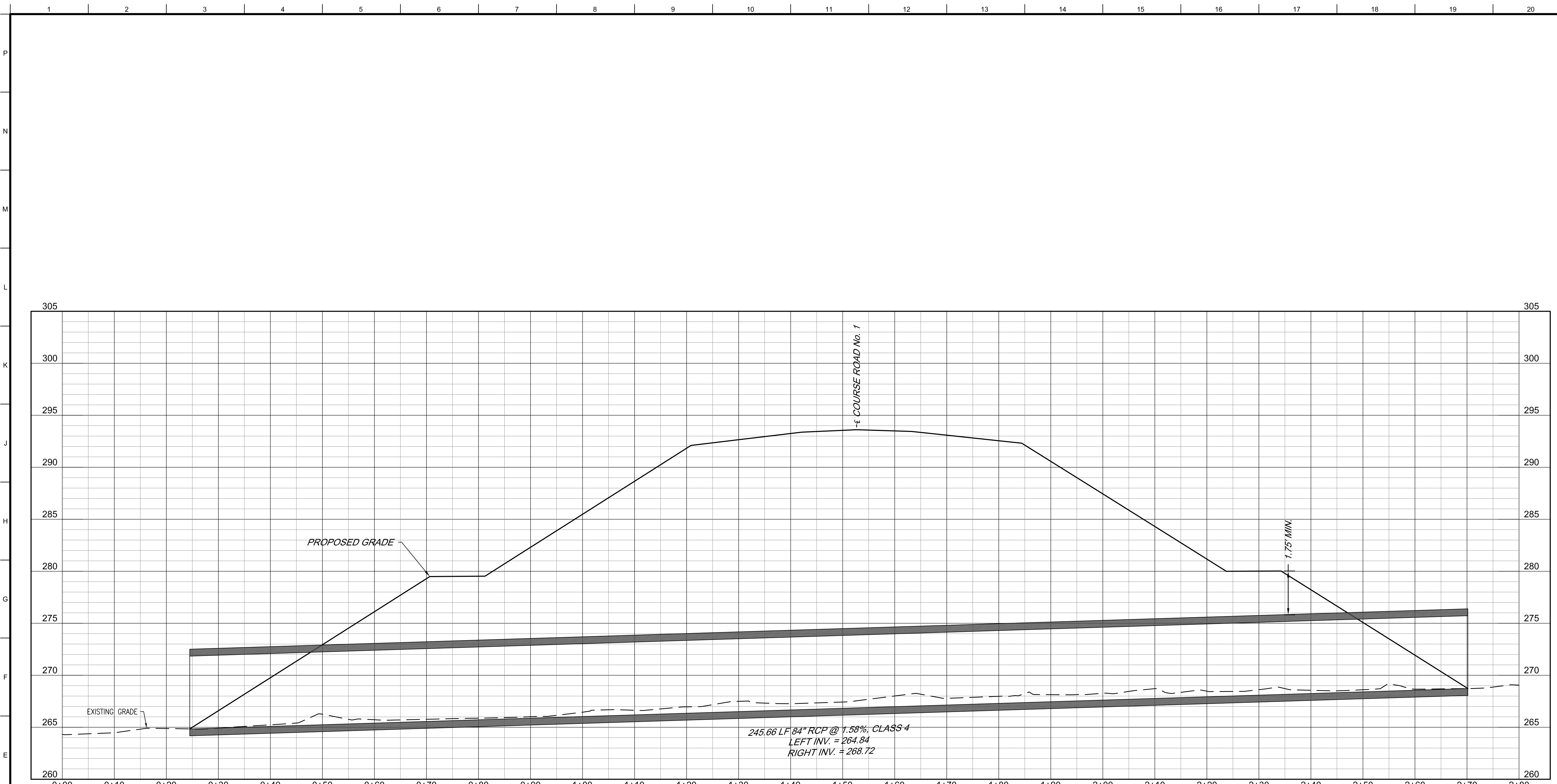
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POLY, INC. 1995 HEADLAND AVENUE DOTHAN, AL 36803 WWW.POLY-INC.COM/334795-4700	CATEGORY CODE: 178-85-01
FORT LIBERTY, NORTH CAROLINA AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR) FY23, PN 86182 VOLUMES 3 & 4 - DOWNRANGE	FILE NAME: ANSID

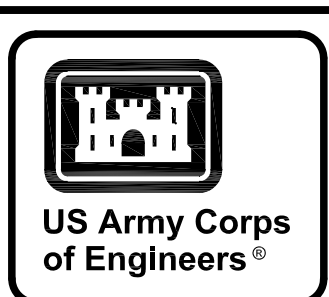
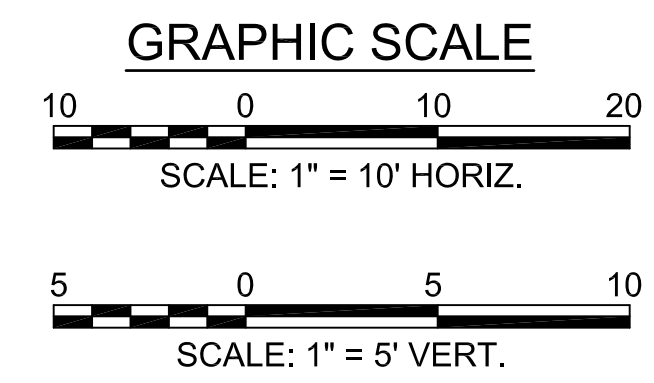
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SHEET ID
CU200





PIPE 05

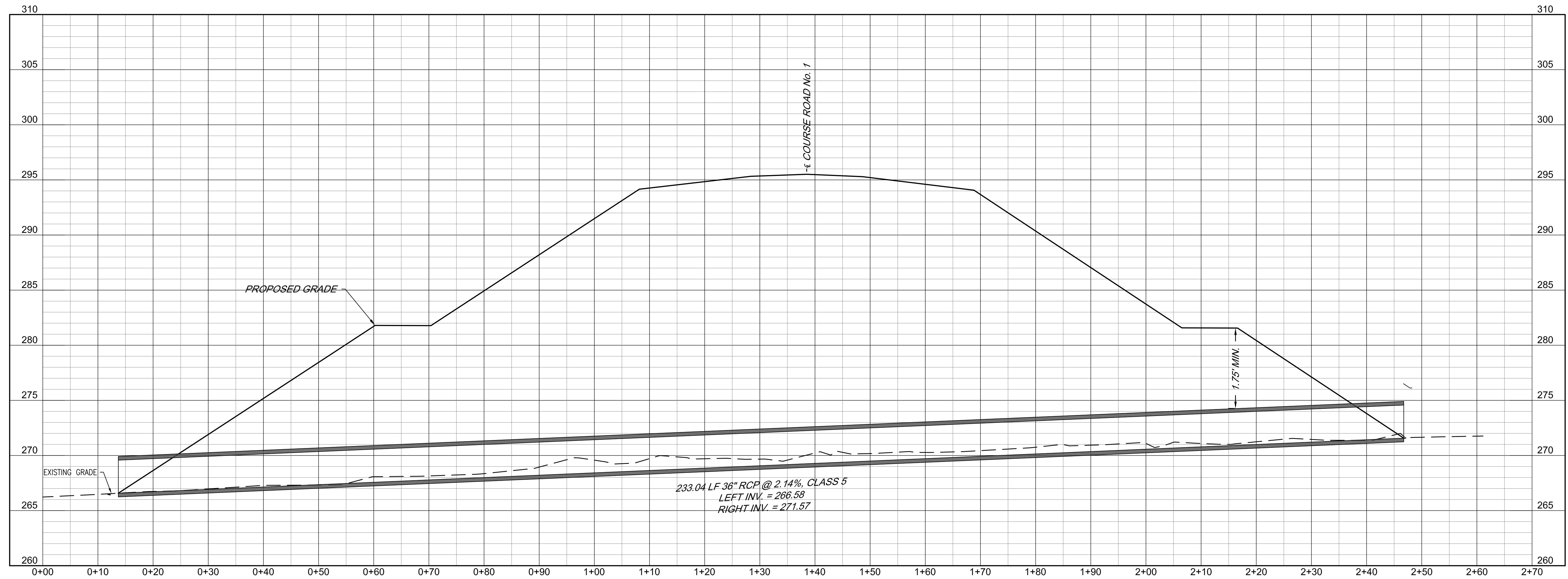


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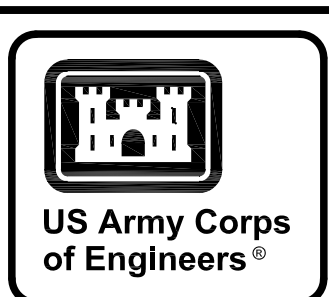
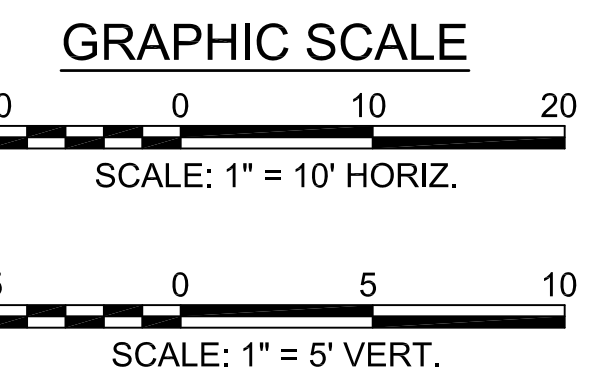
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U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT	CATEGORY CODE: 178-85-01
POLY, INC. 1995 HEADLAND AVENUE DOTHAN, AL 36803 WWW.POLY-INC.COM/3347-95-4700	FILE NAME:

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPT)
FY23, PN 86182
VOLUMES 3 & 4 - DOWNRANGE
CULVERT PROFILES

SHEET ID
CU201



PIPE 06

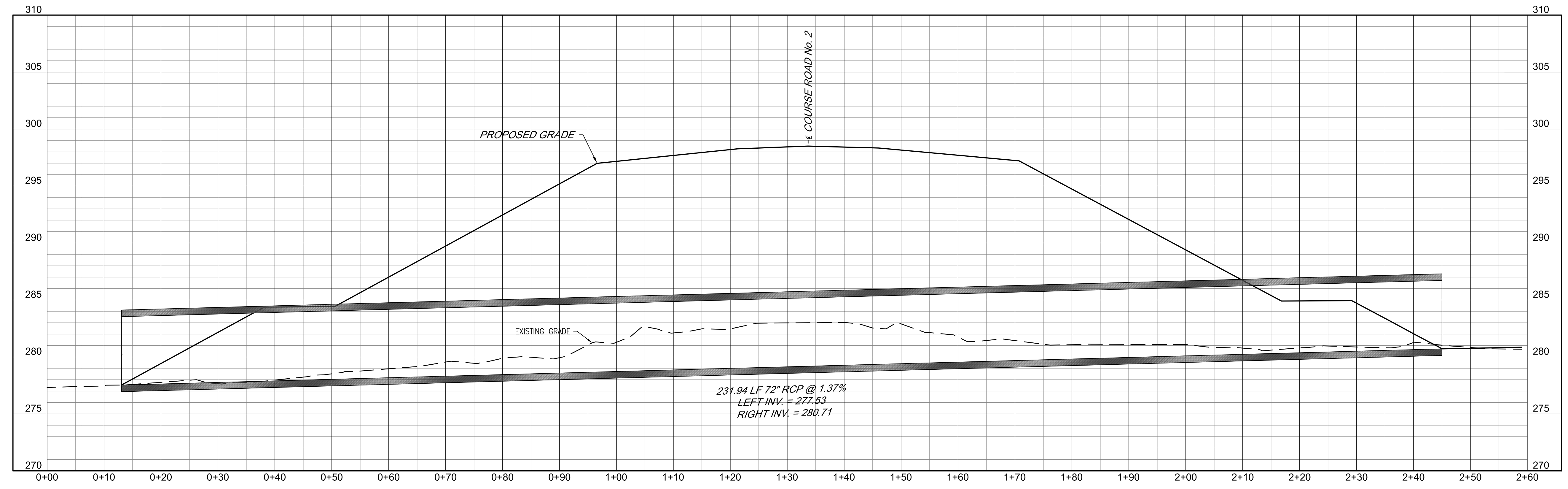


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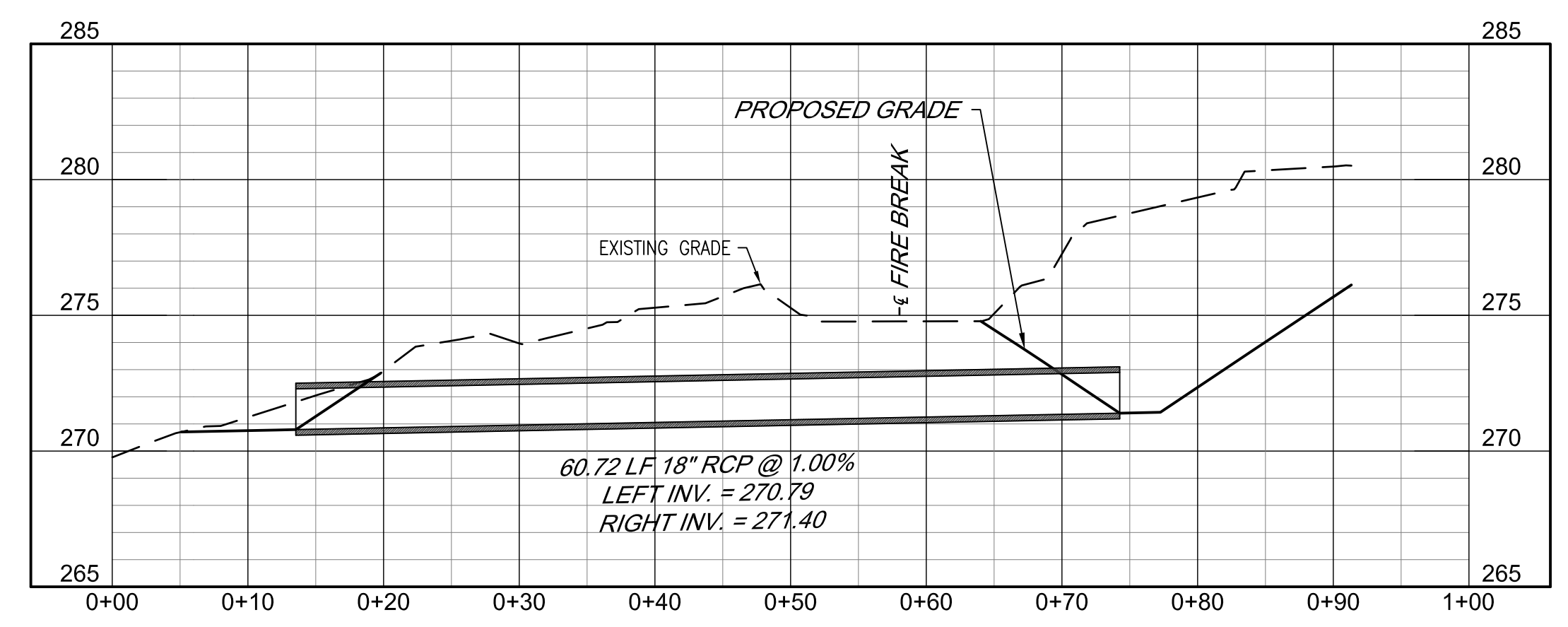
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CHECKED BY: B. BRADLEY	PROJECT NO.: W0134248.3012
SUBMITTED BY: B. BRADLEY	CONTRACT NO.:
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U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	
POLY, INC. 1995 HEADLAND AVENUE DOTHAN, AL 36303 WWW.POLY-INC.COM / 334-799-4700	

FORT LIBERTY, NORTH CAROLINA
 AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
 FY23, PN 86182
 VOLUMES 3 & 4 - DOWNRANGE
CULVERT PROFILES

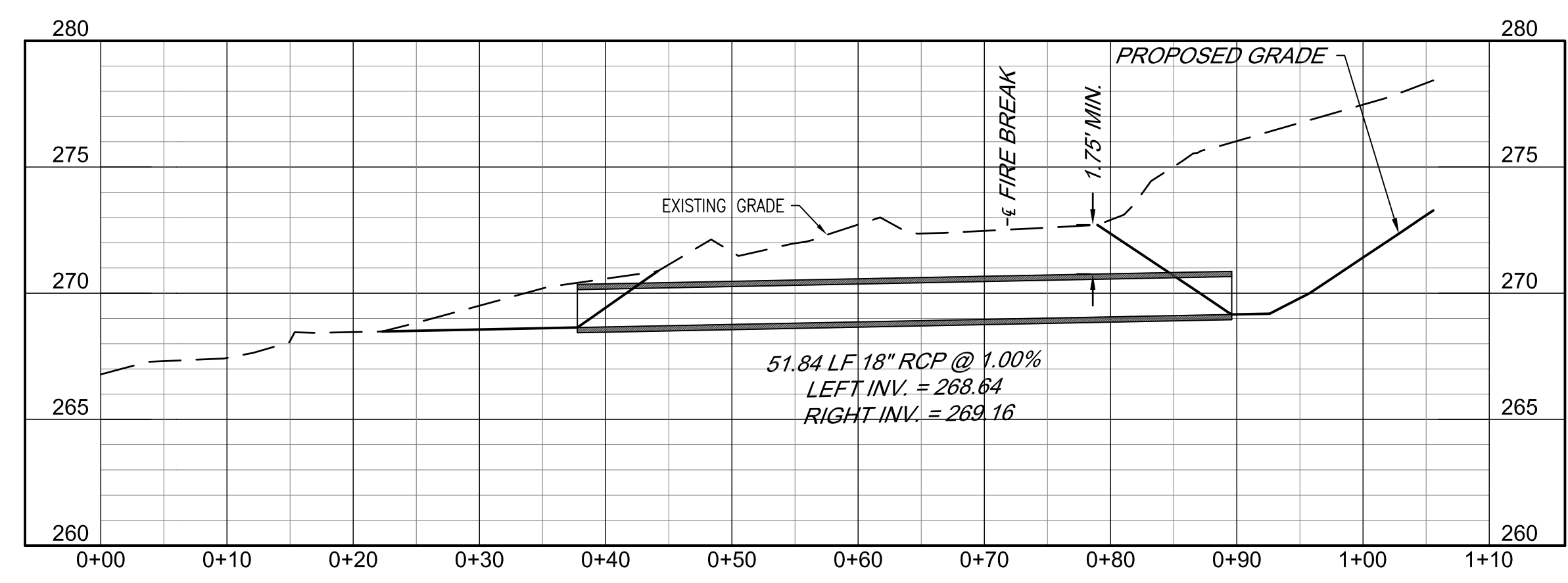
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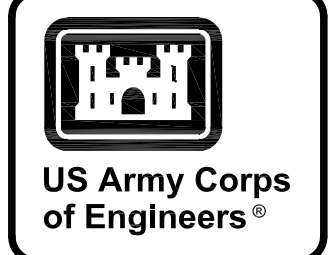
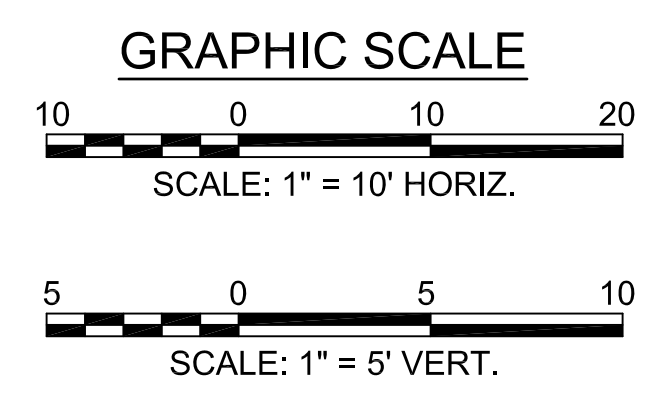
PIPE 07



PIPE 08



PIPE 09



MARK	DESCRIPTION	DATE

DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. BRADLEY	PROJECT NO.:
CHECKED BY: B. BRADLEY	DATE NO.:
FILE NAME:	CONTRACT NO.:
ANSID	CATEGORY CODE: 178-85-01
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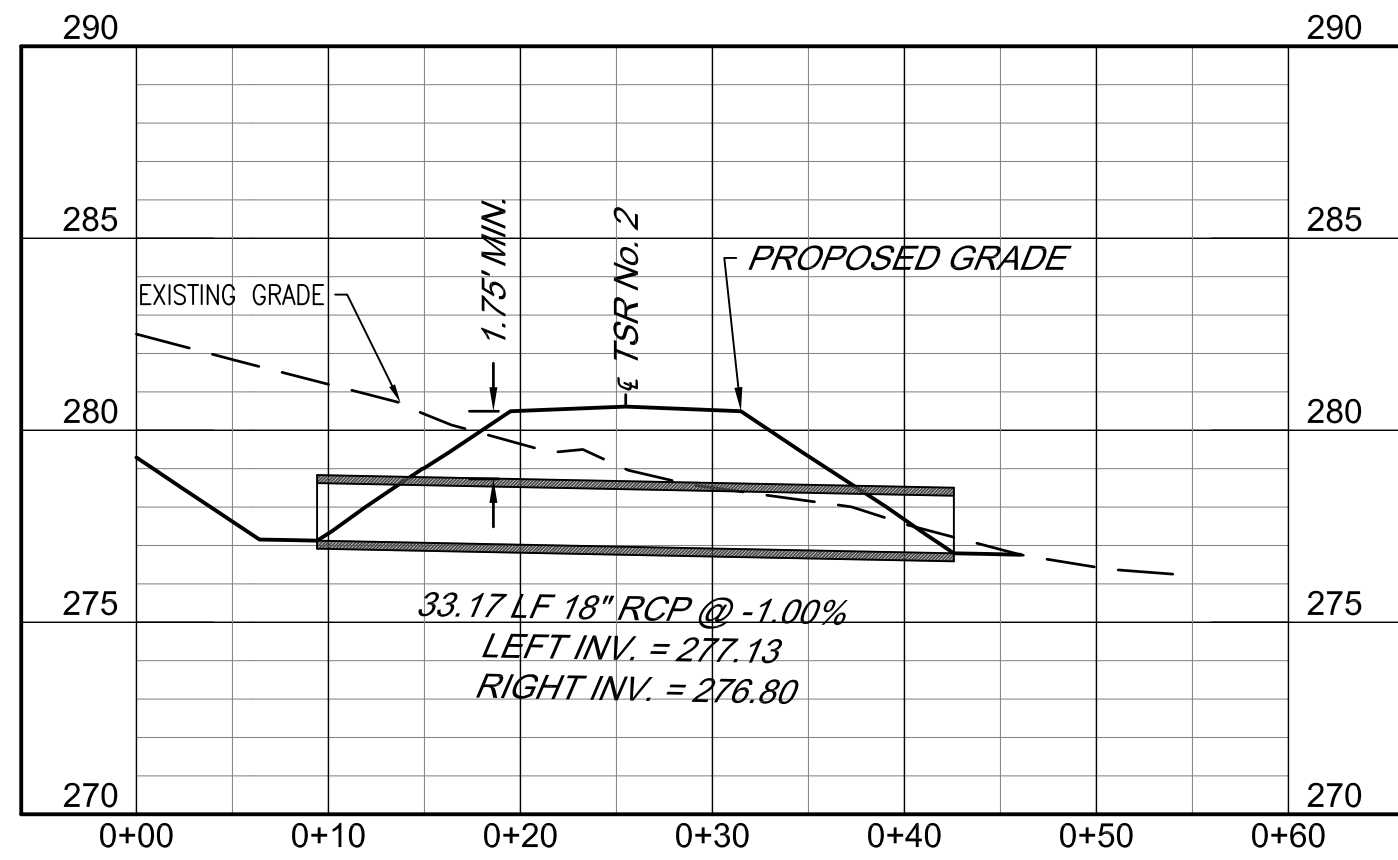
U.S. ARMY CORPS OF ENGINEERS
 SAVANNAH DISTRICT
 100 W. OGLETHORPE AVE
 SAVANNAH, GA 31401

POLY, INC.
 1995 HEADLAND AVENUE
 DOTHAN, AL 36803
 WWW.POLY-INC.COM/334795-4700

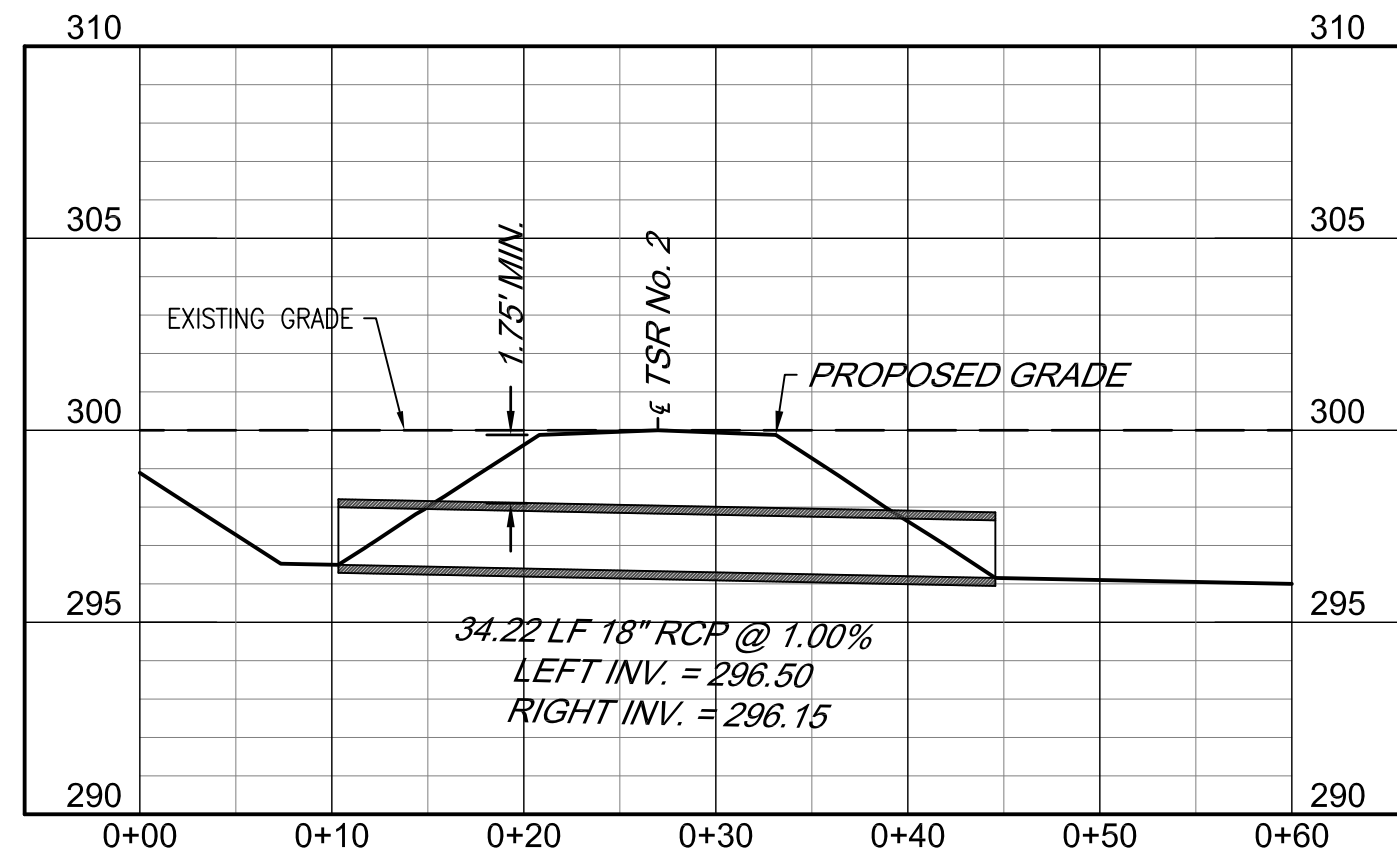
FORT LIBERTY, NORTH CAROLINA
 AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTT)
 FY23, PN 96182
 VOLUMES 3 & 4 - DOWNRANGE
 CULVERT PROFILES

SHEET ID

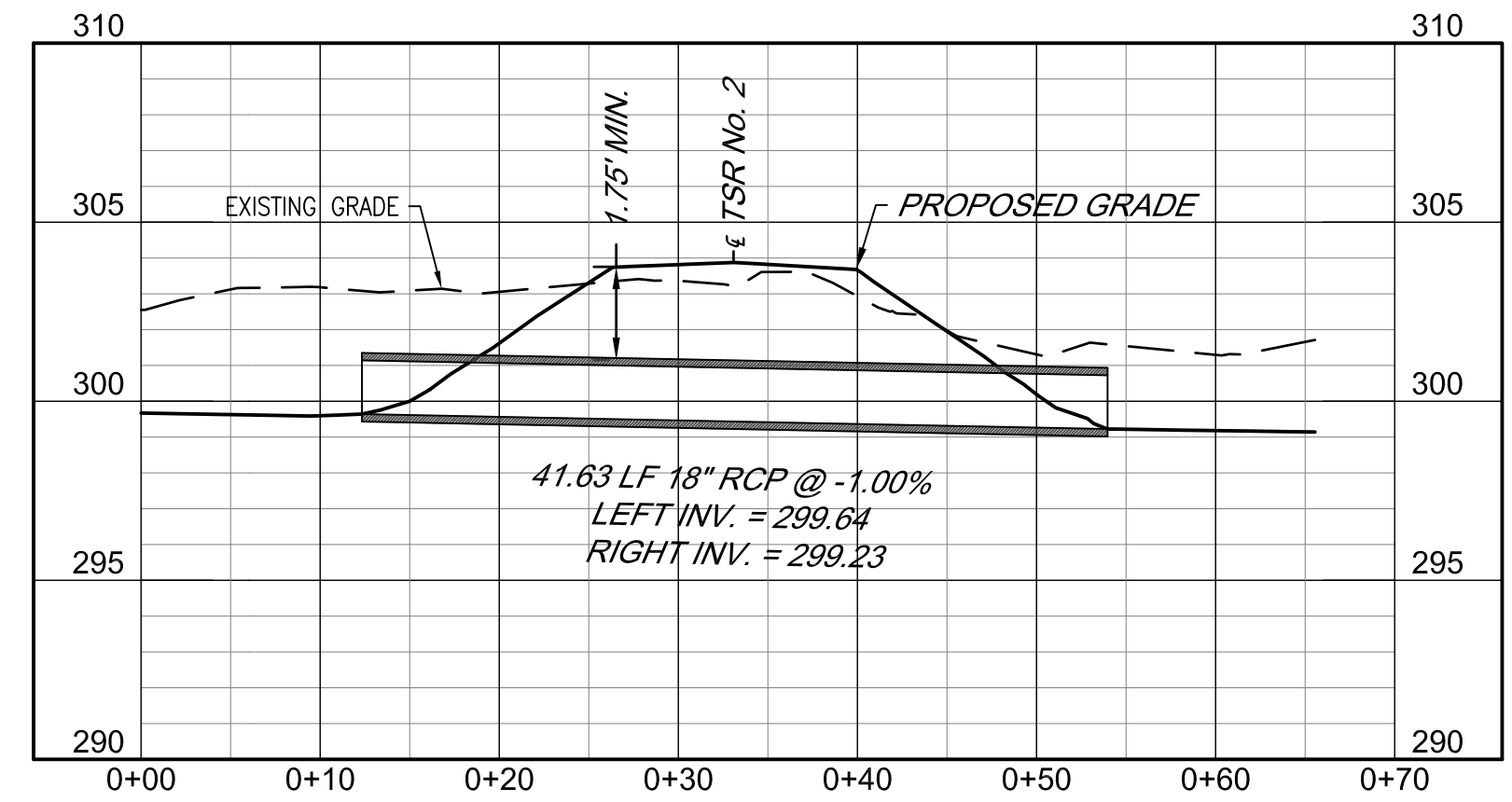
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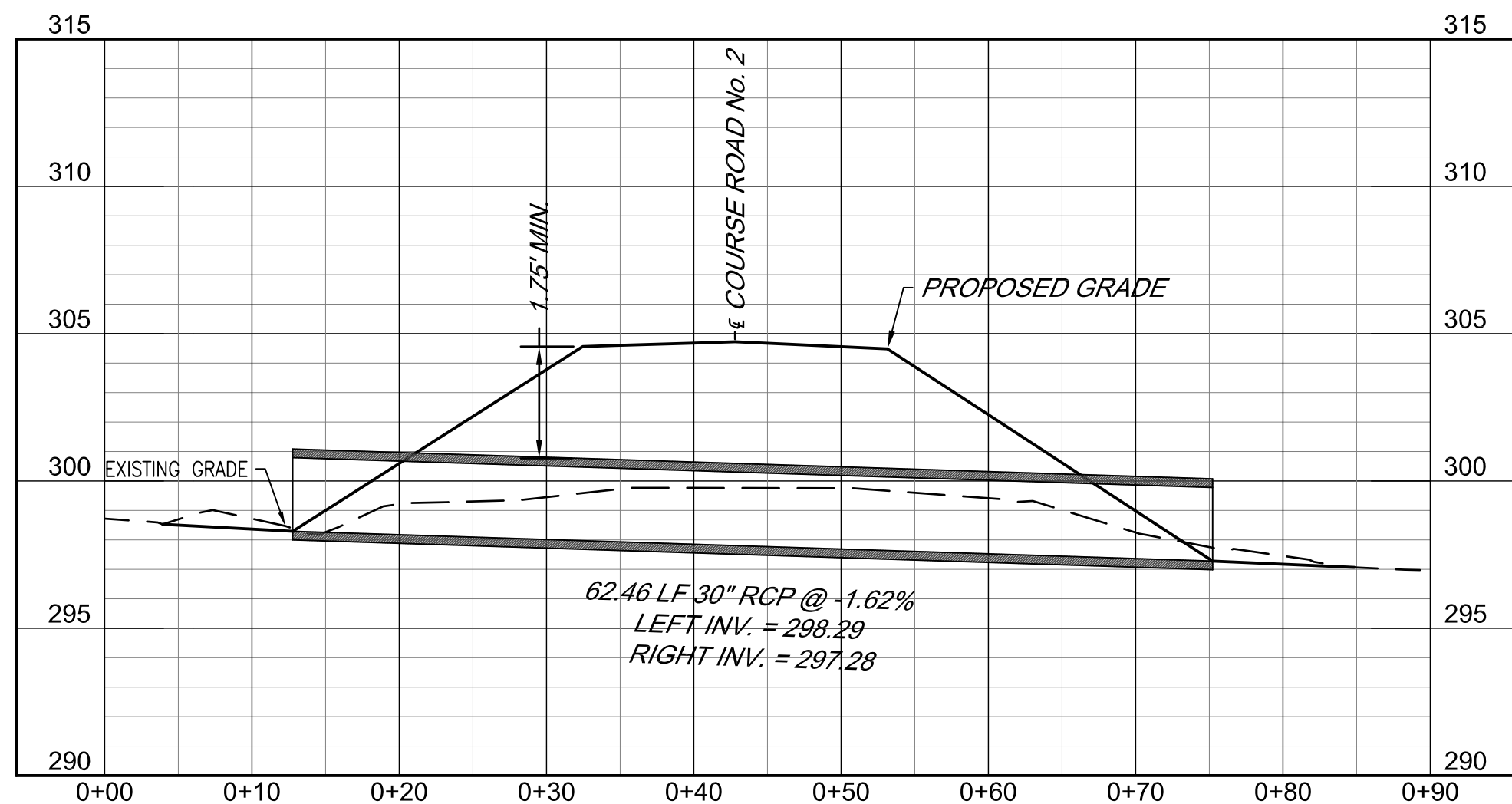
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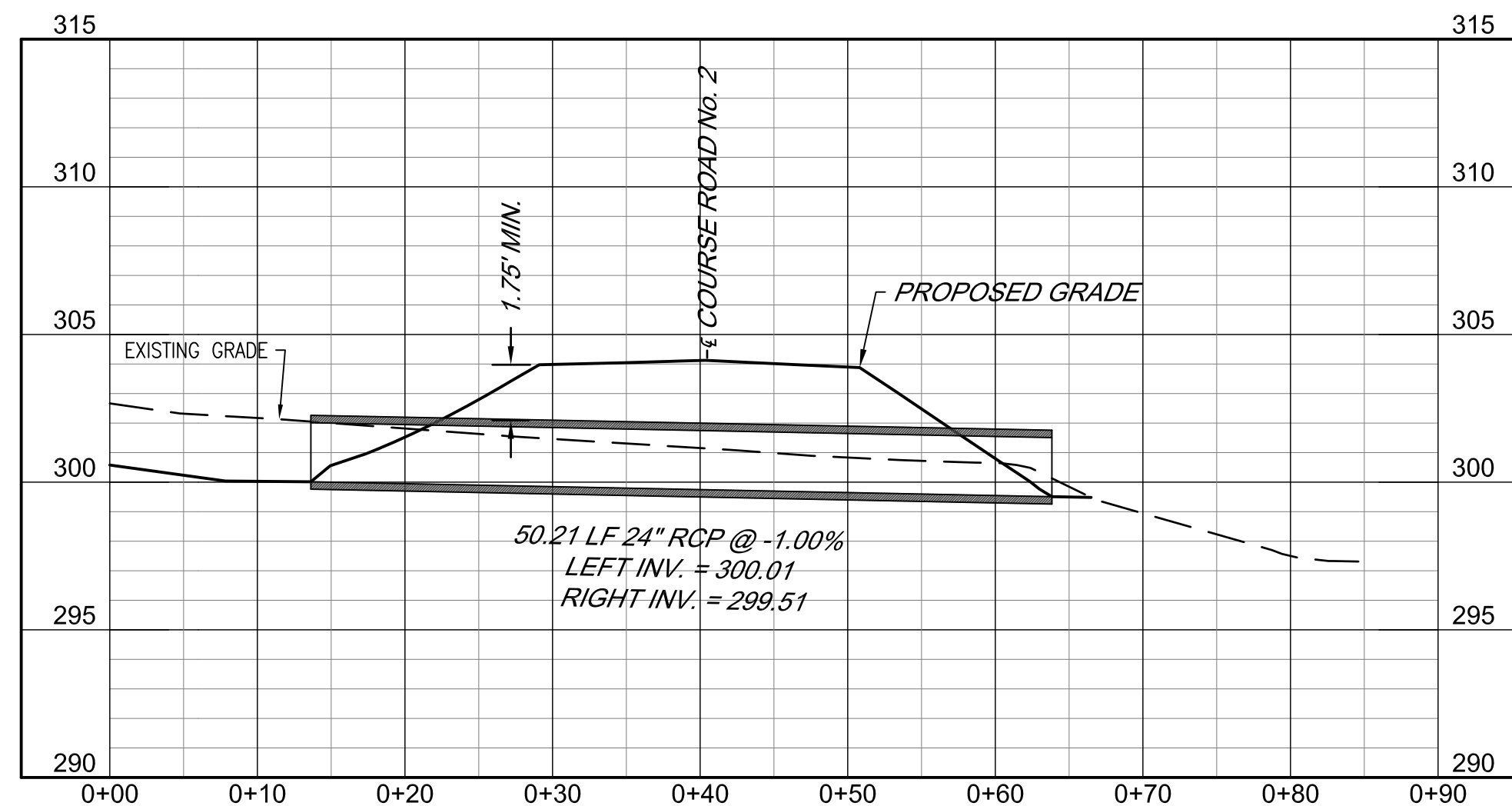
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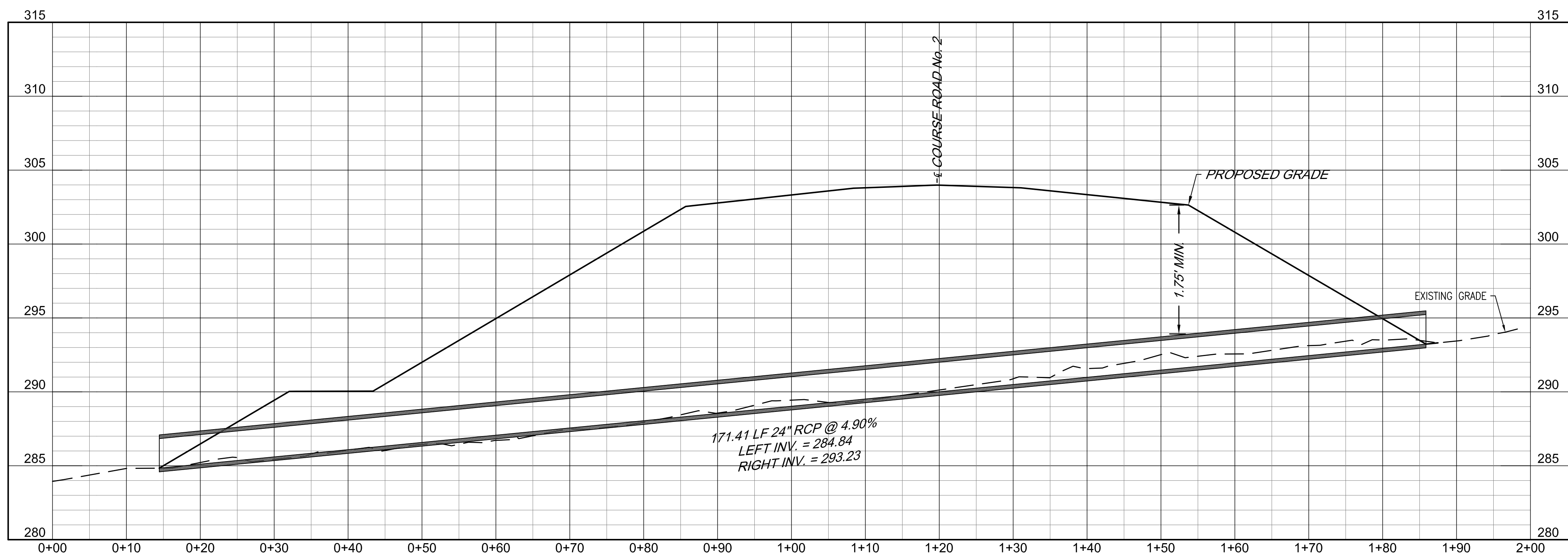
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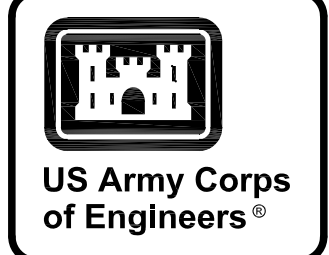
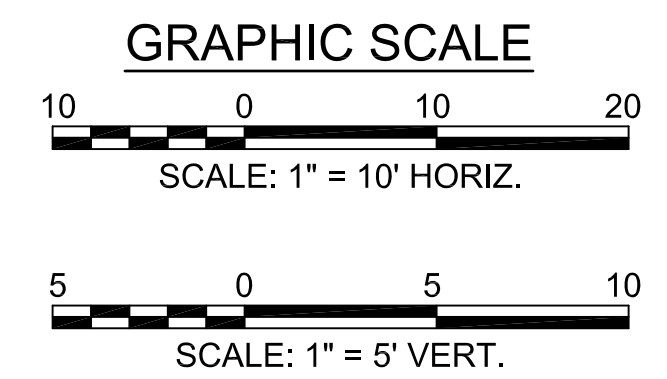
PIPE 13



PIPE 15



PIPE 14



MARK	DESCRIPTION	DATE

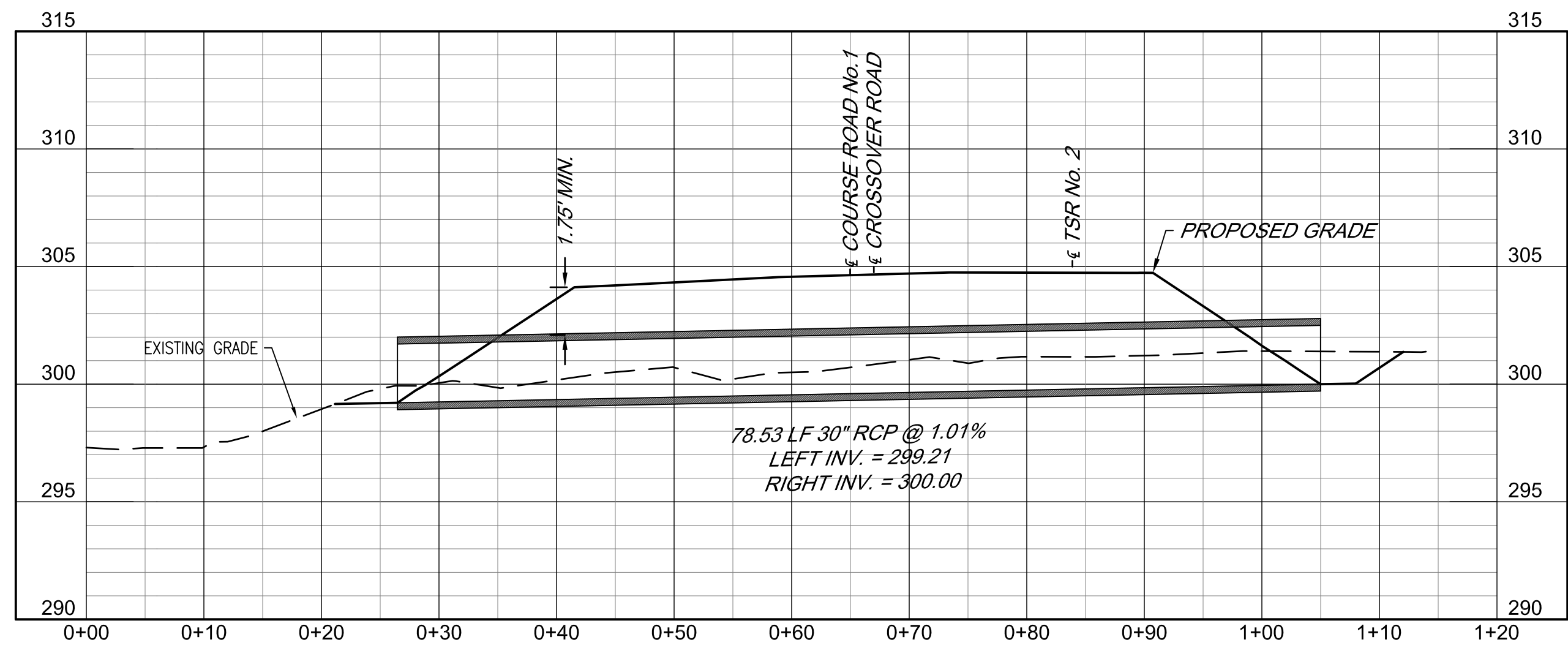
DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. BRADLEY	NO. OF REVISIONS: 0
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FILE NAME: ANSID	CATEGORY CODE: 178-65-01
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	
POLY, INC. 1995 HEADLAND AVENUE DOTHAN, AL 36503 WWW.POLY-INC.COM/334799-4700	

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTI)
FY23, PN 96182
VOLUMES 3 & 4 - DOWNRANGE
CULVERT PROFILES

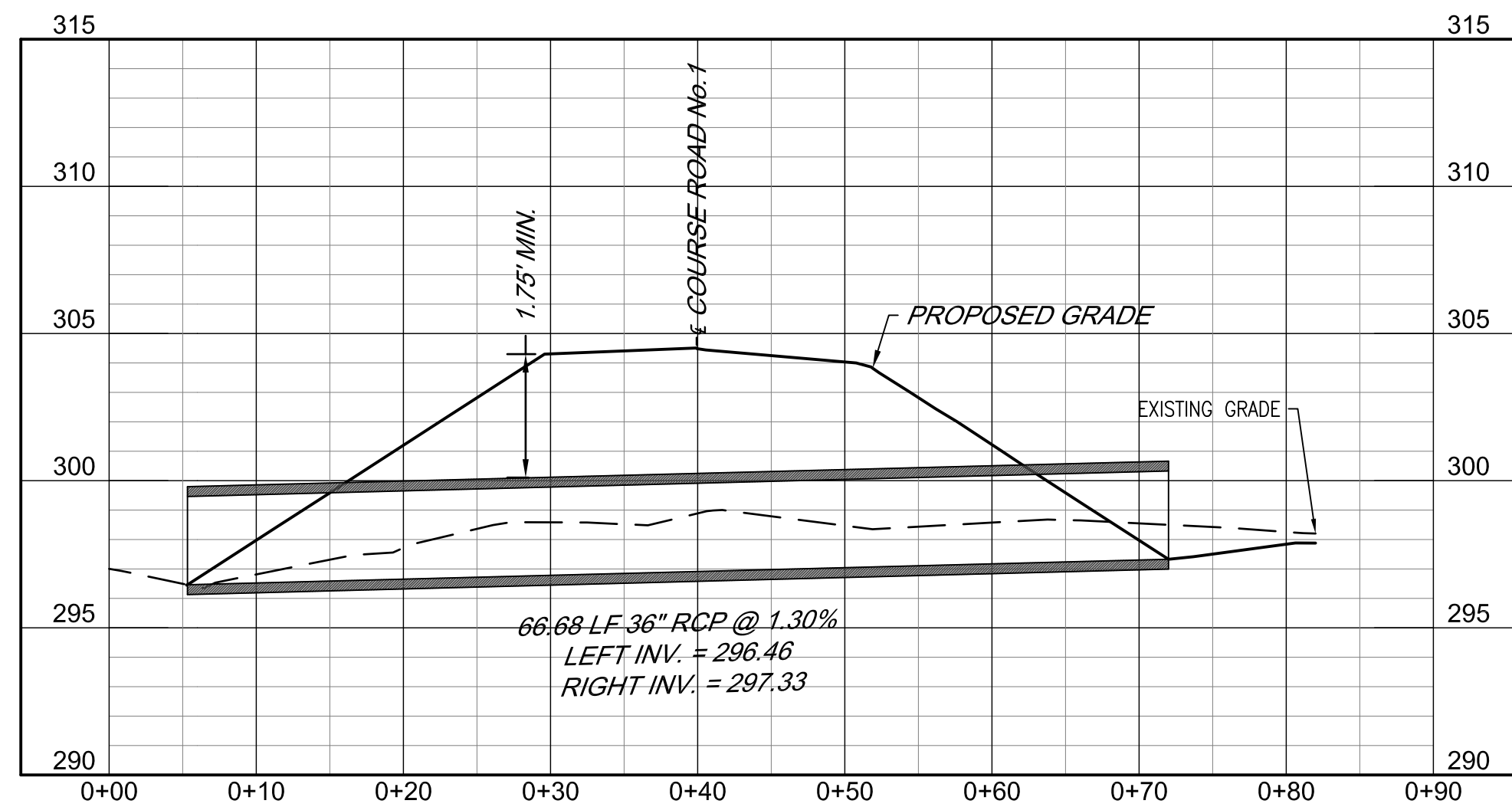
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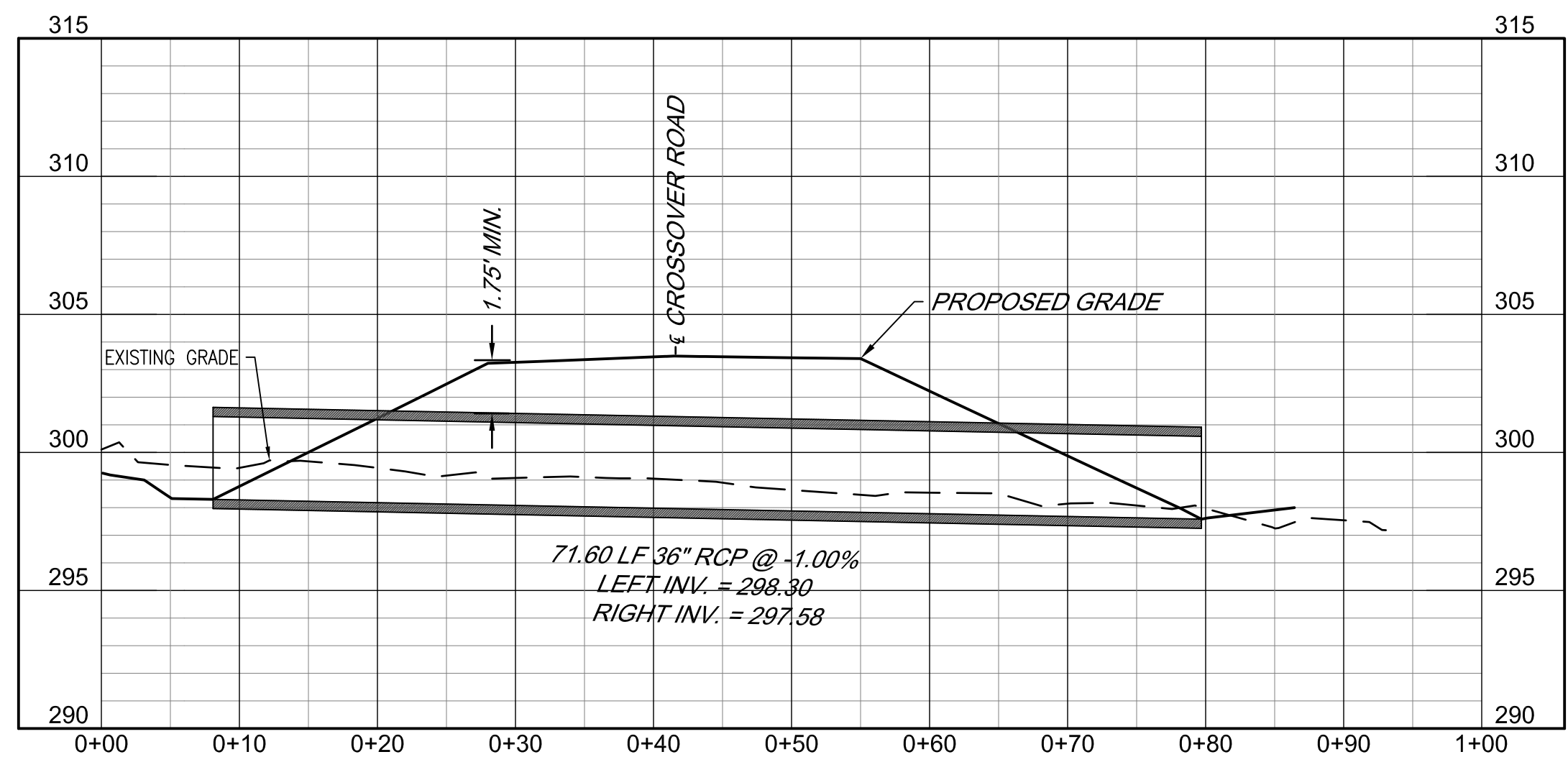
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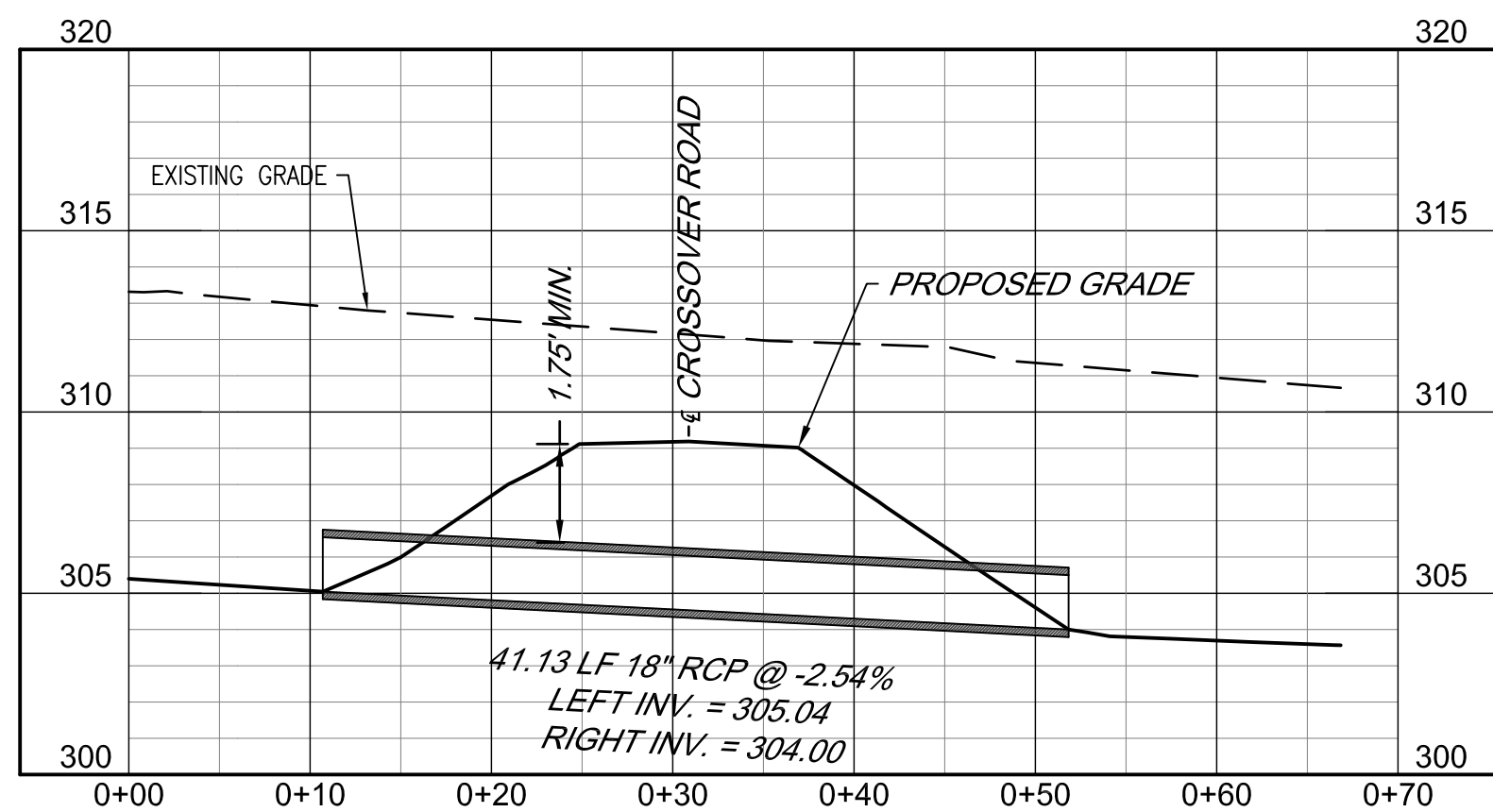
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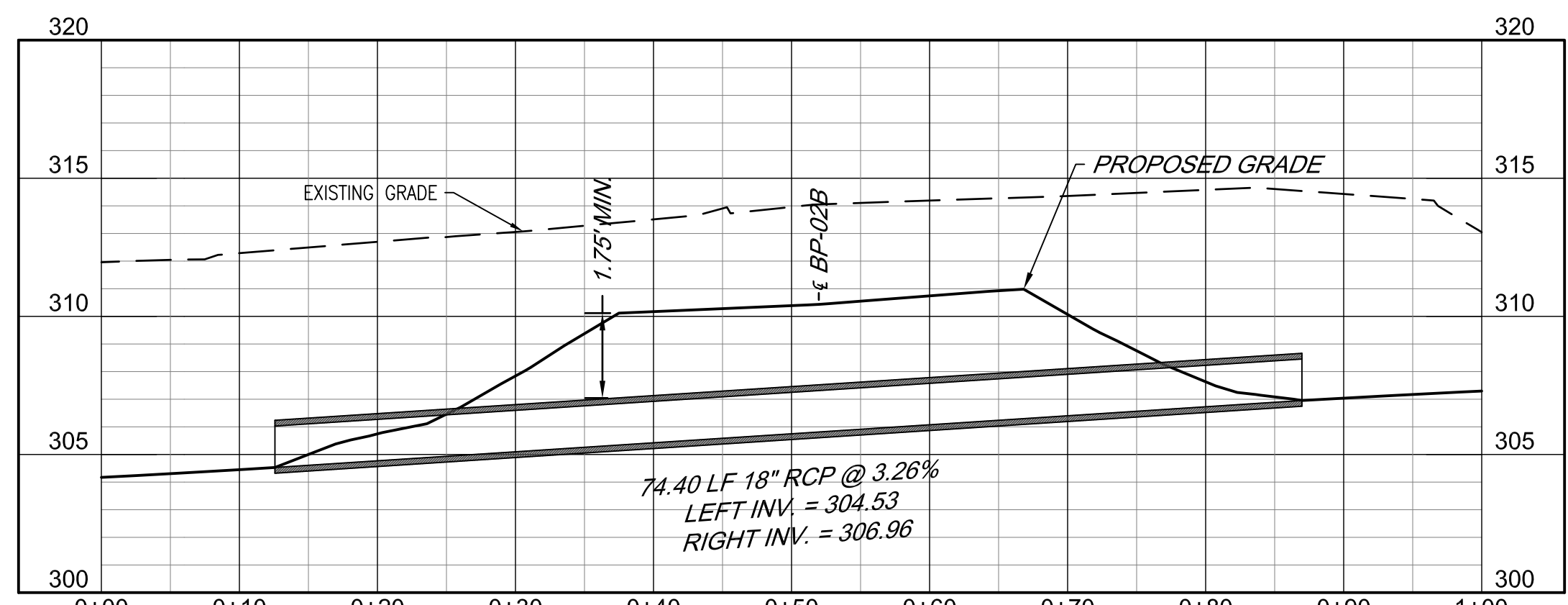
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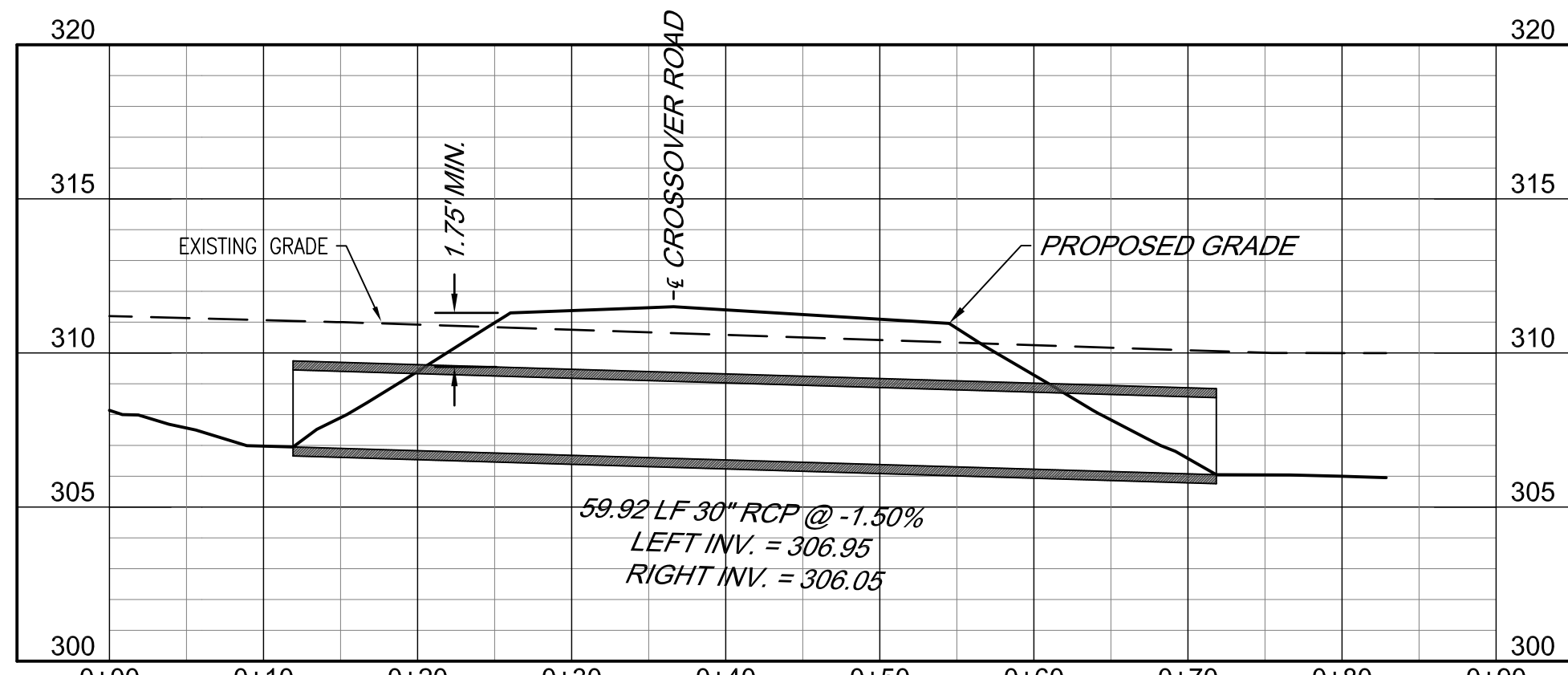
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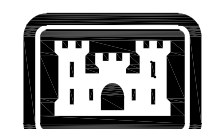
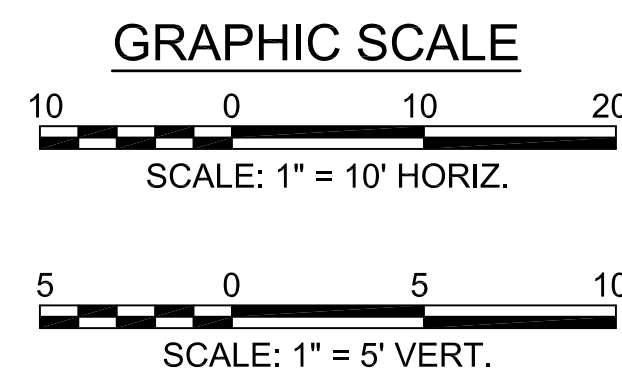
PIPE 19



PIPE 20



PIPE 21



US Army Corps
of Engineers®

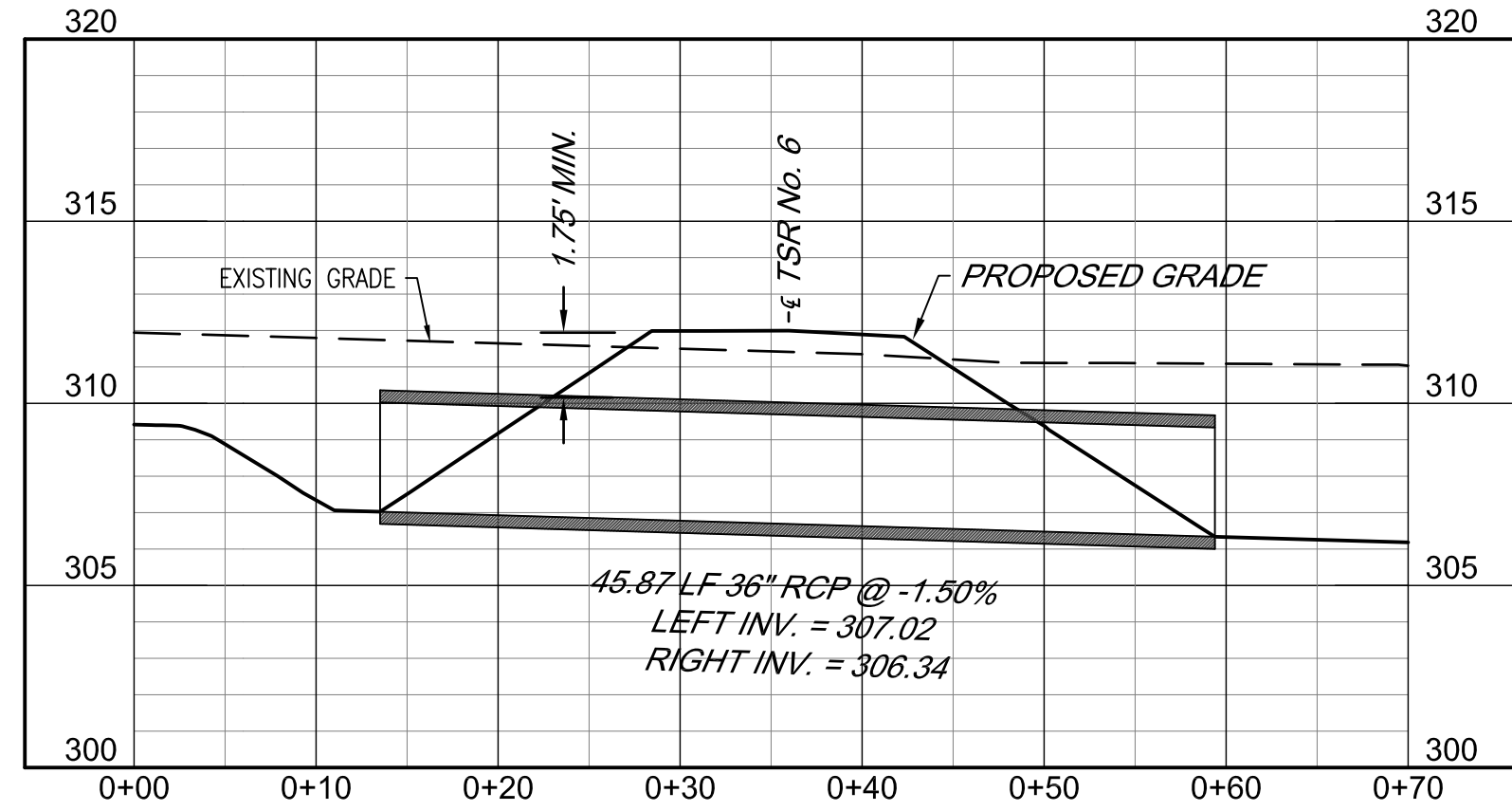
MARK	DESCRIPTION	DATE

DESIGNED BY:	NOVEMBER 2023	ISSUE DATE:	NOVEMBER 2023
K. SANDERS		DRAWN BY:	B. BRADLEY
B. BRADLEY		CHECKED BY:	B. BRADLEY
		PROJECT NO.:	90434123 2022
		CONTRACT NO.:	
		CATEGORY CODE:	178-85-01
		FILE NAME:	
		ANSID	
U.S. ARMY CORPS OF ENGINEERS	SAVANNAH DISTRICT	POLY, INC.	1995 HEADLAND AVENUE
100 W. OGLETHORPE AVE	SAVANNAH, GA 31401	DOTHAN, AL 36803	WWW.POLY-INC.COM/334795-4700

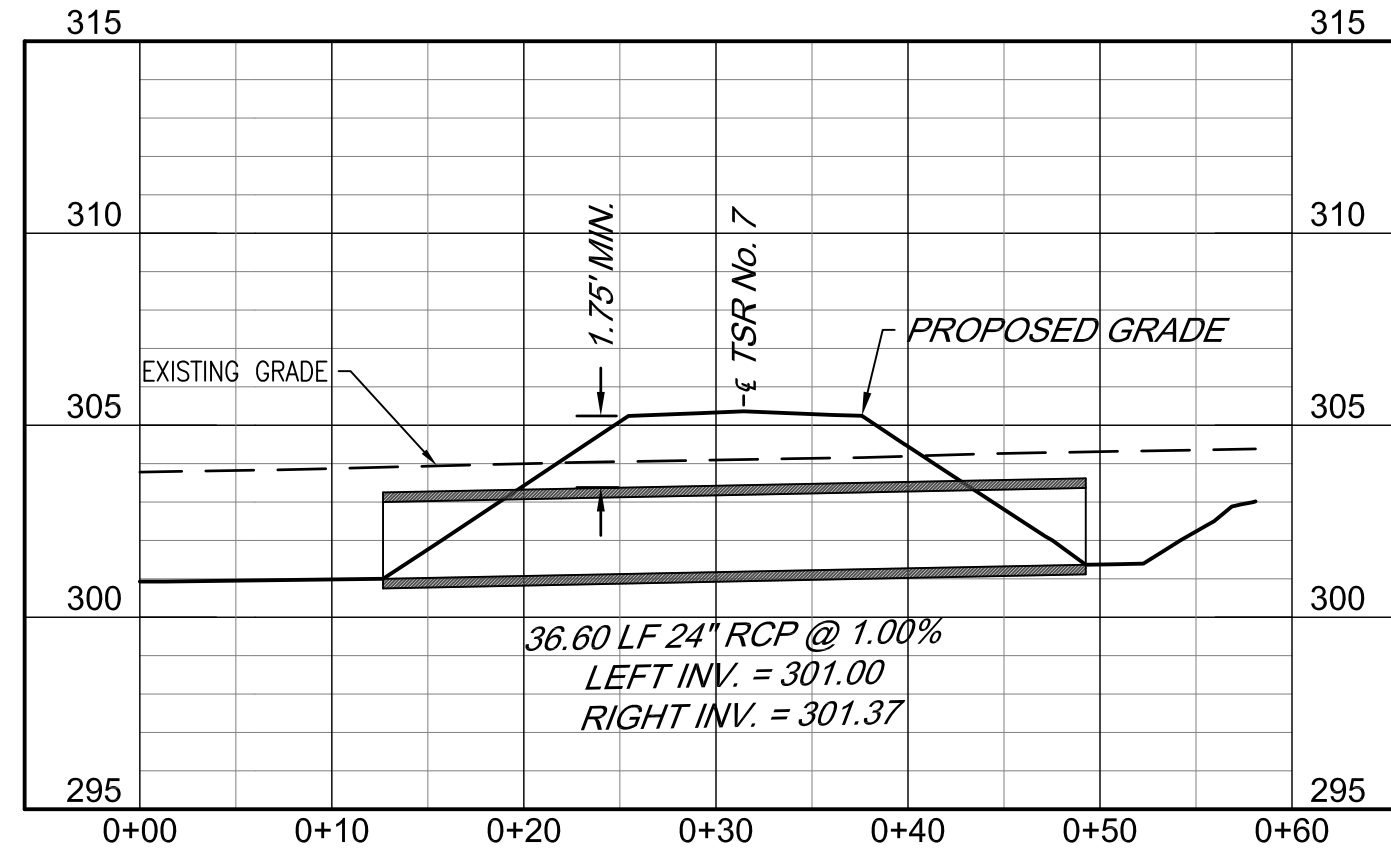
FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 96182
VOLUMES 3 & 4 - DOWNRANGE
CULVERT PROFILES

SHEET ID
CU205

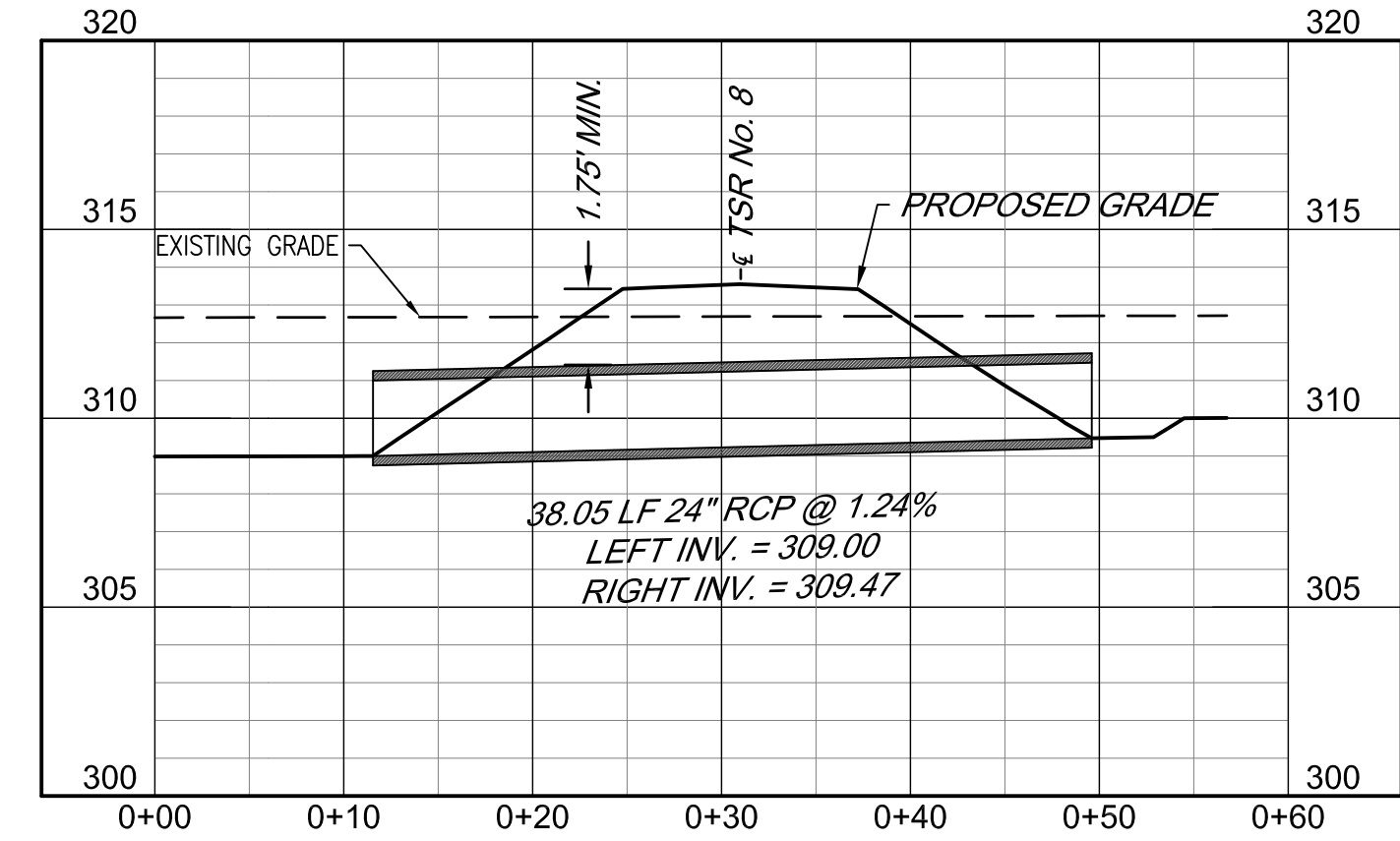
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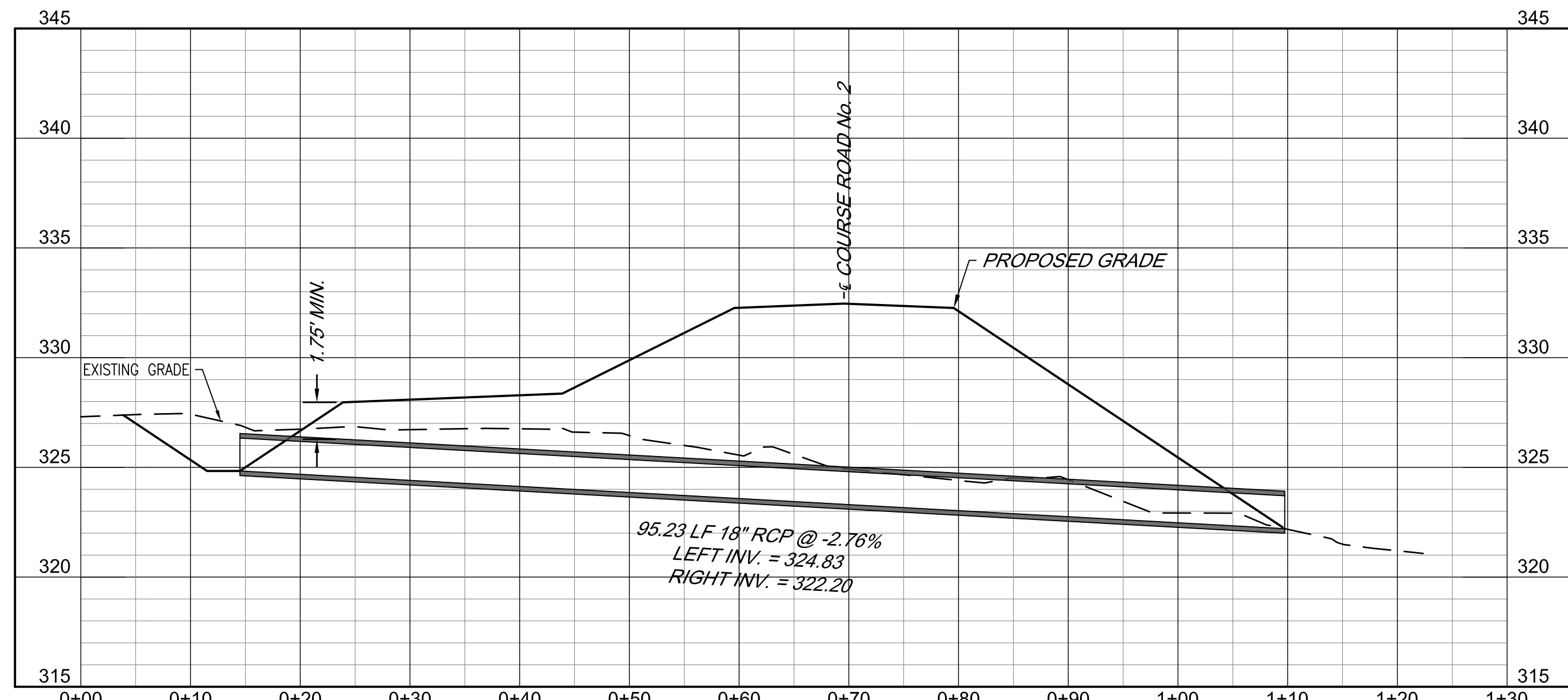
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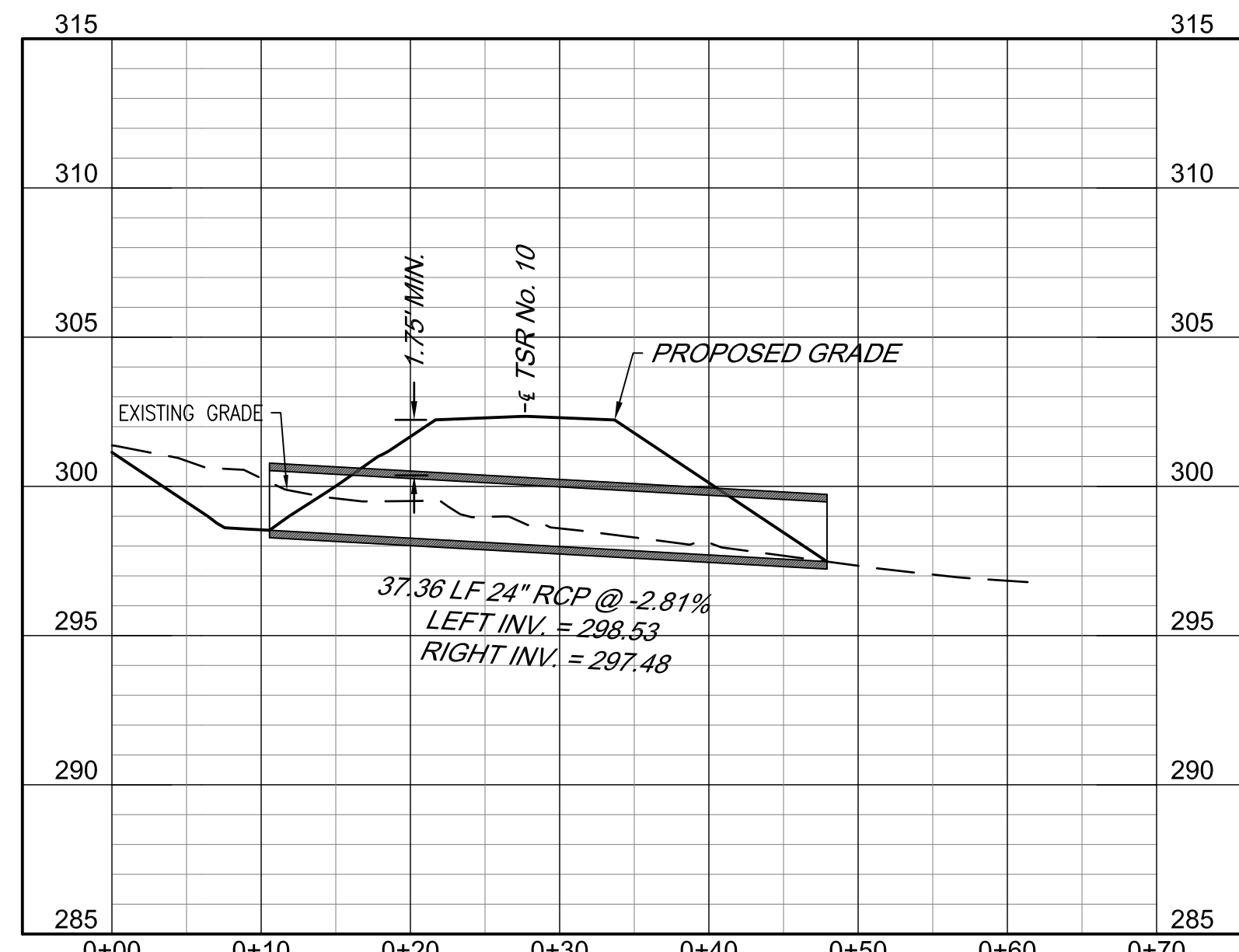
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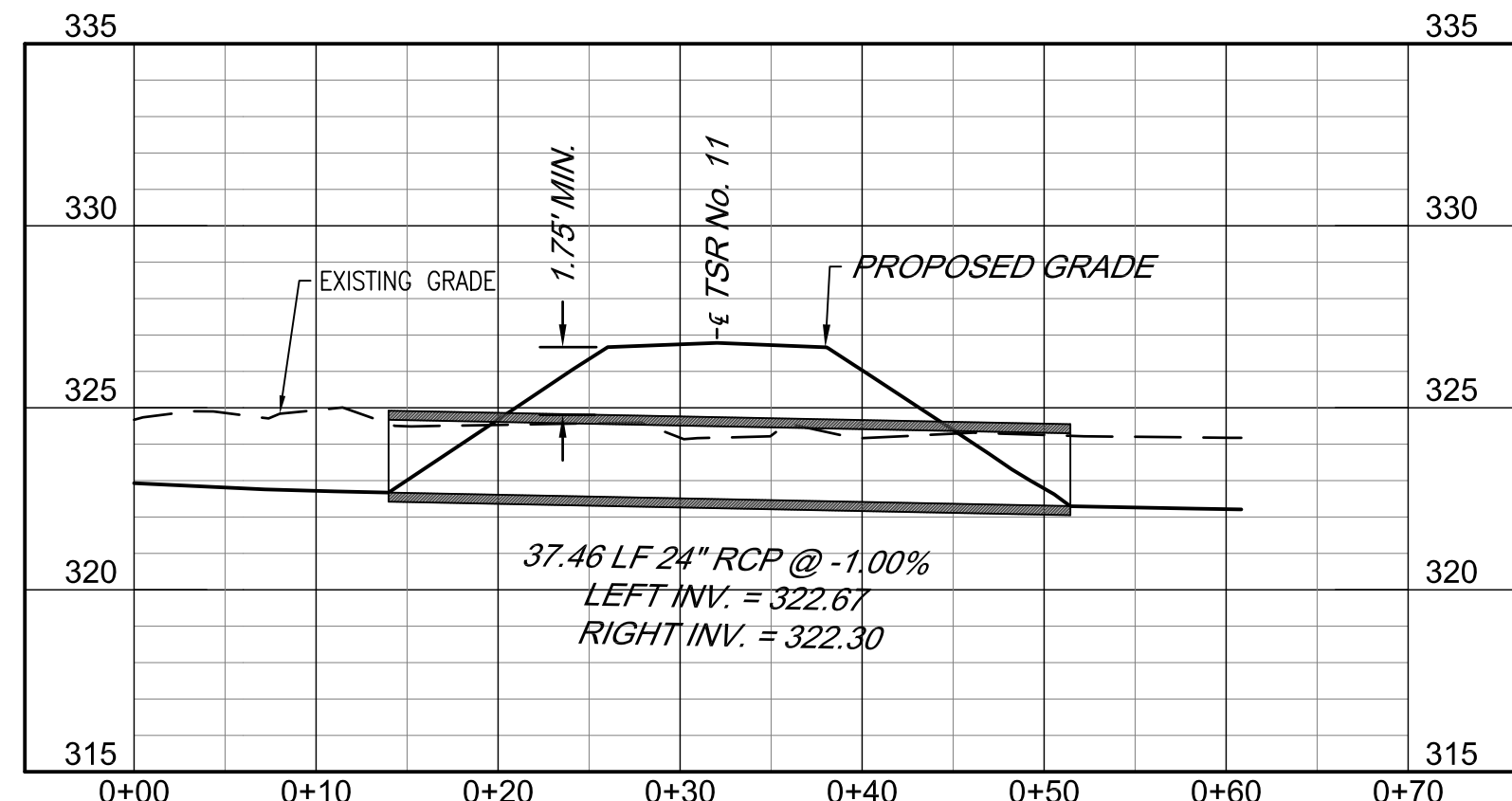
PIPE 24



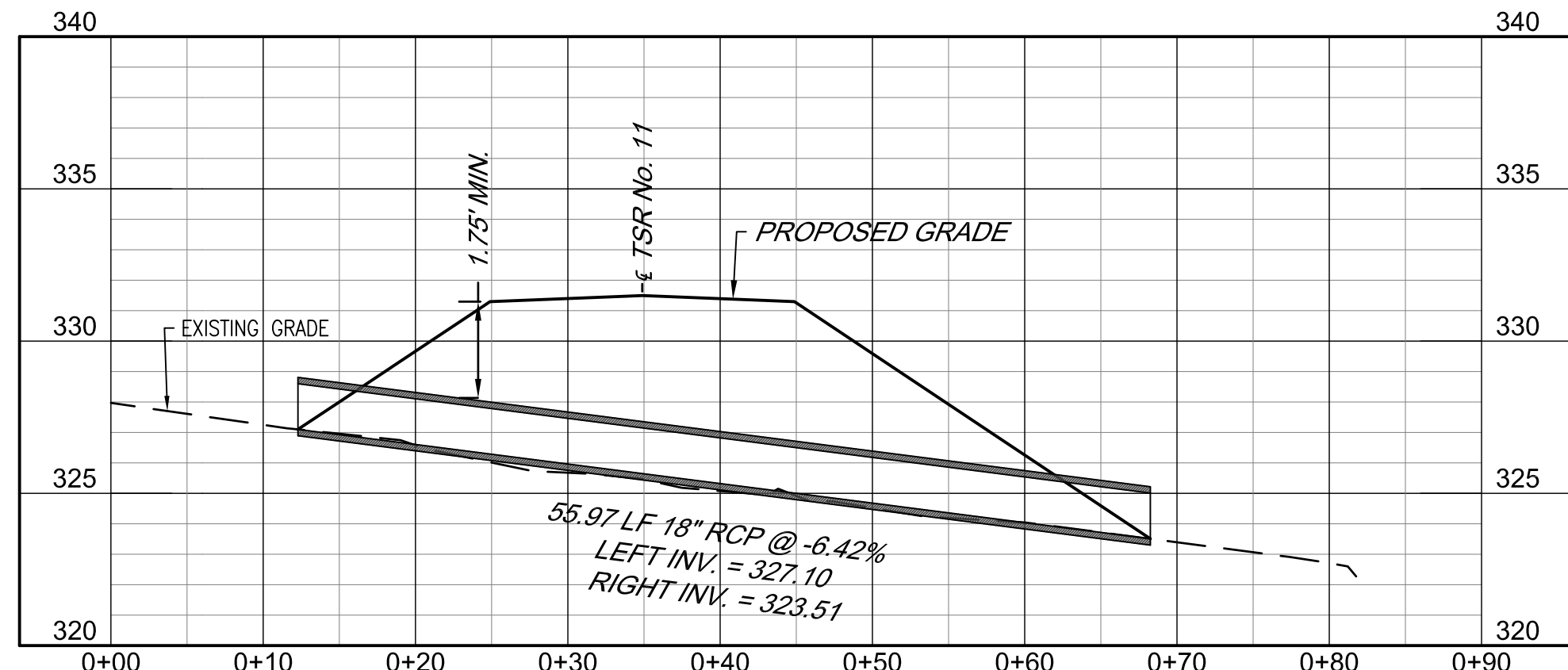
PIPE 25



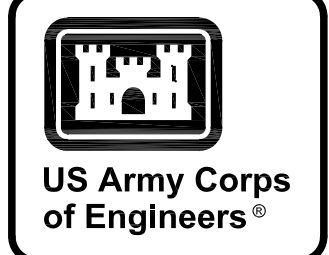
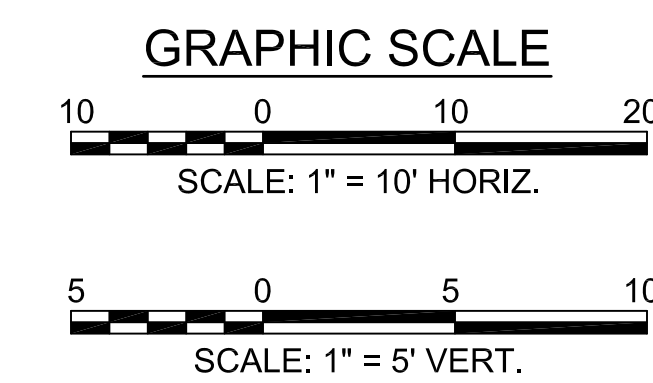
PIPE 26



PIPE 27



PIPE 28

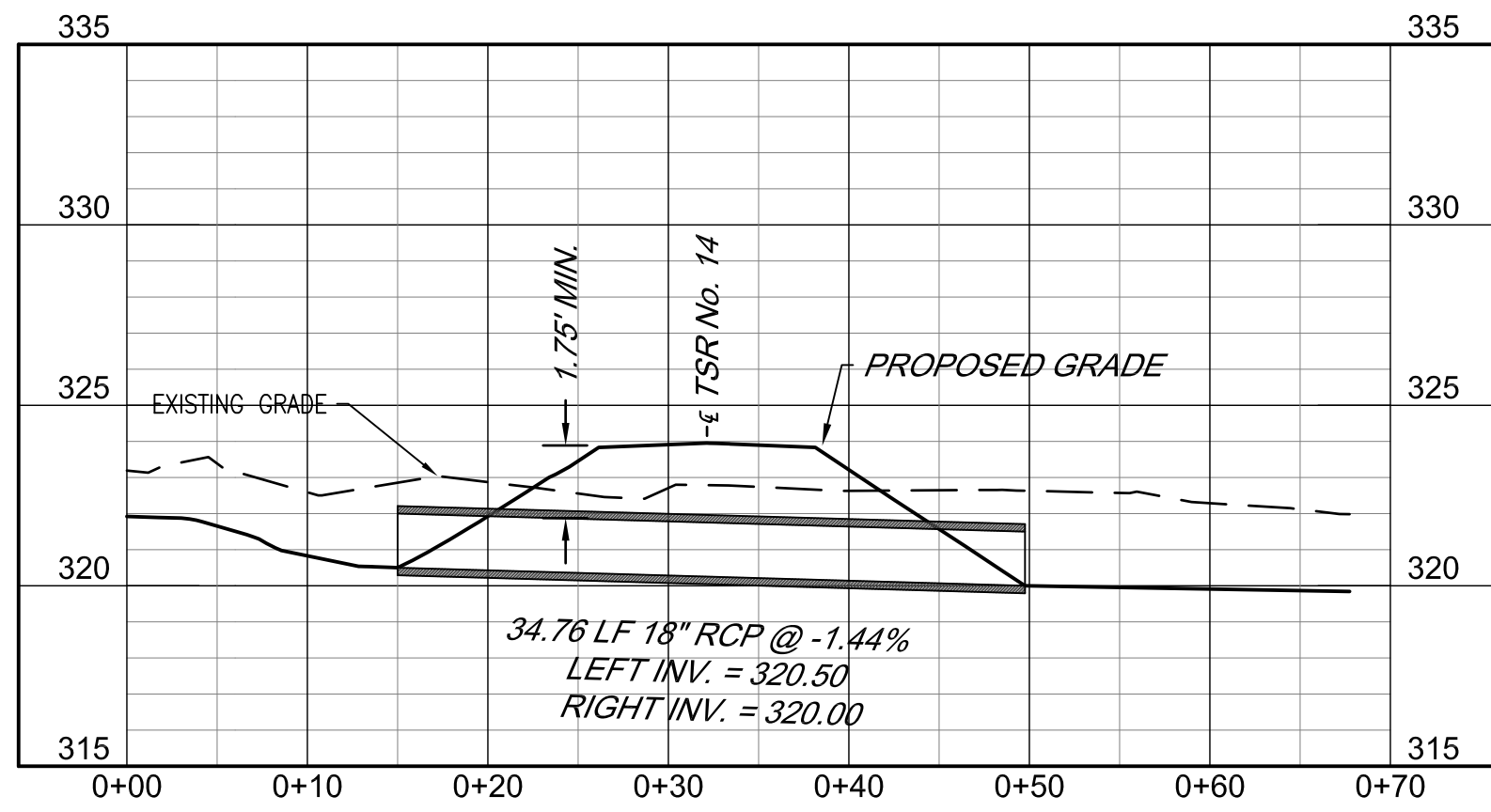


MARK	DESCRIPTION	DATE

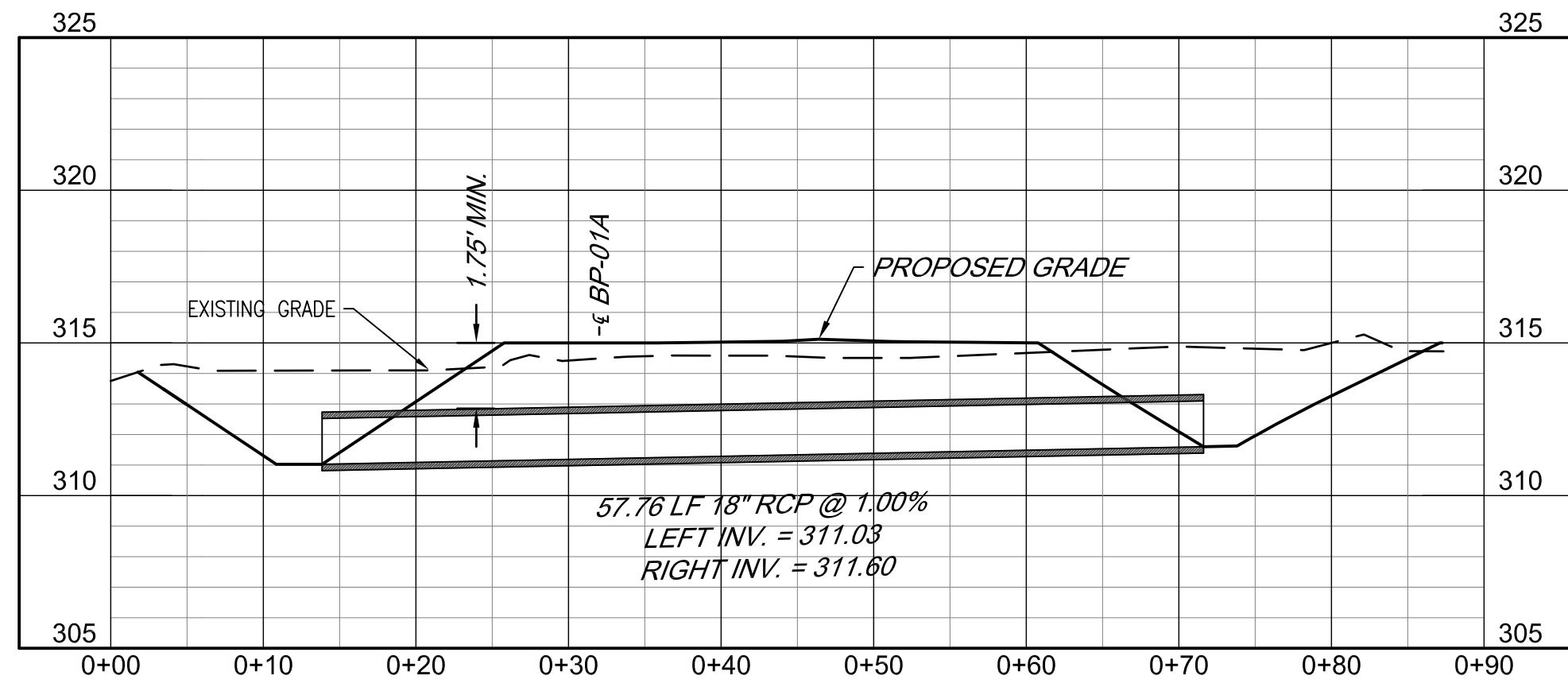
DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. BRADLEY	PROJECT NO. / 104194-23-3012
SUBMITTED BY: B. BRADLEY	CONTRACT NO.:
FILE NAME: ANSID	CATEGORY CODE: 178-65-01
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	
POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36303 WWW.POLY-INC.COM/334795-4700	

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPT)
FY23, PN 96182
VOLUMES 3 & 4 - DOWNRANGE
CULVERT PROFILES

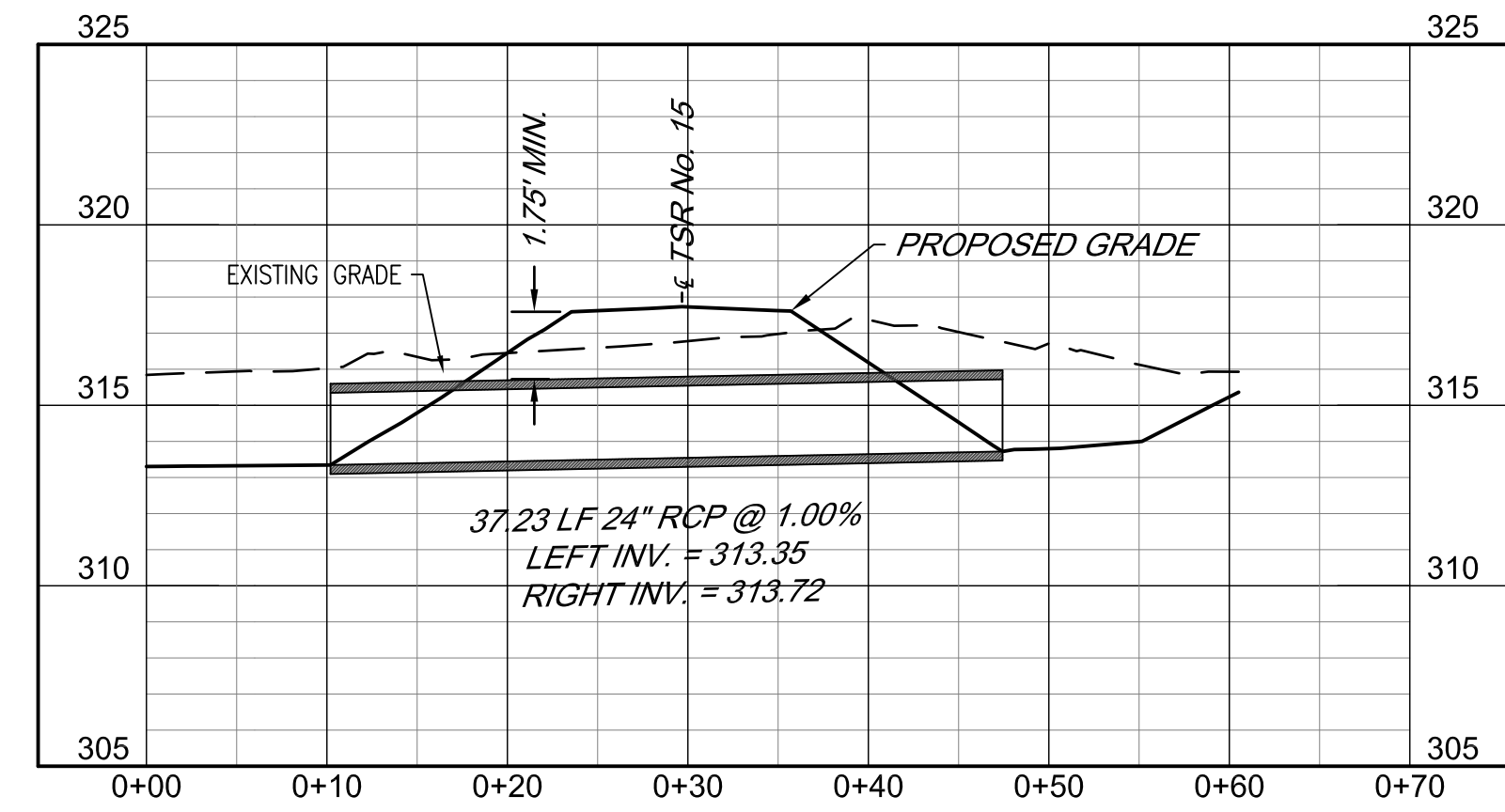
SHEET ID
CU206



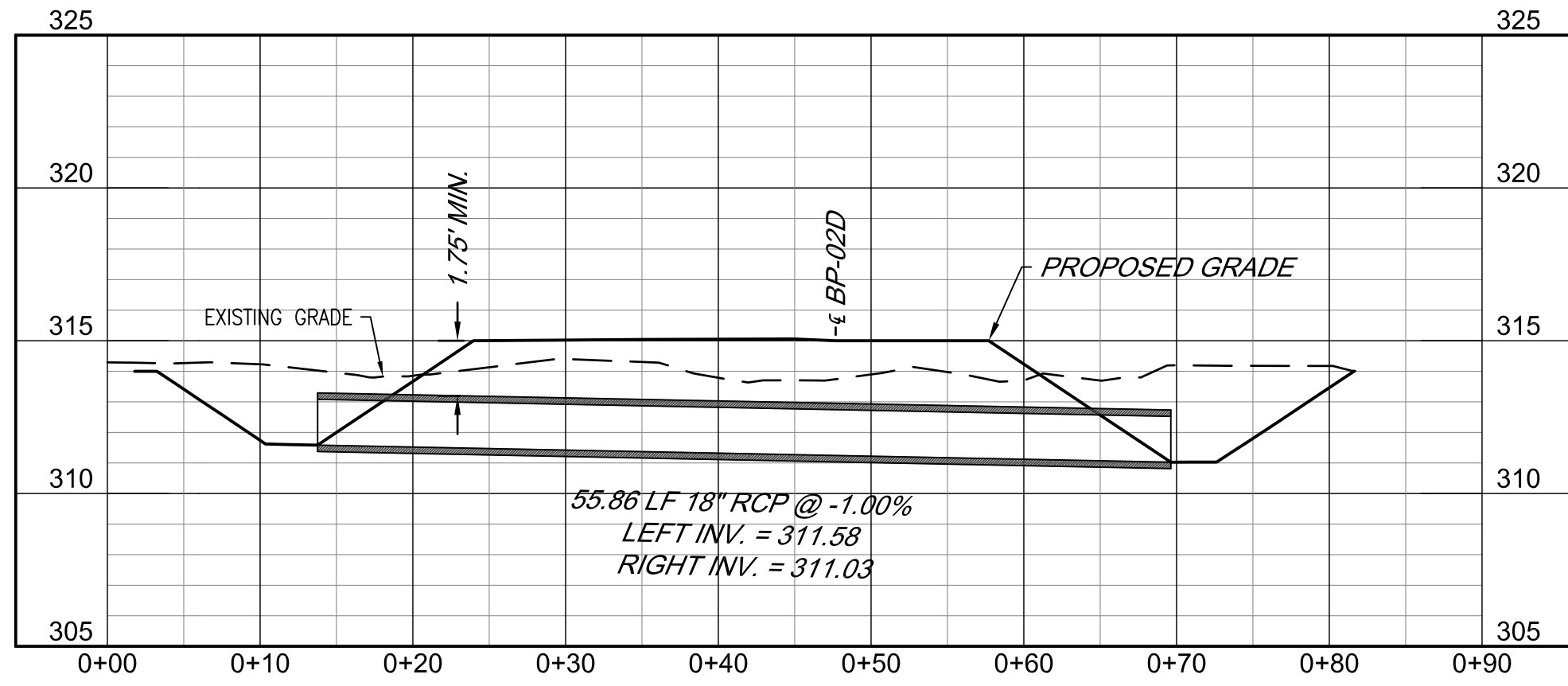
PIPE 29



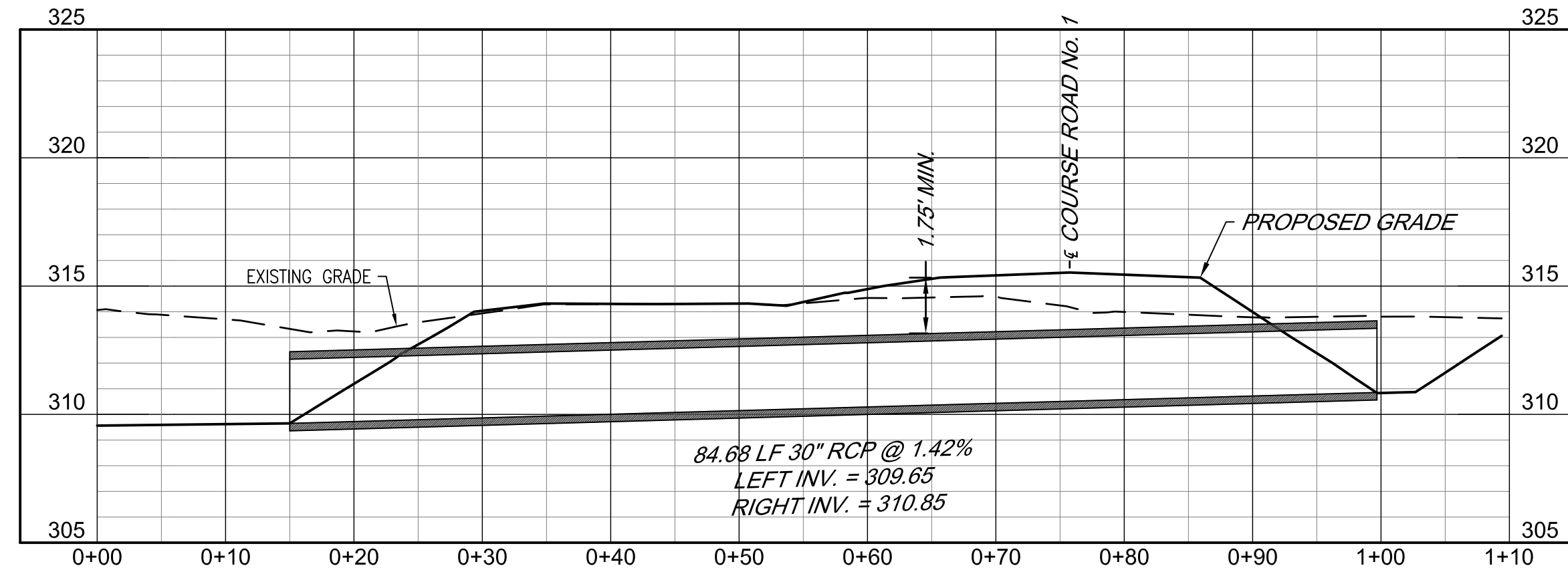
PIPE 30



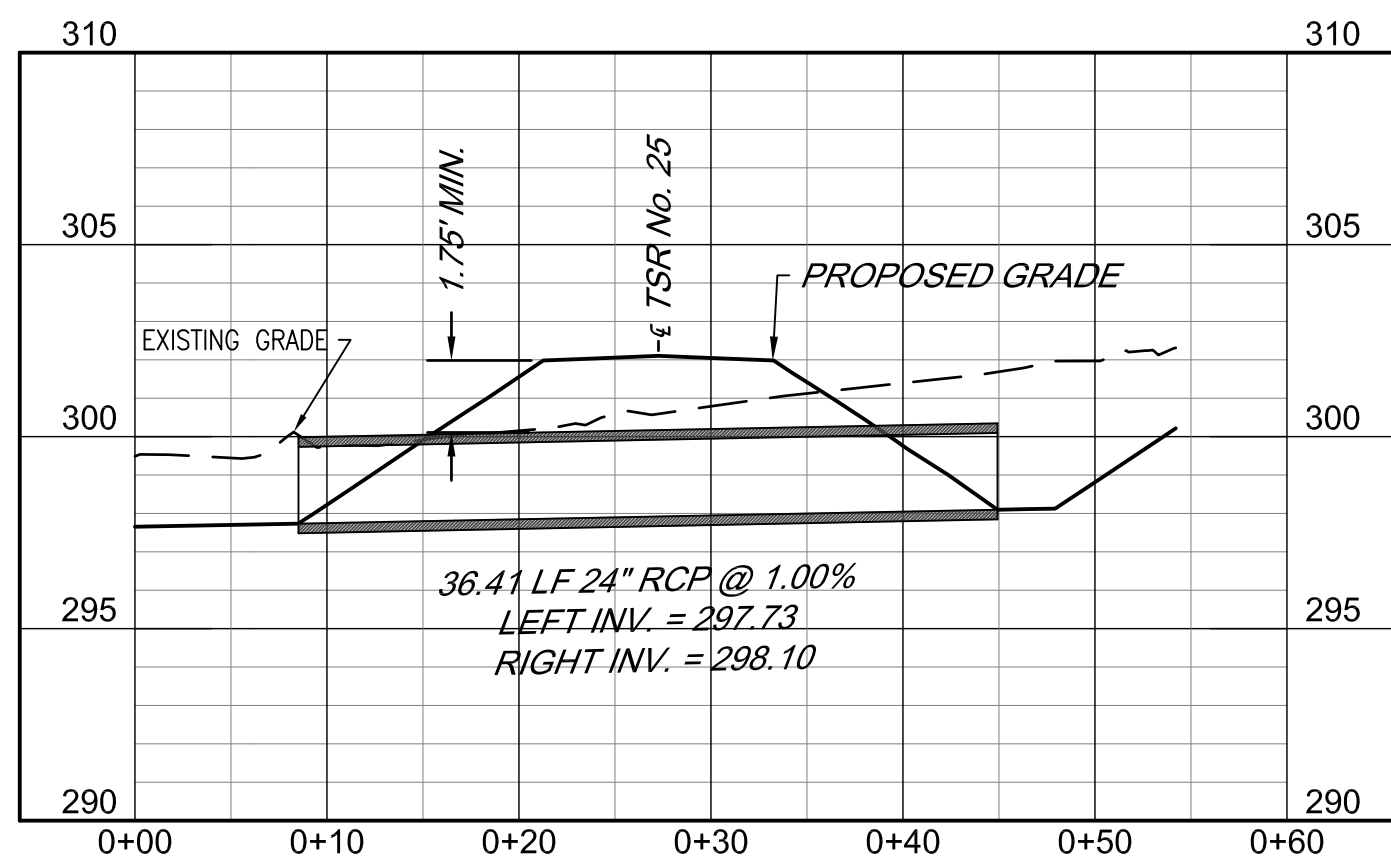
PIPE 31



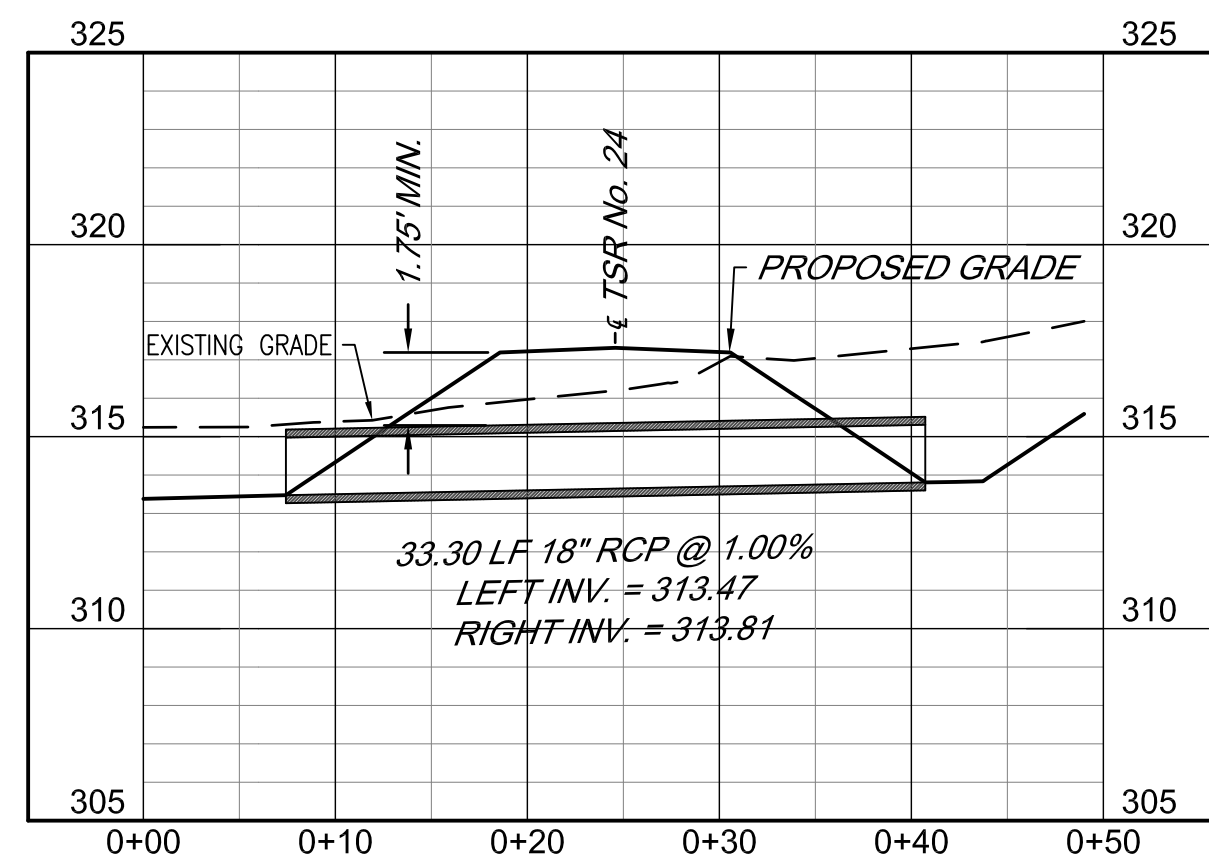
PIPE 32



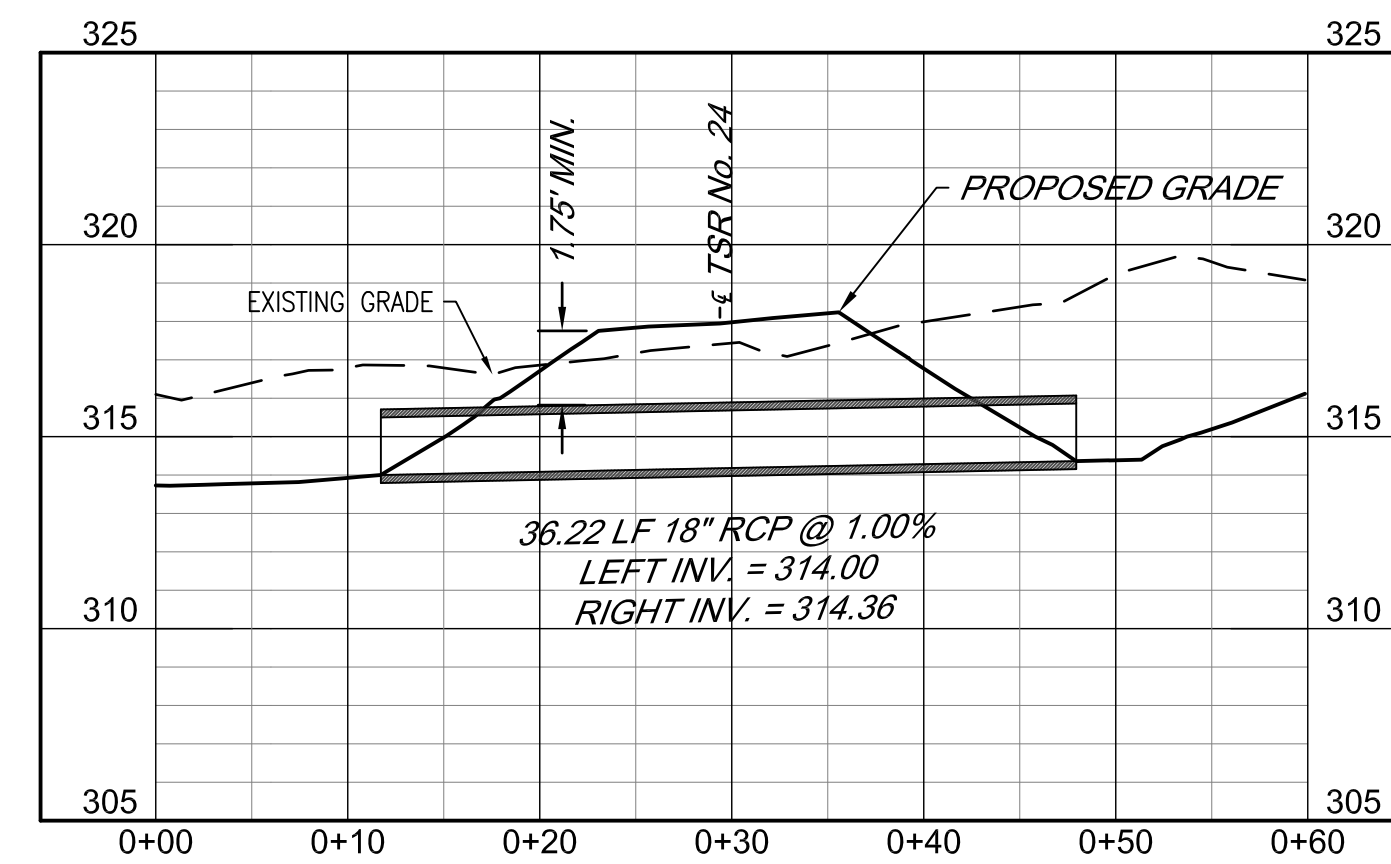
PIPE 33



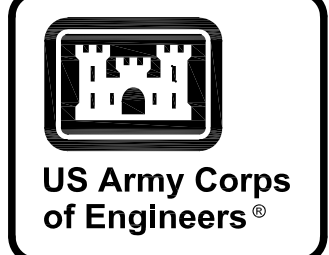
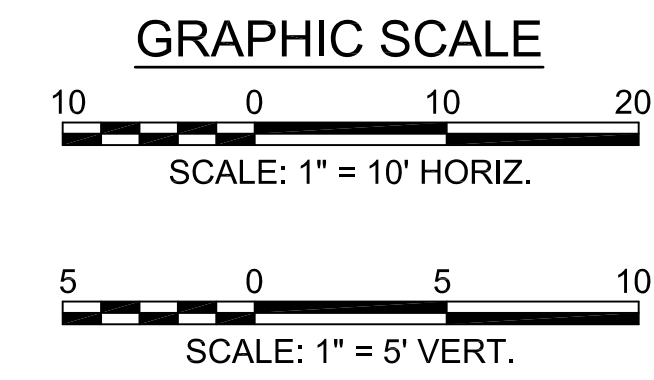
PIPE 34



PIPE 35



PIPE 36



MARK	DESCRIPTION	DATE

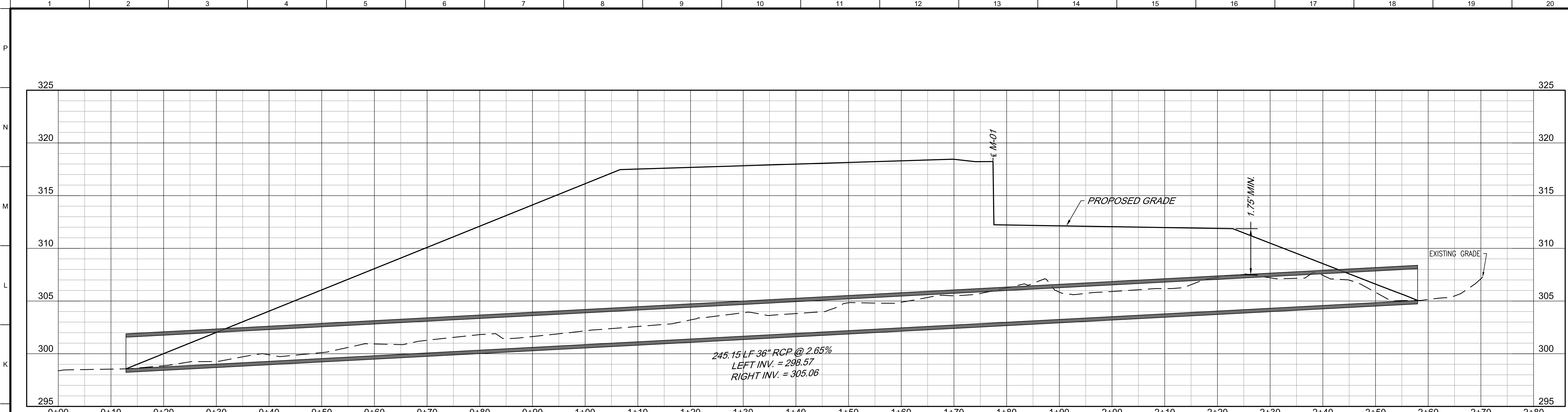
DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. BRADLEY	PROJECT NO. / DRAWING NO.: 104134-23-3012
SUBMITTED BY: B. BRADLEY	CONTRACT NO.:
FILE NAME: ANSID	CATEGORY CODE: 178-65-01
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	
POLY, INC. 1985 HEADLAND AVENUE DOTHAN, AL 36803 WWW.POLY-INC.COM/334795-4700	

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 96182
VOLUMES 3 & 4 - DOWNRANGE
CULVERT PROFILES

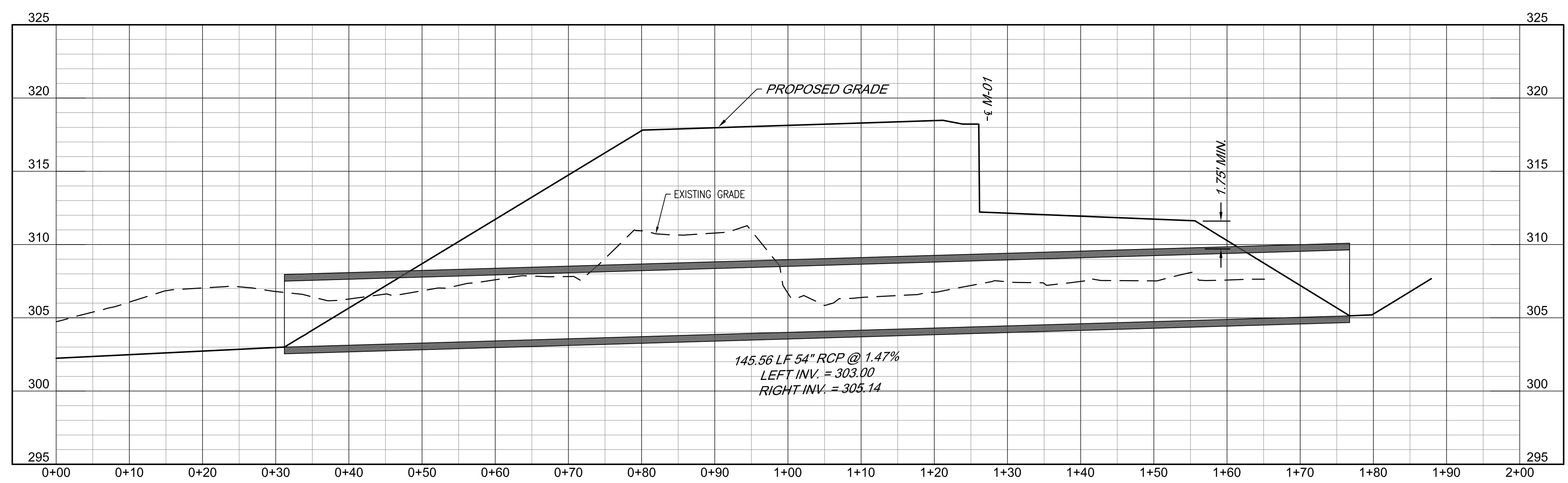
SHEET ID
CU207

READY TO ADVERTISE (RTA)

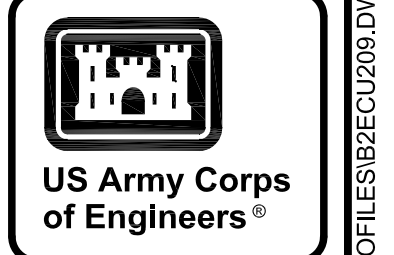
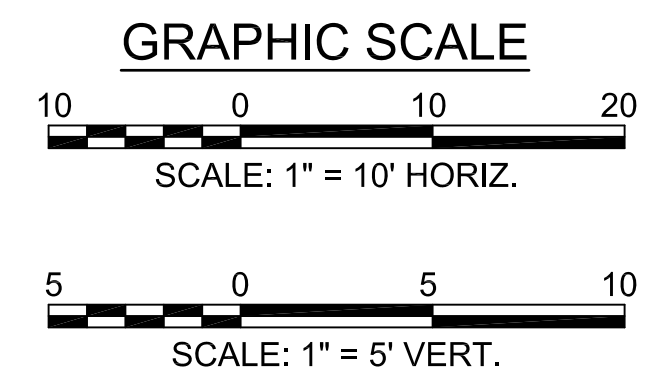
G:\CLEANSTUFF-15-2815376 BRAGG MPTTR\PI07_RTA_FINAL SUBMITTAL\04-CIVIL\200 PROFILES\B2EUCU207.DWG



PIPE 43



PIPE 44



MARK	DESCRIPTION	DATE

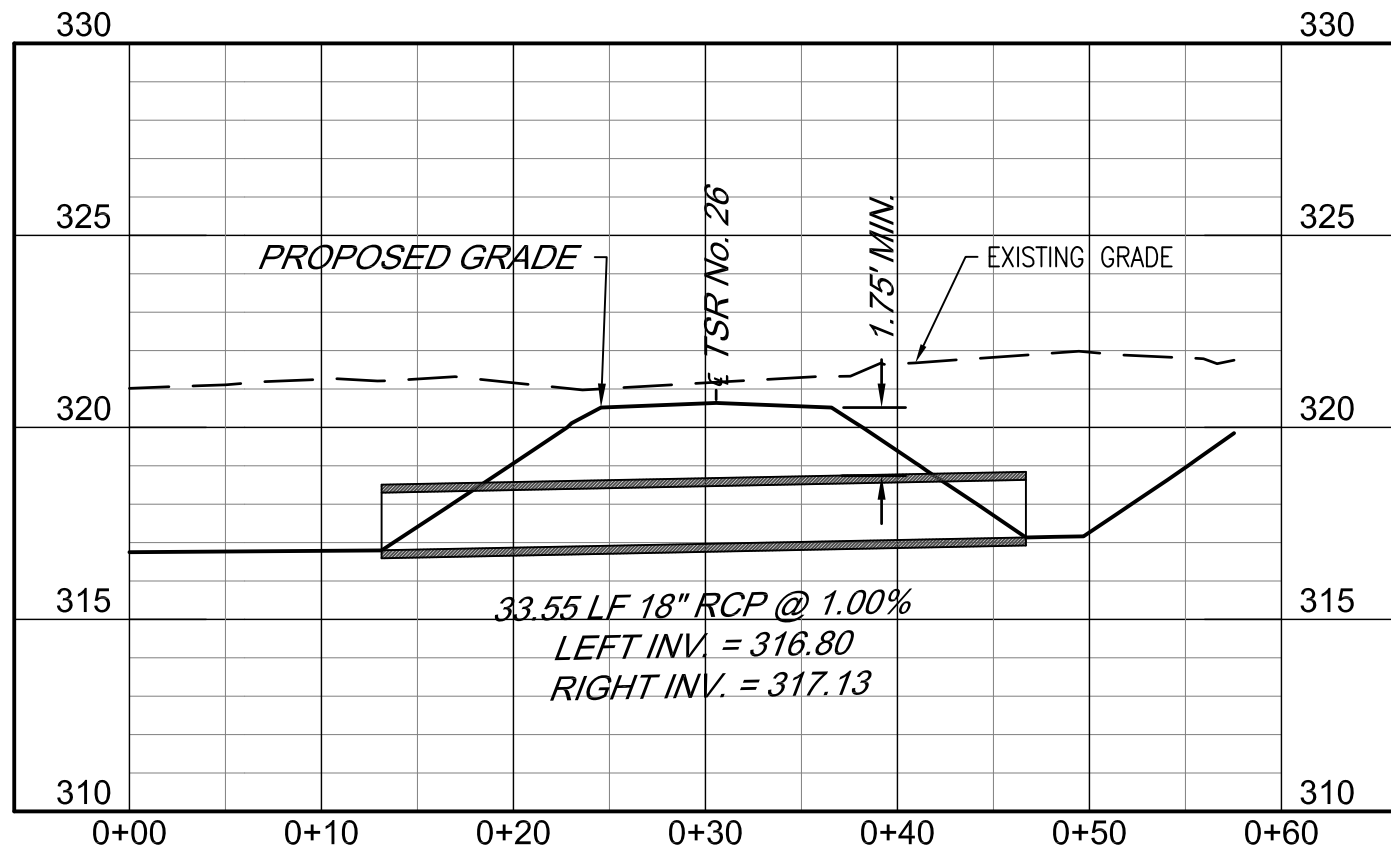
DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. BRADLEY	PROJECT NO. & DATE: W04P0143-3012
FILED BY: B. BRADLEY	CONTRACT NO.:
ANSID:	CATEGORY CODE: 178-65-01
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	FILE NAME: 178-65-01
POLY, INC. 1995 HEADLAND AVENUE DOTHAN, AL 36302 WWW.POLY-INC.COM/3347-99-4700	

FORT LIBERTY, NORTH CAROLINA
 AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
 FY23, PN 96182
 VOLUMES 3 & 4 - DOWNRANGE
 CULVERT PROFILES

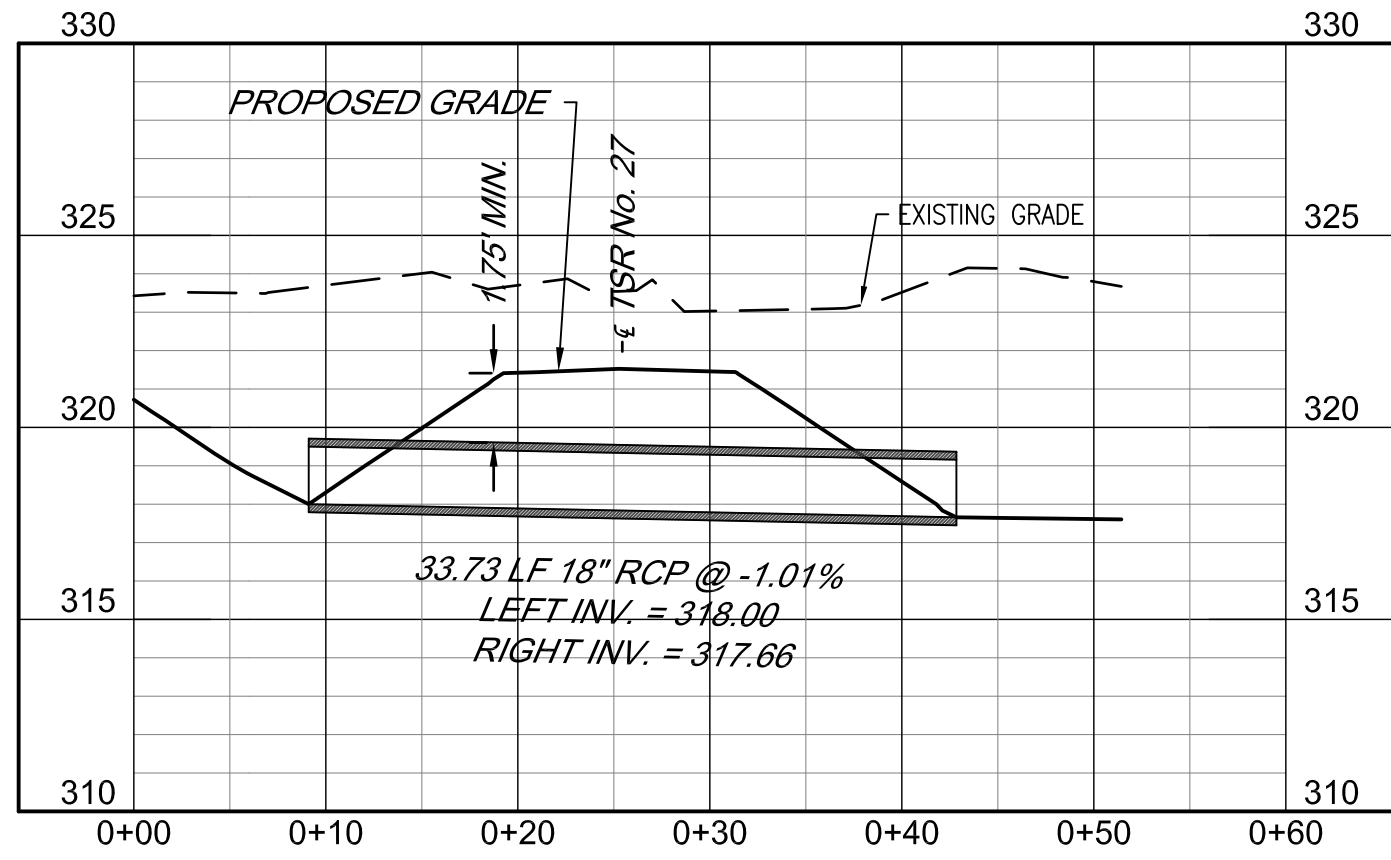
SHEET ID
CU209

G:\CLEANSTUFF-15-2815376 BRAGG\MPTRW\PI07_RTA_FINAL SUBMITTAL\04_CIVIL\200 PROFILES\B2E\CU209.DWG

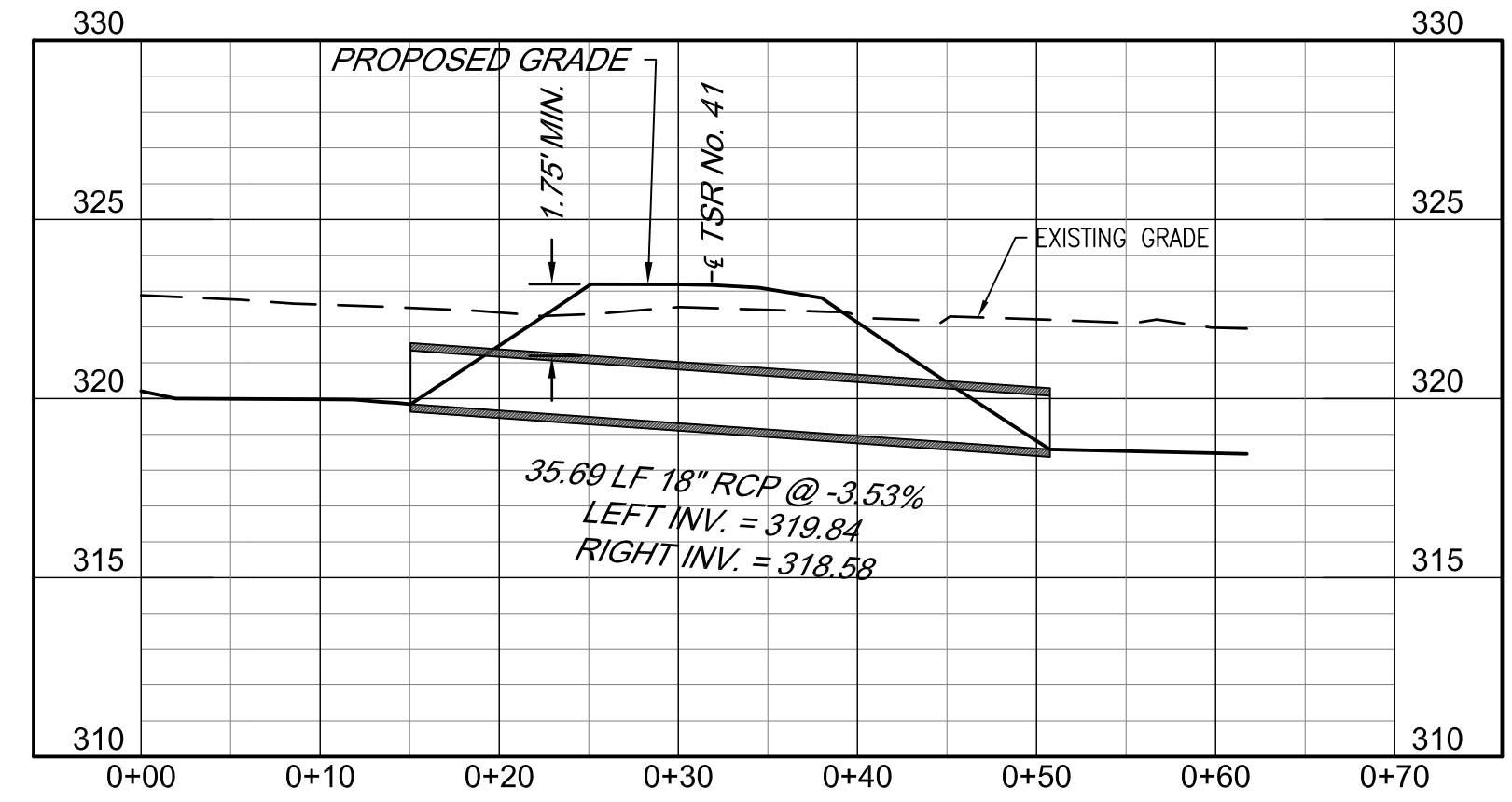
READY TO ADVERTISE (RTA)



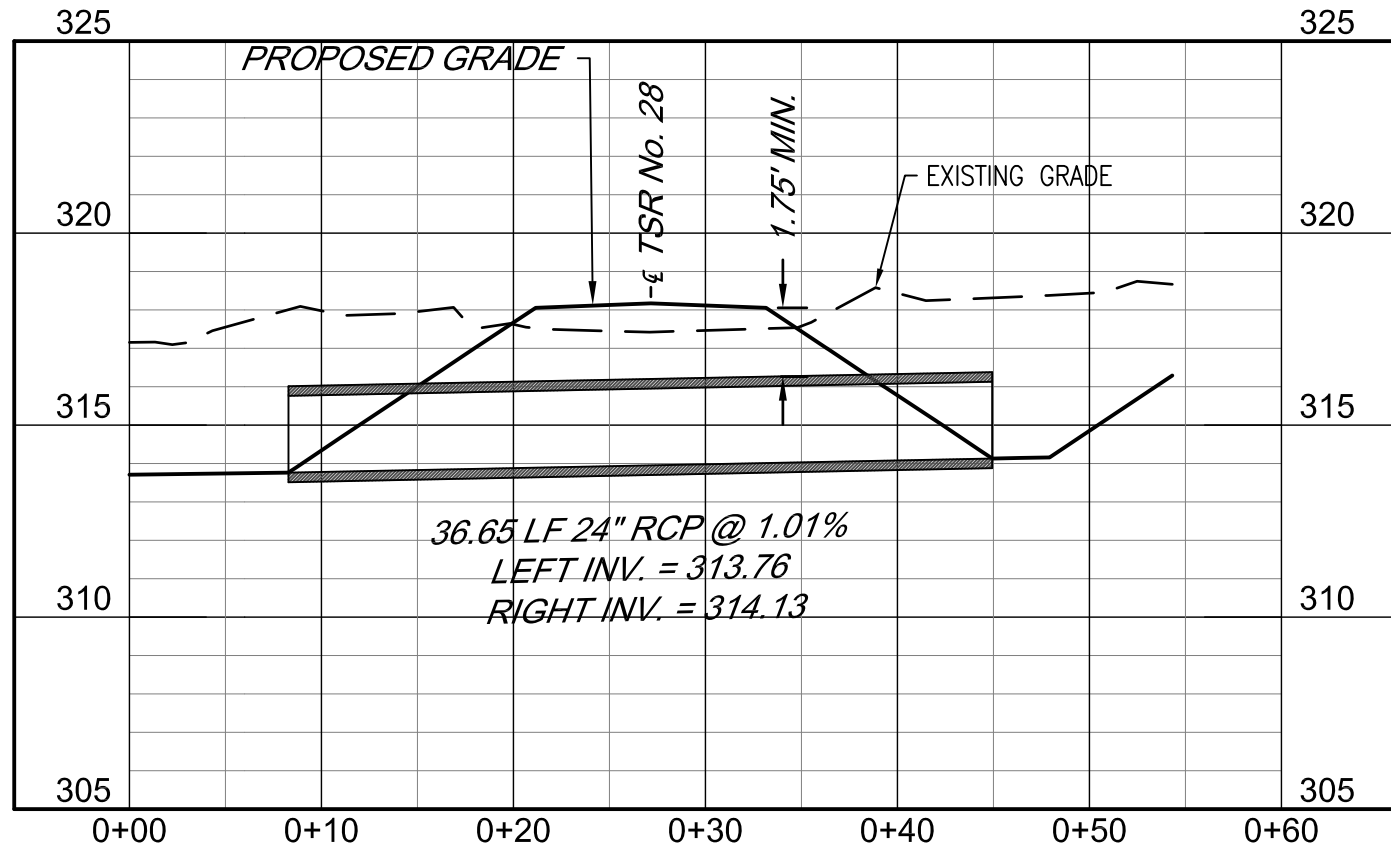
PIPE 46



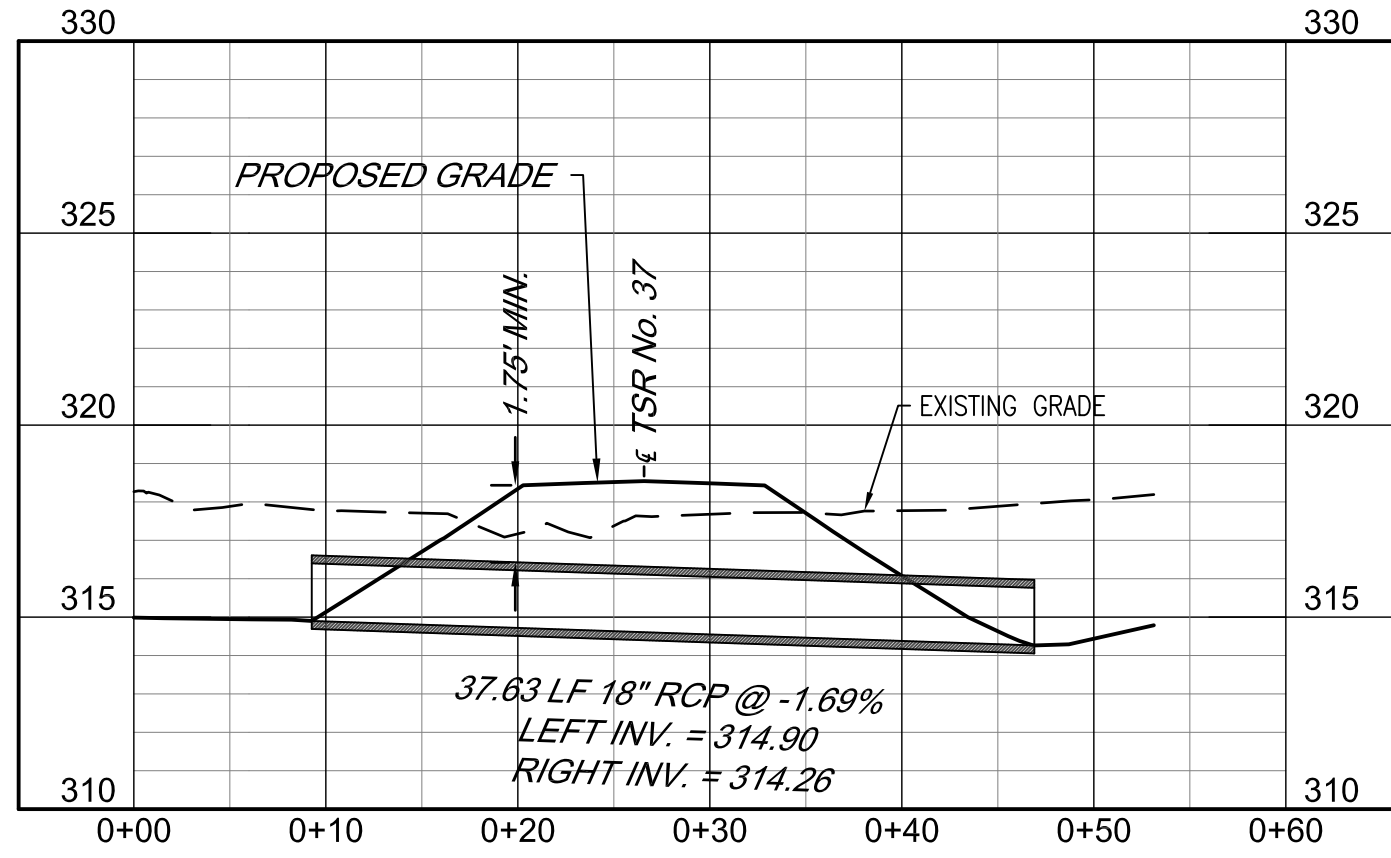
PIPE 47



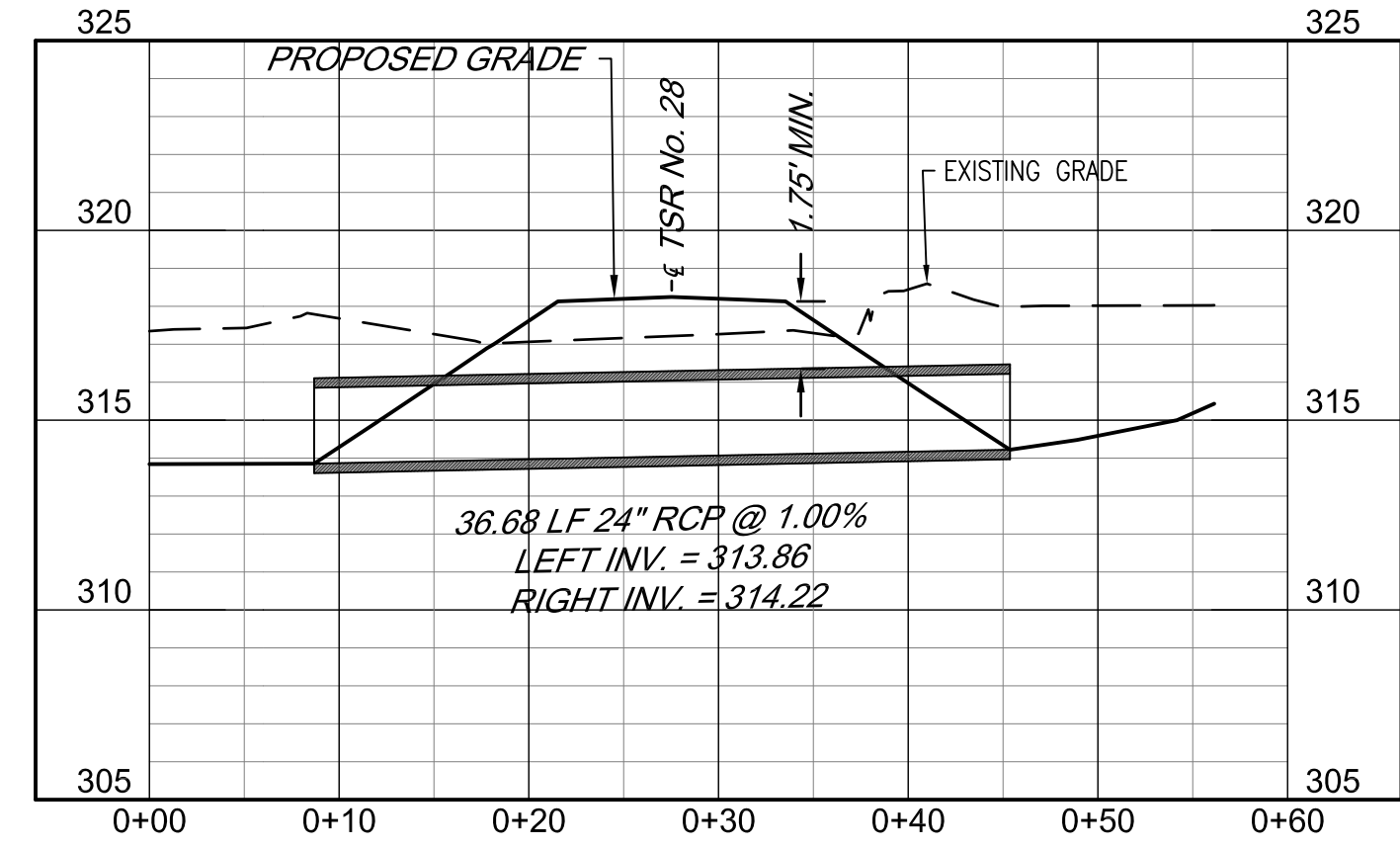
PIPE 48



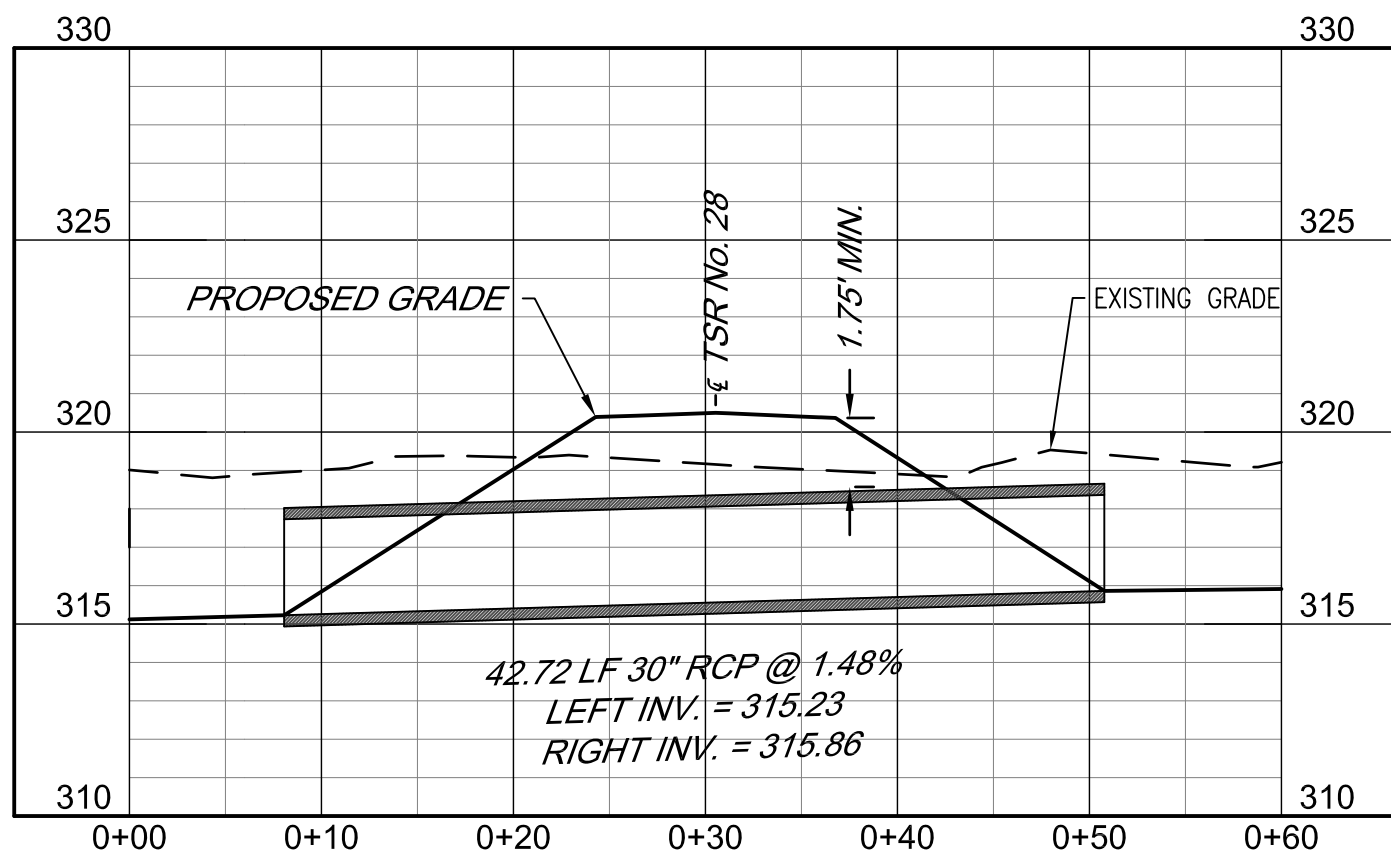
PIPE 49



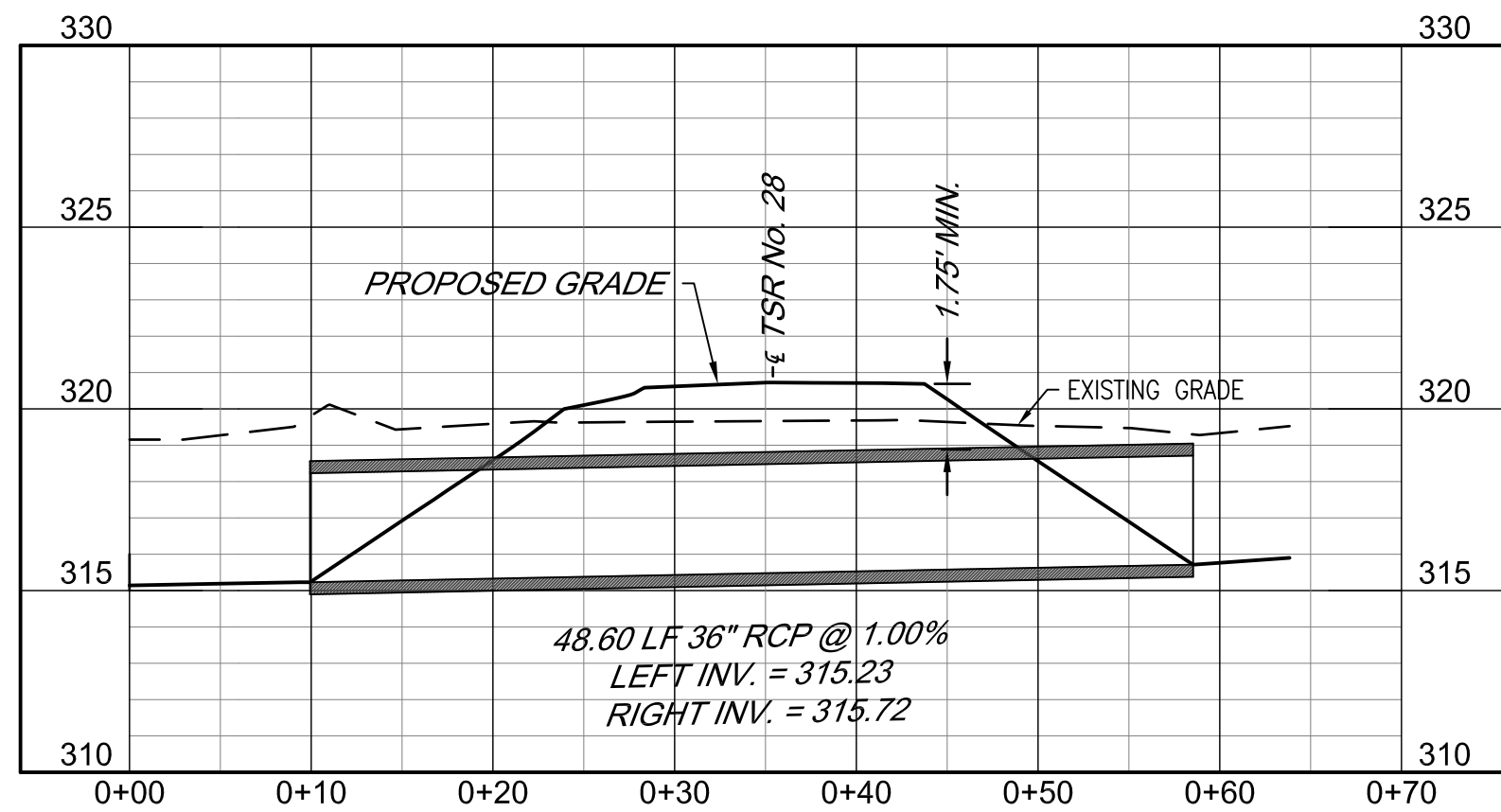
PIPE 50



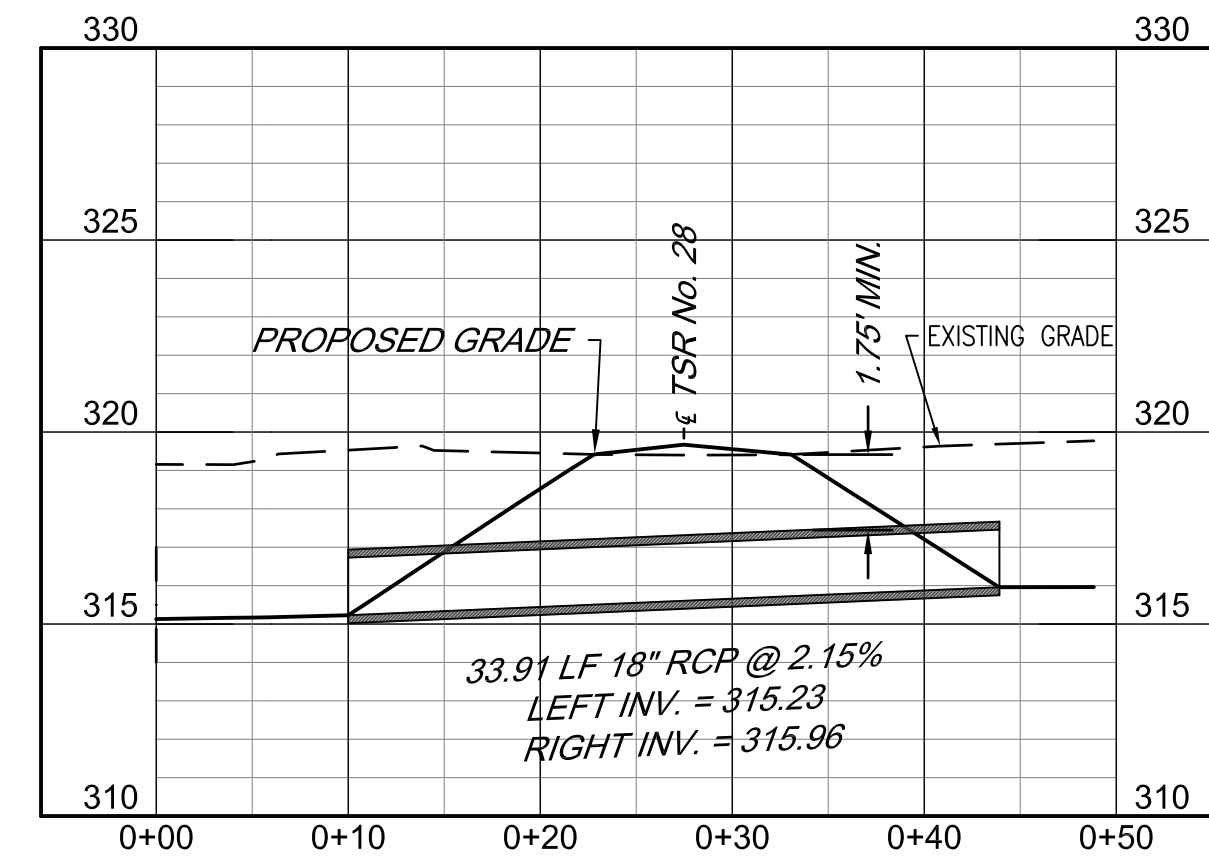
PIPE 51



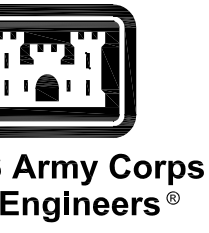
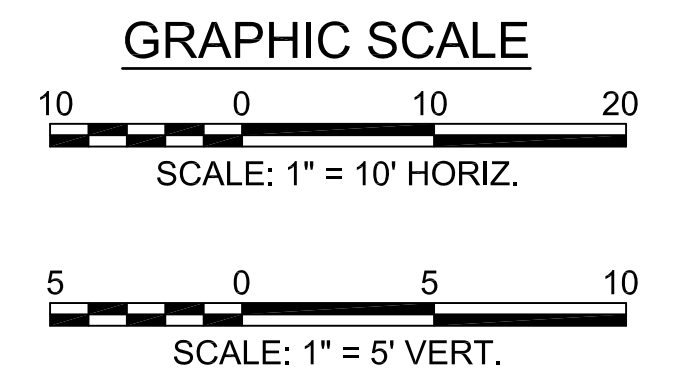
PIPE 52



PIPE 53



PIPE 54



MARK	DESCRIPTION	DATE

DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. BRADLEY	PROJECT NO. / DRAWING NO.:
SUBMITTED BY: B. BRADLEY	CONTRACT NO.:
FILE NAME:	CATEGORY CODE:
	178-65-01

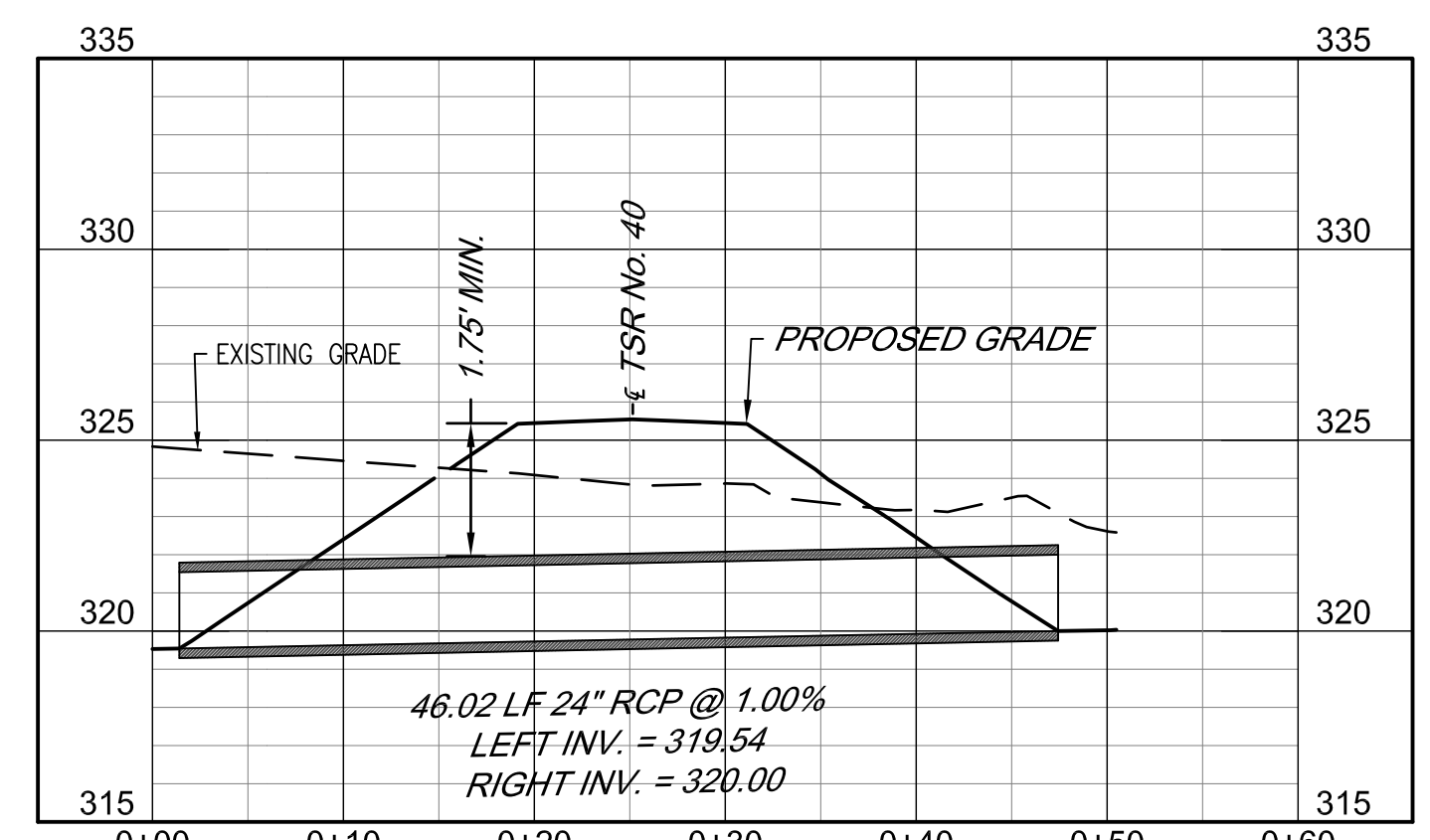
U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT
100 W. OGLETHORPE AVE
SAVANNAH, GA 31401

POLY, INC.
1995 HEADLAND AVENUE
DOTHAN, AL 36803
WWW.POLY-INC.COM/3347-95-4700

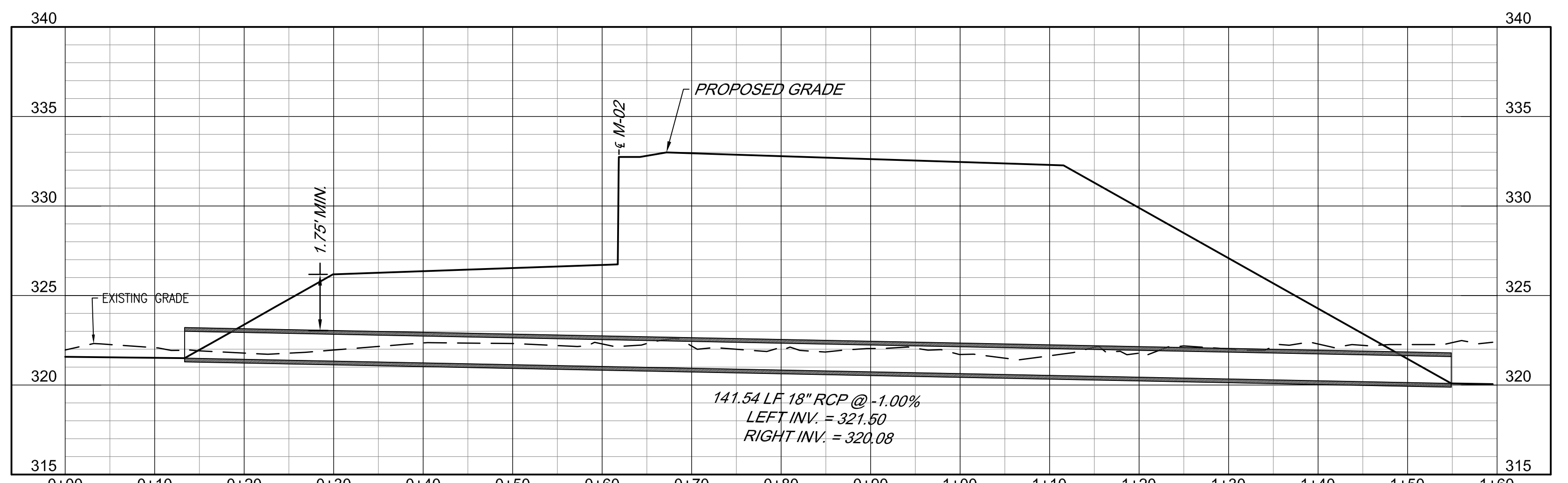
FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 96182
VOLUMES 3 & 4 - DOWNRANGE

CULVERT PROFILES

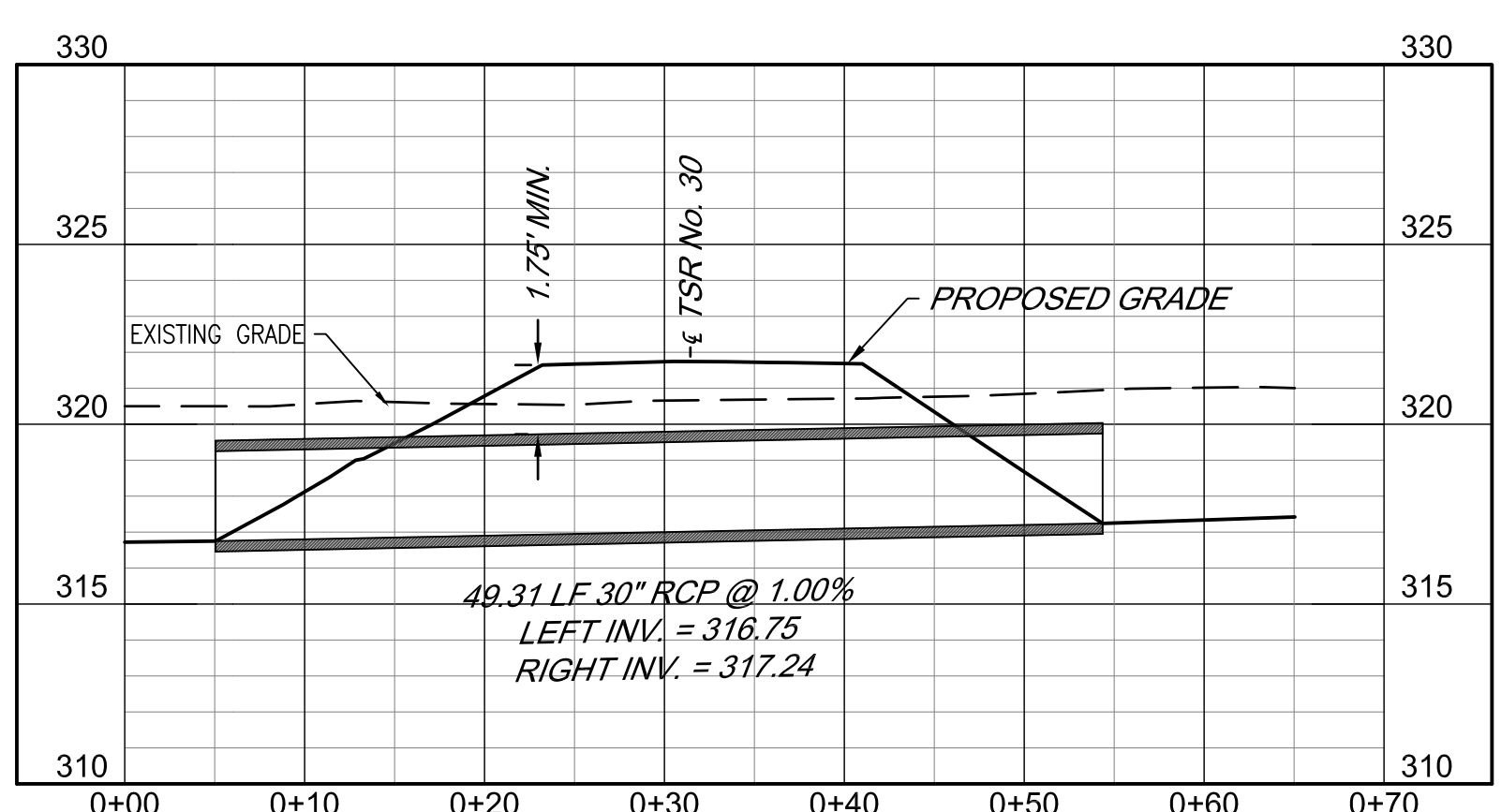
SHEET ID
CU210



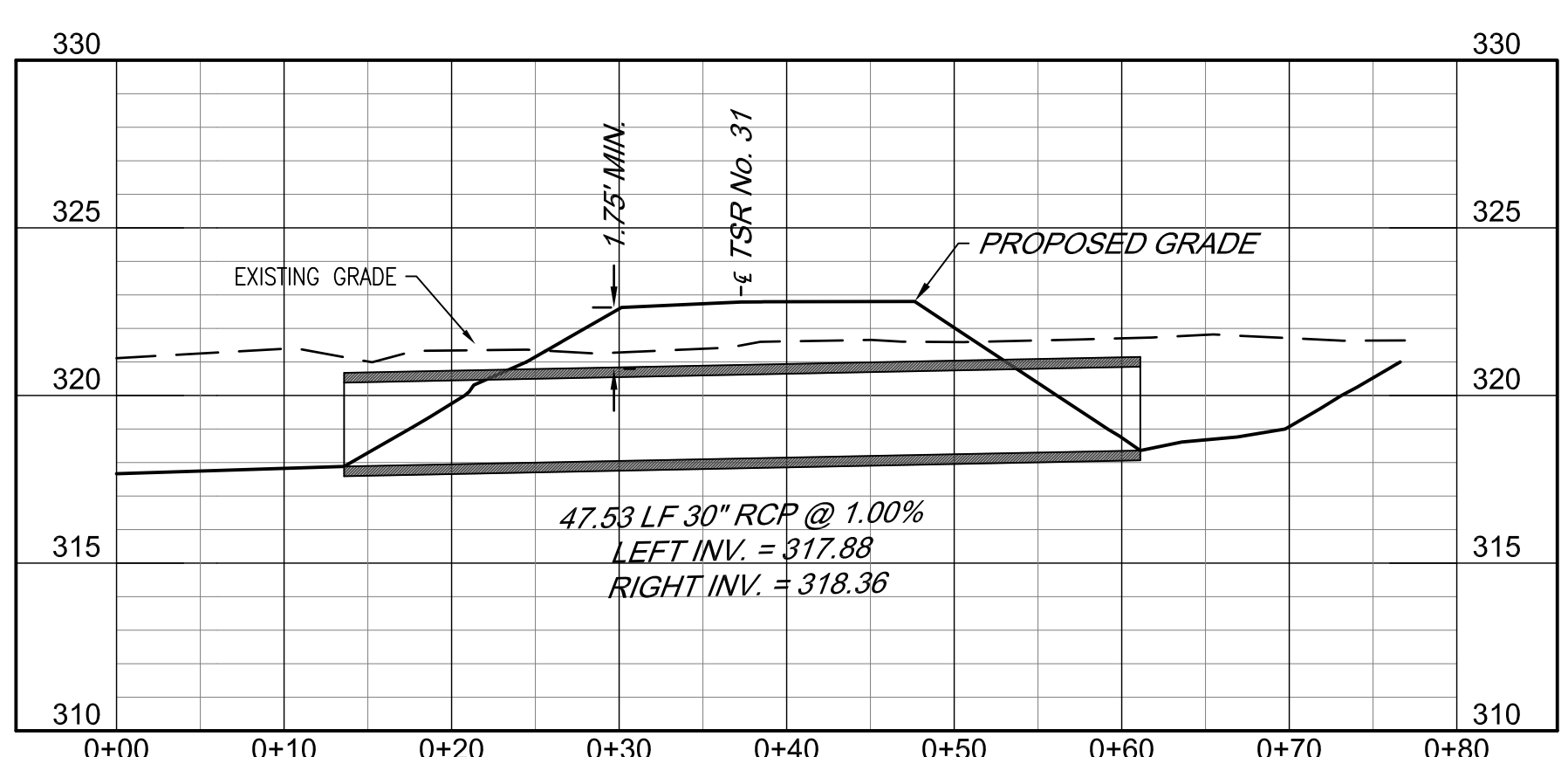
PIPE 55



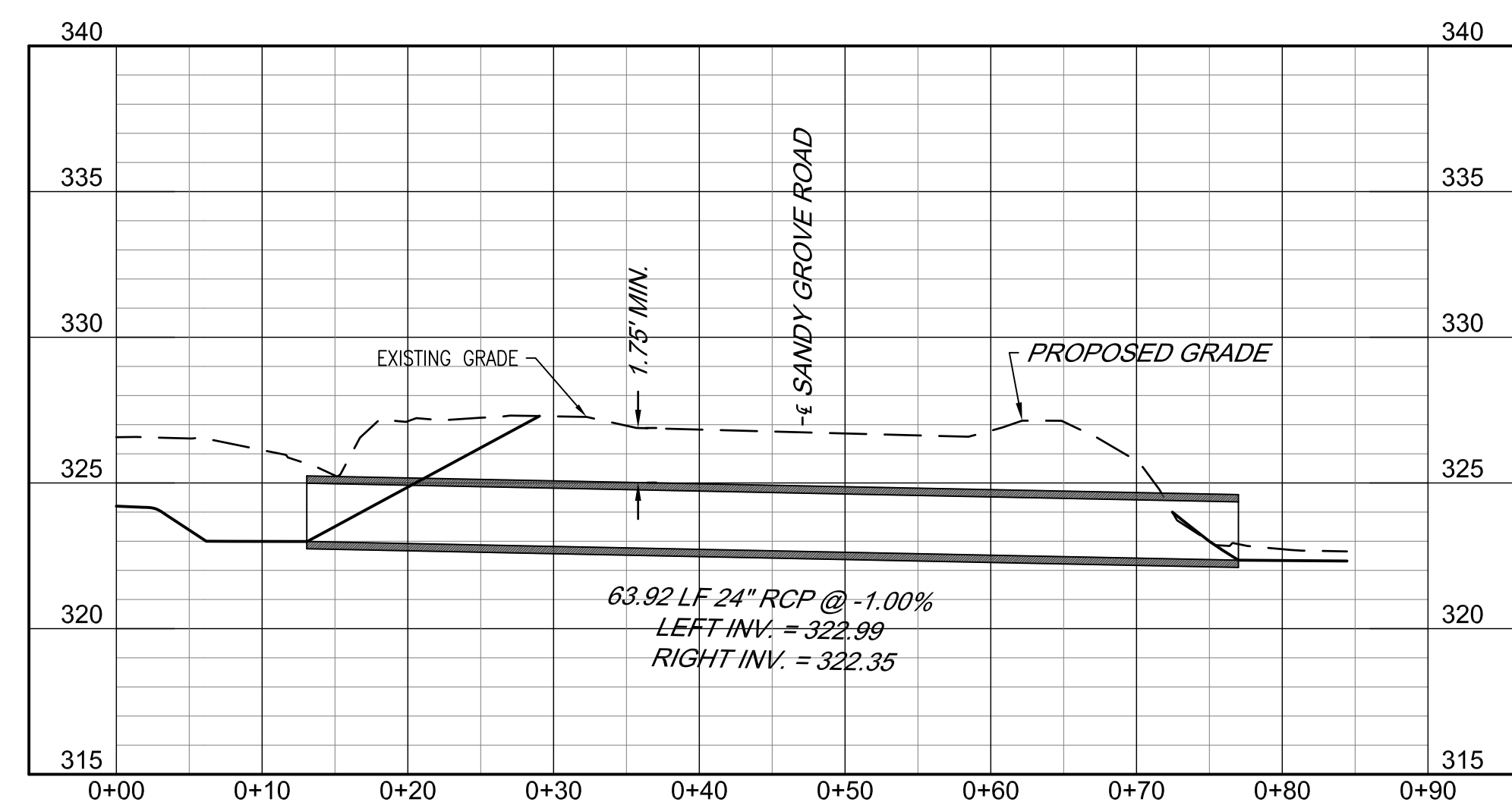
PIPE 56



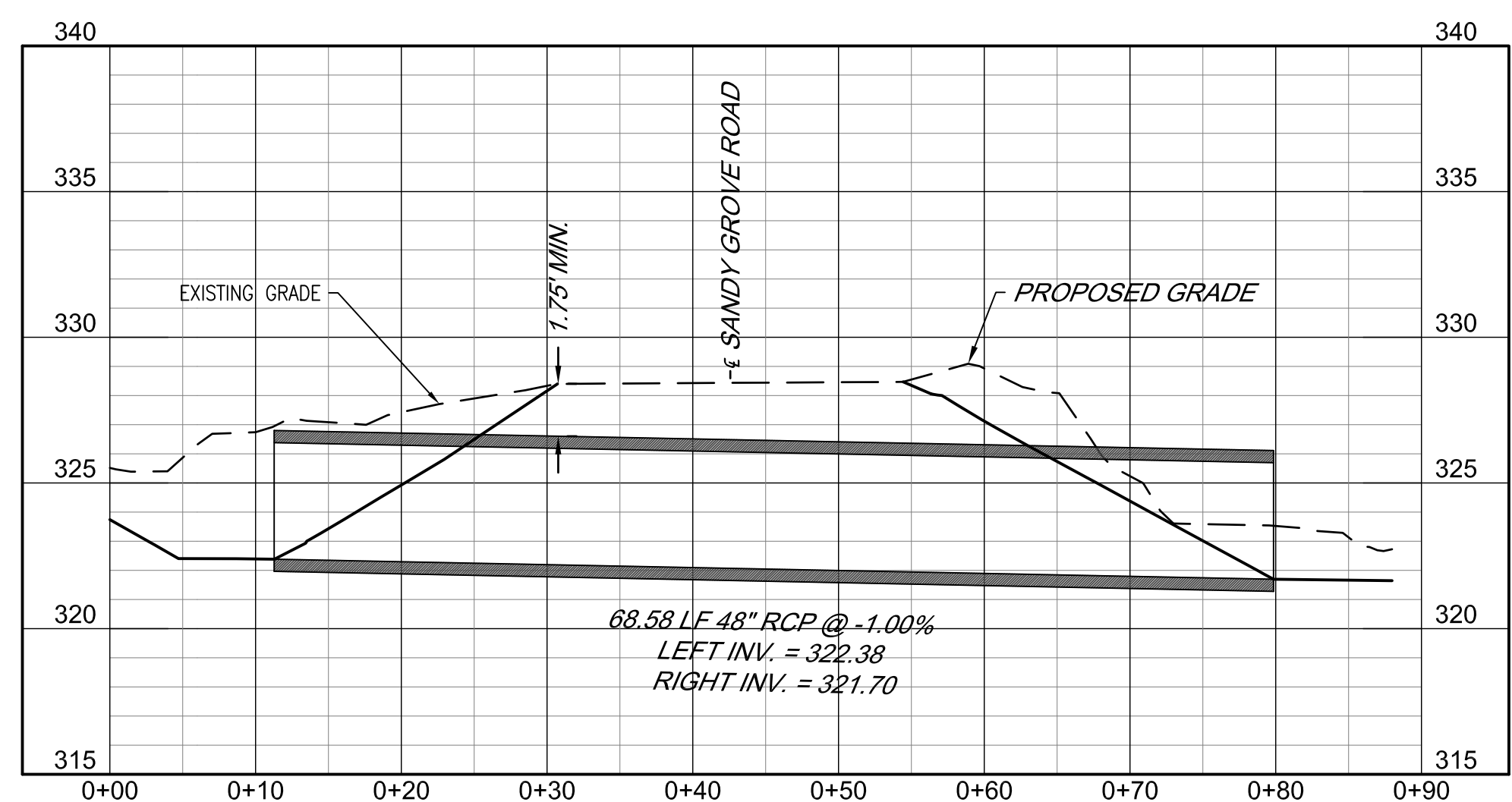
PIPE 57



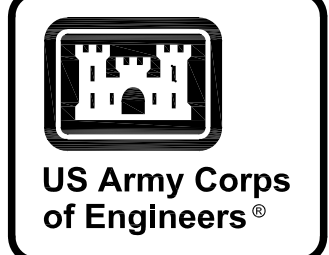
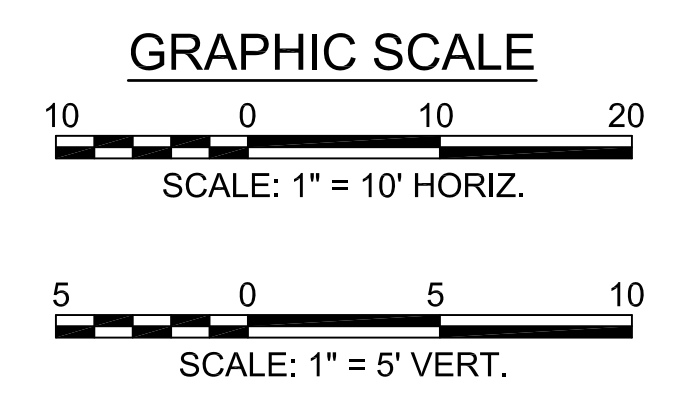
PIPE 58



PIPE 59



PIPE 60

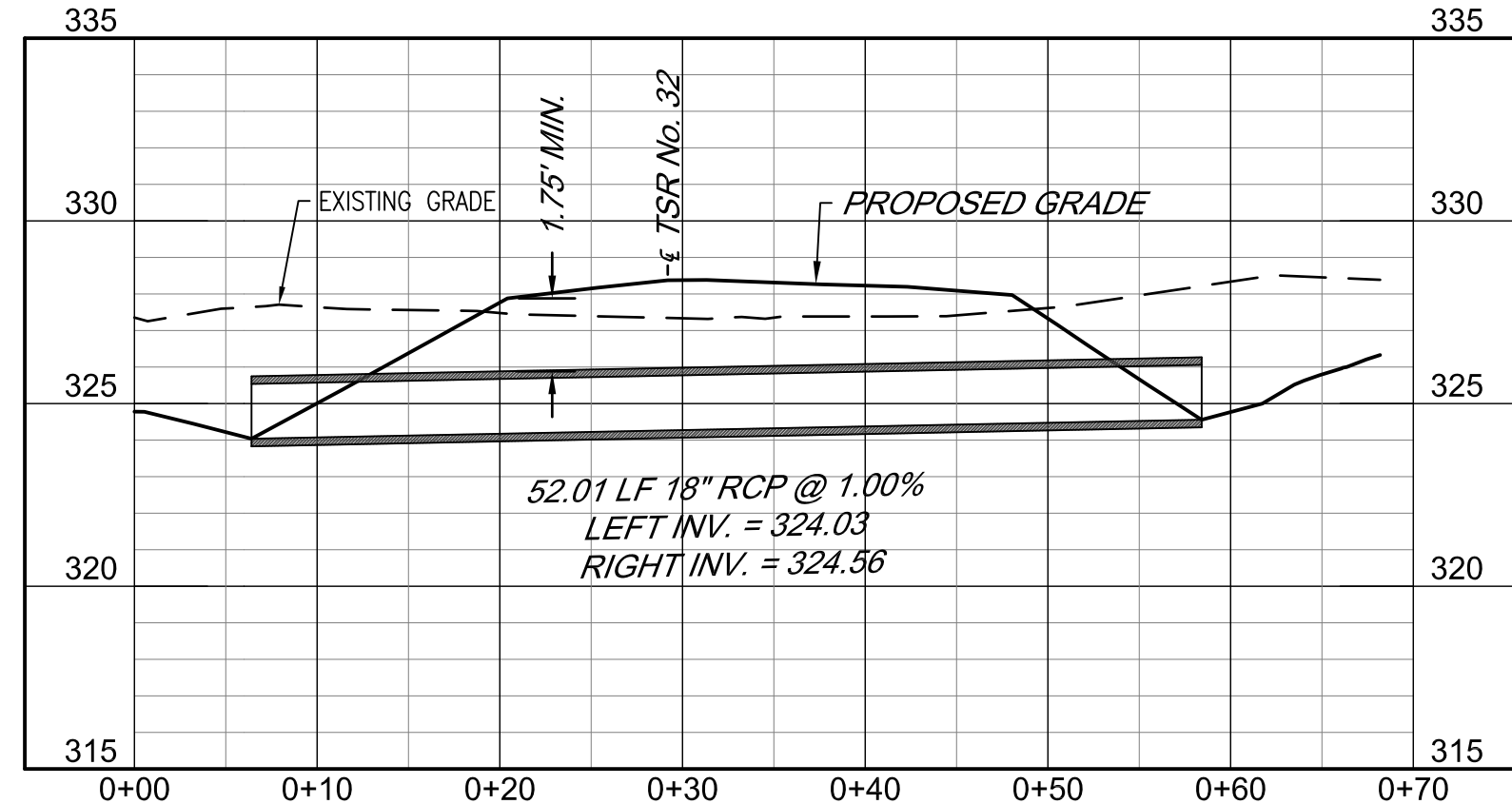


MARK	DESCRIPTION	DATE

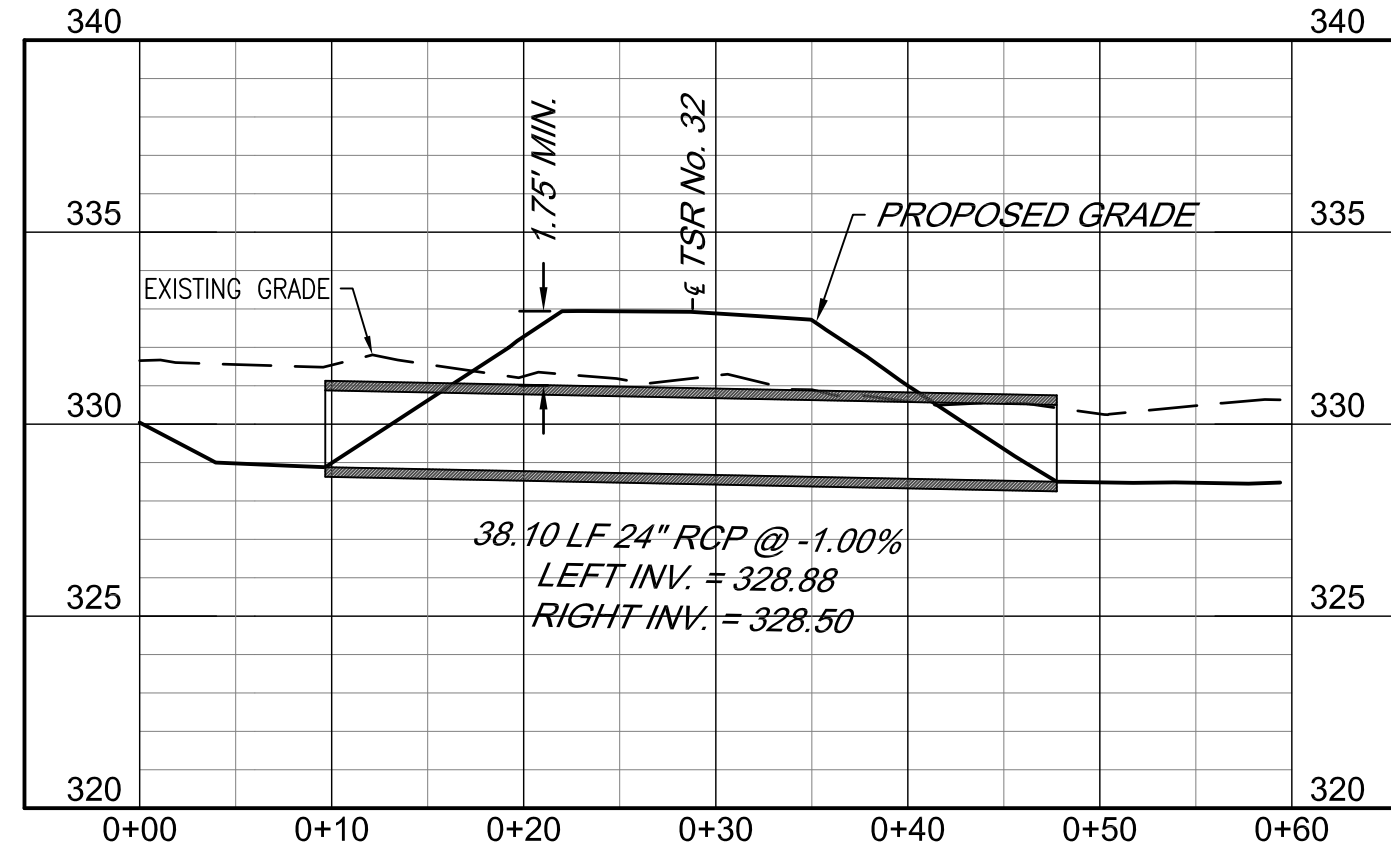
DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. BRADLEY	PROJECT NO. / CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-65-01
FILE NAME: ANSID	
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	
POLY, INC. 1995 HEADLAND AVENUE DOTHAN, AL 36303 WWW.POLY-INC.COM/3347-99-4700	

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTR)
FY23, PN 96182
VOLUMES 3 & 4 - DOWNRANGE
CULVERT PROFILES

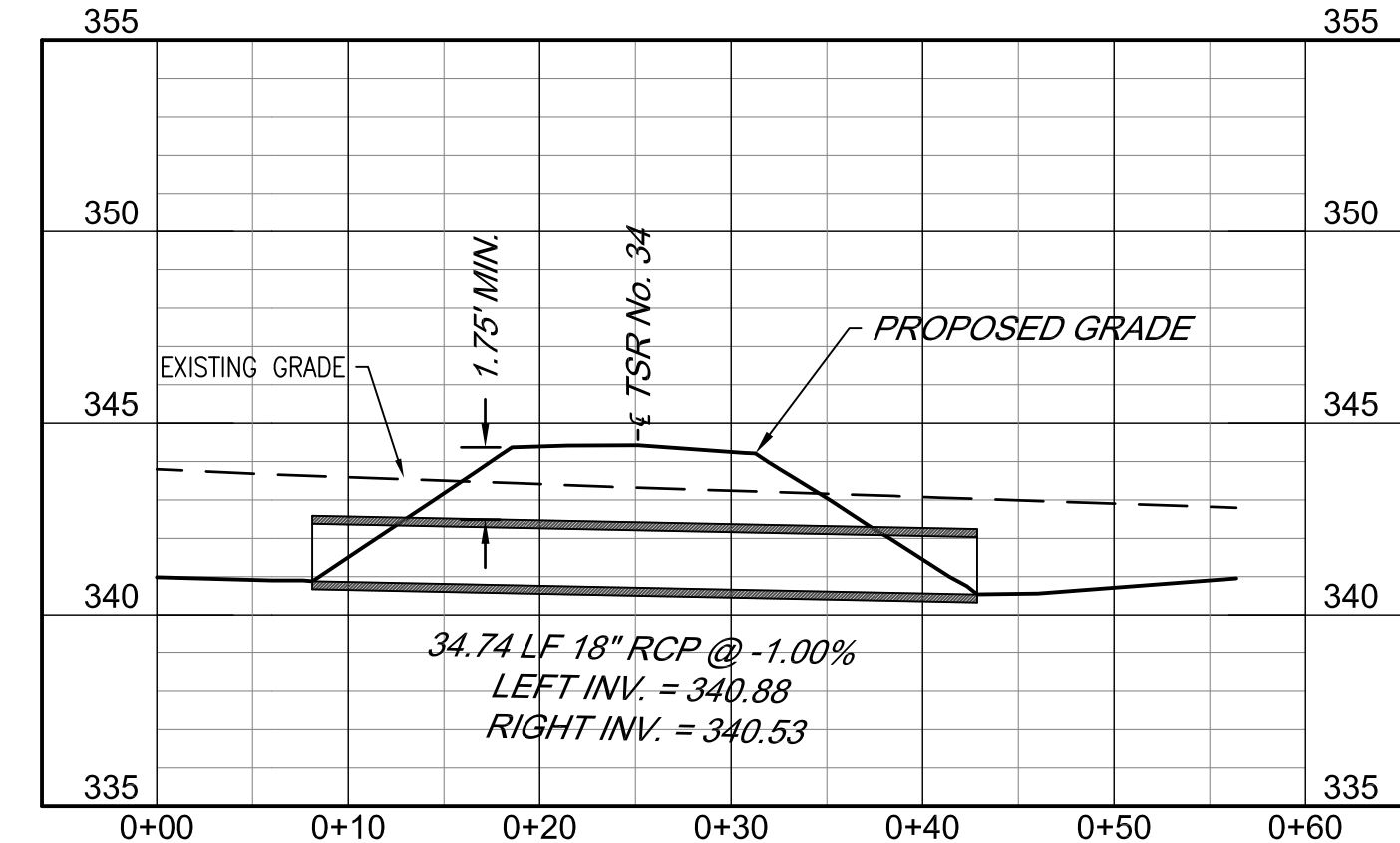
SHEET ID
CU211



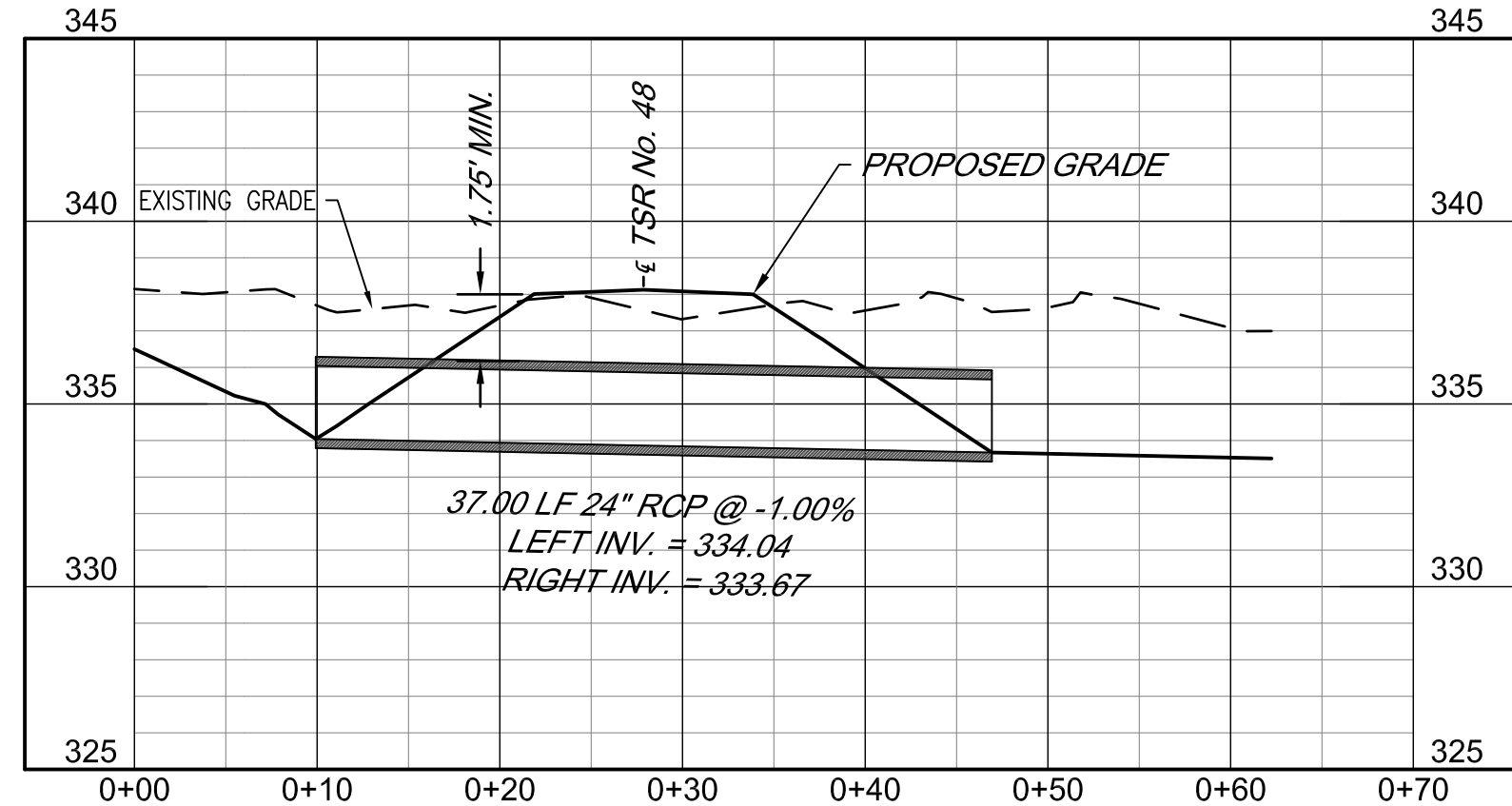
PIPE 61



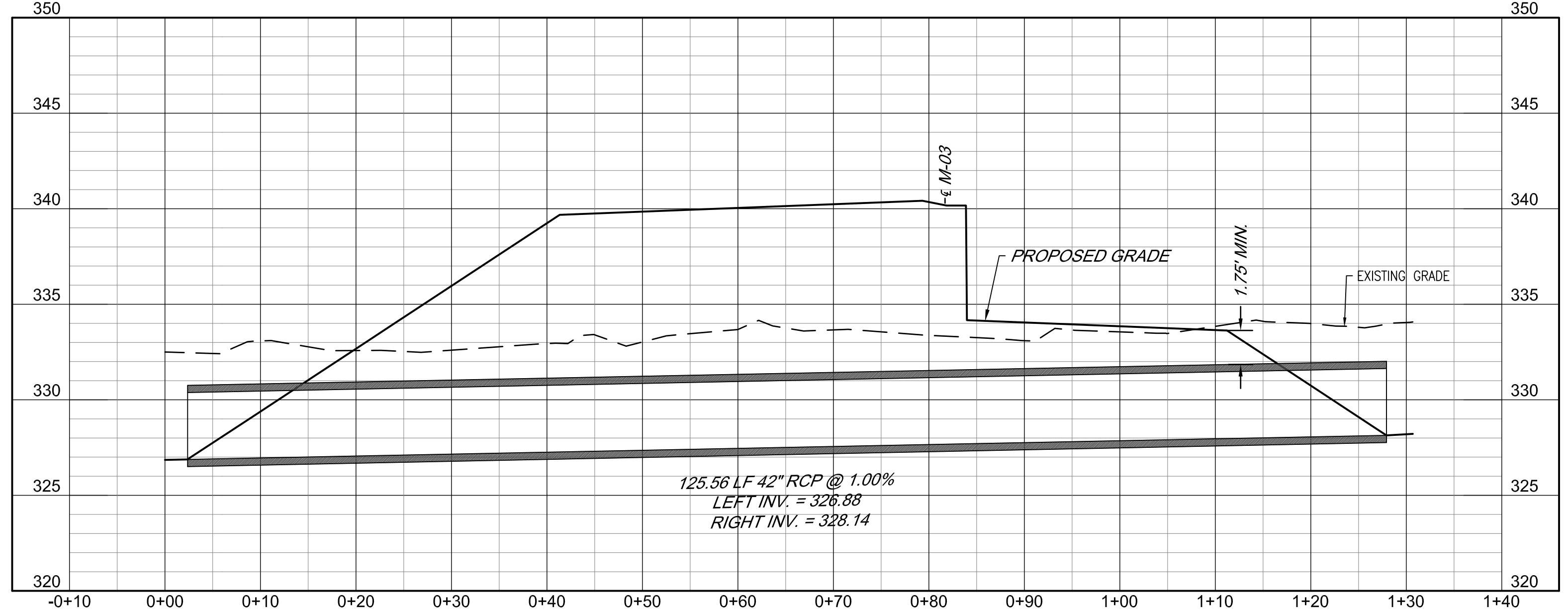
PIPE 62



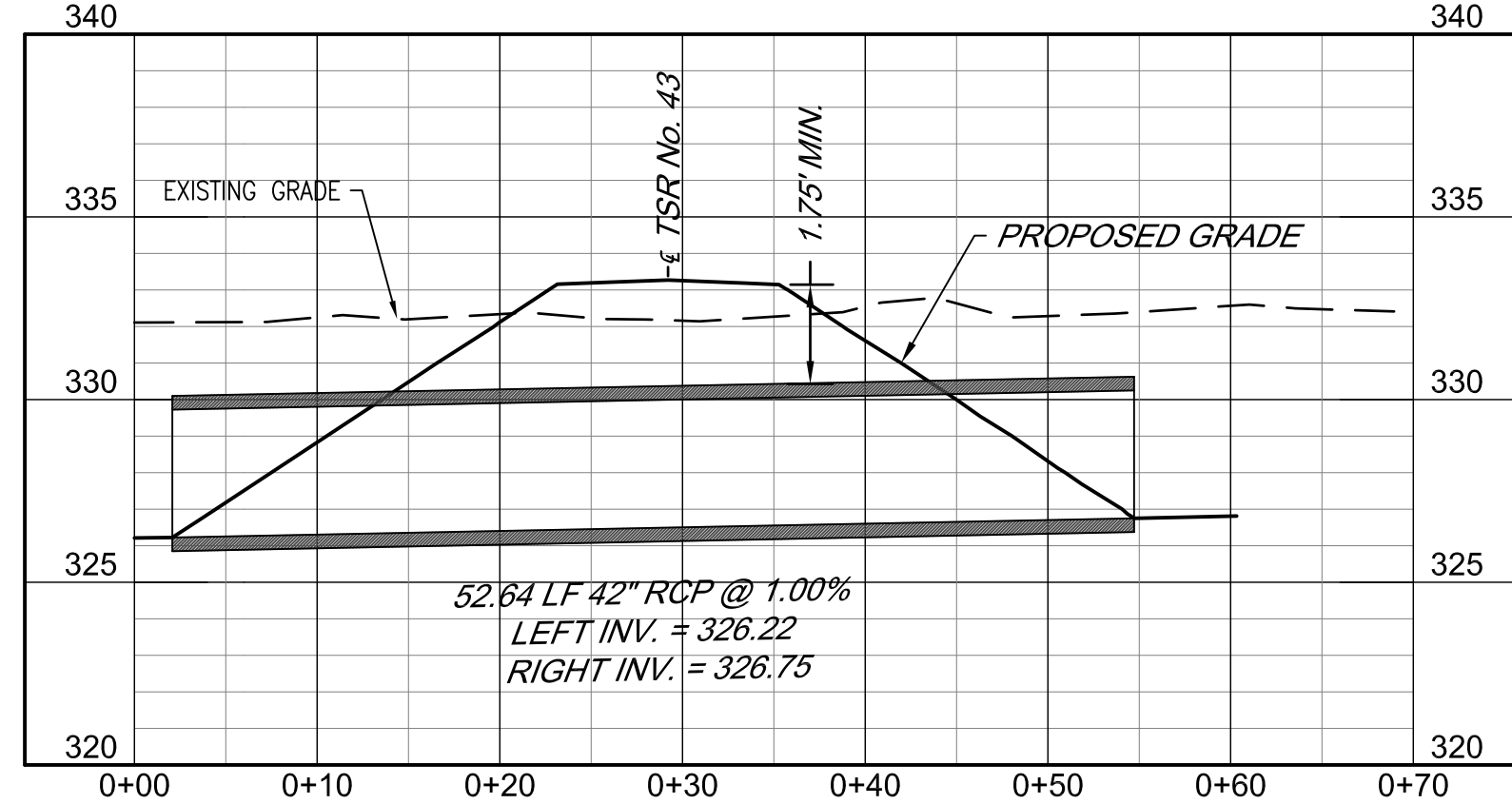
PIPE 63



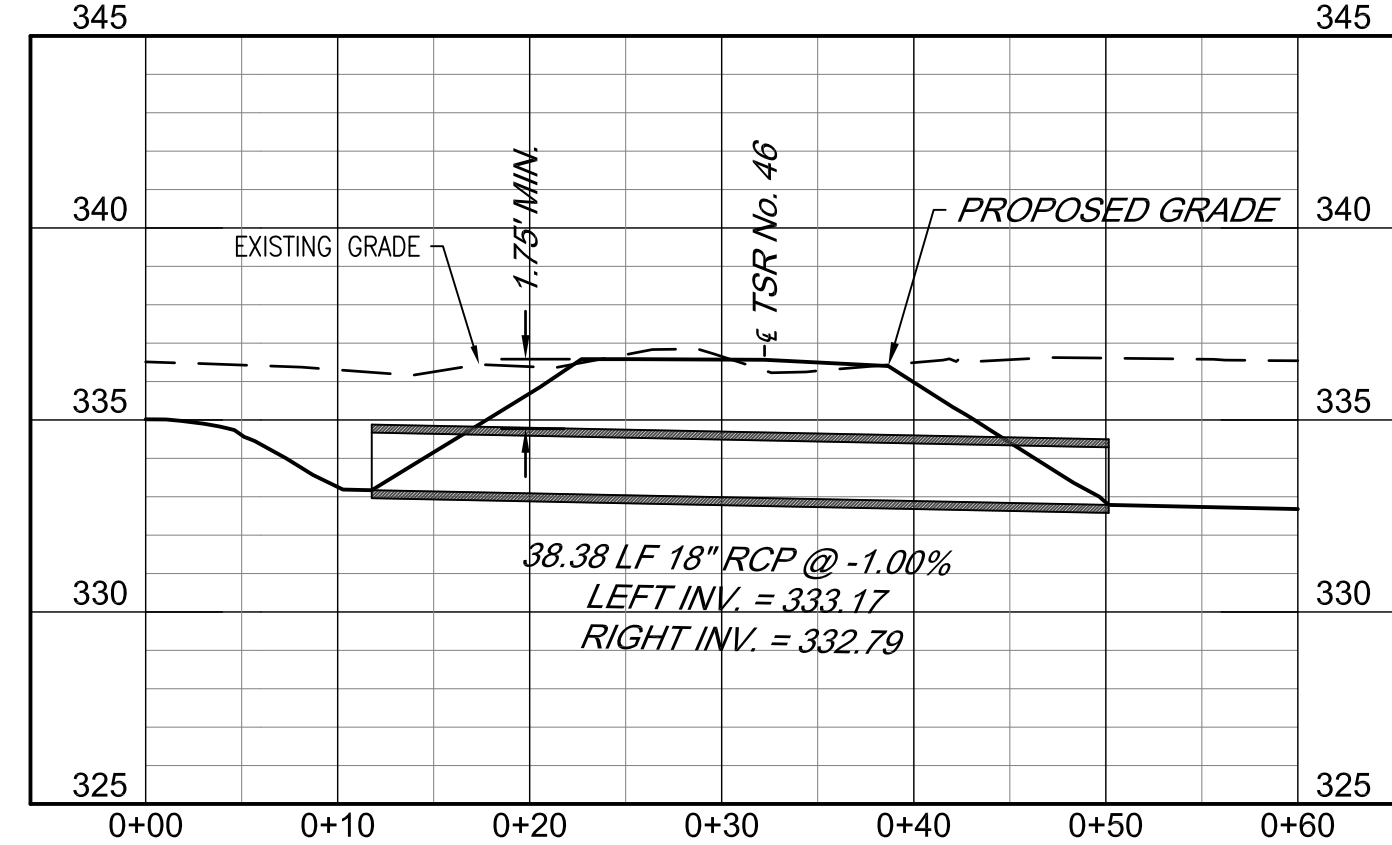
PIPE 64



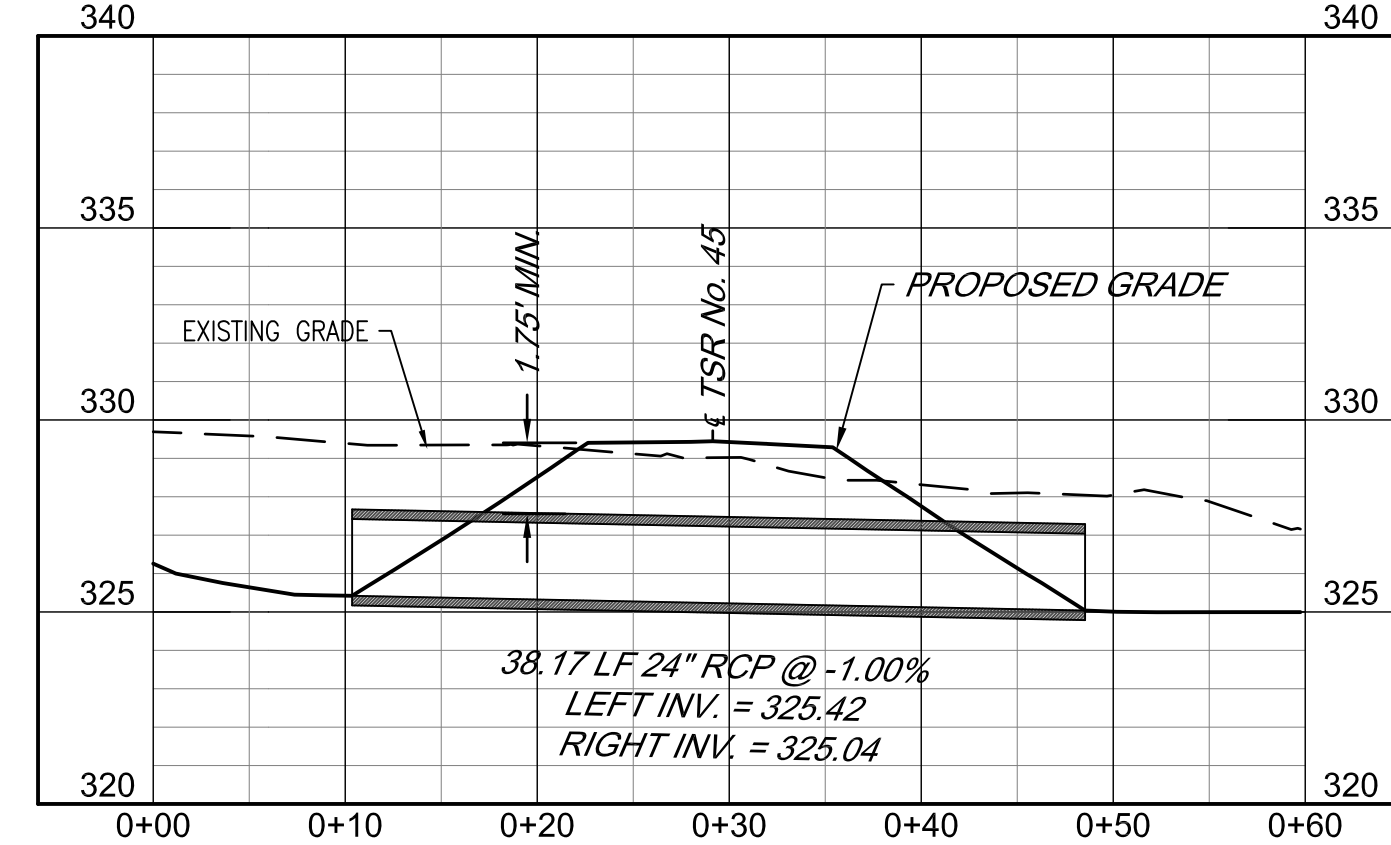
PIPE 65



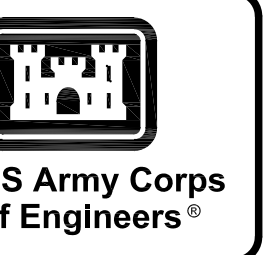
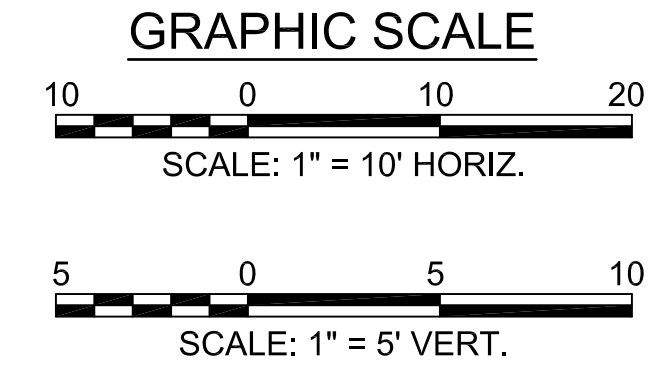
PIPE 66



PIPE 67



PIPE 68



US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

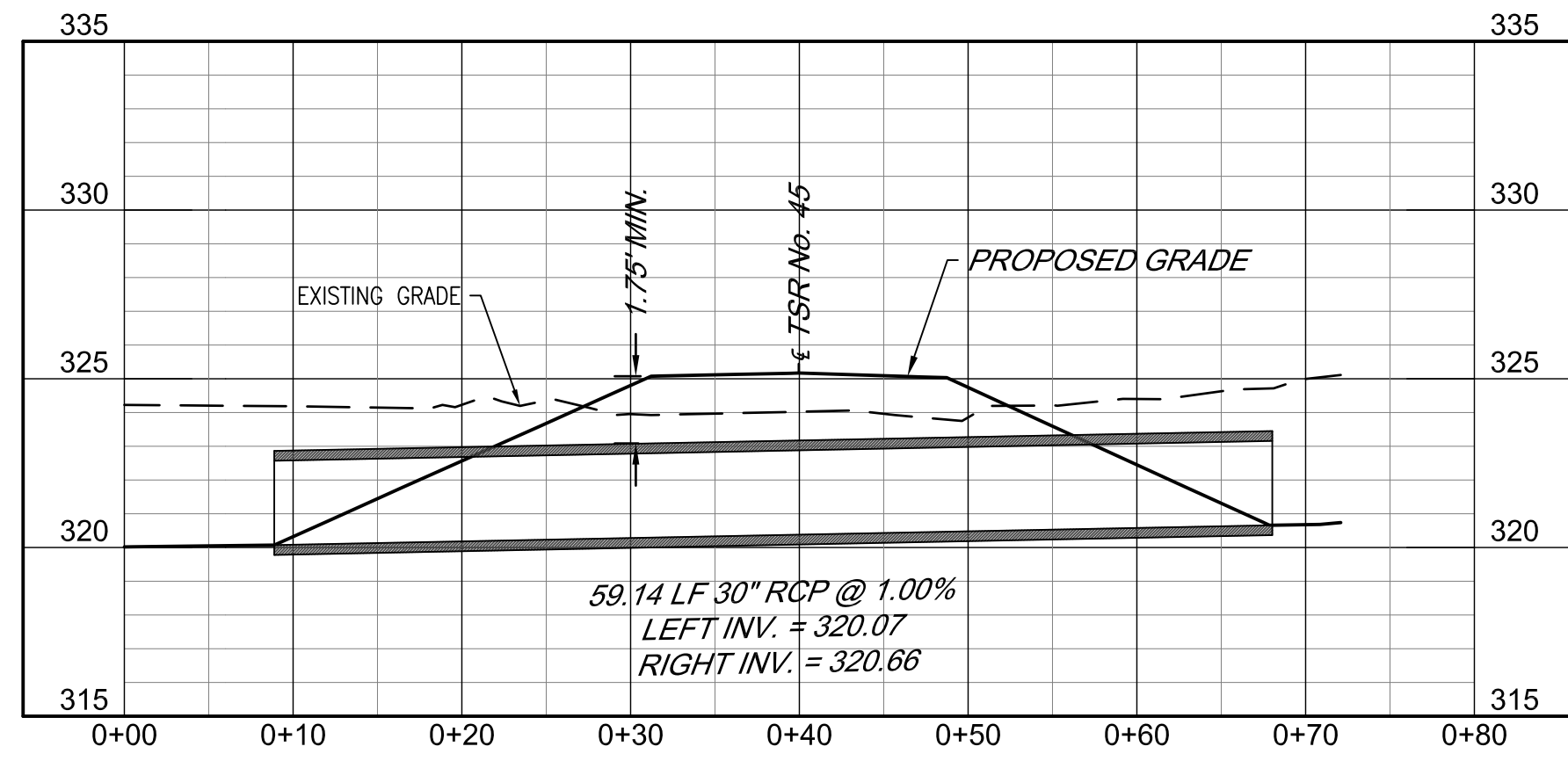
DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. JOHNSON	PROJECT NO. / PLAN NO.: 104-PH-24-3012
SUBMITTED BY: B. BRADLEY	CONTRACT NO.:
FILE NAME: ANSID	CATEGORY CODE: 178-85-01

U.S. ARMY CORPS OF ENGINEERS
 SAVANNAH DISTRICT
 100 W. OGLETHORPE AVE
 SAVANNAH, GA 31401

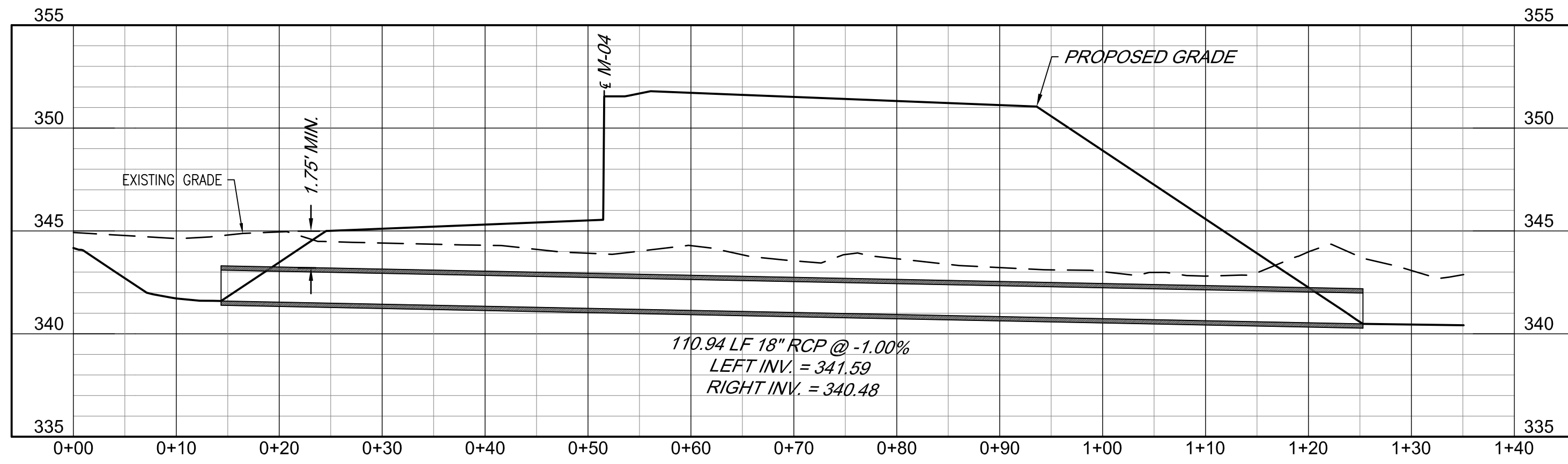
POLY, INC.
 1935 HEADLAND AVENUE
 DOTHAN, AL 36303
 WWW.POLY-INC.COM / 334-795-4700

FORT LIBERTY, NORTH CAROLINA
 AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTR)
 FY23, PN 96182
 VOLUMES 3 & 4 - DOWNRANGE
 CULVERT PROFILES

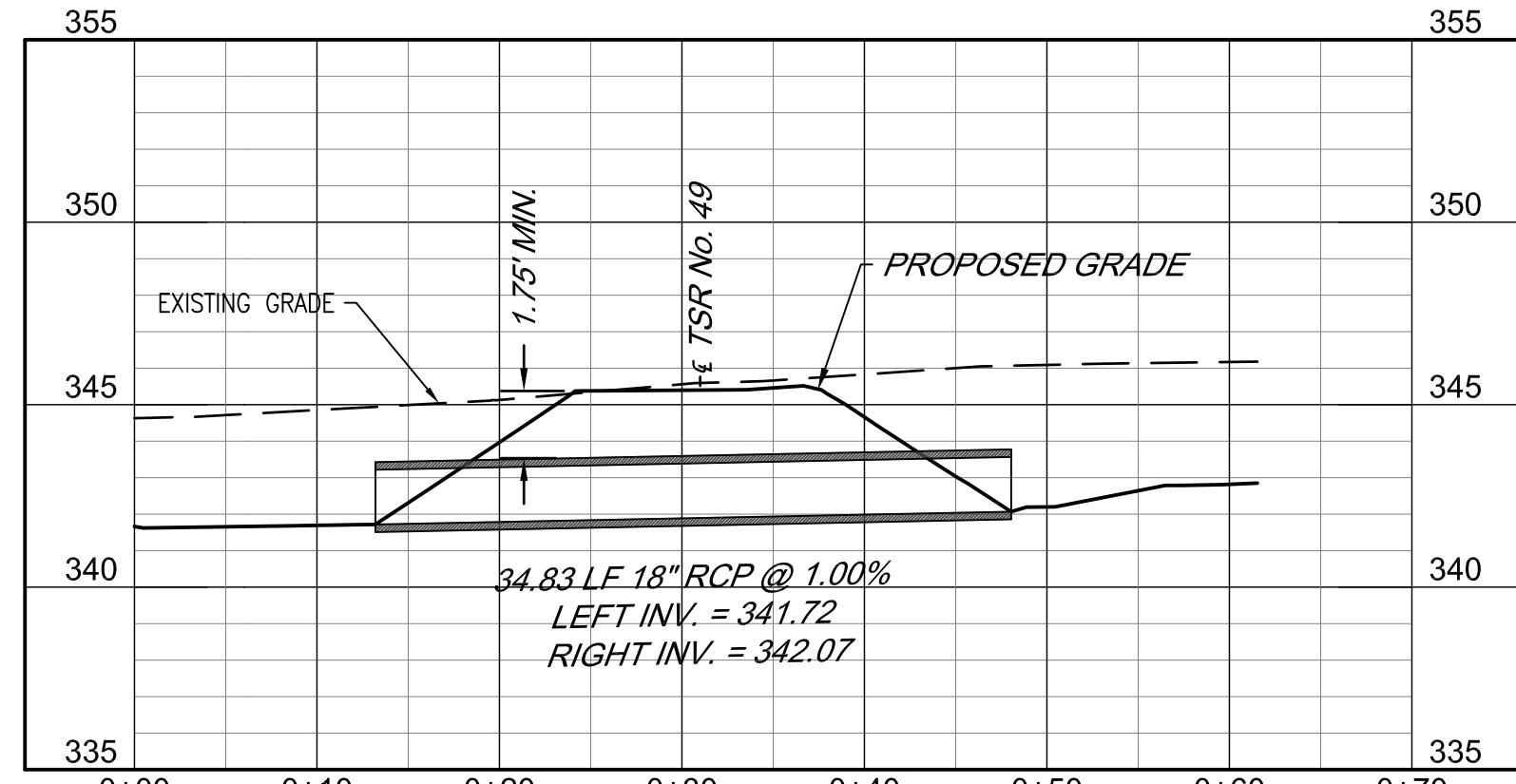
SHEET ID
CU212



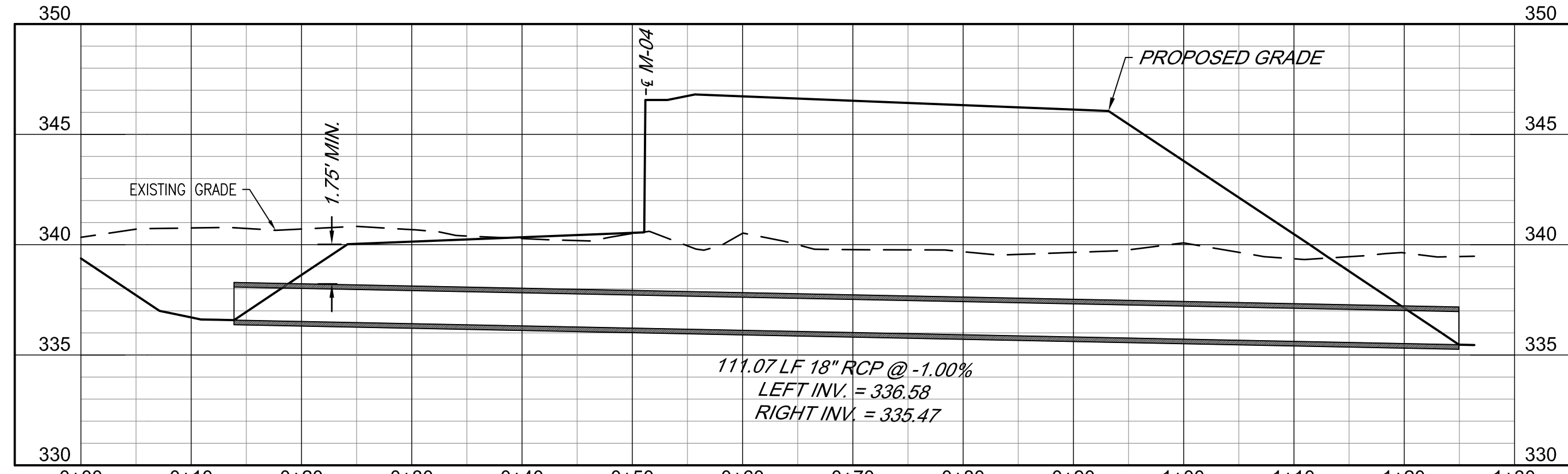
PIPE 69



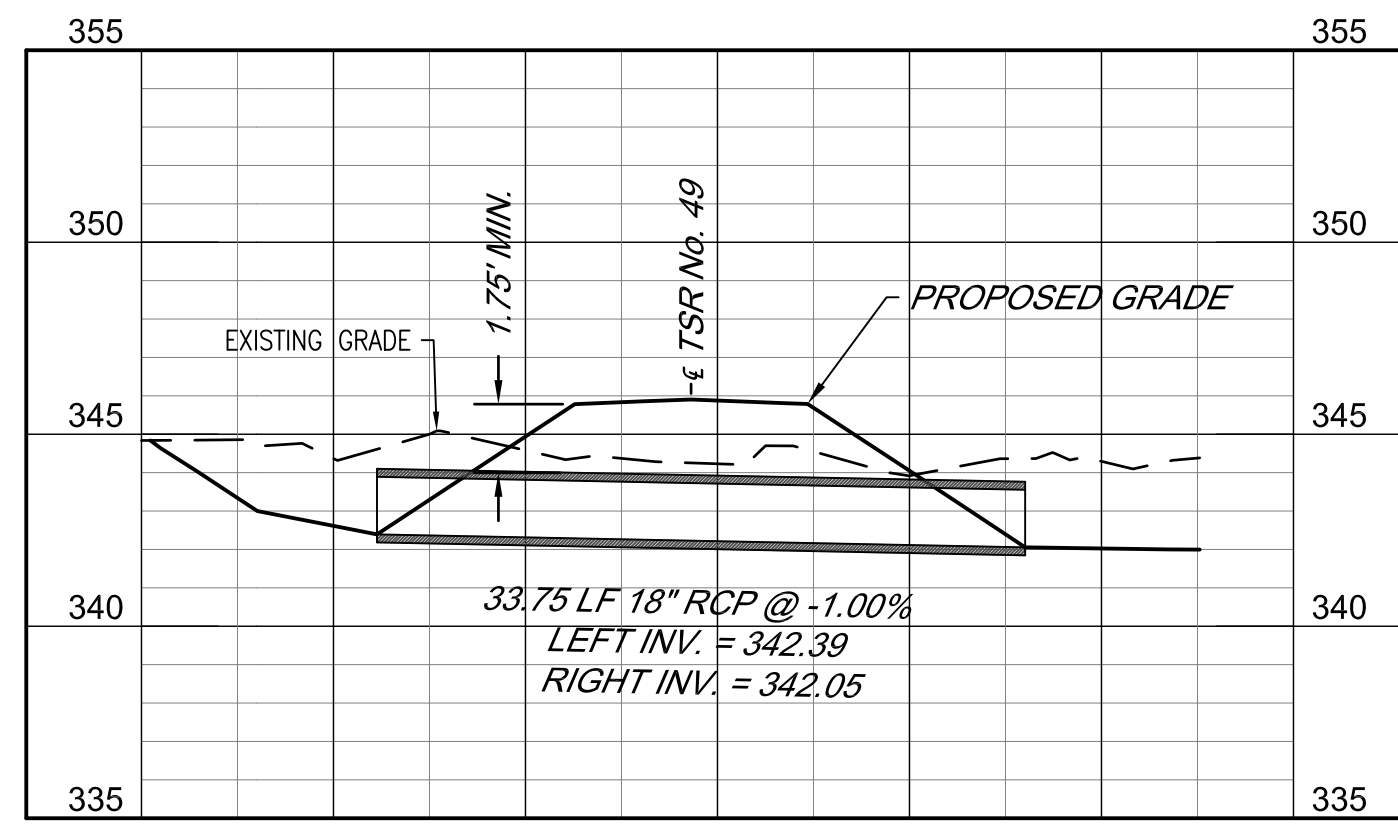
PIPE 70



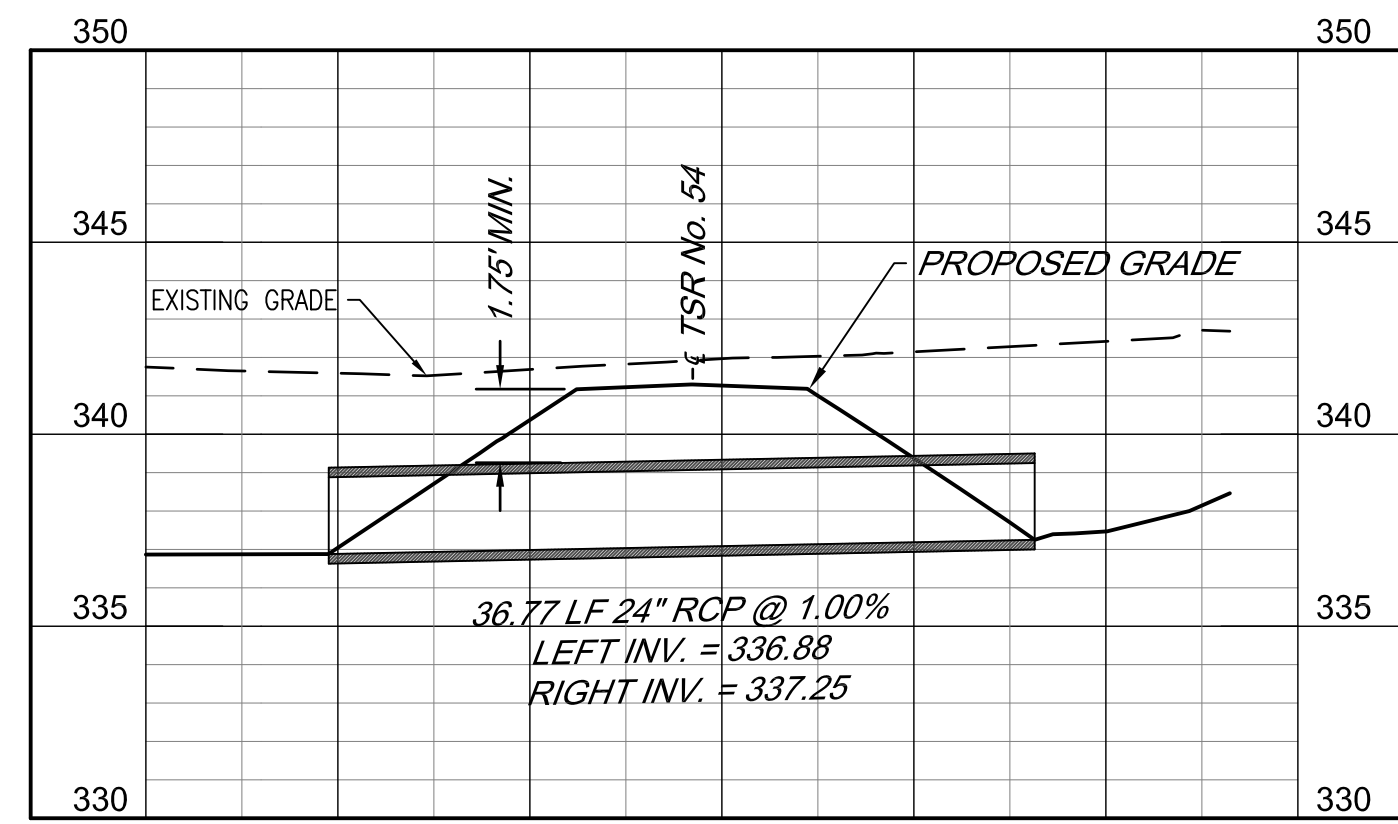
PIPE 71



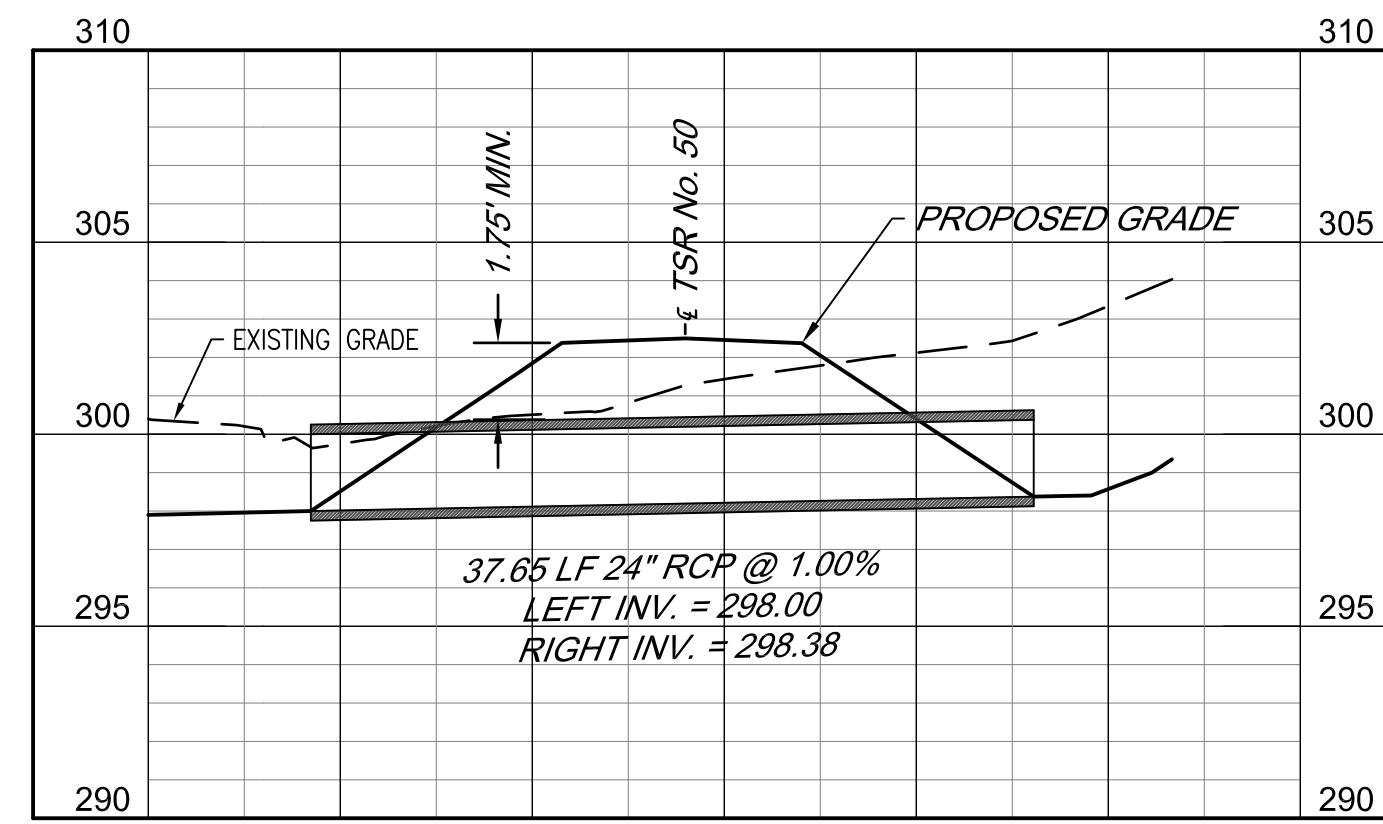
PIPE 72



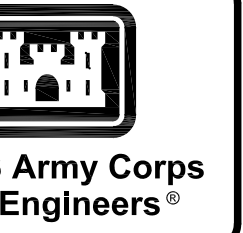
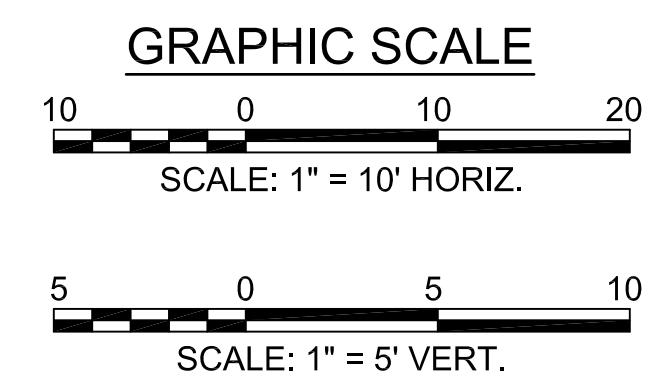
PIPE 73



PIPE 74



PIPE 75



US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. BRADLEY	PROJECT NO. / CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-85-01
FILE NAME:	

U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT
100 W. OGLETHORPE AVE
SAVANNAH, GA 31401

POLY, INC.
1995 HEADLAND AVENUE
DOTHAN, AL 36803
WWW.POLY-INC.COM/3347-99-4700

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 96182
VOLUMES 3 & 4 - DOWNRANGE

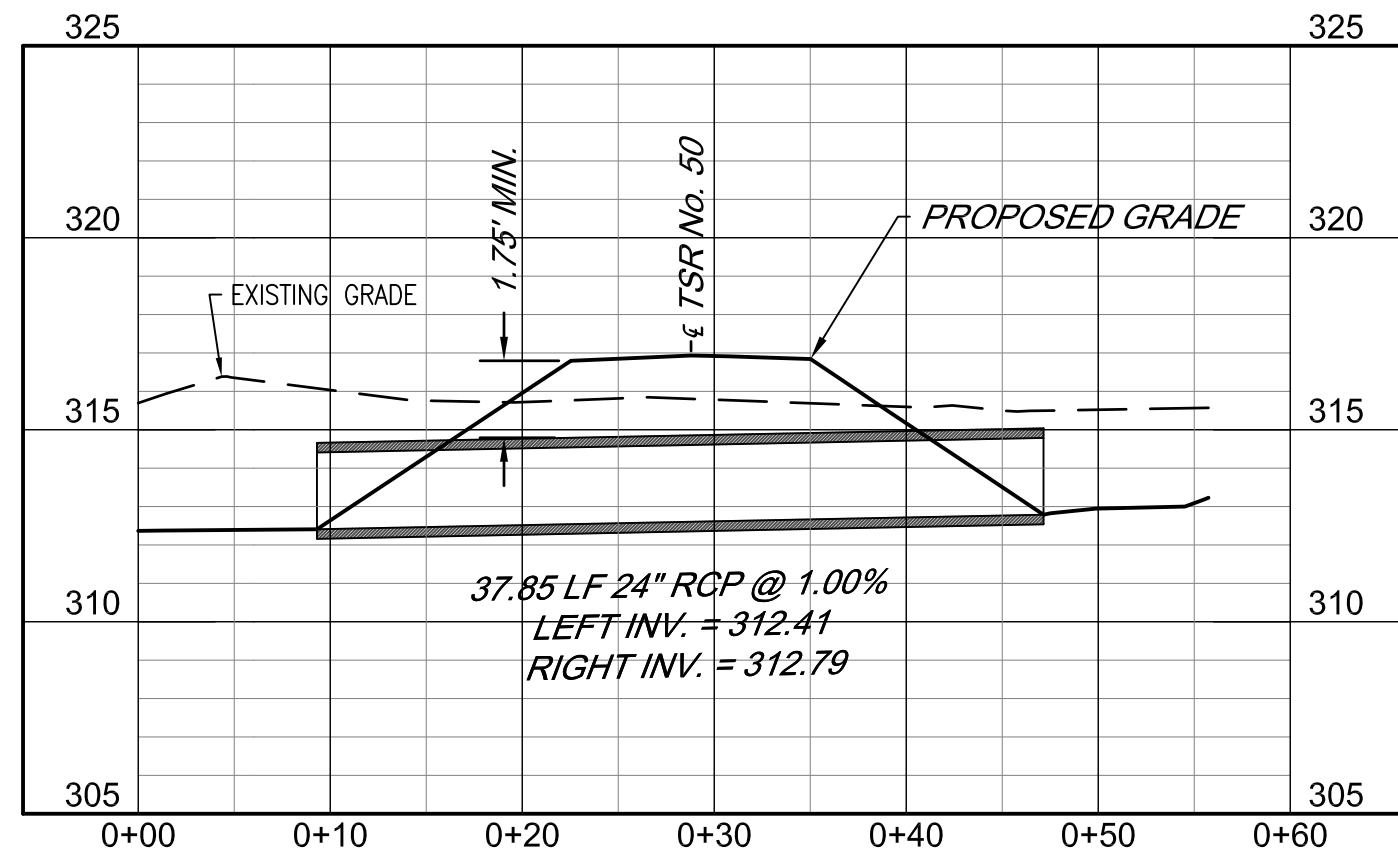
CULVERT PROFILES

SHEET ID
CU213

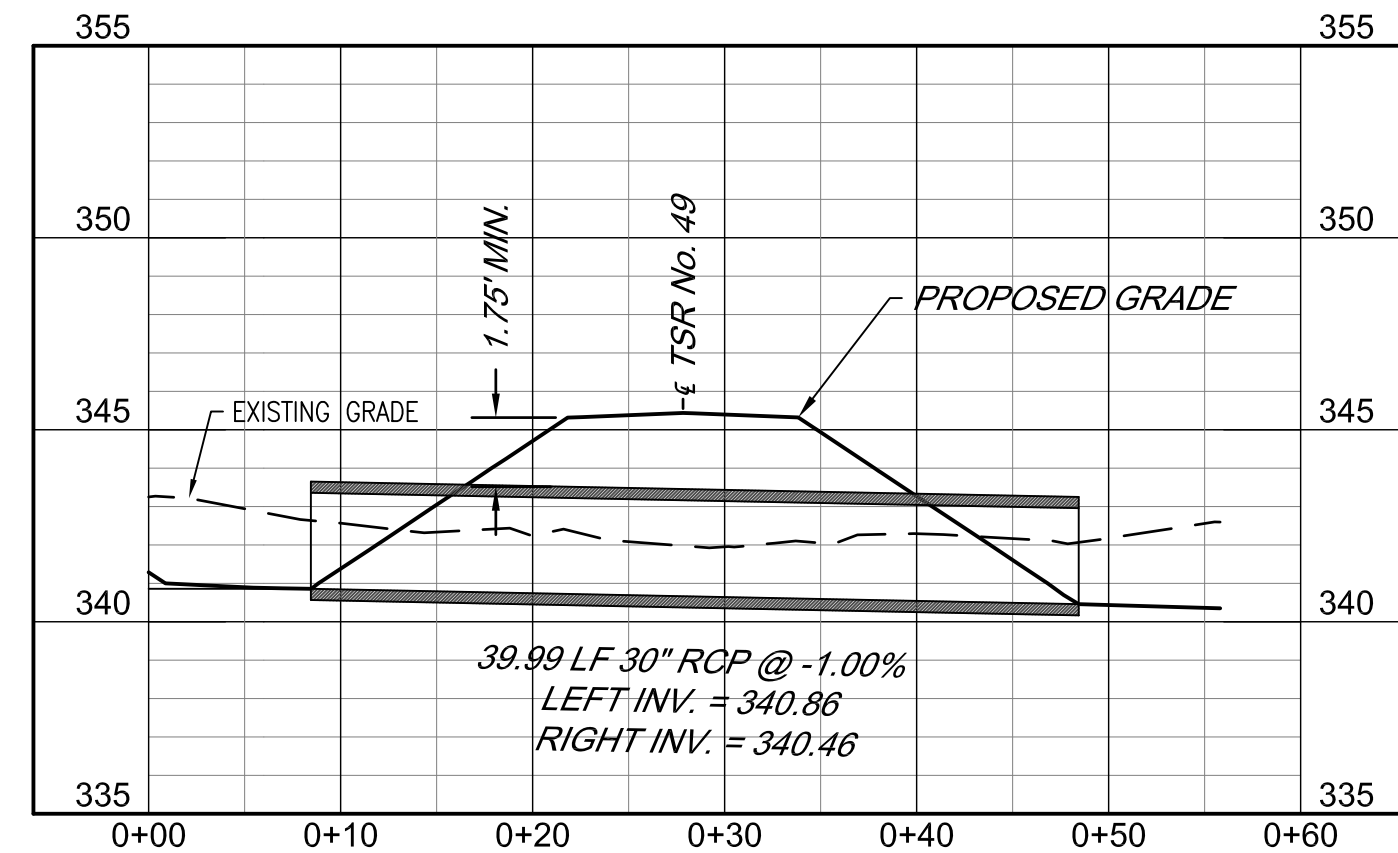
G:\CLEANSTUFF-15-2815376 BRAGG MPTTR\PI07_RTA_FINAL SUBMITTAL\04-CIVIL\200 PROFILES\B2EUCU213.DWG

READY TO ADVERTISE (RTA)

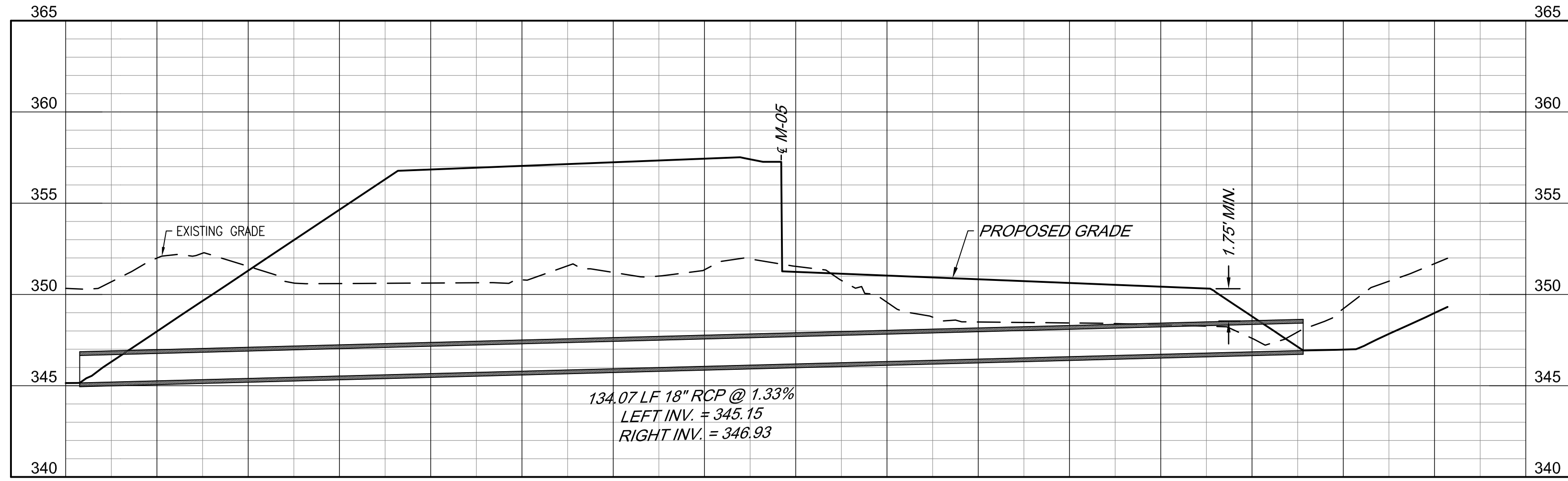
P
N
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A



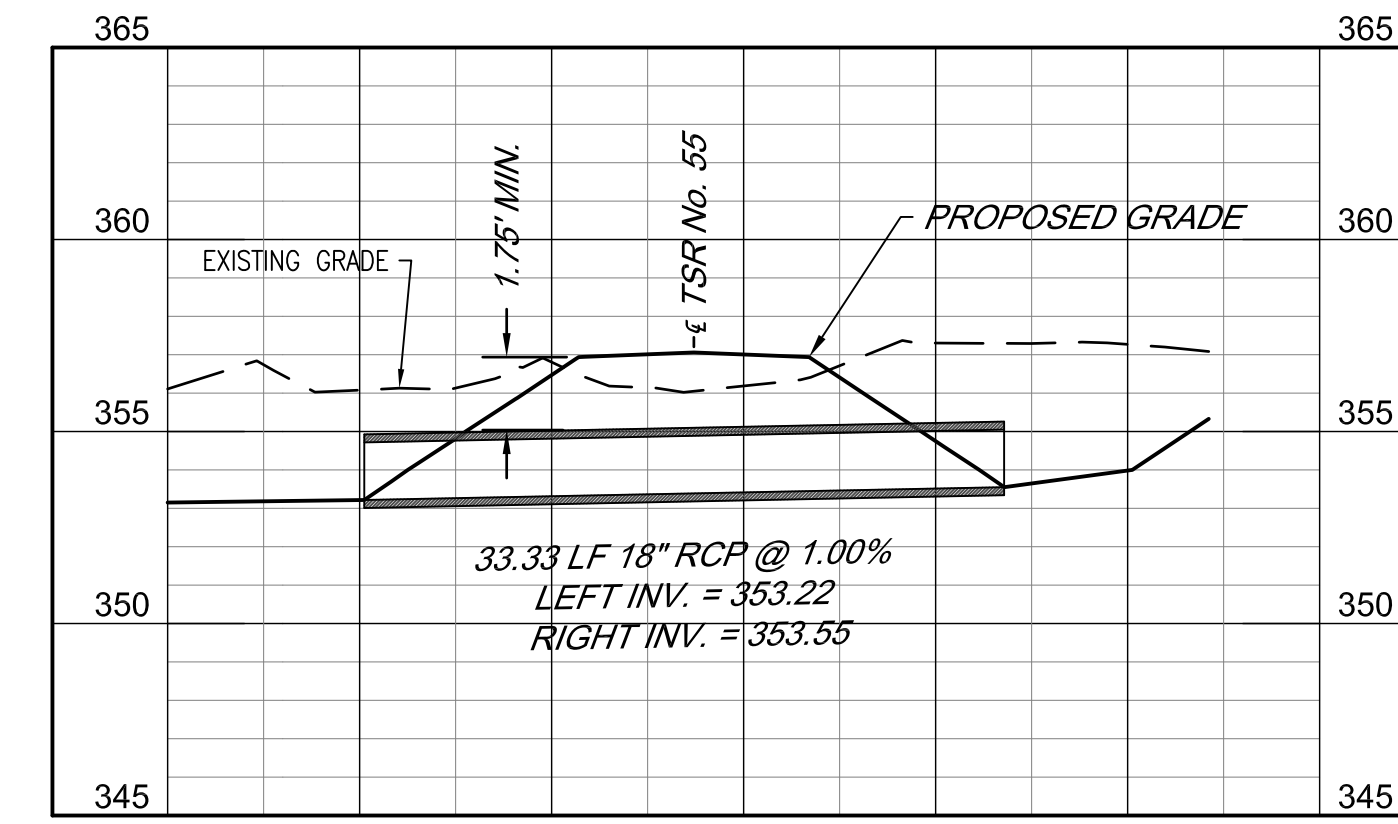
PIPE 76



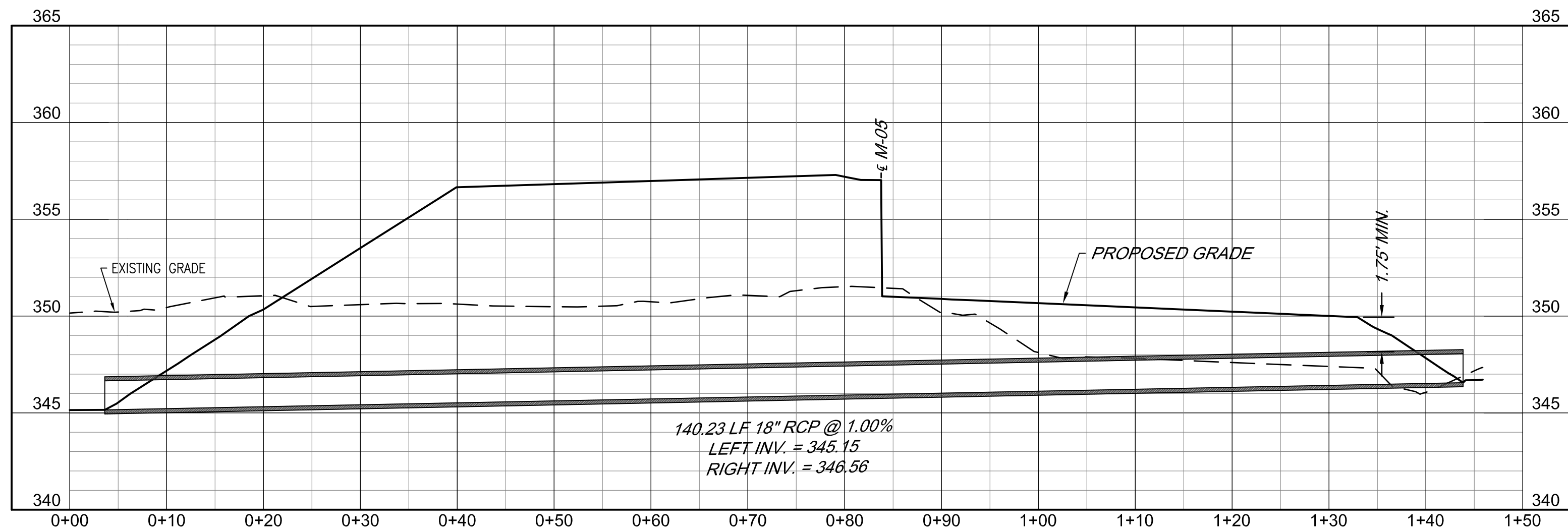
PIPE 77



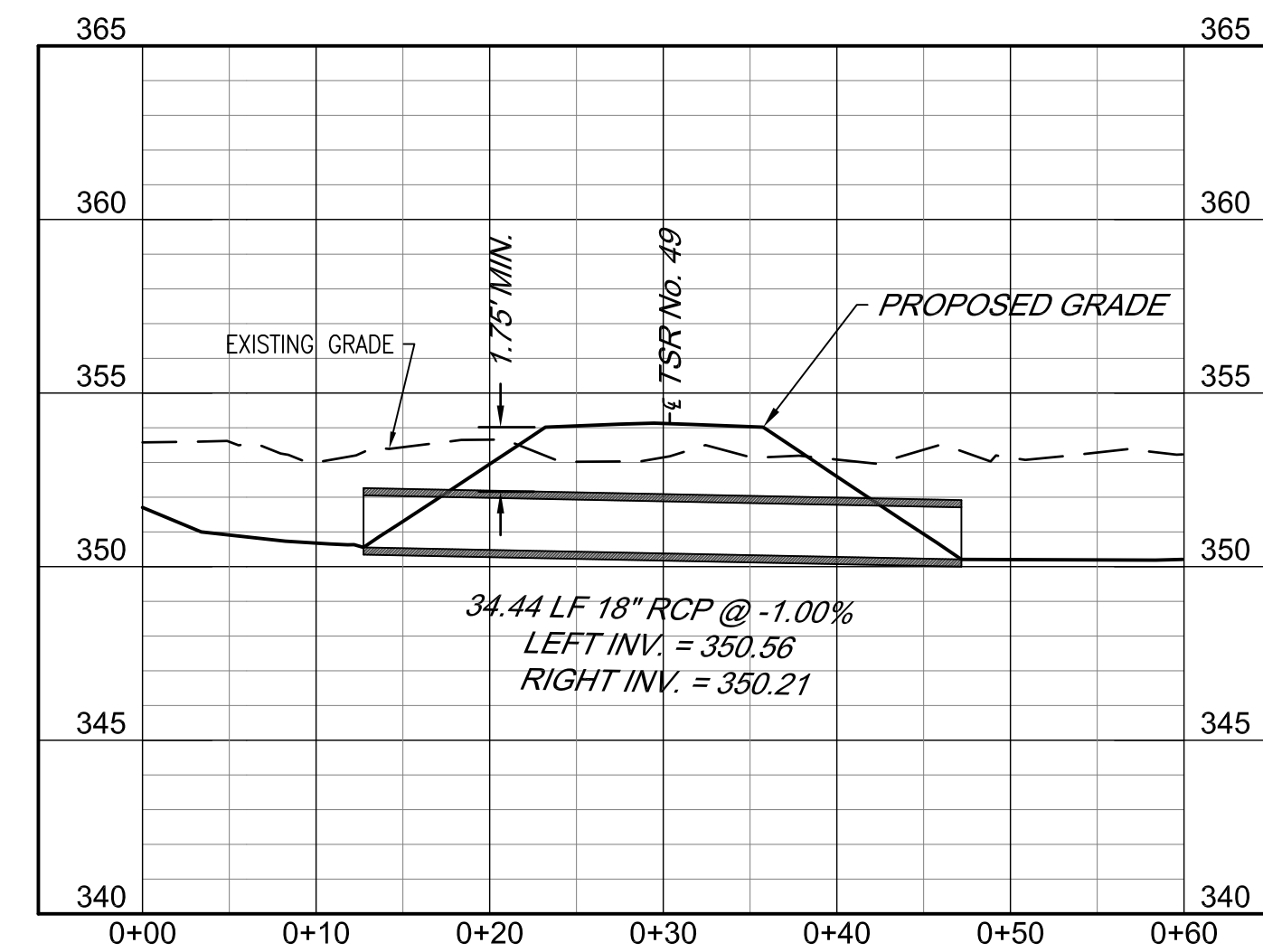
PIPE 78



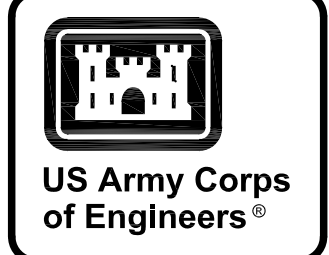
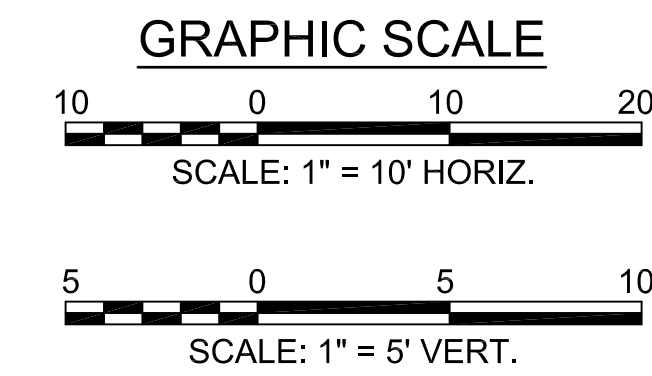
PIPE 82



PIPE 79



PIPE 81



MARK	DESCRIPTION	DATE

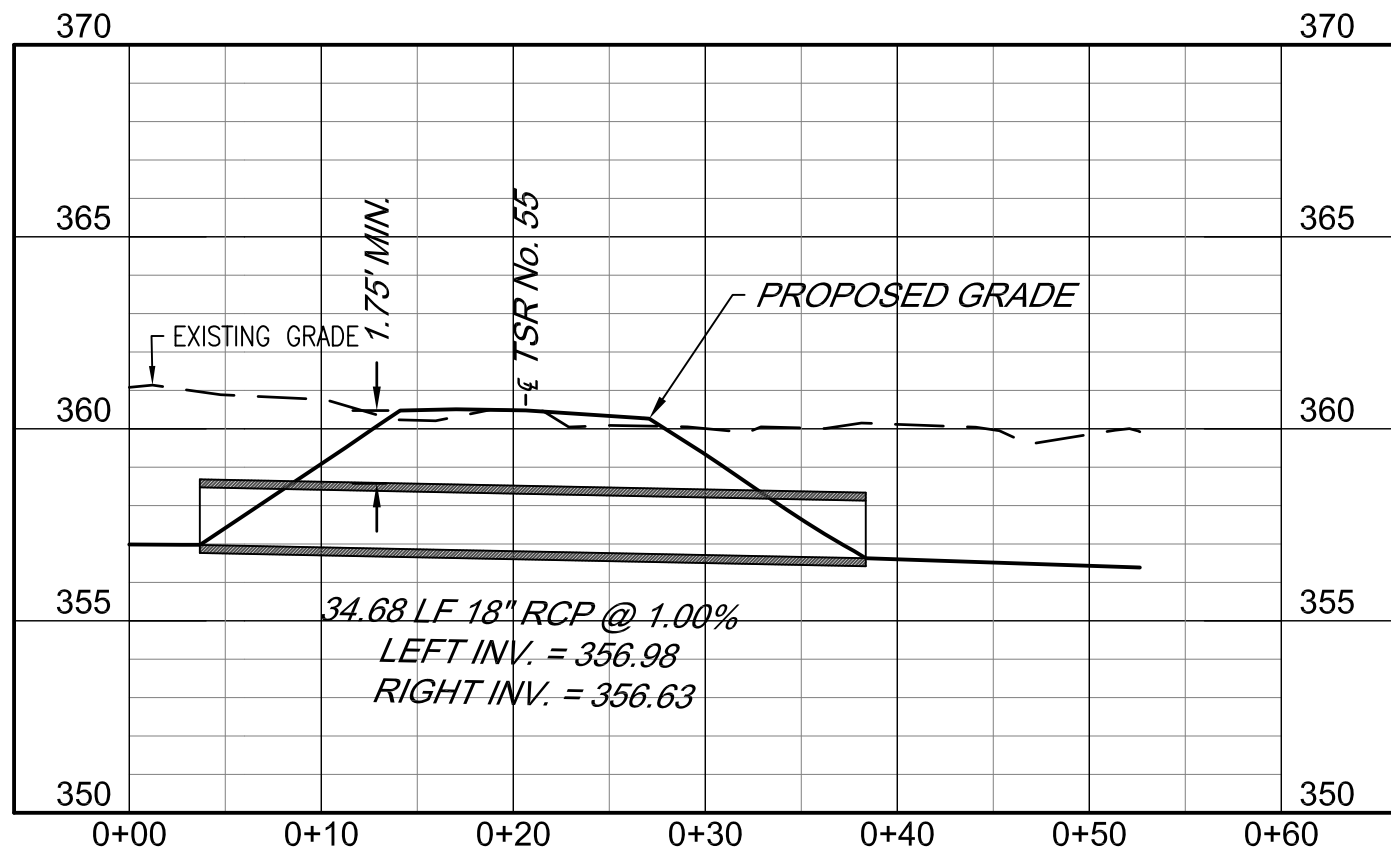
DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. BRADLEY	PROJECT NO. / PLAN NO. / CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-85-01
FILE NAME: ANSID	

U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT
100 W. OGLETHORPE AVE
SAVANNAH, GA 31401

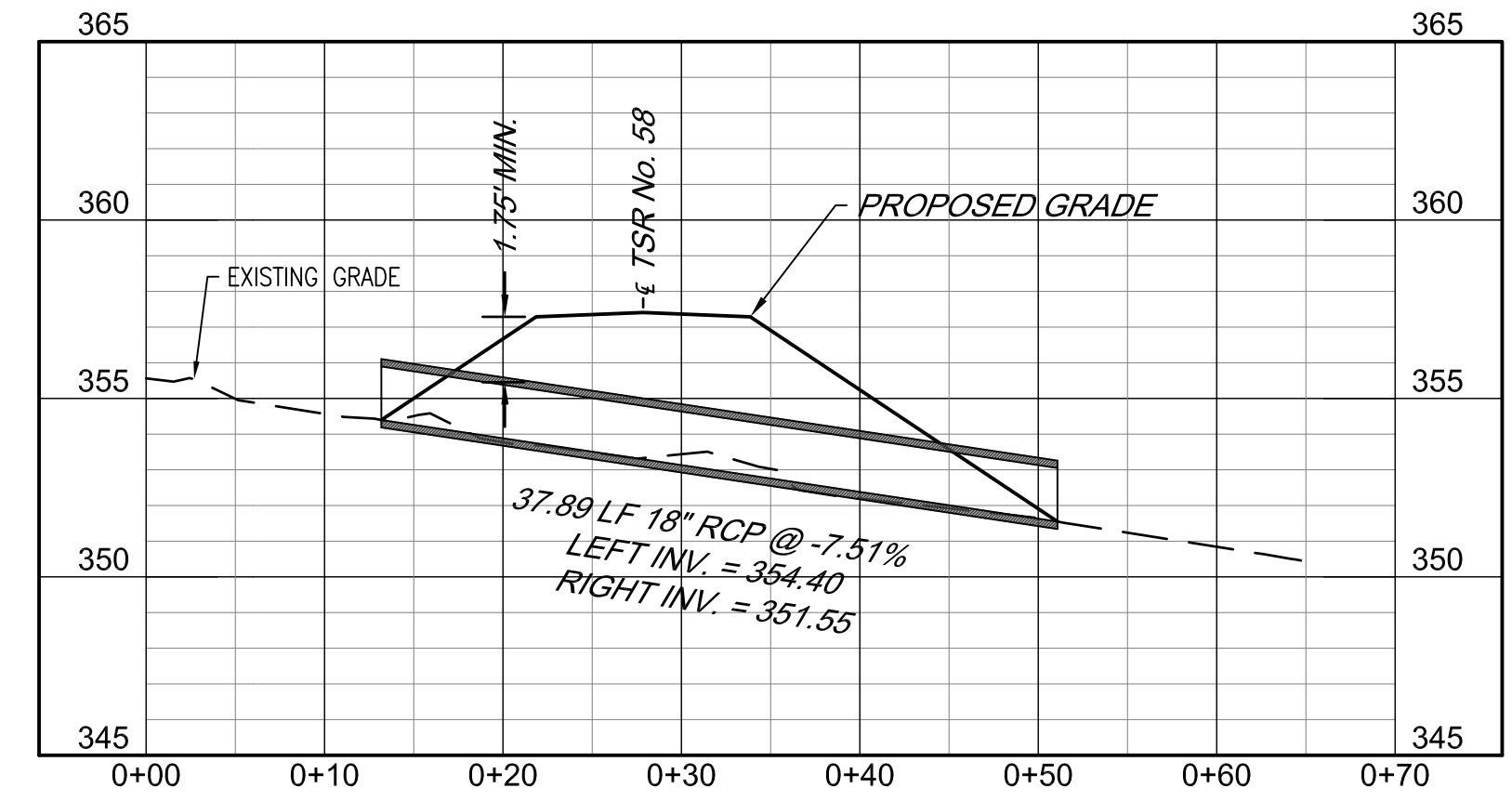
POLY, INC.
1995 HEADLAND AVENUE
DOTHAN, AL 36803
WWW.POLY-INC.COM / 334-799-4700

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 96182
VOLUMES 3 & 4 - DOWNRANGE
CULVERT PROFILES

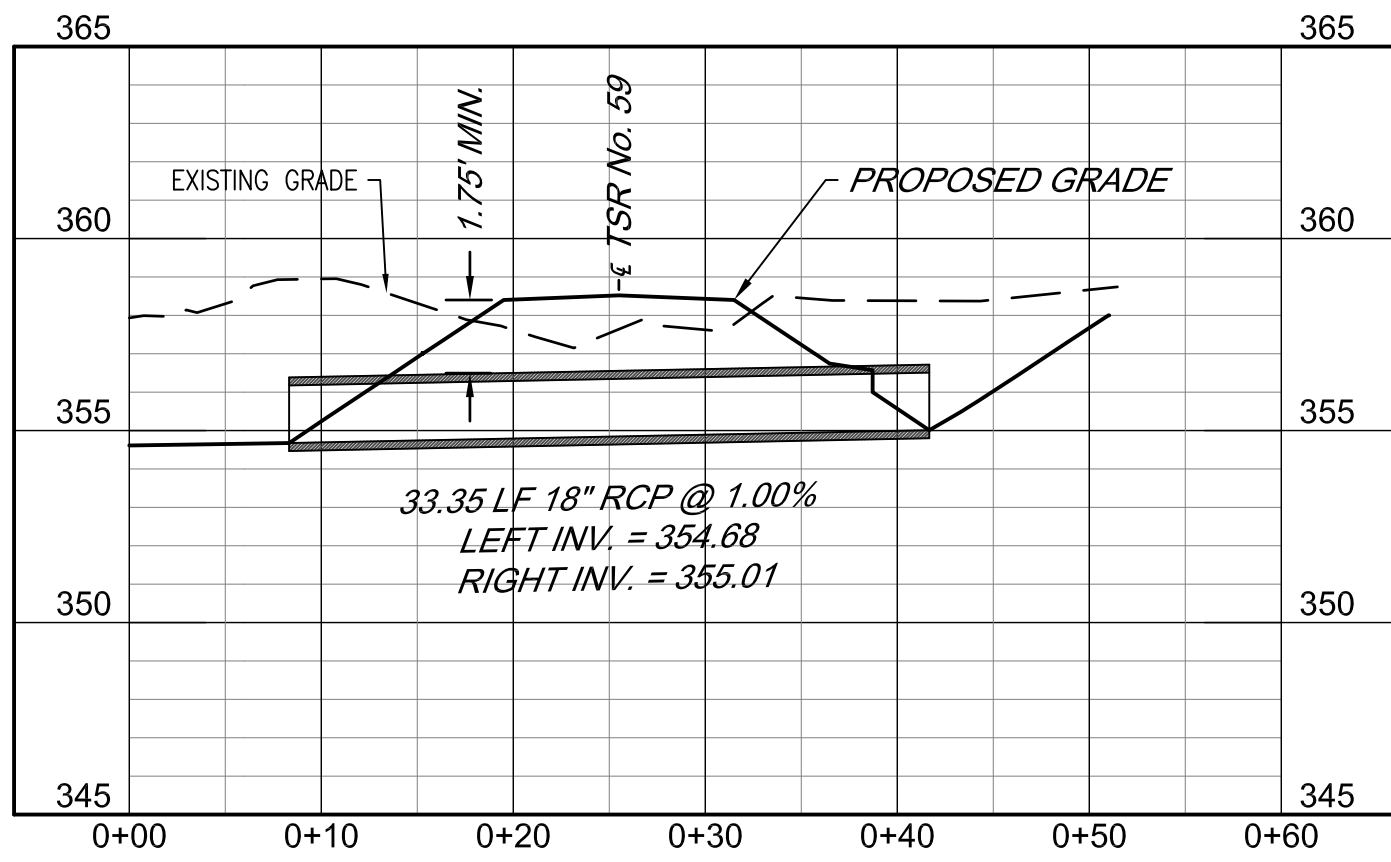
SHEET ID
CU214



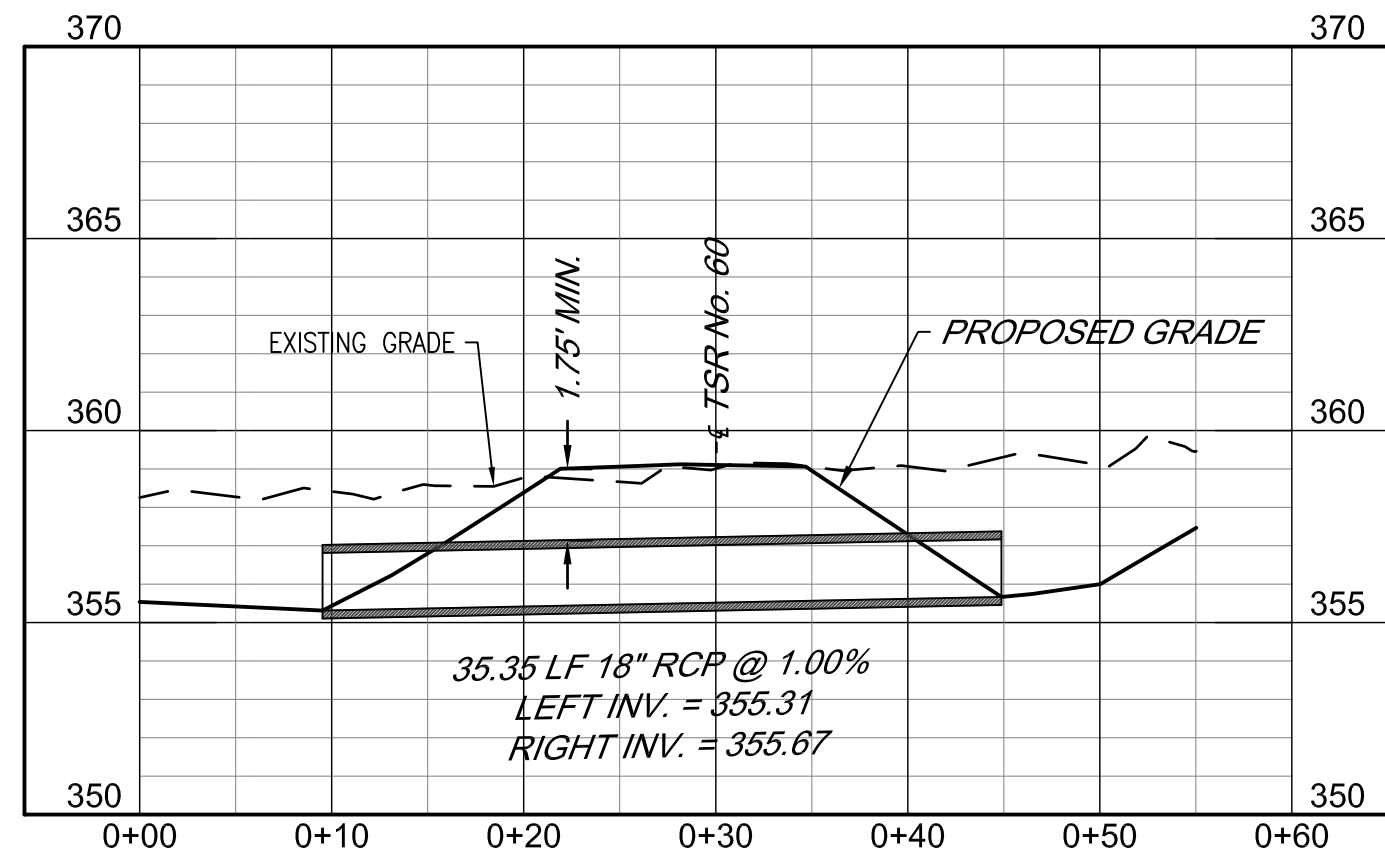
PIPE 83



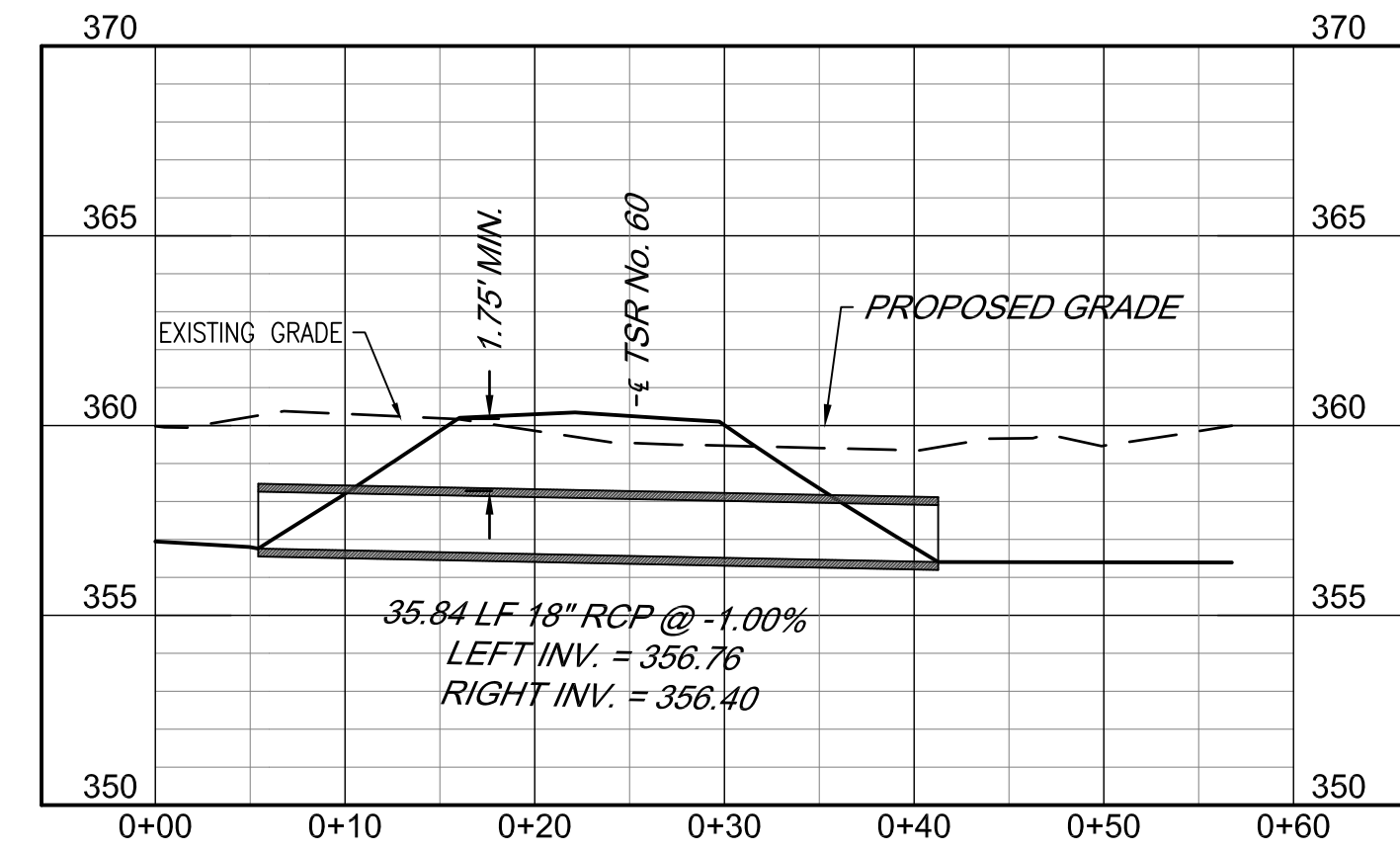
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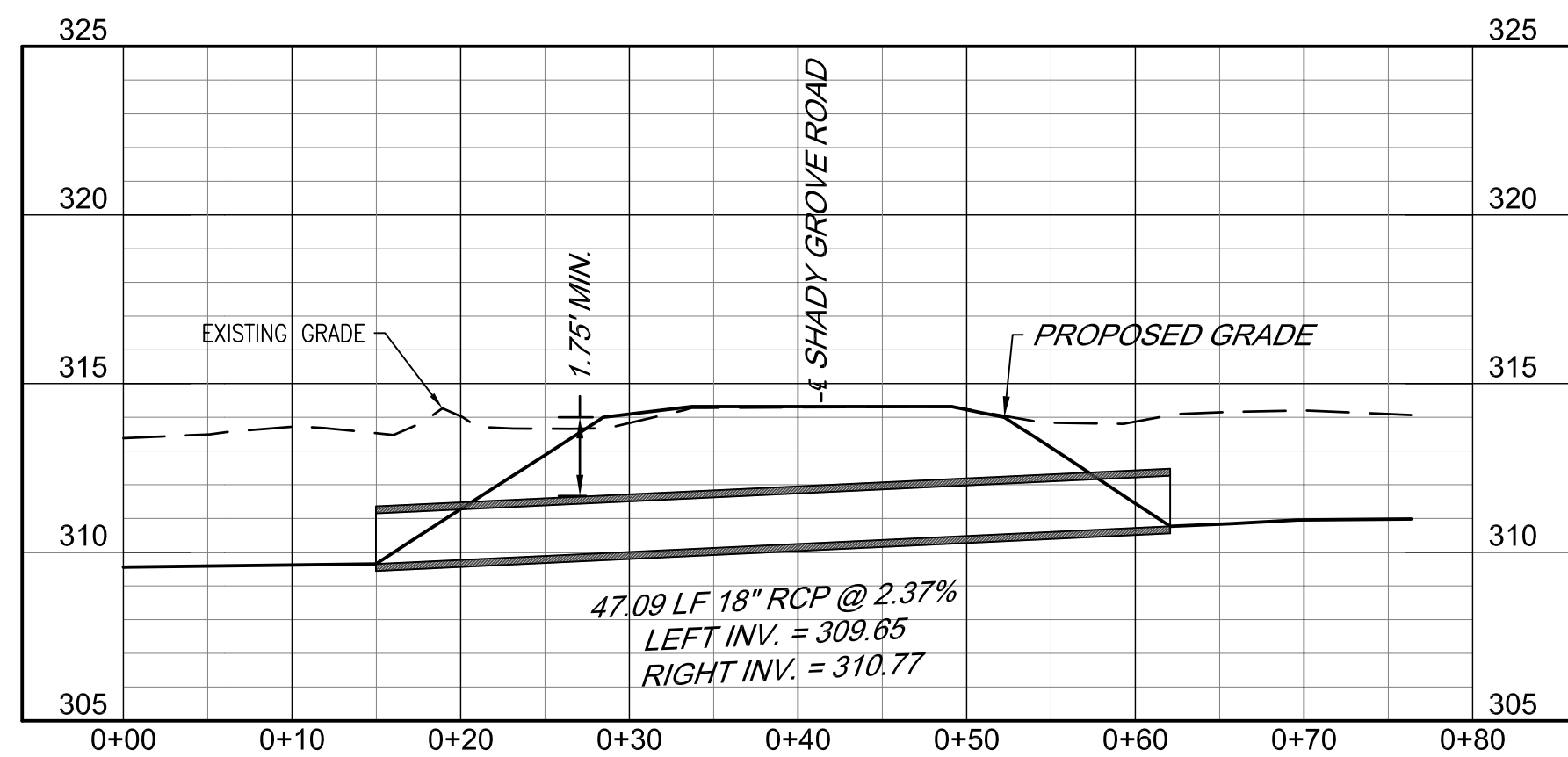
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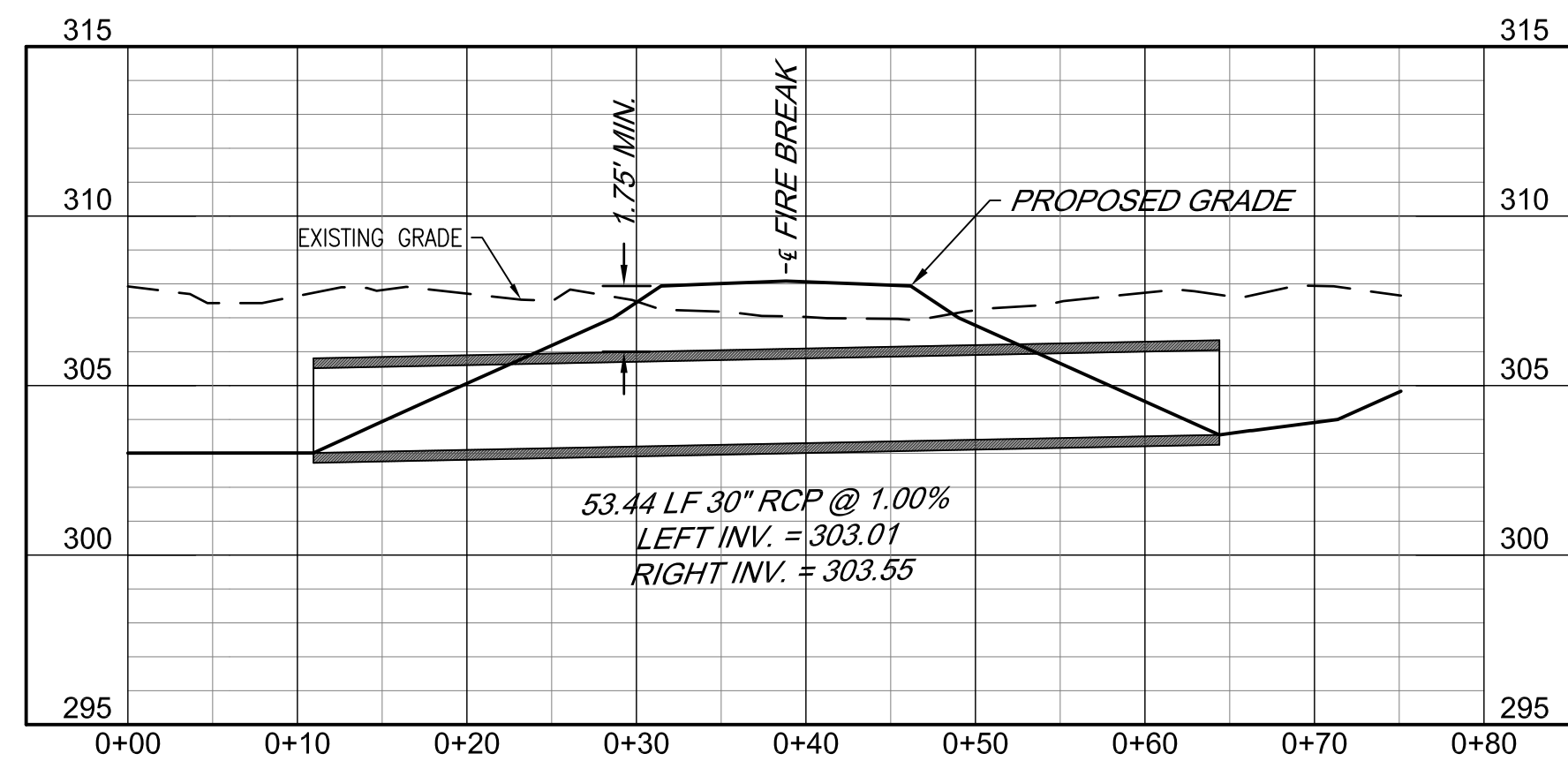
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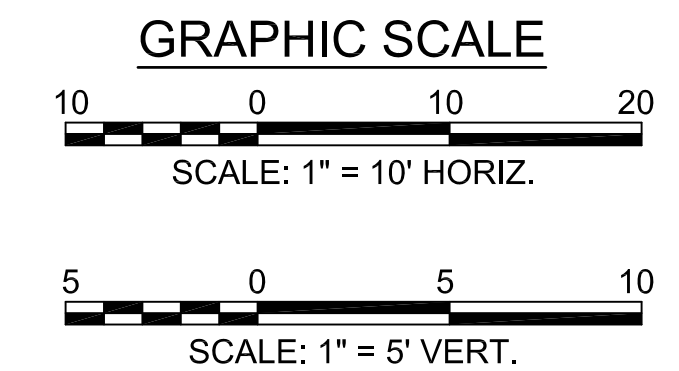
PIPE 88



PIPE 89



PIPE 90



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MARK	DESCRIPTION	DATE

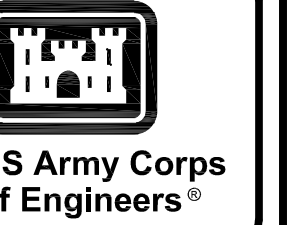
DESIGNED BY: K. SANDERS	ISSUE DATE: NOVEMBER 2023
CHECKED BY: B. JOHNSON	PROJECT NO.:
APPROVED BY: B. BRADLEY	DATE:
FILE NAME:	CONTRACT NO.:
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	CATEGORY CODE: 178-65-01
POLY, INC. 1985 HEADLAND AVENUE DOTHAN, AL 36803 WWW.POLY-INC.COM/3347-99-4700	

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 96182
VOLUMES 3 & 4 - DOWNRANGE
CULVERT PROFILES

SHEET ID
CU215

READY TO ADVERTISE (RTA)

General Notes



GN. GENERAL

GN.1 THE STRUCTURAL DRAWINGS AND SPECIFICATIONS ARE A PORTION OF THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR AND SUBCONTRACTORS SHALL REFERENCE AND COORDINATE WITH ALL OTHER DISCIPLINES' DRAWINGS. ANY DISCREPANCIES OR OMISSIONS SHALL BE REPORTED TO THE STRUCTURAL ENGINEER AND ARCHITECT.

GN.2 DESIGN CRITERIA:

A. CODES AND SPECIFICATIONS:

- GENERAL BUILDING CODE: INTERNATIONAL BUILDING CODE, 2018 EDITION WITH AMENDMENTS.
- DESIGN LOAD CRITERIA: MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES, AMERICAN SOCIETY OF CIVIL ENGINEERS, ASCE 7-16.
- CONCRETE: BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, AMERICAN CONCRETE INSTITUTE, ACI 318-14.
- TIMBER: NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION, AMERICAN FOREST & PAPER ASSOCIATION/AMERICAN WOOD COUNCIL, ANSI/AWC NDS-2018.
- DEPARTMENT OF DEFENSE:
 - UFC 1-200-01 GENERAL BUILDING REQUIREMENTS
 - UFC 3-301-01 STRUCTURAL ENGINEERING

B. DESIGN LOADS (PSF):

- DEAD LOADS: ANY CHANGES IN CONSTRUCTION MATERIALS FROM THOSE SHOWN ON THE ARCHITECTURAL OR STRUCTURAL DRAWINGS SHALL BE REPORTED BY THE CONTRACTOR TO THE STRUCTURAL ENGINEER FOR VERIFICATION OF LOAD-CARRYING CAPACITY OF THE STRUCTURE.
- LIVE LOADS: ROOF (REDUCIBLE)-----20
- SNOW LOAD (URBAN CLUSTER): GROUND SNOW LOAD (Pg)-----10.0
FLAT-ROOF SNOW LOAD (Pf)-----9.2
SNOW EXPOSURE FACTOR (Ce)-----1.1
SNOW LOAD IMPORTANCE FACTOR (Is)-----1.0
THERMAL FACTOR (Ct)-----1.2
- WIND LOADS:
WIND LOADS URBAN CLUSTER:
RISK CATEGORY-----II
ULTIMATE DESIGN WIND SPEED (3-SECOND GUST)--118 MPH
WIND EXPOSURE CATEGORY-----C

WIND LOADS AT FACADES:
RISK CATEGORY-----I
ULTIMATE DESIGN WIND SPEED (3-SECOND GUST)--109 MPH
WIND EXPOSURE CATEGORY-----C

INTERNAL PRESSURE COEFFICIENT:
URBAN CLUSTER (PARTIALLY OPEN)-----+/-0.18
FACADES (OPEN)-----0.00
- SEISMIC LOADS:
SEISMIC IMPORTANCE FACTOR (IE)-----1.0
MAPPED SPECTRAL RESPONSE ACCELERATION:
SS-----0.171
S1-----0.076
SITE CLASS-----D
SPECTRAL RESPONSE COEFFICIENTS:
SDS-----0.182
SD1-----0.122
SEISMIC DESIGN CATEGORY-----B

BASIC SEISMIC-FORCE-RESISTING SYSTEM:

URBAN CLUSTER, FACADES:
LIGHT FRAMED WALLS WITH NON RATED SHEAR WALLS:
SPECTRAL RESPONSE COEFFICIENT (CS)-----0.073
RESPONSE MODIFICATION FACTOR (R)-----2.5
OVER-STRENGTH FACTOR (Oo)-----2.5
DEFLECTION AMPLIFICATION FACTOR (Cd)-----2.5

ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE METHOD

GN.3 CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SITE CONDITIONS PRIOR TO FABRICATION/CONSTRUCTION. NOTIFY STRUCTURAL ENGINEER AND ARCHITECT OF ANY DISCREPANCIES PRIOR TO FABRICATION/CONSTRUCTION.

GN.4 ALL DETAILS SHOWN ARE TYPICAL. SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS, UNLESS NOTED.

GN.5 THE CONTRACTOR IS RESPONSIBLE FOR MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES OF CONSTRUCTION.

GN.6 CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON FRAMED ROOFS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT LOADS DO NOT EXCEED THE DESIGN LIVE LOAD.

FD. FOUNDATION

FD.1 THE CONTRACTOR SHALL FOLLOW ALL REQUIREMENTS FOR FOUNDATION AND SLAB ON GRADE PREPARATION NOTED IN SPECIFICATION SECTION 31 00 00.

FD.2 GEOTECHNICAL REPORT: FOUNDATION DESIGN IS BASED ON THE GEOTECHNICAL REPORT BY SOILS SECTION, GEOTECHNICAL & HTRW BRANCH, U.S. ARMY ENGINEER DISTRICT, SAVANNAH, TITLED "SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGINEERING REPORT, AUTOMATED MULTIPURPOSE TRAINING RANGE, PROJECT NO. 96182, FY-23, FORT BRAGG, NORTH CAROLINA DATED MARCH 2022". THE CONTRACTOR SHALL OBTAIN A COPY OF THE GEOTECHNICAL REPORT FROM THE OWNER AND FOLLOW ALL REQUIREMENTS AND RECOMMENDATIONS.

FD.3 DESIGN BEARING PRESSURES (PSF):
COLUMN FOOTINGS-----3000
ALL OTHER-----3000

FD.4 ALL FOUNDATION BEARING SURFACES SHALL BE INSPECTED AND APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING CONCRETE TO ENSURE COMPLIANCE WITH PRESSURES NOTED. THE FINAL BEARING ELEVATIONS MAY VARY AS REQUIRED TO PROVIDE PROPER BEARING CAPACITY IN AN APPROVED BEARING STRATUM AS DETERMINED BY THE GEOTECHNICAL ENGINEER.

FD.5 FOOTINGS SHALL BE PLACED THE SAME DAY AS INSPECTION BY THE GEOTECHNICAL ENGINEER UNLESS EXTENDED TIME IS APPROVED BY THE GEOTECHNICAL ENGINEER.

FD.6 FOOTINGS SHALL BE NEATLY EXCAVATED WHERE POSSIBLE WITH SIDES AND TOP EDGES FREE OF LOOSE OR WET MATERIALS. WHERE NEAT EXCAVATION IS NOT POSSIBLE, FOOTING EXCAVATION SHALL BE FILLED WITH CONCRETE TO THE TOP OF FOOTING. THE BOTTOM EXCAVATION SHALL BE CLEAN AND DRY WITH ALL LOOSE MATERIAL REMOVED FOR AN ESSENTIALLY FLAT BEARING SURFACE. WHERE SOFT OR UNSUITABLE BEARING SURFACES ARE ENCOUNTERED, THE AREA SHALL BE UNDERCUT AS REQUIRED AND REPLACED WITH LEAN CONCRETE OR COMPACTED DENSE GRADED CRUSHED STONE AS DIRECTED BY THE GEOTECHNICAL ENGINEER.

FD.7 COMPACTED FILL SHALL MEET THE REQUIREMENTS NOTED IN THE GEOTECHNICAL REPORT. EXCAVATED MATERIAL MAY BE USED AS BACKFILL MATERIAL WITH WRITTEN APPROVAL FROM THE GEOTECHNICAL ENGINEER STATING THAT SUCH MATERIAL IS SUITABLE AS BACKFILL AND INSTRUCTIONS ARE GIVEN FOR PROPER MOISTURE CONTENT AND COMPACTION.

CN. CONCRETE

CN.1 CONCRETING OPERATIONS SHALL COMPLY WITH ACI STANDARDS.

CN.2 MINIMUM CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS (PSI), TYPE OF CONCRETE, MAXIMUM W/C (WATER/CEMENTITIOUS MATERIALS RATIO), TOTAL AIR CONTENT, SLUMP AND CONCRETE USE:

STRENGTH	TYPE	W/C	AIR	SLUMP	USE
4000	NORMAL WT.	0.50	4-6%	3" TO 5"	UNLESS NOTED

***DO NOT USE AIR ENTRAINING ADMIXTURES IN INTERIOR CONCRETE SLABS TO RECEIVE A HARD TROWEL FINISH.

CN.3 REINFORCING BARS: ASTM A615 GRADE 60.

CN.4 REINFORCING STEEL SHOWN IN SECTIONS AND DETAILS IS A SCHEMATIC INDICATION THAT REINFORCING EXISTS. SEE SCHEDULES, SECTION NOTES AND GENERAL NOTES FOR ACTUAL REINFORCING REQUIRED.

CN.5 REINFORCING BAR PLACING ACCESSORIES TO BE INSTALLED IN ACCORDANCE WITH ACI MANUAL OF STANDARD PRACTICE.

CN.6 DETAIL REINFORCEMENT IN ACCORDANCE WITH ACI SP-066. REINFORCEMENT SHALL NOT BE WELDED UNLESS NOTED OR APPROVED BY THE STRUCTURAL ENGINEER.

CN.7 SPLICES SHALL BE CLASS "B" TENSION LAP SPLICE, UNLESS NOTED.

CN.8 REINFORCING MARKED "CONTINUOUS" SHALL BE SPLICED WITH CLASS "B" TENSION LAP SPLICE, UNLESS NOTED.

CN.9 CONCRETE COVERAGE OF REINFORCEMENT, UNLESS NOTED:
FOOTINGS-----2" TOP & 3" BOTTOM & SIDES
SLABS ON WELL GRADED SUBGRADE:
CONCRETE SURFACES CAST AGAINST EARTH-----3"
3/4" TOP & 1 1/2" BOTTOM

CN.10 SLABS ON GRADE: 5" THICK, REINFORCED WITH #4 @ 12" EACH WAY AT 1.5" FROM TOP OF SLAB, UNLESS NOTED.

WD. WOOD CONSTRUCTION

WD.1 WOOD FRAMING MEMBERS:
UNLESS NOTED OTHERWISE: PRESSURE TREATED VISUALLY GRADED DIMENSIONAL #2 GRADE SOUTHERN PINE.

WD.2 SILL PLATES, SOLE PLATES AND TOP PLATES SHALL BE OF THE SAME SIZE AND SPECIES AS THE STUDS TO WHICH THEY ARE CONNECTED. GRADE AND SPECIES SHALL BE AS SPECIFIED ABOVE.

WD.3 ALL LUMBER TO HAVE A MAXIMUM MOISTURE CONTENT OF 19% AT TIME OF CONSTRUCTION.

WD.4 ALL PRESSURE TREATED SOUTHERN PINE LUMBER SHALL BE PRESSURE TREATED WITH ALKALINE COPPER QUATERNARY (ACQ) IN ACCORDANCE WITH AMERICAN WOOD PROTECTION ASSOCIATION (AWPA) STANDARD U1, COMMODITY SPECIFICATION A.

A. USE CATEGORIES:

- UC3B/ABOVE GROUND EXPOSED - EXPOSED FRAMING, BEAMS, COLUMNS, ETC.
- UC4A/GROUND CONTACT OR INCLUSION PER U1, SECTION 2, NOTE 1 - WOOD FOUNDATIONS, ETC.

B. ALL FASTENERS, NAILS AND OTHER METAL PRODUCTS USED WITH LUMBER PRESSURE TREATED WITH ACQ SHALL BE HOT-DIP GALVANIZED, STAINLESS STEEL OR AS RECOMMENDED BY THE ACQ MANUFACTURER. PRESSURE TREATED LUMBER SHALL NOT BE IN DIRECT CONTACT WITH ALUMINUM PRODUCTS.

WD.5 ALL MANUFACTURED WOOD FRAMING CONNECTORS TO BE BY SIMPSON STRONG-TIE COMPANY, INC. OR APPROVED EQUAL. ALL CONNECTORS SHALL BE FASTENED TO FRAMING MEMBERS FILLING THE REQUIRED NUMBER OF CONNECTOR HOLES WITH THE TYPE AND SIZE FASTENERS SPECIFIED BY THE MANUFACTURER. HARDWARE TO BE FASTENED FOR MAXIMUM CAPACITY WHERE MANUFACTURER PROVIDES OPTION.

WD.6 PLYWOOD WALL SHEATHING AT FACADES AND URBAN CLUSTER: 3/4" PLYWOOD, EXTERIOR APA CUSTOM PRODUCT V-611. LONG DIMENSION OF PANEL PERPENDICULAR TO STUDS. ALL PLYWOOD EDGES BACKED WITH TWO INCH NOMINAL OR WIDER FRAMING.

WD.7 PLYWOOD WALL NAILING: 8D HOT-DIPPED GALVANIZED NAILS AT 6 INCHES AT ALL FOUR PANEL EDGES AND 12 INCHES AT INTERMEDIATE MEMBERS.

WD.8 ROOF SHEATHING AT URBAN CLUSTER: 3/4" PLYWOOD UNLESS NOTED, APA RATED SHEATHING, EXPOSURE 1. PANEL IDENTIFICATION INDEX 48/24. PROVIDE ONE H-CLIP AT ALL ADJOINING PANEL JOINTS MIDWAY BETWEEN SUPPORTS. LONG DIMENSION OF PANEL PERPENDICULAR TO SUPPORTS WITH JOINTS STAGGERED

WD.9 ROOF SHEATHING NAILING, UNLESS NOTED: 8D HOT-DIPPED GALVANIZED COMMON NAILS AT 6 INCHES AT DIAPHRAGM BOUNDARIES, 6 INCHES AT PANEL ENDS AND 12 INCHES AT INTERMEDIATE SUPPORTS.

WD.10 REFER TO IBC TABLE 2304.10.1 FOR FASTENING REQUIREMENTS NOT SPECIFICALLY STATED IN DRAWINGS.

WD.11 BOLTS: ASTM A307 GRADE A W/ ASTM A653 HEX NUTS AND WASHERS.

WD.12 NAILS, WIRE BRADS, STAPLES: SHALL CONFORM TO ASTM F1667.

WD.13 POWER DRIVEN FASTENERS: SHALL CONFORM TO NER-272.

WD.14 WOOD SCREWS: SHALL CONFORM TO ASME B18.6.1.

WD.15 LAG BOLTS: SHALL CONFORM TO ASME B18.2.1.

DATE	DESCRIPTION	MARK

DESIGNED BY: H. WAREN	ISSUE DATE: NOVEMBER 2023
CHECKED BY: W. BISHOP	DRAWING NO.: 130984.001
SUBMITTED BY: B. BRADLEY	DATE: NOVEMBER 2023
FILE NAME: 178-65-01	CONTRACT NO.:

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 96182
VOLUMES 3 & 4 - DOWNRANGE
GENERAL NOTES



SHEET ID
S-011

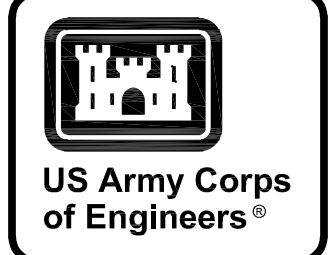
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General Notes (Continued)

Abbreviations

WT. WOOD TRUSSES	WT.11 PERMANENT INDIVIDUAL TRUSS MEMBER BRACING SHALL NOT BE CONSIDERED BUILDING STABILITY BRACING NOR TEMPORARY ERECTION BRACING.	WT.12 TRUSS MANUFACTURER TO COORDINATE WITH ALL SHEAR WALLS ON PLANS. IT IS THE RESPONSIBILITY OF THE TRUSS ENGINEER TO TRANSFER ALL SHEAR LOADS FROM DIAPHRAGMS AND SHEAR WALLS ABOVE INTO THE SHEAR WALL BELOW. PLACE DRAG TRUSS OR SHEAR PANELS ABOVE ALL SHEAR WALLS, WITH CAPACITIES THAT MATCH OR EXCEED THE TOTAL SHEAR CAPACITY OF THE SHEAR WALL BELOW. SEE STRUCTURAL DRAWINGS FOR SHEAR WALL CAPACITIES.	WT.13 TRUSSES MUST BE TRANSPORTED, UNLOADED, STORED AND HANDLED PER THE TRUSS MANUFACTURER'S WRITTEN INSTRUCTIONS. TEMPORARY ERECTION BRACING OF THE TRUSSES IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR, WHO SHALL ENGAGE A QUALIFIED DESIGN PROFESSIONAL FOR ASSISTANCE. THE PROJECT OWNER, BUILDING DESIGNER, ARCHITECT AND STRUCTURAL ENGINEER OF RECORD ARE NOT RESPONSIBLE FOR TEMPORARY ERECTION BRACING.	WT.14 ALL DAMAGED TRUSSES MUST BE REPAIRED BY THE CONTRACTOR. REPAIR TECHNIQUE FOR EACH DAMAGED TRUSS MUST BE PROVIDED IN WRITING BY THE TRUSS ENGINEER AND SUBMITTED FOR REVIEW BY THE STRUCTURAL ENGINEER.	PA. POST INSTALLED ANCHORS	PA.1 POST INSTALLED ANCHORS SHALL COMPLY WITH ACI-318 APPENDIX D.	PA.2 ACCEPTABLE MANUFACTURERS SHALL INCLUDE BUT ARE NOT LIMITED TO HILTI, INC. AND SIMPSON STRONG-TIE COMPANY, INC. AND DEWALT ANCHORS.	PA.3 CARE SHALL BE TAKEN IN PLACING POST INSTALLED ANCHORS TO AVOID CONFLICTS WITH EXISTING REBAR.	PA.4 HOLES SHALL BE DRILLED AND CLEANED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS. SUBSTITUTION REQUESTS, FOR PRODUCTS OTHER THAN THOSE SHOWN SHALL BE SUBMITTED BY THE CONTRACTOR ALONG WITH PREPARED DOCUMENTATION DEMONSTRATING THAT THE PRODUCT IS CAPABLE OF ACHIEVING EQUIVALENT PERFORMANCE VALUES (MINIMUM) OF THE SPECIFIED PRODUCT USING THE APPROPRIATE DESIGN PROCEDURE AND/OR STANDARD(S) AS REQUIRED BY THE BUILDING CODE.	PA.5 THE CONTRACTOR SHALL FOLLOW ALL MANUFACTURER'S INSTALLATION GUIDELINES, SPECIFICATIONS, AND RECOMMENDATIONS.	PA.6 CONCRETE ANCHORS: 1. MECHANICAL ANCHORS FOR USE IN CRACKED AND UNCRACKED CONCRETE SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI-355.2 AND ICC-ES AC193.	AT. ANTITERRORISM/FORCE PROTECTION (AT/FP)	AT.1 AT/FP PROVISIONS ARE NOT A REQUIREMENT OF THE CONTRACT.																																																																																																																																																																																																																											
WT.1 TRUSS LAYOUTS SHOWN ON FRAMING PLANS ARE SCHEMATIC ONLY AND SHOWN FOR GENERAL ARRANGEMENT, UNLESS SPECIFICALLY DIMENSIONED. ACTUAL LAYOUT SHALL BE DETERMINED BY THE TRUSS ENGINEER, BUT SHALL NOT CHANGE SPAN DIRECTIONS, SUPPORT LOCATIONS SHOWN, NOR GO ABOVE THE MAXIMUM SPACING INDICATED. DO NOT BEAR GIRDER TRUSSES ON DOOR OR WINDOW OPENINGS UNLESS NOTED OTHERWISE. COORDINATE TRUSS LAYOUT WITH ARCHITECTURAL REQUIREMENTS. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR SHAPES, SIZES, AND STYLES OF TRUSSES REQUIRED.	WT.2 DESIGN, FABRICATE AND ERECT WOOD TRUSSES IN ACCORDANCE WITH THE "DESIGN SPECIFICATION FOR LIGHT METAL PLATE CONNECTED WOOD TRUSSES" OF THE TRUSS PLATE INSTITUTE. RESPONSIBILITIES SPECIFICALLY ASSIGNED IN THESE CONSTRUCTION DOCUMENTS SHALL TAKE PRECEDENCE OVER ANSI/TPI CHAPTER 2.	WT.3 THE WOOD TRUSS SYSTEM ENGINEER SHALL DESIGN THE COMPLETE TRUSS SYSTEM. THE TRUSS SYSTEM IS AN ASSEMBLAGE OF TRUSSES AND TRUSS GIRDERS, TOGETHER WITH ALL PERMANENT INDIVIDUAL TRUSS MEMBER BRACING, TRUSS-TO-TRUSS CONNECTIONS, BRACING CONNECTIONS, AND OTHER STRUCTURAL ELEMENTS AND ALL SPACING AND LOCAL CRITERIA THAT, IN COMBINATION, FUNCTION TO SUPPORT THE LOADS APPLICABLE TO THE STRUCTURE.	WT.4 SUBMIT ENGINEERED DRAWINGS AND CALCULATIONS FOR ALL WOOD TRUSS ROOF FRAMING SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE IN WHICH THE PROJECT IS LOCATED. SUBMITTALS THAT DO NOT BEAR THE ENGINEER'S SEAL WILL BE REJECTED WITHOUT REVIEW.	WT.5 THE TRUSS SUBMITTAL MUST CONTAIN THE FOLLOWING INFORMATION, AS A MINIMUM: A. SEALED SHOP DRAWINGS INDICATING TRUSS CONFIGURATIONS, DIMENSIONS, BEARING DETAILS, WOOD MEMBER SIZES, SPECIES & GRADES AND METAL CONNECTOR PLATE SIZES, ORIENTATIONS & DETAILS. B. SEALED CALCULATIONS INDICATING GRAVITY & LATERAL LOADING, APPLICABLE BUILDING CODE, SUPPORT REACTIONS, DEFLECTIONS, MEMBER FORCES, AND LOCATIONS WHERE PERMANENT MEMBER BRACING IS REQUIRED. C. SEALED ERECTION PLANS INDICATING TRUSS LOCATIONS, TRUSS-TO-TRUSS CONNECTIONS, AND PERMANENT INDIVIDUAL TRUSS MEMBER BRACING DETAILS (CONNECTIONS AND SIZES). INCLUDE DETAILS FOR CONNECTING MULTI-PLY TRUSSES TOGETHER, FOR ATTACHING OVERBUILDS, AND FOR ANY FIELD MODIFICATIONS REQUIRED.	WT.6 TRUSS MANUFACTURER SHALL DESIGN FOR THE FOLLOWING SUPERIMPOSED LOADS: A. ROOF: 1. TOP CHORD DEAD LOAD -----10 PSF 2. BOTTOM CHORD DEAD LOAD -----10 PSF 3. TOP CHORD LIVE LOAD -----SEE SECTION GN.2.B.2 4. BOTTOM CHORD LIVE LOAD-----10 PSF	WT.7 IN ADDITION TO THE ABOVE LOADS, WOOD TRUSSES SHALL BE DESIGNED FOR CONCENTRATED LOADS HUNG FROM OR SUPPORTED ON TRUSSES. REFER TO MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS AND SPECIFICATIONS FOR LOADING INFORMATION AND LOCATION.	WT.8 TRUSS ENGINEER TO DESIGN ROOF TRUSSES WITH WIND PRESSURES IN ACCORDANCE WITH THE BUILDING CODE.	WT.9 MAXIMUM ALLOWABLE LIVE LOAD DEFLECTIONS ARE AS FOLLOWS: ROOF TRUSSES-----L/240	WT.10 PERMANENT INDIVIDUAL TRUSS MEMBER BRACING: A. ALL LOCATIONS OF REQUIRED PERMANENT INDIVIDUAL TRUSS MEMBER BRACING SHALL BE IDENTIFIED IN THE TRUSS SUBMITTAL. B. STRUCTURAL SHEATHING MAY BE UTILIZED TO PROVIDE OUT-OF-PLANE BRACING FOR TOP CHORD MEMBERS TO WHICH THE SHEATHING IS DIRECTLY ATTACHED. AT PIGGYBACK BASE TRUSSES AND OTHER TRUSSES WHERE THE TOP CHORD IS NOT DIRECTLY ATTACHED TO STRUCTURAL SHEATHING, THE TRUSS ENGINEER SHALL SPECIFY REQUIRED TOP CHORD BRACING, INCLUDING BRACING SIZES AND CONNECTIONS. C. PROVIDE PERMANENT BOTTOM CHORD BRACING AT ALL TRUSSES AT SPACING NOT TO EXCEED 10'-0" O.C. THE TRUSS ENGINEER SHALL SPECIFY ANY ADDITIONAL PERMANENT MEMBER BRACING REQUIRED. D. BRACING DESIGN MUST TRANSFER ALL BRACING FORCES INTO THE BUILDING DIAPHRAGMS.																																																																																																																																																																																																																															
ABOVE FINISH FLOOR	ADDITIONAL	ADJACENT	AIR CONDITIONER	AIR HANDLING UNIT	ALTERNATE	ANCHOR	ANCHOR ROD	AND	ANGLE	APPROVED	APPROXIMATE	ARCHITECTURAL	ARCHITECTURALLY EXPOSED	STRUCTURAL STEEL	AT (WHEN INDICATING SPACING ONLY)	BACK TO BACK	BALANCE	BASEMENT	BASE PLATE	BEAM	BEARING	BELOW FINISH FLOOR	BETWEEN	BLOCK	BLOCKING	BOTTOM	BOTTOM CHORD EXTENSION	BRICK	BRIDGING	BUILDING	CAST IN PLACE	CENTER	CENTERLINE	CENTER TO CENTER	CHANNEL	CLEAR OR CLEARANCE	COLUMN	COMPLETE JOINT PENETRATION	COMPRESSION	CONCRETE	CONCRETE MASONRY UNIT	CONNECTION(S)	CONTINUOUS	CONTRACTOR	CONSTRUCTION	CONTROL JOINT	CORNER	COORDINATE	COVER PLATE	DEGREE	DEGREE CELSIUS	DEGREE FAHRENHEIT	DETAIL	DEAD LOAD	DIAGONAL	DIAMETER	DIMENSION(S)	DRAWING(S)	DRILLED PIER	DOUBLE	DOUBLE EXTRA STRONG	DOWEL(S)	DOWN	EACH	EACH FACE	EACH WAY	EDGE OF DECK	EDGE OF SLAB	ELECTRICAL	ELEVATION	ELEVATOR	EMBEDMENT	ENGINEER	EQUAL	EQUIPMENT	EXISTING	EXPANSION	EXPANSION ANCHOR	EXPANSION JOINT	EXTENSION	EXTERIOR	EXTRA STRONG	FABRICATOR	FACE TO FACE	FAR SIDE	FASTENER	FIELD VERIFY	FINISH(ED)	FINISHED FLOOR	FLANGE	FLOOR	FLOOR DRAIN	FOOT	FOOTING	FOUNDATION	FRAMING	GAGE OR GAUGE	GALVANIZED	GENERAL	GENERAL CONTRACTOR	GOVERNMENT	GRADE	GRADE BEAM	GROUND	HARD ROCK	HEADED STUD(S)	HEIGHT	HIGH STRENGTH	HOOK	HORIZONTAL	INFORMATION	INSIDE DIAMETER	INSIDE FACE	INTERIOR	INTERMEDIATE	INVERTED	JOINT	JOIST(S)	JOIST GIRDER	KIPS (1000 LBS)	KIPS PER LINEAL FOOT	KIPS PER SQUARE INCH	KIPS PER SQUARE FOOT	LIGHTWEIGHT CONCRETE	LIVE LOAD	LONGITUDINAL	LONG LEG HORIZONTAL	LONG LEG VERTICAL	MANUFACTURE(R)	MASONRY	MASONRY OPENING	MATERIAL	MAXIMUM	MECHANICAL	MEZZANINE	MIDDLE	MINIMUM	MISCELLANEOUS	MOMENT	MOMENT CONNECTION(S)	NEAR FACE	NEAR SIDE	NOMINAL	NOT IN CONTRACT	NOT TO SCALE	NUMBER	ON CENTER	OPENING(S)	OPPOSITE	OUTSIDE FACE	OUTSIDE DIAMETER	OUTSTANDING LEG	PARALLEL	PARTITION(S)	PENETRATION	PERMANENT	PERPENDICULAR	PLATE	PLUMBING	PNEUMATIC	POST-TENSION	POUNDS	POUNDS PER LINEAL FOOT	POUNDS PER SQUARE INCH	POUNDS PER SQUARE FT	POUNDS PER CUBIC YARD	POUNDS PER CUBIC INCH	PRECAST CONCRETE	PREENGINEERED METAL BUILDING	PREFABRICATED	PRELIMINARY	PRESSURE INJECTED FOOTING	PROJECTION	RADIUS	REFERENCE	REINFORCED CONC PIPE	REINFORCING	REQUIRED	RISER	ROOF	ROOF DRAIN	ROOF TOP UNIT	ROOM	ROUND	SCHEDULE	SECTION	SHEAR	SHEET	SIMILAR	SPACE	SPECIFICATION(S)	SPECIFIED	SQUARE	STANDARD	STEEL	STIFFENER	STRAIGHT	STIRRUPS	STRUCTURE OR STRUCT'L	SYMMETRICAL	SUPPORT(S)	TEMPERATURE	TENSION	THICK	TONGUE AND GROOVE	TOP AND BOTTOM	TOP CHORD EXTENSION	TOP OF BEAM	TOP OF FOOTING	TOP OF GRADE BEAM	TOP OF JOIST	TOP OF PEDESTAL	TOP OF PIER	TOP OF PILE CAP	TOP OF STEEL	TOP OF WALL	TREAD	TYPICAL	UNLESS NOTED	VERTICAL	WATERPROOFING	WATERSTOP	WELDED WIRE REINFORCEMENT	WIND LOAD	WIND MOMENT CONNECTION	WINDOW	WITH	WITHOUT	WOOD	WORK POINT	WEIGHT	WIDE FLANGE

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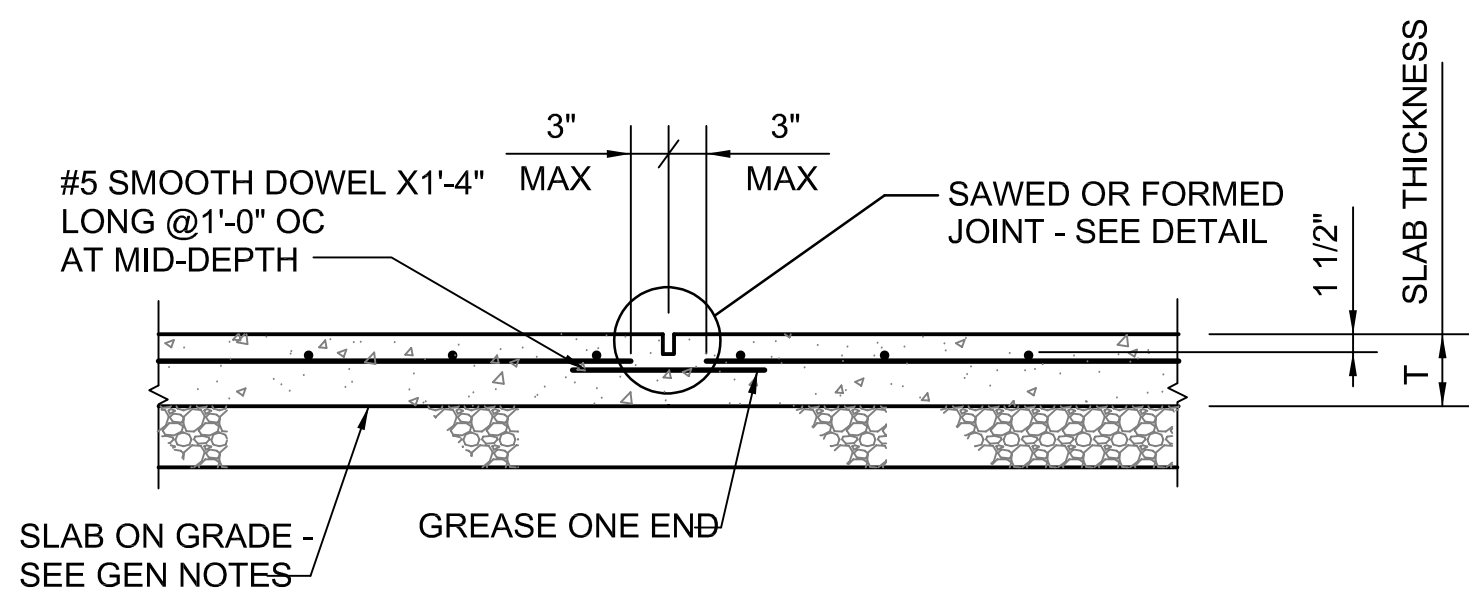
DATE	DESCRIPTION	MARK

DESIGNED BY: H. WAREN	ISSUE DATE: NOVEMBER 2023	U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401
CHECKED BY: W. BISHOP	PROJECT NO. 130984.001	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36303 WWW.POLY-INC.COM/3547-95-4700
CHECKED BY: B. BRADLEY	CONTRACT NO. 178-65-01	GENERAL NOTES (CONTINUED)
FILE NAME: ANSI.D	CATEGORY CODE: 178-65-01	

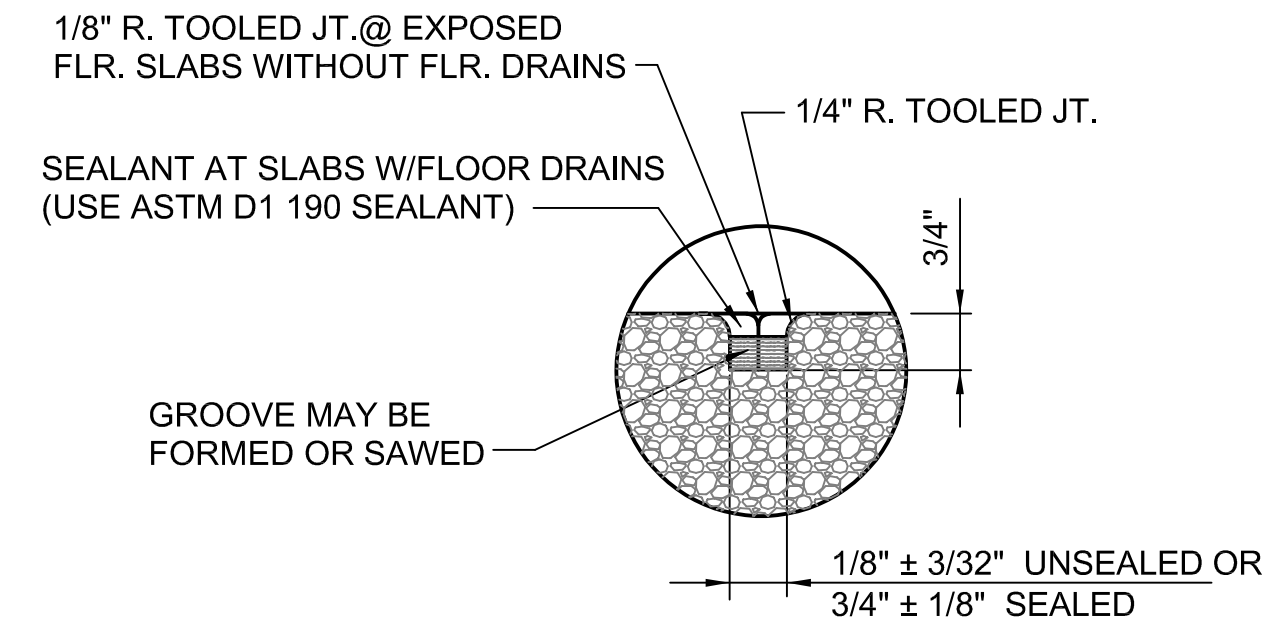


FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTR)
VOLUMES 3 & 4 - DOWNRANGE
GENERAL NOTES (CONTINUED)

READY TO ADVERTISE (RTA)



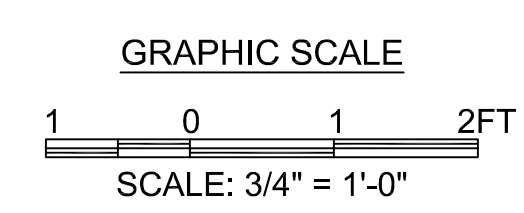
Weakened Plane Control Joint Details
 Scale: NTS



Formed Joint and Sealant

BAR SIZE	f'_c 4000			
	TOP BARS		OTHER BARS	
	CASE 1	CASE 2	CASE 1	CASE 2
#3	24"	37"	19"	28"
#4	32"	49"	25"	37"
#5	41"	64"	31"	47"
#6	49"	73"	37"	56"
#7	70"	106"	55"	82"
#8	81"	121"	63"	93"

1. TOP BARS ARE HORIZONTAL REINFORCEMENT WITH MORE THAN 12" OF CONCRETE CAST BELOW THE REINFORCEMENT.
2. CLASS B LAP LENGTHS APPLY WHEN ALL BARS ARE SPLICED AT A LOCATION OF MAXIMUM STRESS IN THE BARS.
3. CASE 1 LENGTHS APPLY TO BEAMS AND COLUMNS WITH CONCRETE COVER EQUAL OR GREATER THAN THE BAR DIAMETER. CLEAR BAR SPACING EQUAL OR GREATER THAN THE BAR DIAMETER AND WITH STIRRUPS OR TIES NOT LESS THAN THE CODE MINIMUM THROUGHOUT THE LENGTH IN THE TABLE; AND FOR OTHER ELEMENTS WITH CONCRETE COVER EQUAL OR GREATER THAN THE BAR DIAMETER AND CLEAR SPACING EQUAL OR GREATER THAN TWO TIMES THE BAR DIAMETER.
4. CASE 2 LENGTHS APPLY TO BEAMS AND COLUMNS WITH CONCRETE COVER LESS THAN THE BAR DIAMETER, AND CLEAR BAR SPACING LESS THAN THE BAR DIAMETER; AND FOR OTHER ELEMENTS WITH CONCRETE COVER LESS THAN THE BAR DIAMETER AND CLEAR BAR SPACING LESS THAN TWO TIMES THE BAR DIAMETER.



DESIGNED BY: H. WARREN	ISSUE DATE: NOVEMBER 2023
DRAWN BY: K. TILLEY	PROJECT NO.: 130984.001
CHECKED BY: W. BISHOP	CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-65-01
FILE NAME: ANSID	

U.S. ARMY CORPS OF ENGINEERS
 SAVANNAH DISTRICT
 100 W. OGLETHORPE AVE
 SAVANNAH, GA 31401

POLY, INC.
 1995 HEADLAND AVENUE
 DOTHAN, AL 36302
 WWW.POLY-INC.COM/3347-95-4700

FORT LIBERTY, NORTH CAROLINA
 AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTR)
 FY23, PN 86182
 VOLUMES 3 & 4 - DOWNRANGE
 TYPICAL DETAILS

SHEET ID
S-501

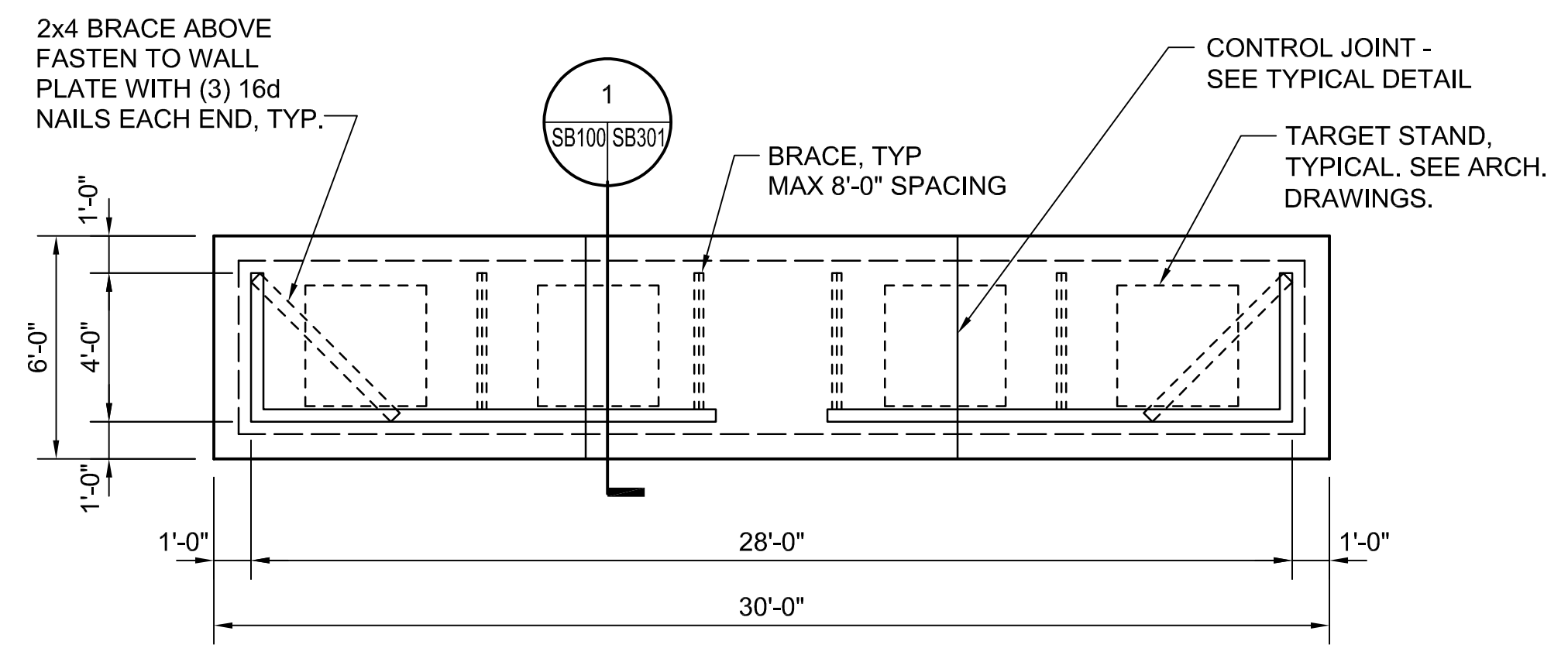
DESIGNED BY: H. WARREN	ISSUE DATE: NOVEMBER 2023
DRAWN BY: J. T. WALKER	PROJECT NO.: 130984.001
CHECKED BY: W. BISHOP	CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-65-01
SIZE: ANSI	FILE NAME: 178-65-01

U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36503 WWW.POLY-INC.COM/3547-95-4700
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FORT LIBERTY, NORTH CAROLINA AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTR) FY23, PN 86182 VOLUMES 3 & 4 - DOWNRANGE SINGLE-STORY FACADE FOUNDATION AND FLOOR PLANS
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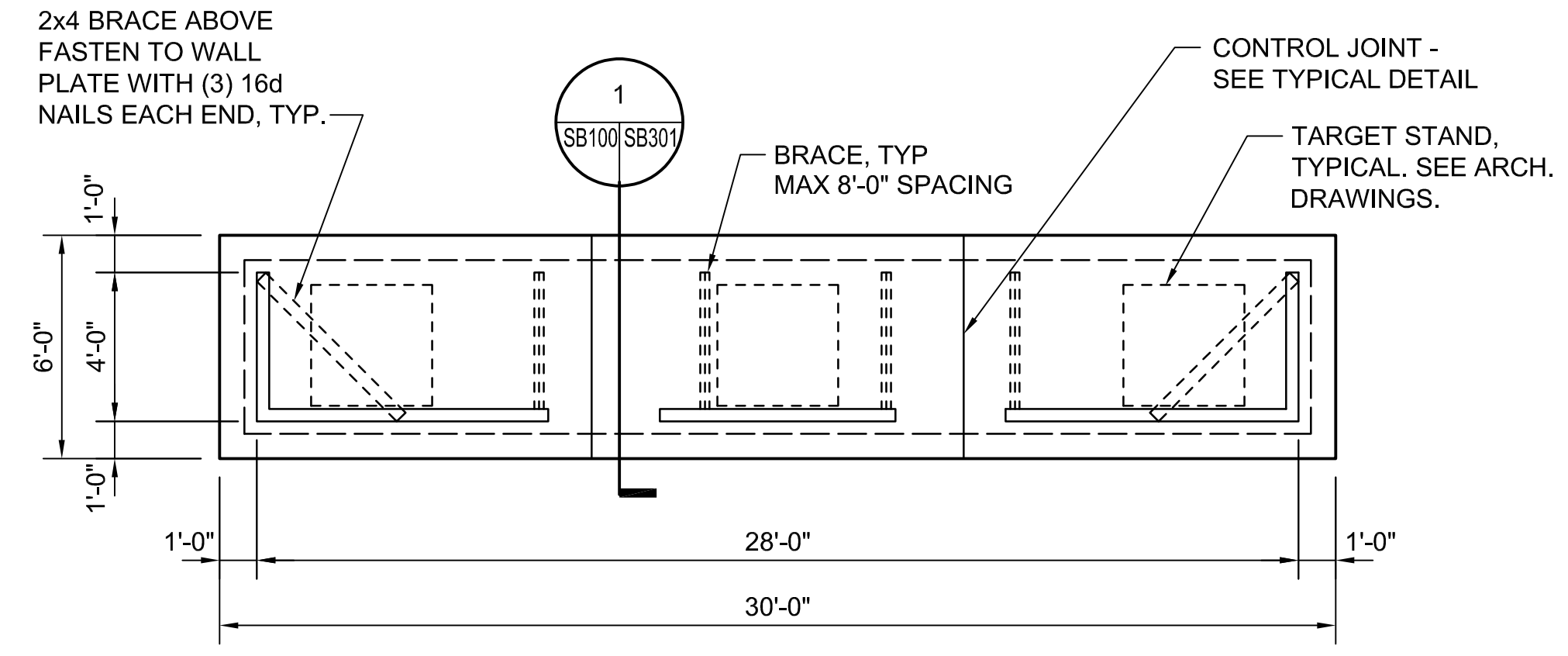
SHEET ID
SB100

READY TO ADVERTISE (RTA)



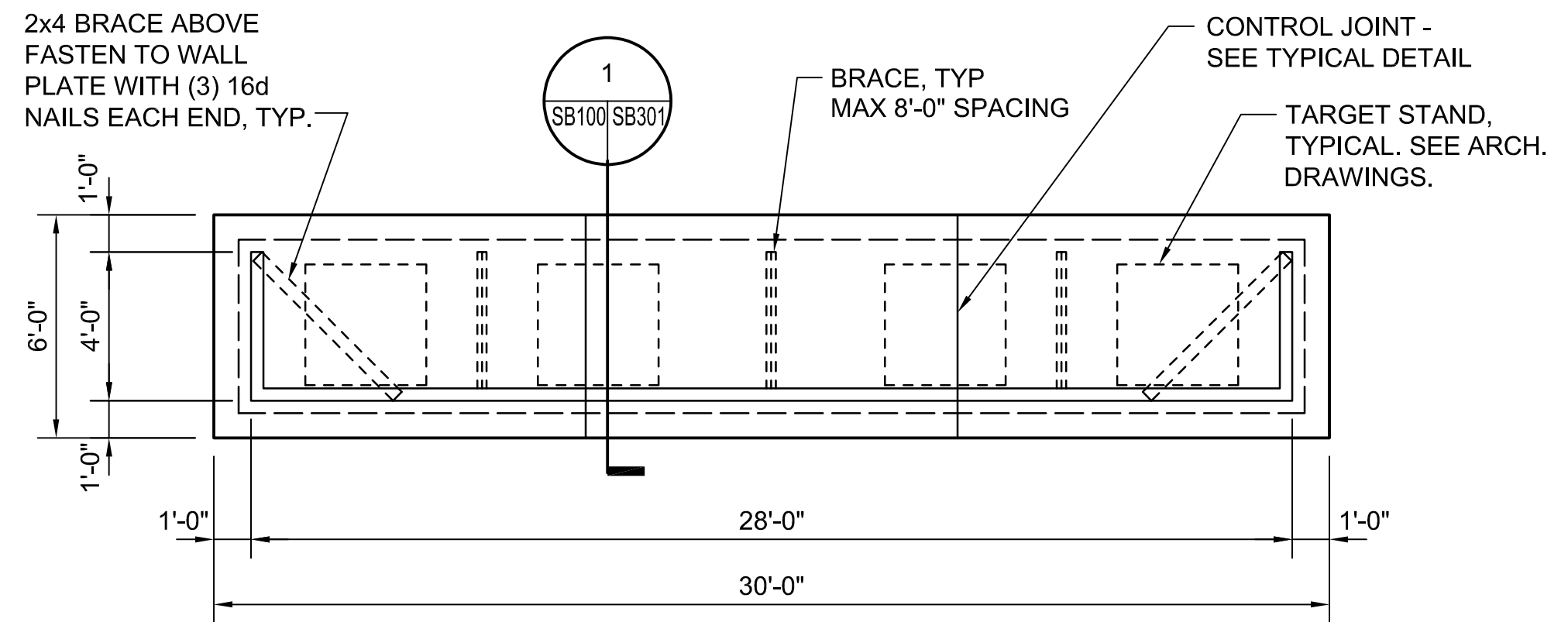
FOUNDATION AND FLOOR PLAN - A VERSION

- SCALE: 1/4"=1'-0"
1. TOP OF SLAB 0'-2" ABOVE FINISH GRADE, UNLESS NOTED.
 2. FINISH GRADE REFERENCE ELEVATION 0'-0", UNLESS NOTED.
 3. SEE 2/SB301 FOR WINDOW FRAMING DETAIL.
 4. REFER TO ARCHITECTURAL DRAWINGS FOR OPENING LOCATIONS.



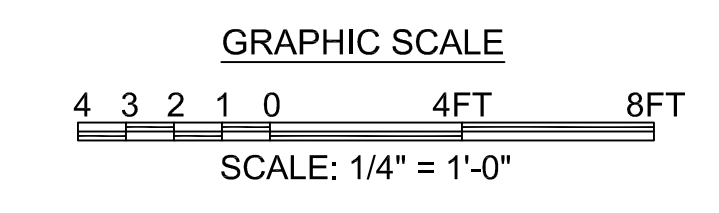
FOUNDATION AND FLOOR PLAN - B VERSION

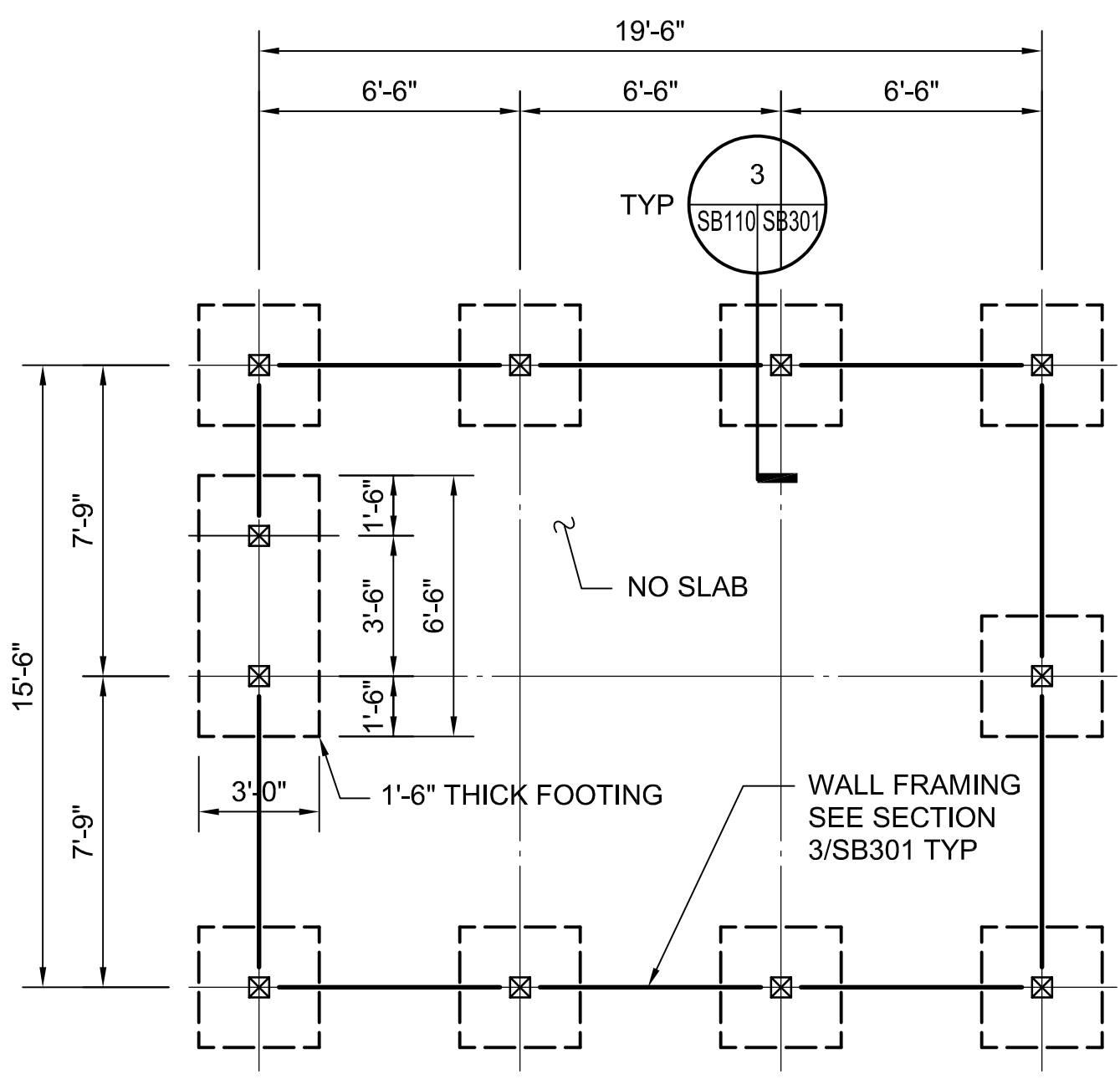
- SCALE: 1/4"=1'-0"
1. TOP OF SLAB 0'-2" ABOVE FINISH GRADE, UNLESS NOTED.
 2. FINISH GRADE REFERENCE ELEVATION 0'-0", UNLESS NOTED.
 3. SEE 2/SB301 FOR WINDOW FRAMING DETAIL.
 4. REFER TO ARCHITECTURAL DRAWINGS FOR OPENING LOCATIONS.



FOUNDATION AND FLOOR PLAN - C VERSION

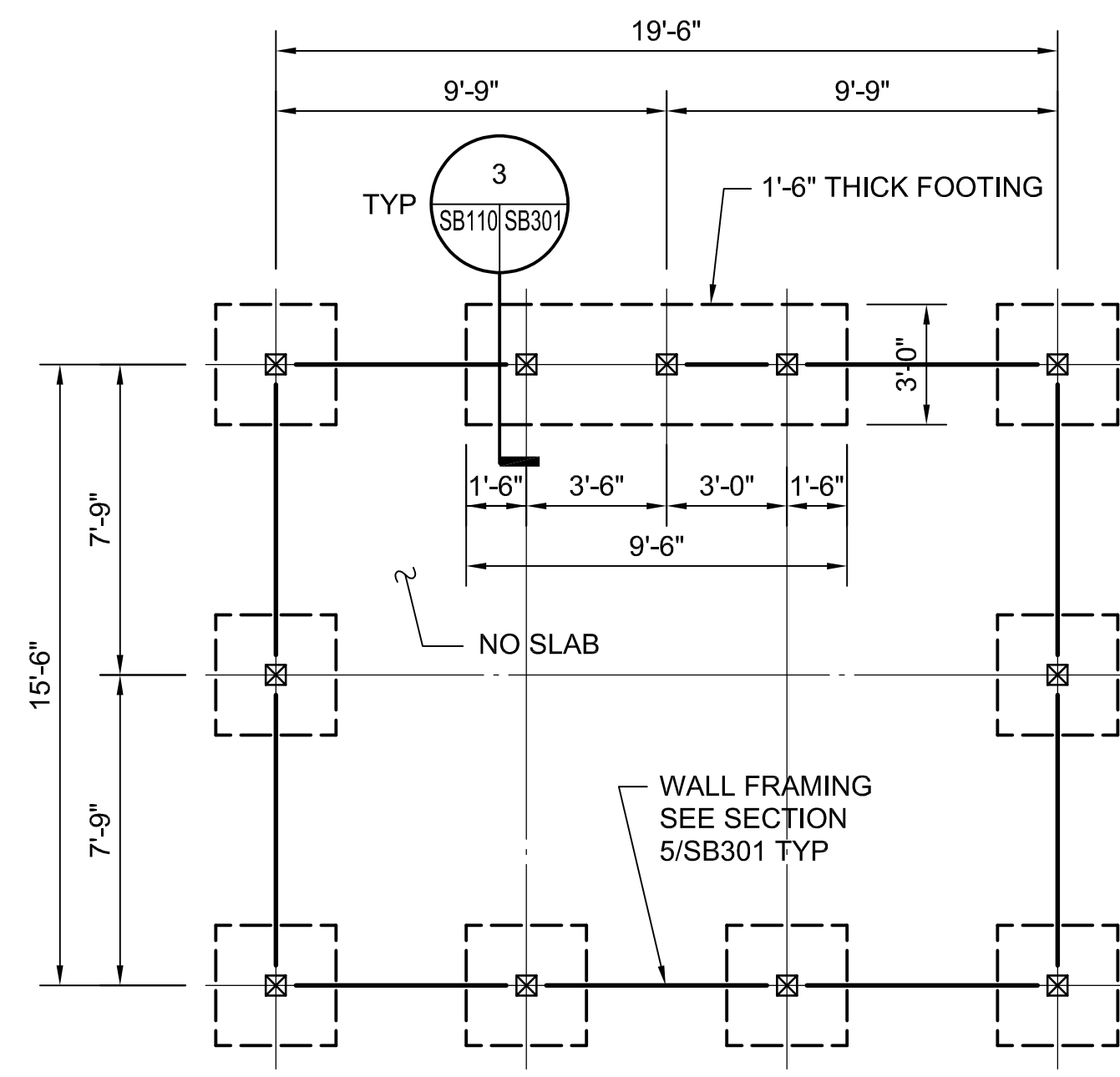
- SCALE: 1/4"=1'-0"
1. TOP OF SLAB 0'-2" ABOVE FINISH GRADE, UNLESS NOTED.
 2. FINISH GRADE REFERENCE ELEVATION 0'-0", UNLESS NOTED.
 3. SEE 2/SB301 FOR WINDOW FRAMING DETAIL.
 4. REFER TO ARCHITECTURAL DRAWINGS FOR OPENING LOCATIONS.





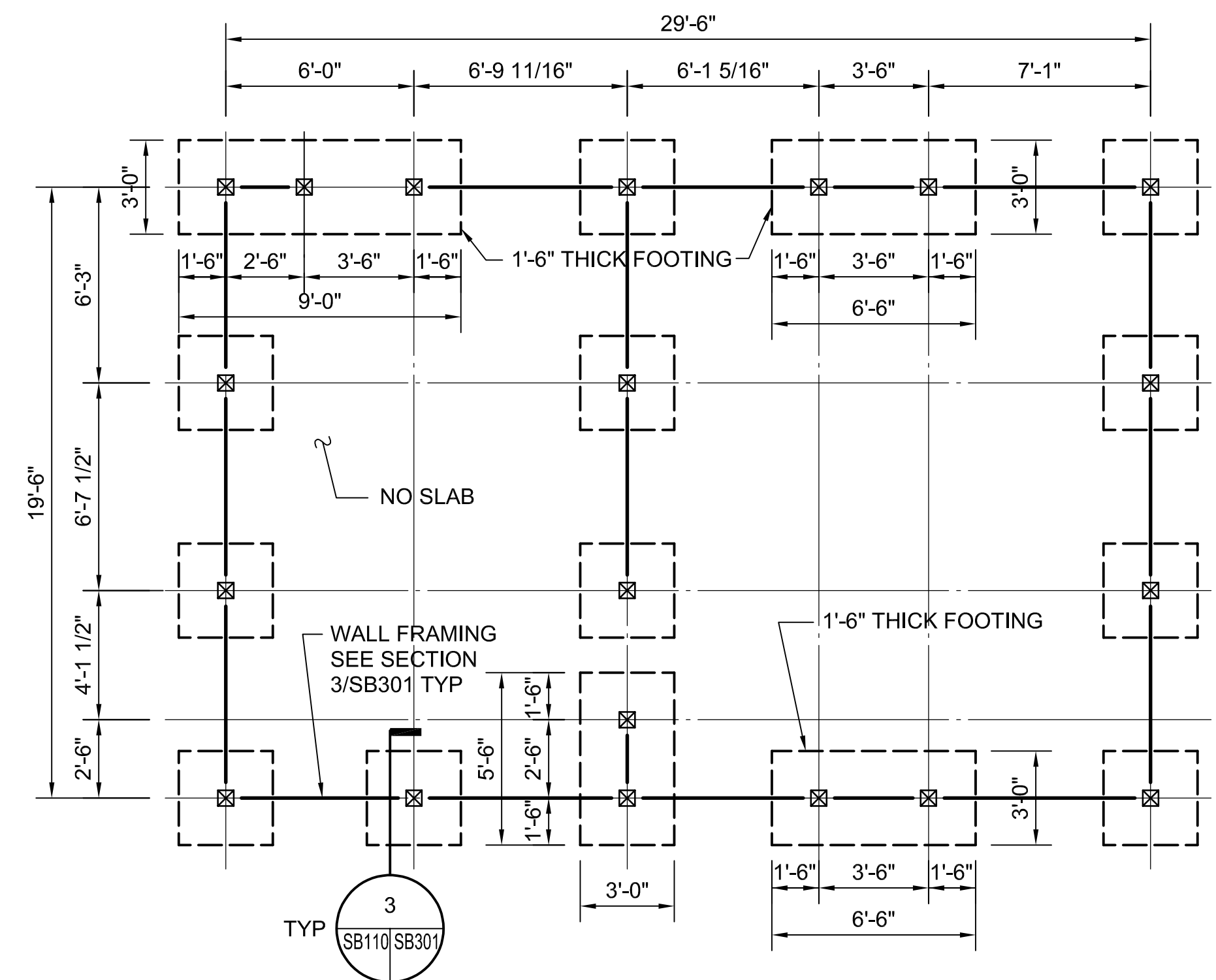
**URBAN CLUSTER BUILDING "A"
FOUNDATION AND FLOOR PLAN**

SCALE: 1/4"=1'-0"
1. FINISH GRADE/REFERENCE ELEVATION 0'-0", UNLESS NOTED.
2. TOP OF FOOTING 0'-2" BELOW FINISH GRADE, UNLESS NOTED.
3. FOOTINGS 3'-0"X3'-0"X1'-6", UNLESS NOTED.



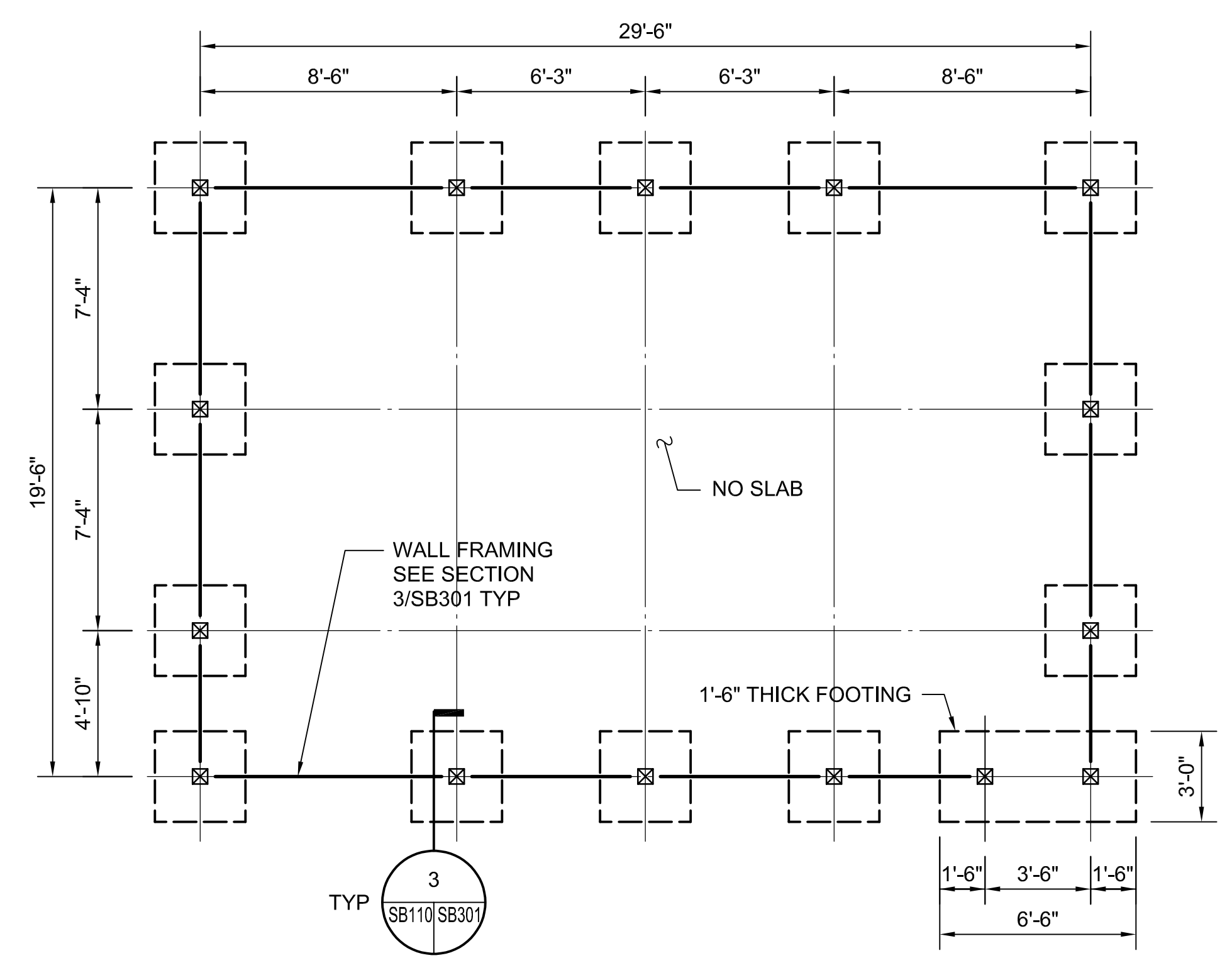
**URBAN CLUSTER BUILDING "B"
FOUNDATION AND FLOOR PLAN**

SCALE: 1/4"=1'-0"
1. FINISH GRADE/REFERENCE ELEVATION 0'-0", UNLESS NOTED.
2. TOP OF FOOTING 0'-2" BELOW FINISH GRADE, UNLESS NOTED.
3. FOOTINGS 3'-0"X3'-0"X1'-6", UNLESS NOTED.



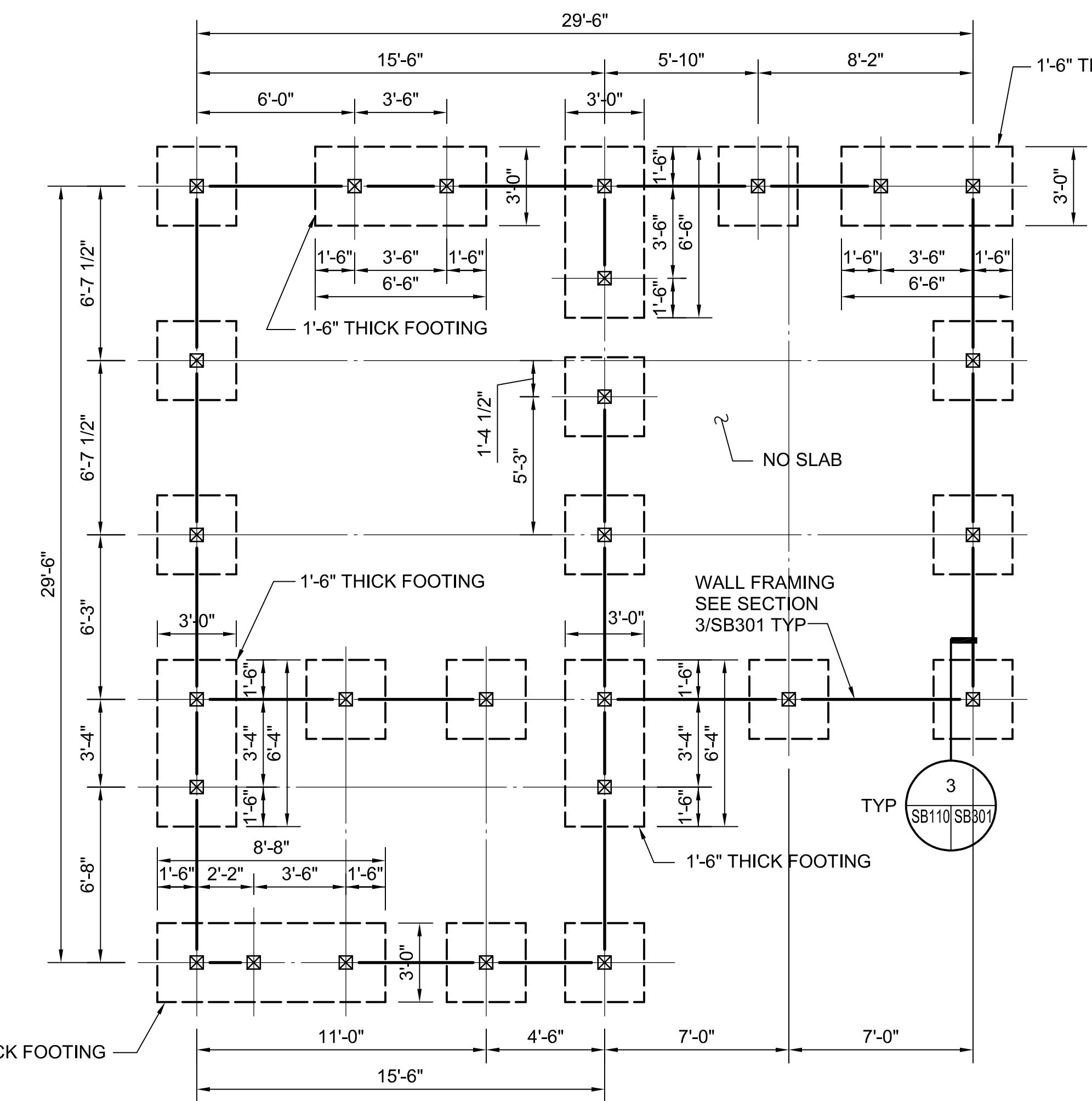
**URBAN CLUSTER BUILDING "C"
FOUNDATION AND FLOOR PLAN**

SCALE: 1/4"=1'-0"
1. FINISH GRADE/REFERENCE ELEVATION 0'-0", UNLESS NOTED.
2. TOP OF FOOTING 0'-2" BELOW FINISH GRADE, UNLESS NOTED.
3. FOOTINGS 3'-0"X3'-0"X1'-6", UNLESS NOTED.



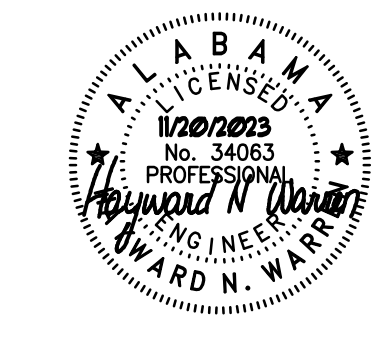
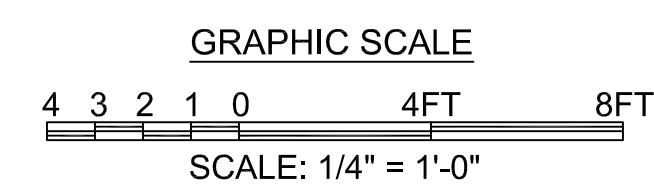
**URBAN CLUSTER BUILDING "D"
FOUNDATION AND FLOOR PLAN**

SCALE: 1/4"=1'-0"
1. FINISH GRADE/REFERENCE ELEVATION 0'-0", UNLESS NOTED.
2. TOP OF FOOTING 0'-2" BELOW FINISH GRADE, UNLESS NOTED.
3. FOOTINGS 3'-0"X3'-0"X1'-6", UNLESS NOTED.



**URBAN CLUSTER BUILDING "E"
FOUNDATION AND FLOOR PLAN**

SCALE: 1/4"=1'-0"
1. FINISH GRADE/REFERENCE ELEVATION 0'-0", UNLESS NOTED.
2. TOP OF FOOTING 0'-2" BELOW FINISH GRADE, UNLESS NOTED.
3. FOOTINGS 3'-0"X3'-0"X1'-6", UNLESS NOTED.



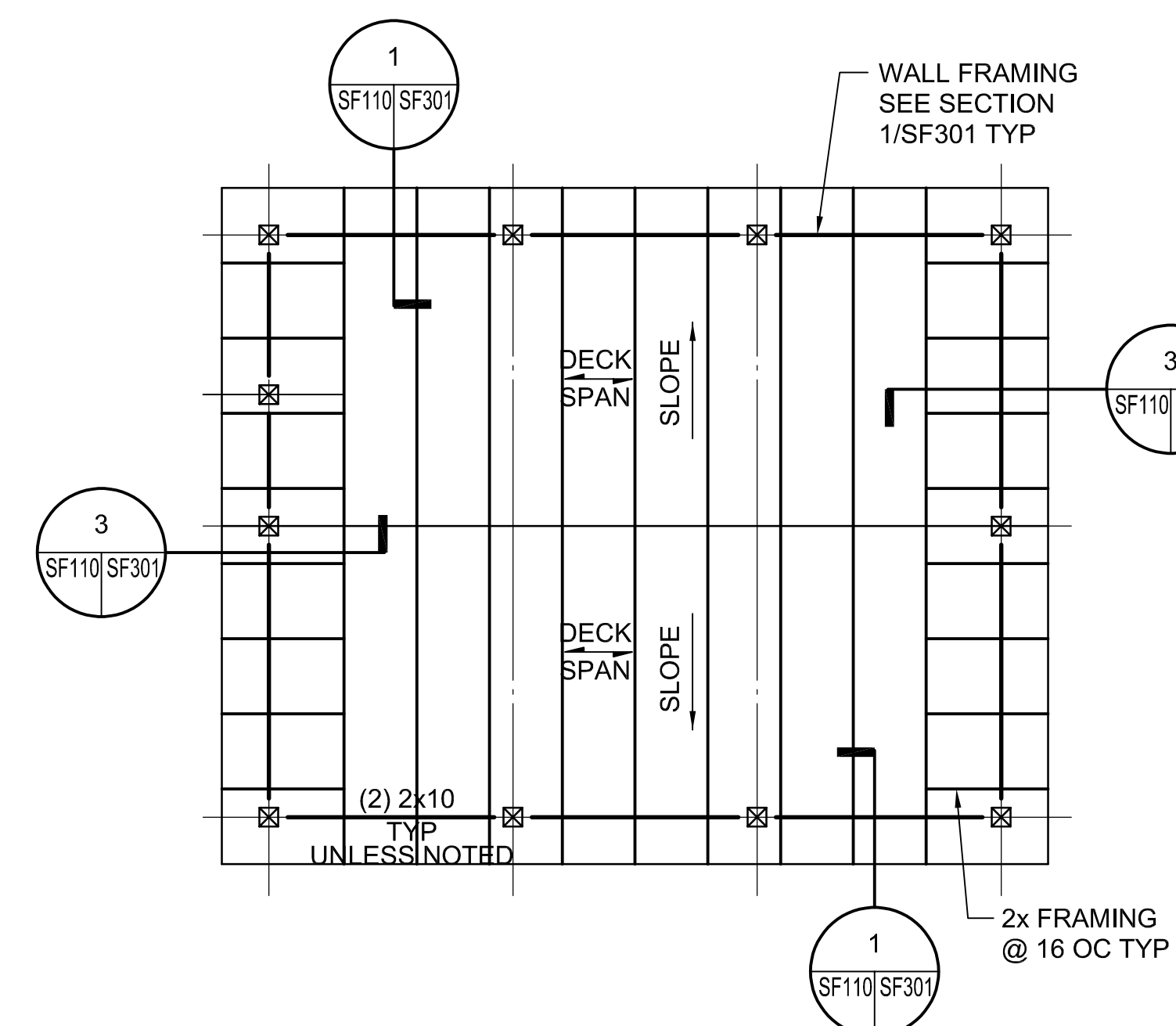
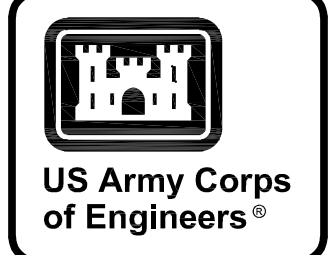
MARK	DESCRIPTION	DATE

DESIGNED BY: H. WAKREN	ISSUE DATE: NOVEMBER 2023
DRAWN BY: W. BISHOP	PROJECT NO. NO.:
CHECKED BY: W. BISHOP	CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-65-01
FILE NAME:	ANSID

U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT
100 W. OGLETHORPE AVE
SAVANNAH, GA 31401

POLY, INC.
1935 HEADLAND AVENUE
DOTHAN, AL 36503
WWW.POLY-INC.COM/334-793-4700

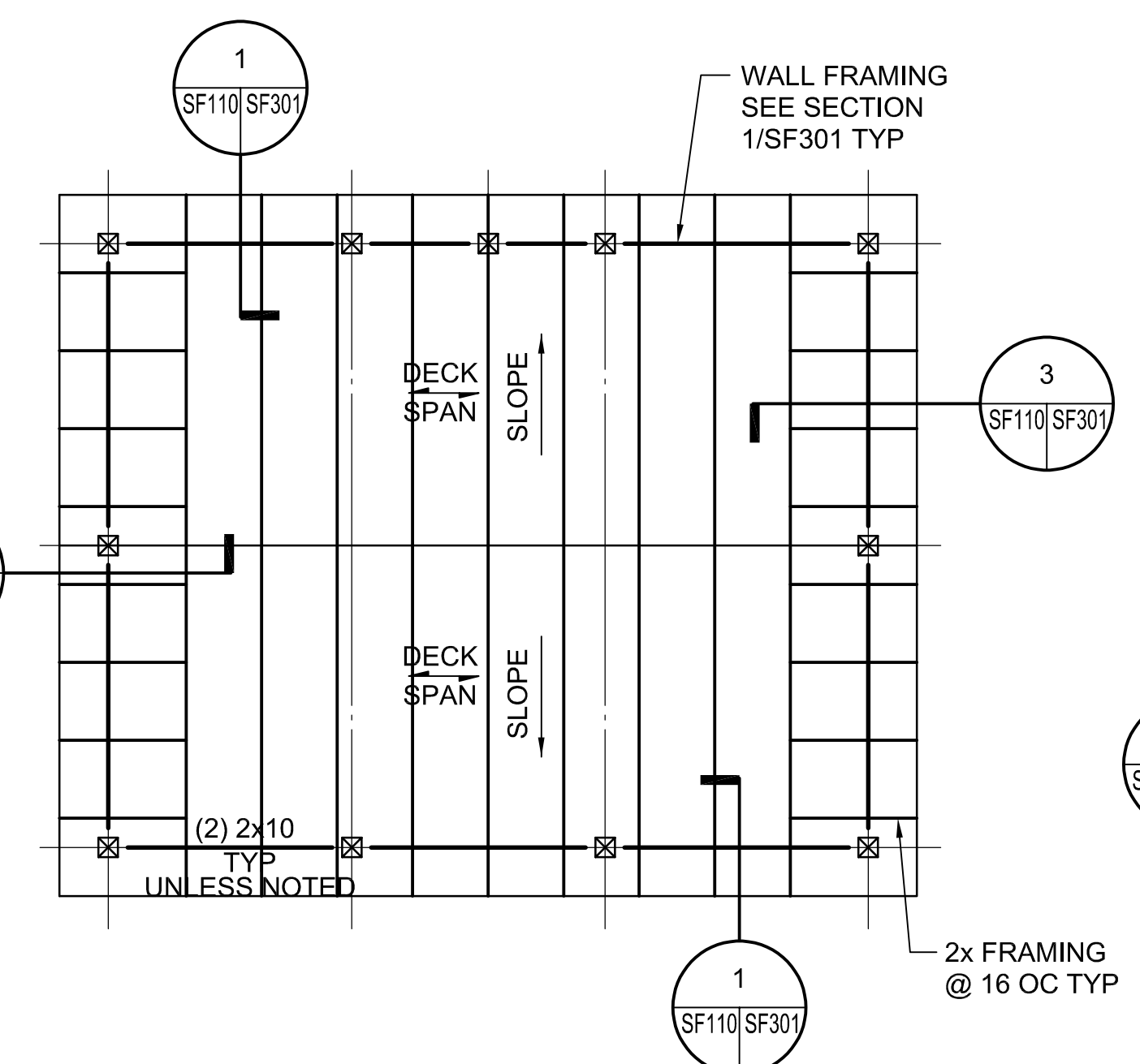
FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTR)
FY23, PN 96182
VOLUMES 3 & 4 - DOWNRANGE
URBAN CLUSTER FOUNDATION
AND FLOOR PLANS



**URBAN CLUSTER BUILDING "A"
 ROOF FRAMING PLAN**

SCALE: 1/4"=1'-0"

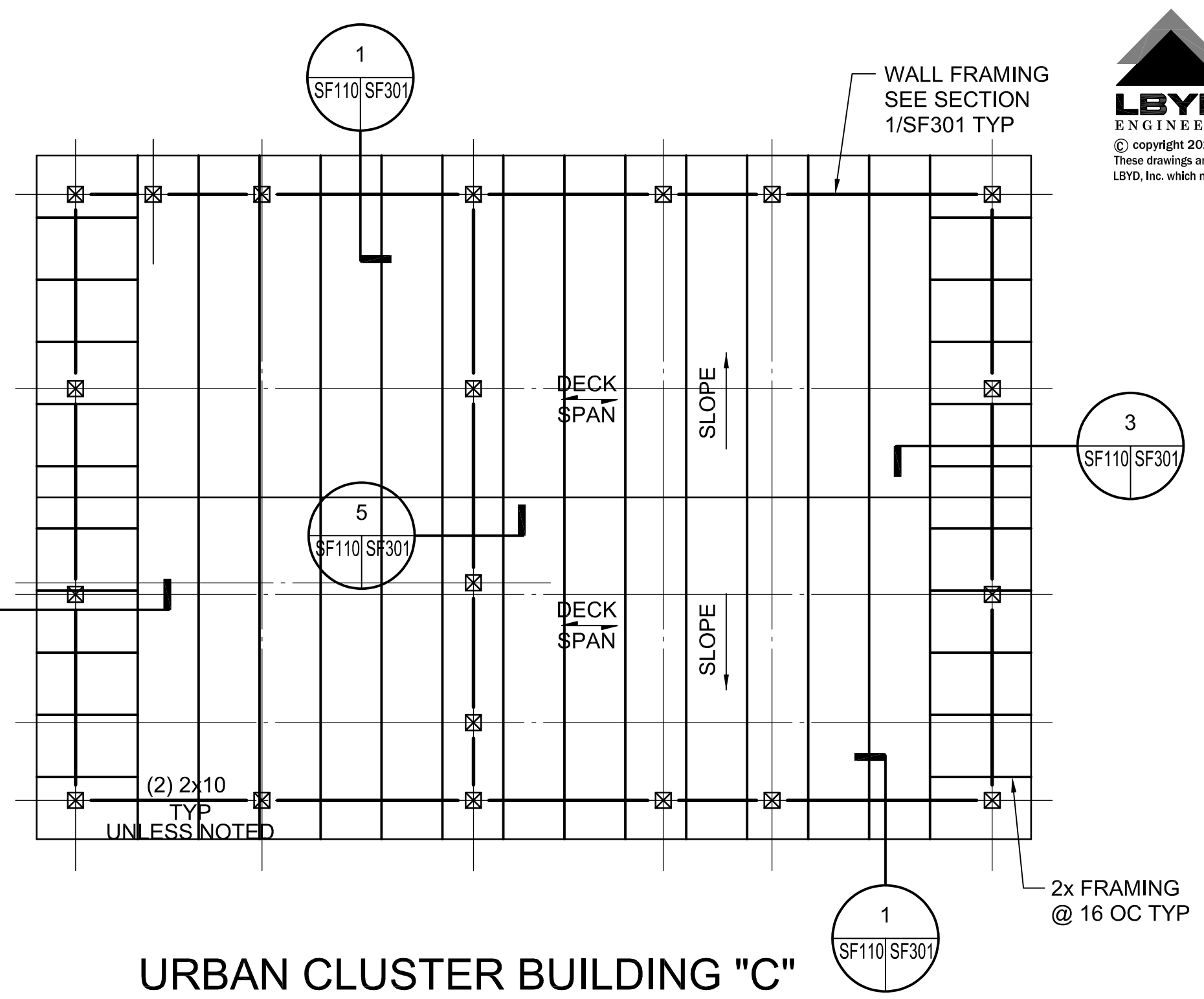
1. TRUSS BEARING ELEVATION 9'-2" ABOVE REFERENCE ELEVATION, UNLESS NOTED.
2. ROOF FRAMING: PREFABRICATED WOOD TRUSSES AT 2'-0" MAXIMUM SPACING UNLESS NOTED.
3. FOR ROOF SHEATHING TYPE AND ATTACHMENT, SEE GENERAL NOTES.
4. SEE ARCHITECTURAL DRAWINGS FOR TRUSS PROFILE.
5. TRUSS MANUFACTURER TO DESIGN TRUSS CONNECTIONS TO THE STRUCTURE FOR A DIAPHRAGM FORCE OF 135 PLF ALONG SUPPORT MEMBERS, CONNECTIONS TO HAVE A MINIMUM OF TWO ANCHORS PER CONNECTION.
6. SEE 4/SF301 FOR TYPICAL WINDOW DETAIL.



**URBAN CLUSTER BUILDING "B"
 ROOF FRAMING PLAN**

SCALE: 1/4"=1'-0"

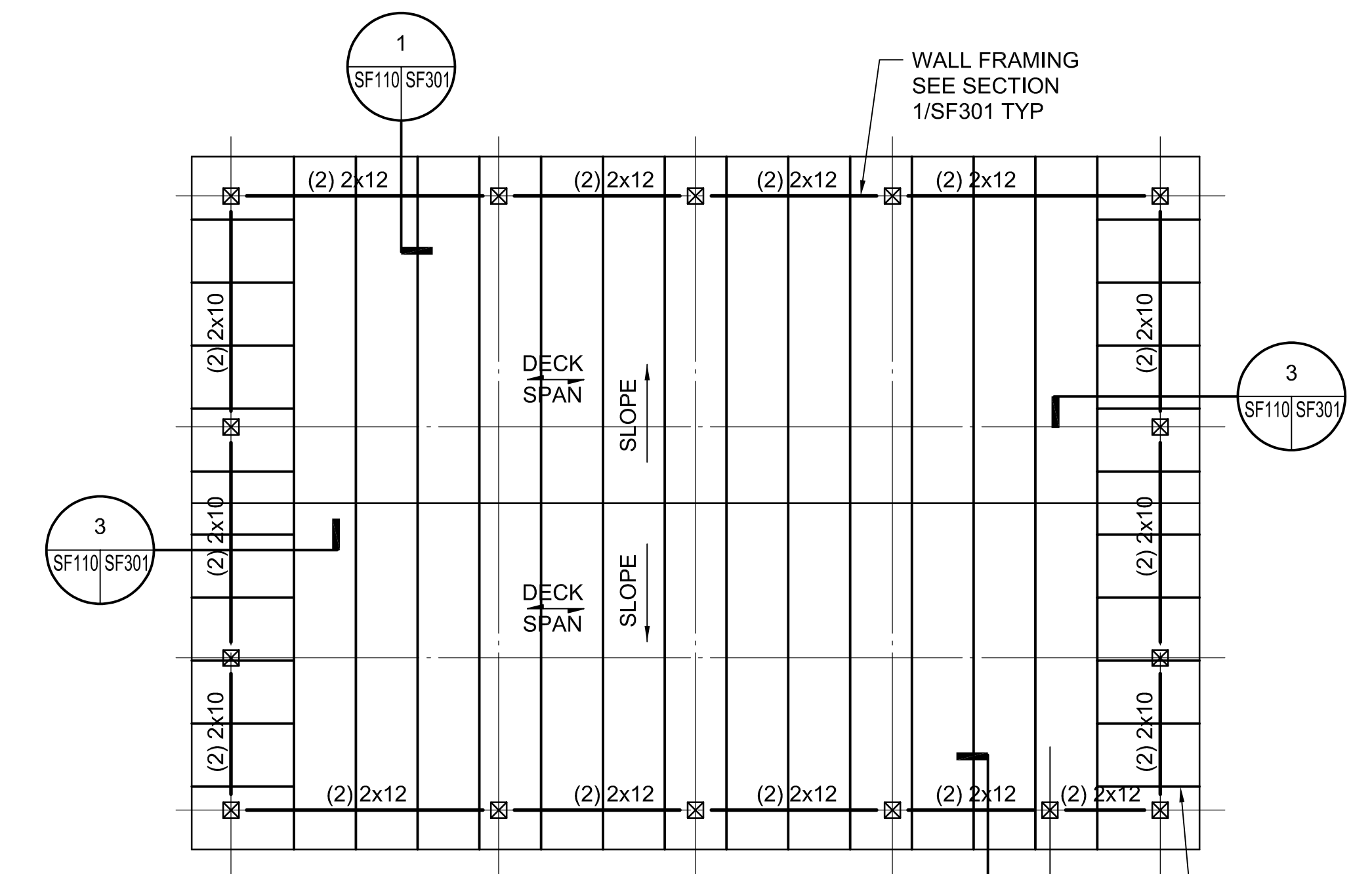
1. TRUSS BEARING ELEVATION 9'-2" ABOVE REFERENCE ELEVATION, UNLESS NOTED.
2. ROOF FRAMING: PREFABRICATED WOOD TRUSSES AT 2'-0" MAXIMUM SPACING UNLESS NOTED.
3. FOR ROOF SHEATHING TYPE AND ATTACHMENT, SEE GENERAL NOTES.
4. SEE ARCHITECTURAL DRAWINGS FOR TRUSS PROFILE.
5. TRUSS MANUFACTURER TO DESIGN TRUSS CONNECTIONS TO THE STRUCTURE FOR A DIAPHRAGM FORCE OF 135 PLF ALONG SUPPORT MEMBERS, CONNECTIONS TO HAVE A MINIMUM OF TWO ANCHORS PER CONNECTION.
6. SEE 4/SF301 FOR TYPICAL WINDOW DETAIL.



**URBAN CLUSTER BUILDING "C"
 ROOF FRAMING PLAN**

SCALE: 1/4"=1'-0"

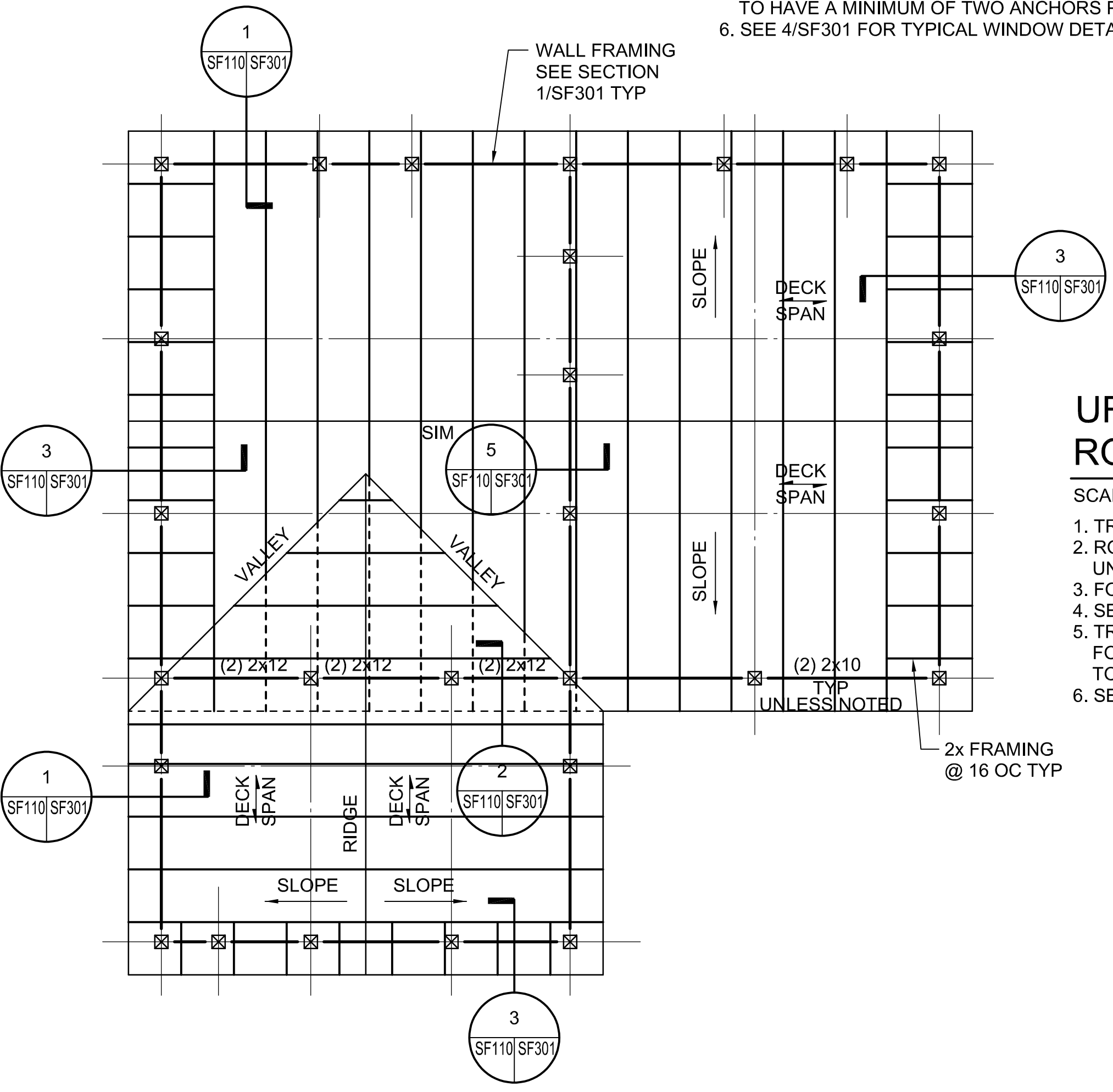
1. TRUSS BEARING ELEVATION 9'-2" ABOVE REFERENCE ELEVATION, UNLESS NOTED.
2. ROOF FRAMING: PREFABRICATED WOOD TRUSSES AT 2'-0" MAXIMUM SPACING UNLESS NOTED.
3. FOR ROOF SHEATHING TYPE AND ATTACHMENT, SEE GENERAL NOTES.
4. SEE ARCHITECTURAL DRAWINGS FOR TRUSS PROFILE.
5. TRUSS MANUFACTURER TO DESIGN TRUSS CONNECTIONS TO THE STRUCTURE FOR A DIAPHRAGM FORCE OF 135 PLF ALONG SUPPORT MEMBERS, CONNECTIONS TO HAVE A MINIMUM OF TWO ANCHORS PER CONNECTION.
6. SEE 4/SF301 FOR TYPICAL WINDOW DETAIL.



**URBAN CLUSTER BUILDING "D"
 ROOF FRAMING PLAN**

SCALE: 1/4"=1'-0"

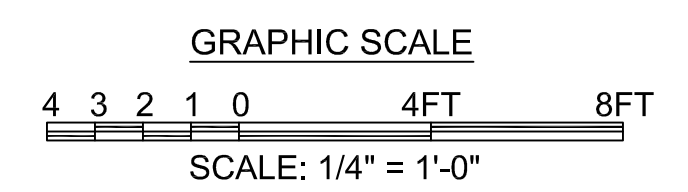
1. TRUSS BEARING ELEVATION 9'-2" ABOVE REFERENCE ELEVATION, UNLESS NOTED.
2. ROOF FRAMING: PREFABRICATED WOOD TRUSSES AT 2'-0" MAXIMUM SPACING UNLESS NOTED.
3. FOR ROOF SHEATHING TYPE AND ATTACHMENT, SEE GENERAL NOTES.
4. SEE ARCHITECTURAL DRAWINGS FOR TRUSS PROFILE.
5. TRUSS MANUFACTURER TO DESIGN TRUSS CONNECTIONS TO THE STRUCTURE FOR A DIAPHRAGM FORCE OF 135 PLF ALONG SUPPORT MEMBERS, CONNECTIONS TO HAVE A MINIMUM OF TWO ANCHORS PER CONNECTION.
6. SEE 4/SF301 FOR TYPICAL WINDOW DETAIL.



**URBAN CLUSTER BUILDING "E"
 ROOF FRAMING PLAN**

SCALE: 1/4"=1'-0"

1. TRUSS BEARING ELEVATION 9'-2" ABOVE REFERENCE ELEVATION, UNLESS NOTED.
2. ROOF FRAMING: PREFABRICATED WOOD TRUSSES AT 2'-0" MAXIMUM SPACING UNLESS NOTED.
3. FOR ROOF SHEATHING TYPE AND ATTACHMENT, SEE GENERAL NOTES.
4. SEE ARCHITECTURAL DRAWINGS FOR TRUSS PROFILE.
5. TRUSS MANUFACTURER TO DESIGN TRUSS CONNECTIONS TO THE STRUCTURE FOR A DIAPHRAGM FORCE OF 135 PLF ALONG SUPPORT MEMBERS, CONNECTIONS TO HAVE A MINIMUM OF TWO ANCHORS PER CONNECTION.
6. SEE 4/SF301 FOR TYPICAL WINDOW DETAIL.



MARK	DESCRIPTION	DATE

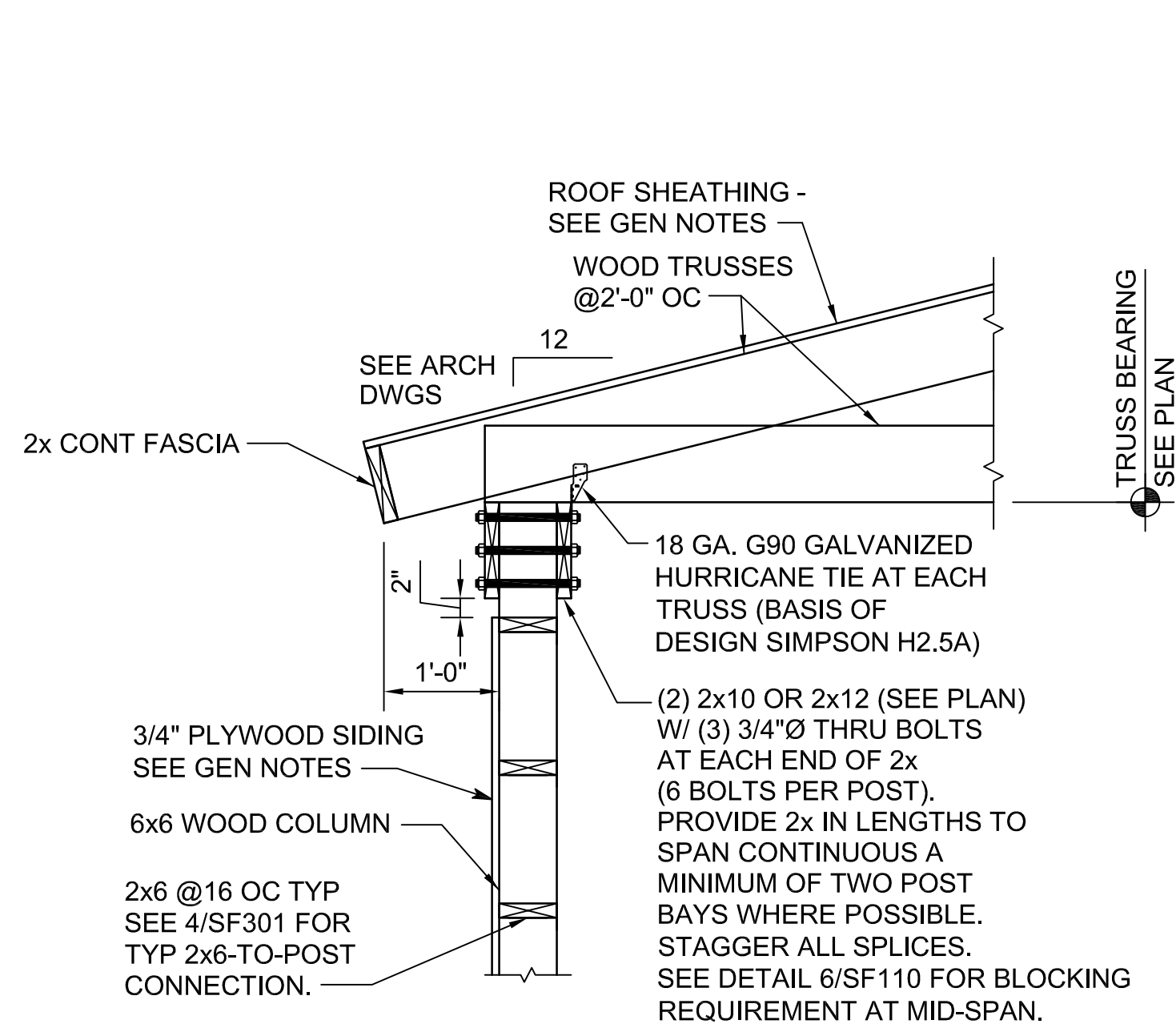
DESIGNED BY: H. WAKREN	ISSUE DATE: NOVEMBER 2023
DRAWN BY: D. WILSON	PROJECT NO. NO.:
CHECKED BY: W. BISHOP	CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-85-01
SIZE: ANSI D	FILE NAME:

U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36503 WWW.POLY-INC.COM/3347-95-4700
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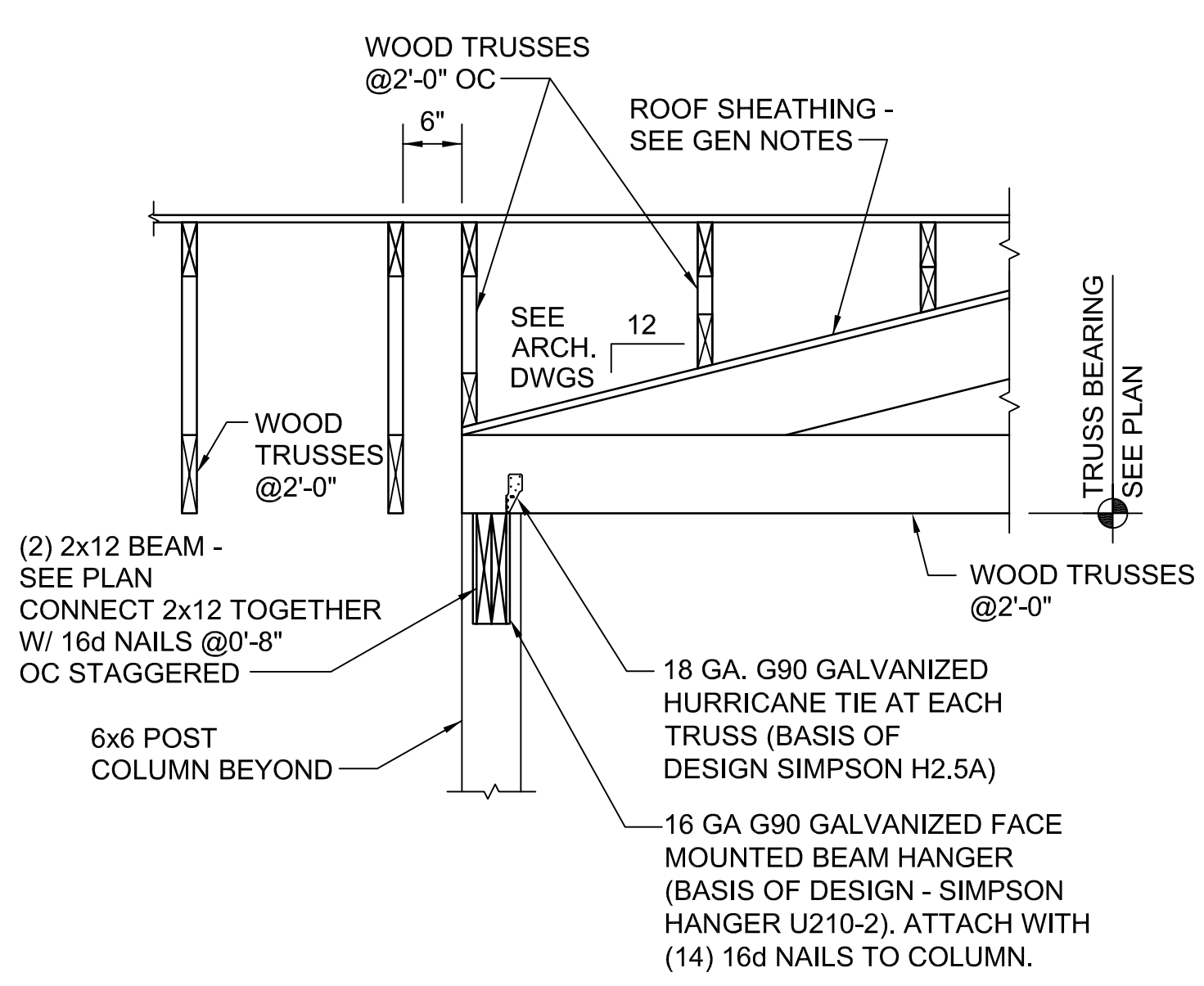
FORT LIBERTY, NORTH CAROLINA
 AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTR)
 FY23, PN 96182
 VOLUMES 3 & 4 - DOWNRANGE
 URBAN CLUSTER ROOF
 FRAMING PLANS

SHEET ID
SF110

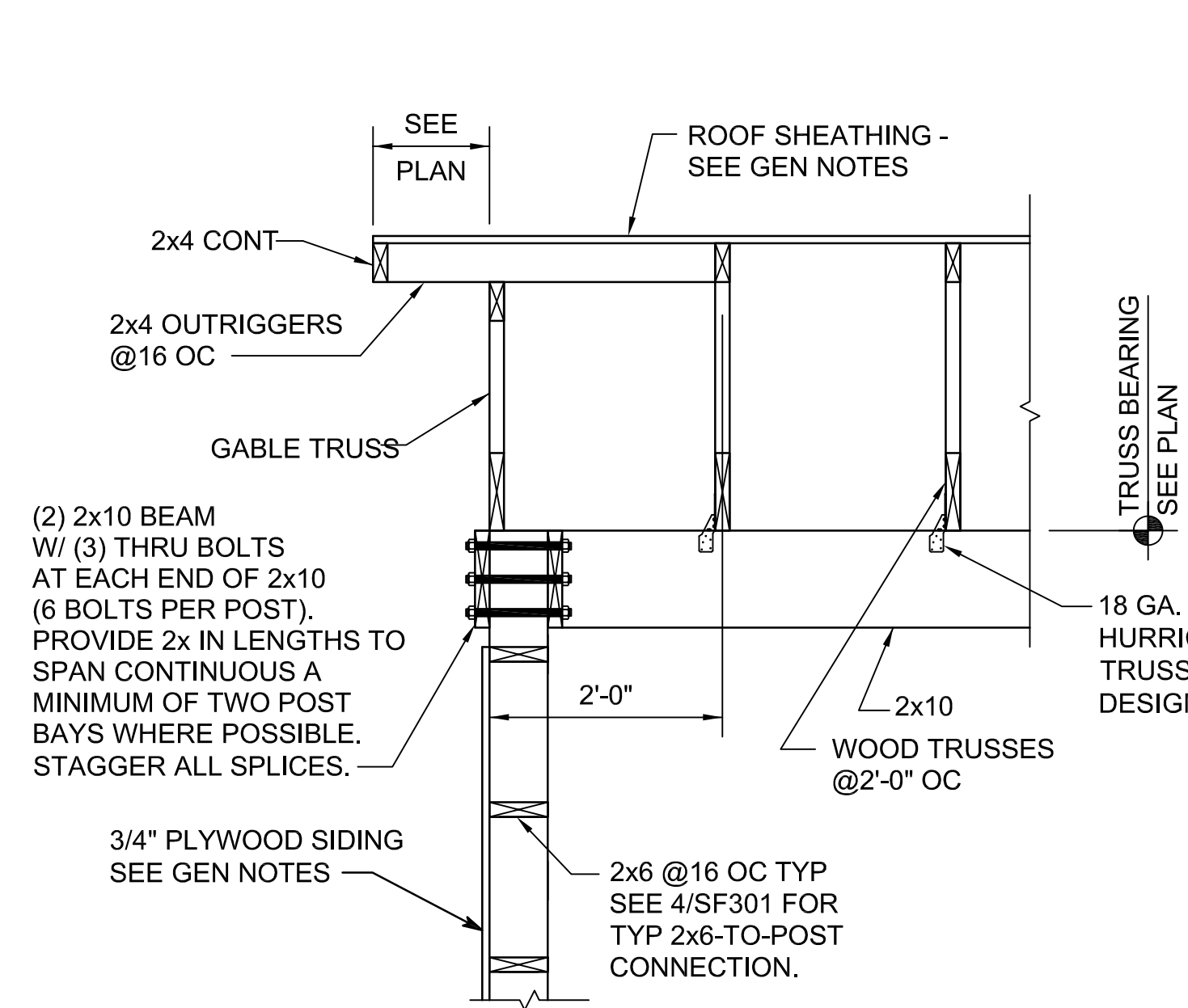
READY TO ADVERTISE (RTA)



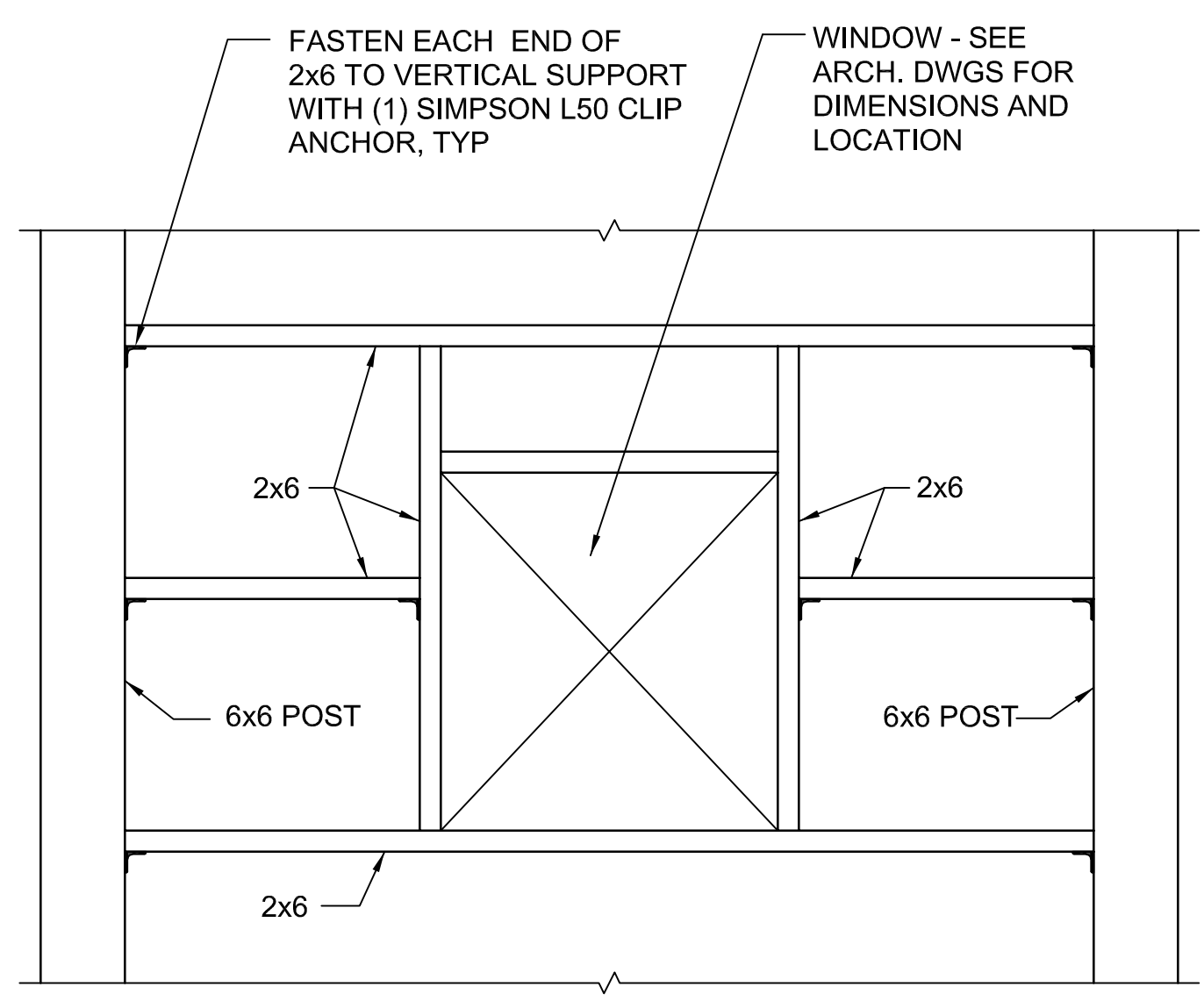
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 SF110|SF301 SCALE: 3/4"=1'-0"



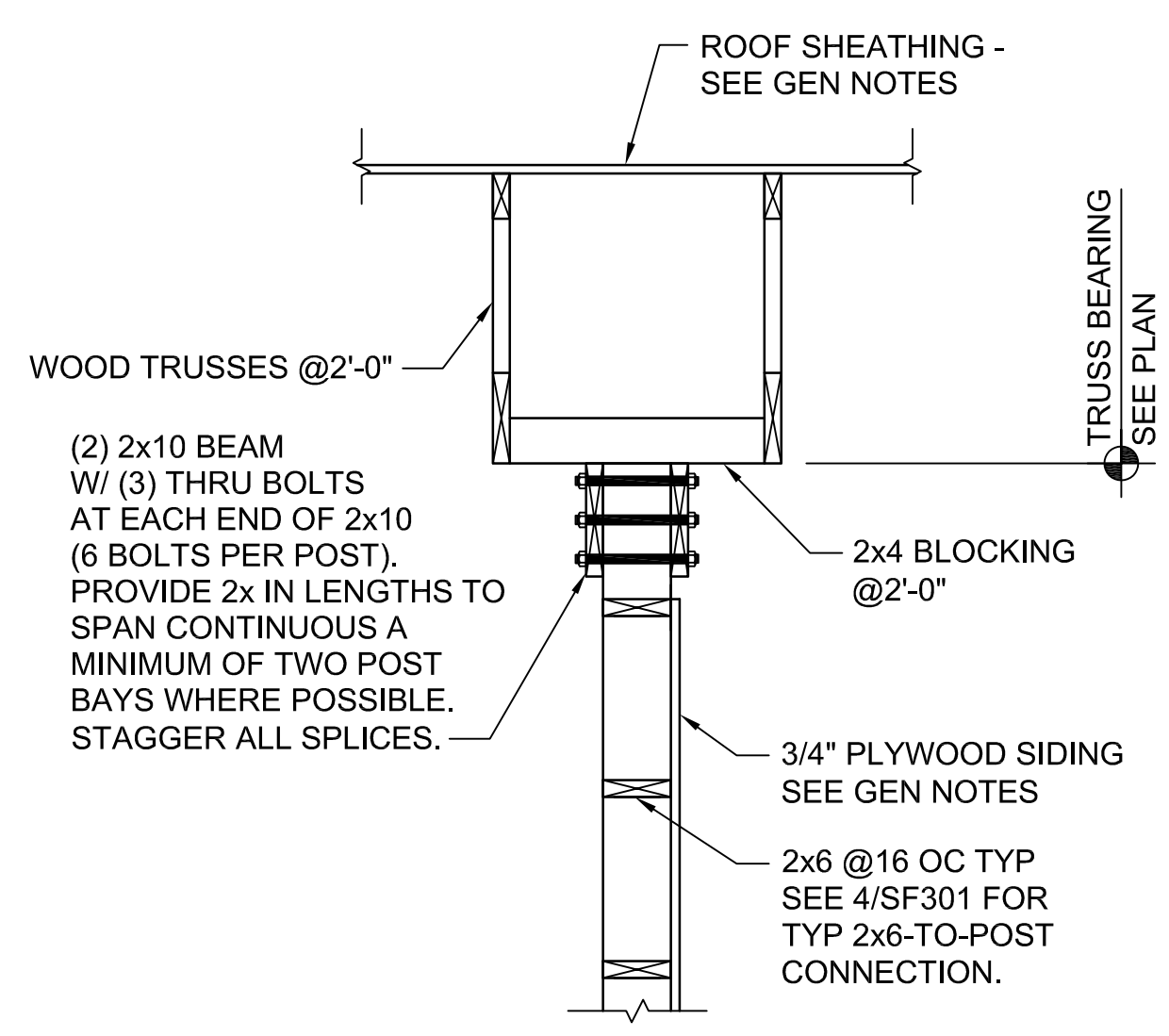
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 SF110|SF301 SCALE: 3/4"=1'-0"



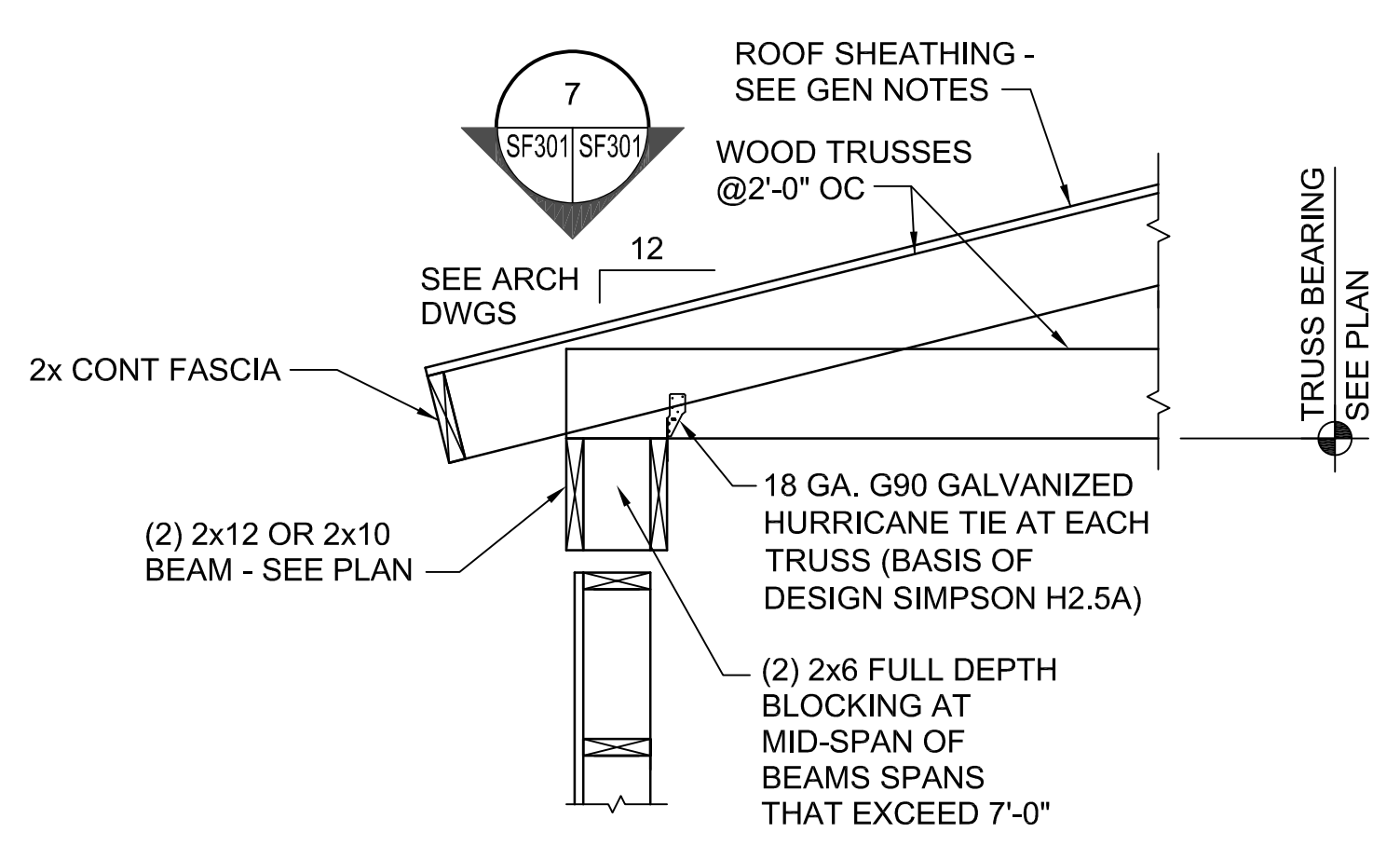
3 SECTION
 SF110|SF301 SCALE: 3/4"=1'-0"



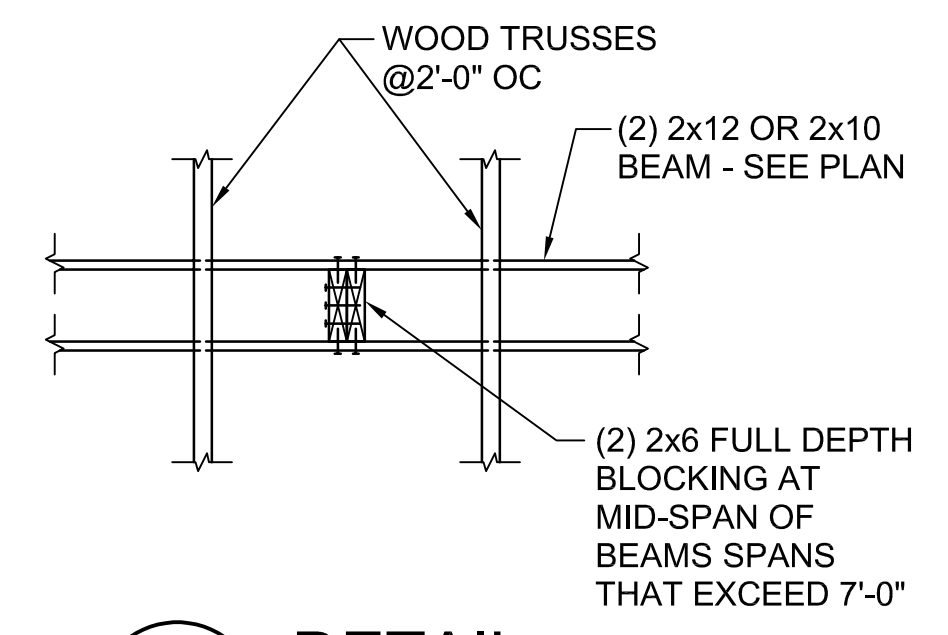
4 SECTION
 SF110|SF301 SCALE: 3/4"=1'-0"



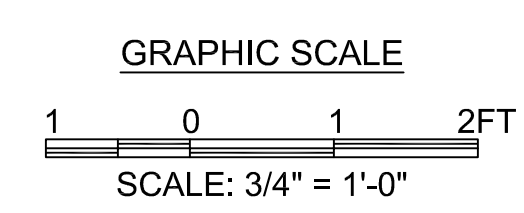
5 SECTION
 SF110|SF301 SCALE: 3/4"=1'-0"



6 SECTION
 SF301|SF301 SCALE: 3/4"=1'-0"
 NOTE: APPLICABLE AT BEAMS SUPPORTING TRUSSES WHERE BEAM SPAN EXCEEDS 7'-0"



7 DETAIL
 SF301|SF301 SCALE: 3/4"=1'-0"



DATE	DESCRIPTION	MARK

DESIGNED BY: H. WAKREN	ISSUE DATE: NOVEMBER 2023
DRAWN BY: C. M. WILSON	PROJECT NO. NO.:
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U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	
POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36503 WWW.POLY-INC.COM/3547-95-4700	

FORT LIBERTY, NORTH CAROLINA
 AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
 FY23, PN 96182
 VOLUMES 3 & 4 - DOWNRANGE
 SECTIONS

SHEET ID
SF301

READY TO ADVERTISE (RTA)

ARCHITECTURAL SYMBOLS

	TITLE DESCRIPTION MARK AND SCALE CALL OUT SYMBOL
	SECTION / ELEVATION MARK AND SCALE CALL OUT SYMBOL
	SECTION / ELEVATION MARK AND SCALE CALL OUT SYMBOL
	SECTION CUT MARK AND PAGE LOCATIONS SYMBOL
	SECTION CUT AND TITLE TITLE DESCRIPTION MARK AND SCALE CALL OUT SYMBOL
	DETAIL CALLOUTS AND PAGE LOCATIONS SYMBOL
	ELEVATION MARK AND PAGE LOCATIONS SYMBOL
	DIRECTIONAL ELEVATION MARK AND PAGE LOCATIONS SYMBOL
	GRAPHIC SCALE SYMBOL (SCALE AS NOTED)
	PLAN NORTH ARROW SYMBOL

	ROOM NAME AND NUMBER CALLOUTS SYMBOL
	DOOR NUMBER SYMBOL
	WINDOW NUMBER SYMBOL
	ELEVATION TARGET MARK SYMBOL
	DIMENSION LINE AND TICK MARKS

COLOR SCHEDULE

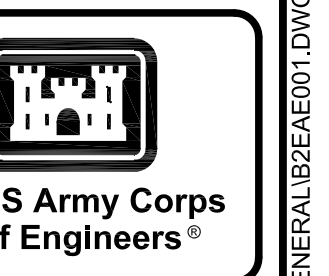
SEE EXTERIOR BUILDING ELEVATIONS AND CONFIRM WITH THE CONTRACTING OFFICER.

ARCHITECTURAL LINE TYPES

	CONTINUOUS LINE TYPE, FOR PROMINENT OBJECTS, LINE WEIGHT BY PRIORITY
	CENTER LINE TYPE, USED TO SHOW OBJECT CENTER OR TO DIFFERENTIATE BETWEEN HIDDEN OBJECTS, LINE WEIGHT BY PRIORITY
	PHANTOM LINE TYPE, FOR DEPICTING OBJECT PATH OR TO DIFFERENTIATE BETWEEN HIDDEN OBJECTS, LINE WEIGHT BY PRIORITY
	HIDDEN LINE TYPE, FOR HIDDEN OBJECTS, LINE WEIGHT BY PRIORITY
	LINE WEIGHTS USED TO CLARIFY IMPORTANCE, DEPTH AND OBJECT TEXTURE

ARCHITECTURAL ABBREVIATIONS

AB	ANCHOR BOLT	HORIZ	HORIZONTAL
AC	AIR CONDITIONING	HR	HOUR
AC TL	ACOUSTICAL TILE	HSS	HOLLOW STRUCTURAL SECTION (STRUCTURAL STEEL TUBING)
ACOUST	ACOUSTICAL	HT	HEIGHT
AFF	ABOVE FINISH FLOOR	INSUL	INSULATION
ADJ	ADJUSTABLE	IR	IMPACT RESISTANT
ALT	ALTERNATE	JAN	JANITOR
ALUM	ALUMINUM	JT	JOINT
ANCH	ANCHOR	LAM	LAMINATED
L	ANGLE	LTI	LAMINATED/TEMPERED INSULATING GLASS
APPROX	APPROXIMATE	MECH	MECHANICAL
@	AT	MFG	MANUFACTURER
BBT	BOND BREAKER TAPE	MAX	MAXIMUM
BTM	BOTTOM	MTL	METAL
BRG	BEARING	MIN	MINIMUM
BLK	BLOCK	NIC	NOT IN CONTRACT
BLKG	BLOCKING	NTS	NOT TO SCALE
BD	BOARD	No	NUMBER
BLDG	BUILDING	OC	ON CENTER
BR	BACKER ROD	OPNG	OPENING
C	CHANNEL	PL	PLATE
CJ	CONTROL JOINT	PLWD	PLYWOOD
CL	CENTER LINE	PT	PRESSURE TREATED
CLG	CEILING	PTD	PAINTED
CLOS	CLOSET	RATG	RATING
CLR	CLEAR	REINF	REINFORCING
CMU	CONCRETE MASONRY UNIT	RM	ROOM
COL	COLUMN	SCHED	SCHEDULE
CONC	CONCRETE	SF	SQUARE FOOT / FEET
CONT	CONTINUOUS	SG	SAFETY GLASS
CT	CERAMIC TILE	SHT	SHEET
DBL	DOUBLE	SIM	SIMILAR
DTL	DETAIL	SPEC	SPECIFICATIONS
DIA	DIAMETER	SQ FT	SQUARE FOOT / FEET
DN	DOWN	SS	STAINLESS STEEL
DWG(S)	DRAWING / DRAWINGS	STL	STEEL
EA	EACH	STRUCT	STRUCTURAL
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM	THK	THICKNESS
ELEC	ELECTRICAL	TMP	TEMPERED
EL/ELEV	ELEVATION	TOS	TOP OF SLAB
EPS	EXPANDED POLYSTYRENE	TS	TUBE STEEL
EWC	ELECTRICAL WATER COOLER	TYP	TYPICAL
EQ	EQUAL	UL	UNDERWRITERS LABORATORY
EQUIP	EQUIPMENT	UNO	UNLESS OTHERWISE NOTED
EXIST	EXISTING	VR	VAPOR RETARDER
EXP	EXPANSION	VCT	VINYL COMPOSITION TILE
EXT	EXTERIOR	VIF/VF	VERIFY IN FIELD
FD	FLOOR DRAIN	VTR	VENT THROUGH ROOF
FEC	FIRE EXTINGUISHER CABINET	VERT	VERTICAL
FIN	FINISH	WH	WATER HEATER
FFE	FINISH FLOOR ELEVATION	WWF	WELDED WIRE FABRIC
FE	FIRE EXTINGUISHER	W/	WITH
FFM	FACTORY FINISHED METAL	WD	WOOD
FR	FIBER-REINFORCED GWB		
FLR	FLOOR		
FRM	FRAME		
FRP	FIBERGLASS REINFORCED PLASTIC WALL PANEL ON PLYWOOD OR OSB SUBSTRATE		
GALV	GALVANIZED		
GA	GAUGE		
GYP BD	GYPSON BOARD		
GWB	GYPSON WALL BOARD		
GLAZ	GLAZING		
GRD	GRADE		
GRN	GROUND		
HDCP	HANDICAPPED		
HDW	HARDWARE		
HM	HOLLOW METAL		



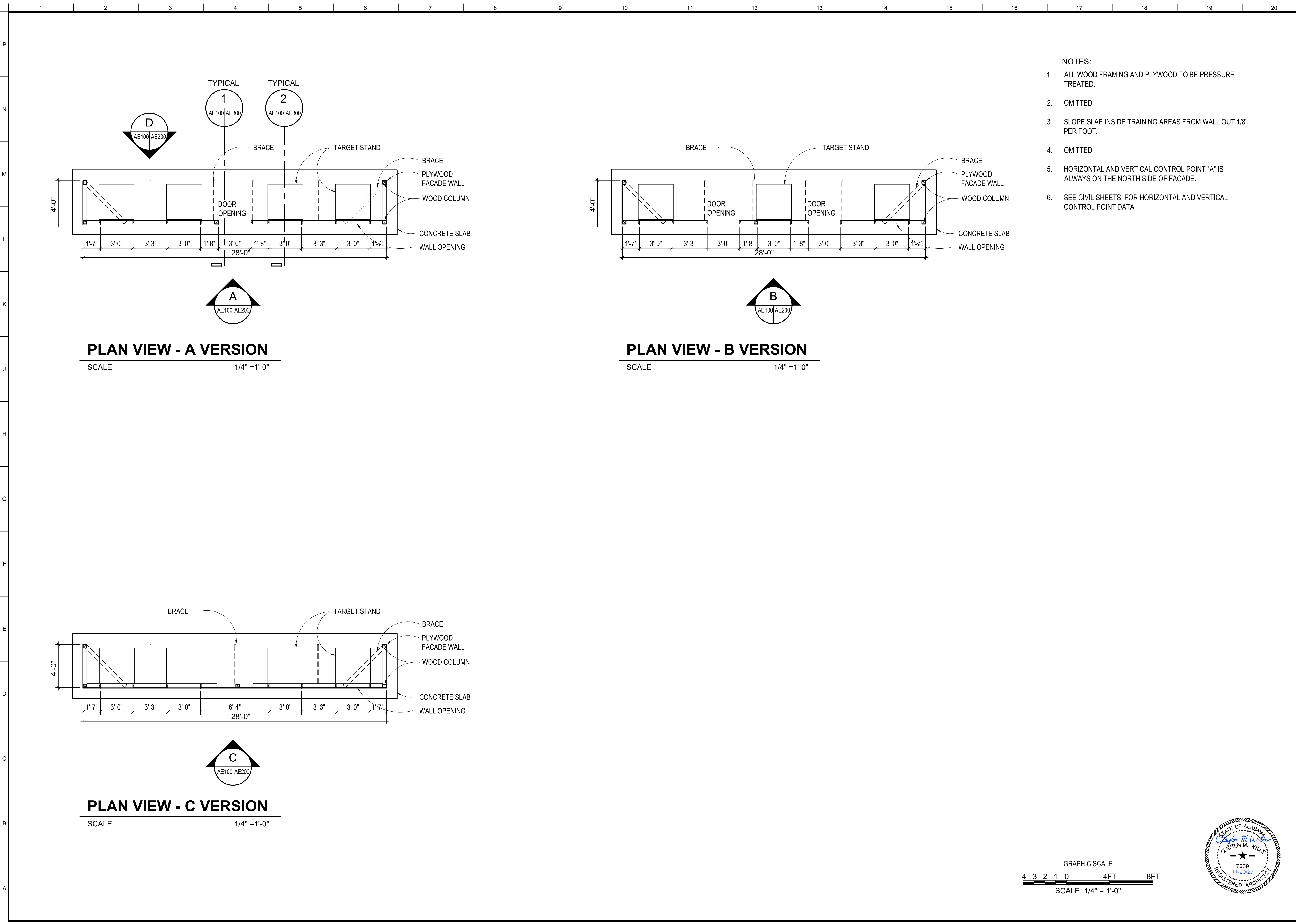
MARK	DESCRIPTION	DATE

DESIGNED BY: C. WILKS	ISSUE DATE: NOVEMBER 2023
DRAWN BY: B. BRADLEY	DRAWING NO.: 10019A-12-2022
CHECKED BY: L. BAE	CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-85-01
ANSID:	FILE NAME:
U.S. ARMY CORPS OF ENGINEERS	
SAVANNAH DISTRICT	
100 W. OGLETHORPE AVE	
SAVANNAH, GA 31401	
POLY, INC.	
1935 HEADLAND AVENUE	
DOTHAN, AL 36503	
WWW.POLY-INC.COM/3347-95-4700	

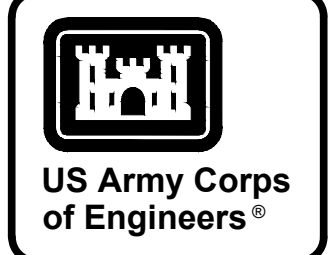
FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTR)
FY23, PN 96182
VOLUMES 3 & 4 - DOWNRANGE
ARCHITECTURAL LEGEND AND SYMBOLS

SHEET ID
AE001

READY TO ADVERTISE (RTA) G:\CLEANSTUFF\1528181376 BRAGG MP\TRIM\PI07_RTA FINAL SUBMITTAL\06 ARCHITECTURAL\000 GENERAL\B2EA001.DWG



- NOTES:**
1. ALL WOOD FRAMING AND PLYWOOD TO BE PRESSURE TREATED.
 2. OMITTED.
 3. SLOPE SLAB INSIDE TRAINING AREAS FROM WALL OUT 1/8" PER FOOT.
 4. OMITTED.
 5. HORIZONTAL AND VERTICAL CONTROL POINT "A" IS ALWAYS ON THE NORTH SIDE OF FACADE.
 6. SEE CIVIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL POINT DATA.



MARK	DESCRIPTION	DATE

DESIGNED BY: C. WILKS	ISSUE DATE: NOVEMBER 2023
DRAWN BY: B. BRADLEY	NO. OF SHEETS: 104
CHECKED BY: L. BAE	CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-65-01
FILE NAME: ANSID	SIZE:

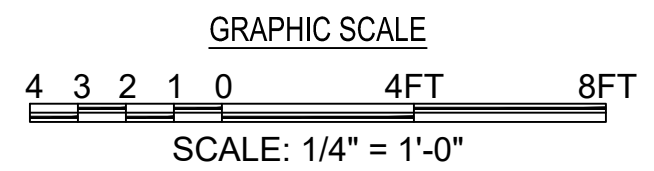
U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT
100 W. OGLETHORPE AVE
SAVANNAH, GA 31401

POLY, INC.
1935 HEADLAND AVENUE
DOTHAN, AL 36503
WWW.POLY-INC.COM/334799-4700

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTR)
FY23, PN 86182
VOLUMES 3 & 4 - DOWNRANGE

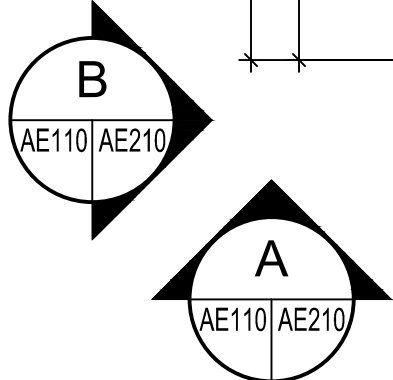
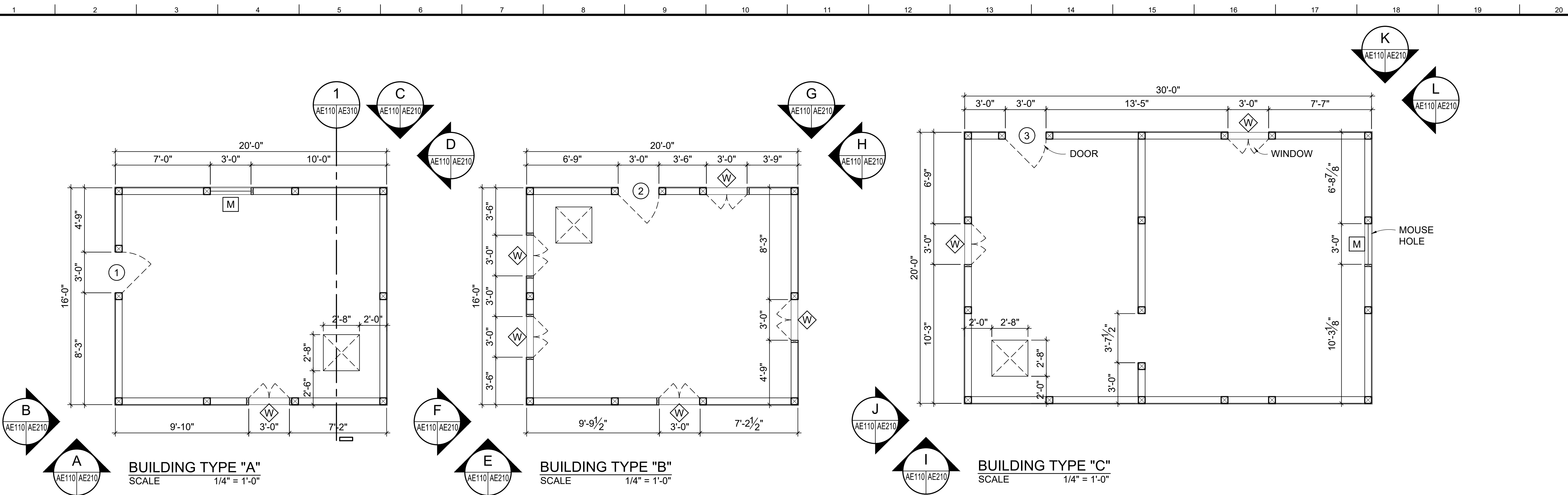
SINGLE STORY FACADE
FLOOR PLANS

SHEET ID
AE100

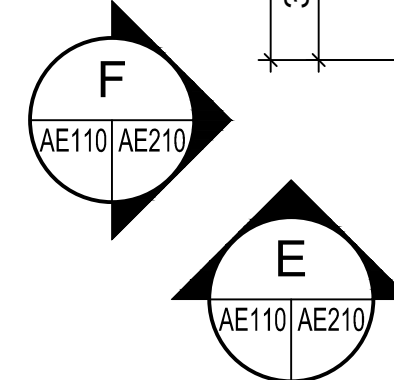


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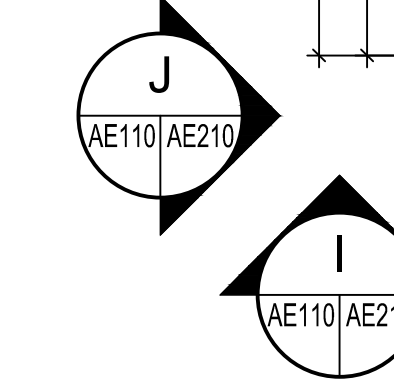
READY TO ADVERTISE (RTA)



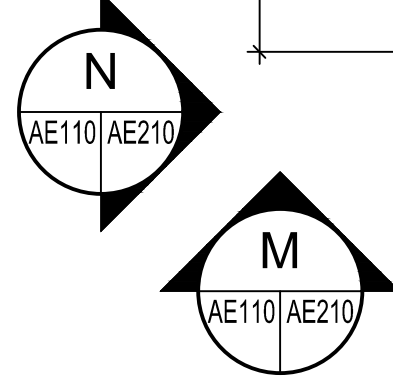
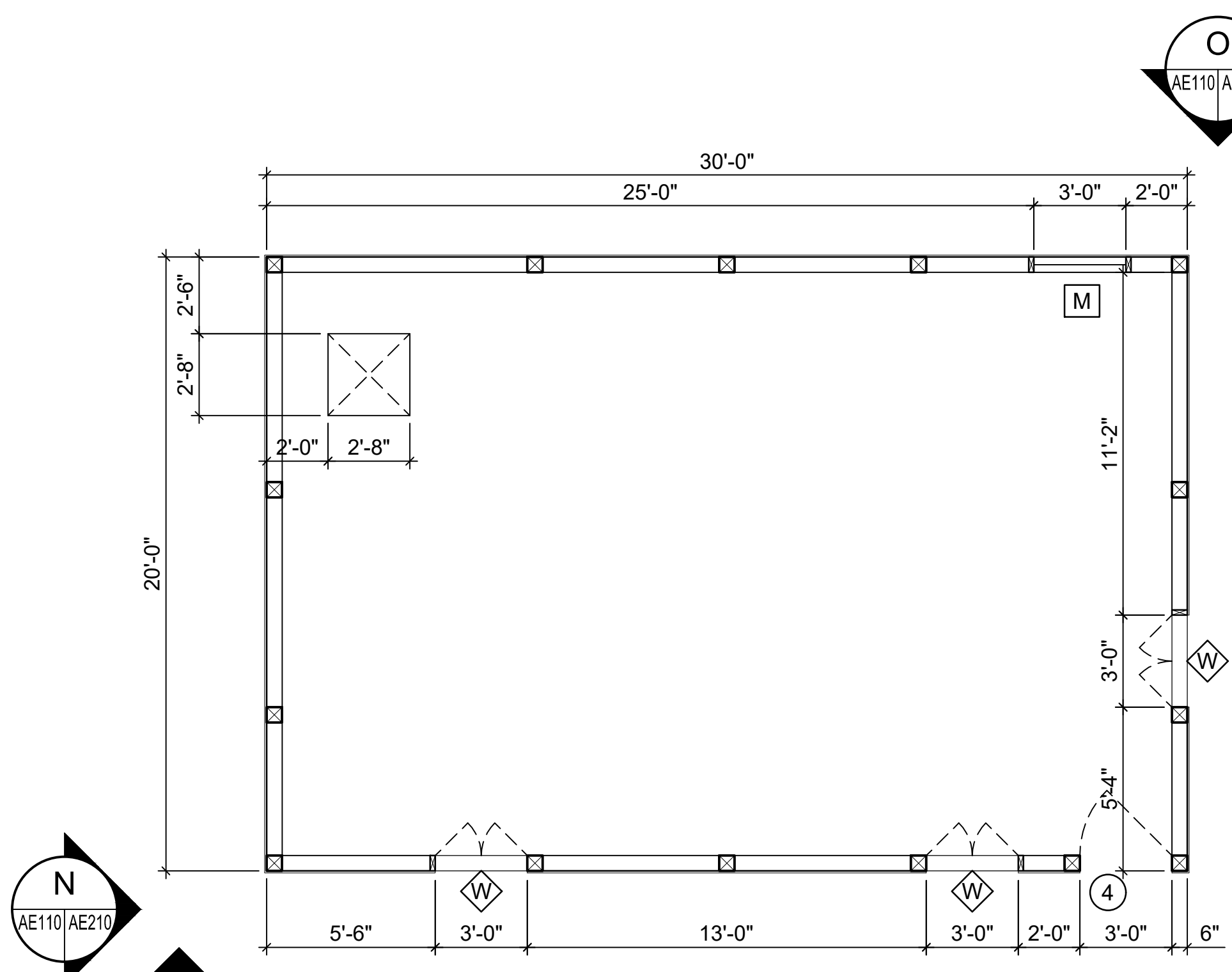
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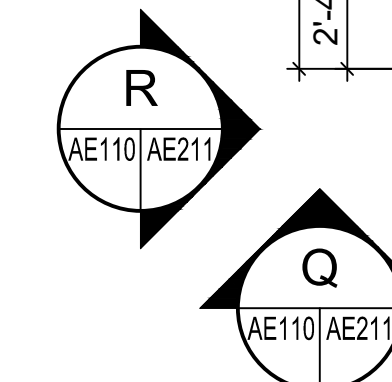
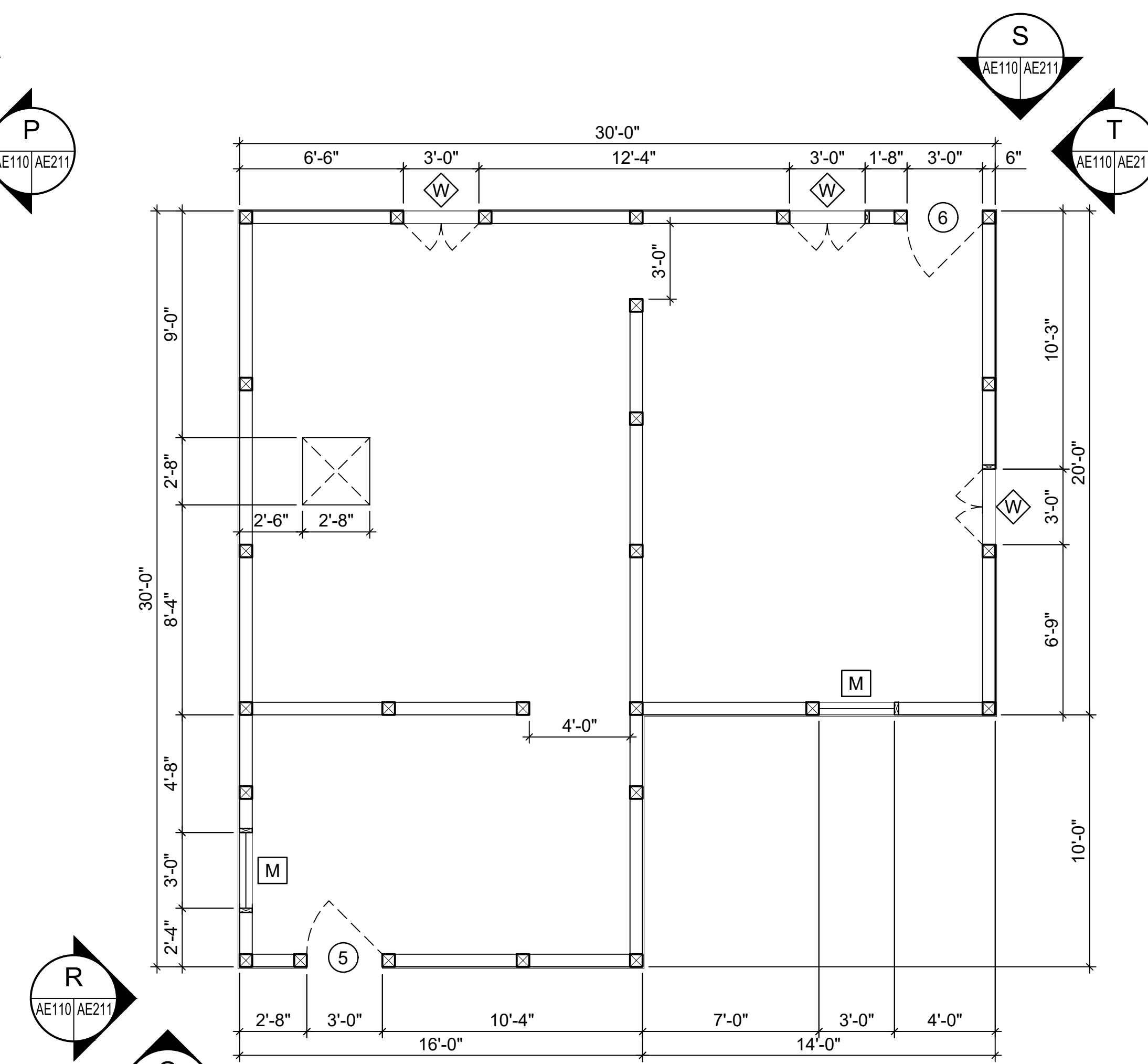
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SCALE 1/4" = 1'-0"



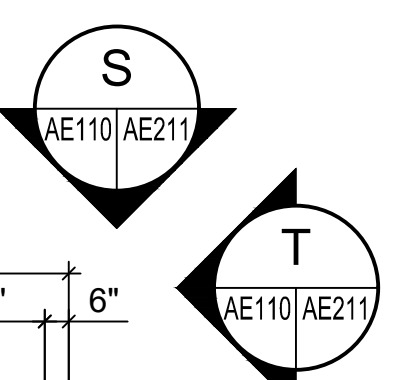
BUILDING TYPE "C"
SCALE 1/4" = 1'-0"



BUILDING TYPE "D"
SCALE 1/4" = 1'-0"

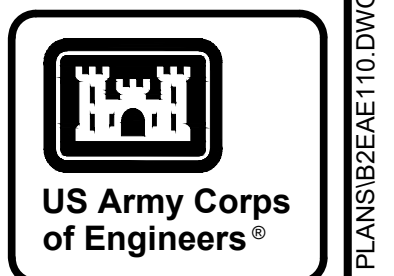
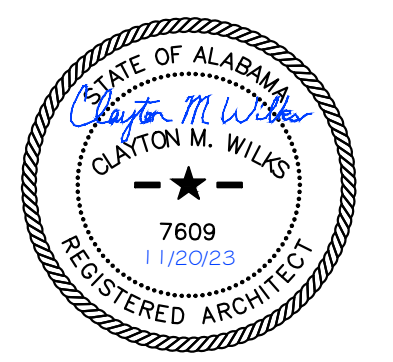
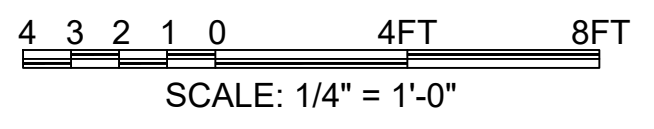


BUILDING TYPES "E"
SCALE 1/4" = 1'-0"



LEGEND:
 (D) WOOD DOOR - SEE SHEET AE510
 (W) WINDOW OPENING - SEE SHEET AE510
 (M) MOUSE HOLE - SEE SHEET AE310
 (X) - MOCK CACHE STORE - SEE SHEET AE310

NOTES:
 1. ALL WOOD MEMBERS TO BE PRESSURE TREATED.
 2. MINIMUM 1" SHALL BE PROVIDED BETWEEN BOTTOM OF PLYWOOD AND FINISH GRADE.
 3. SLOPE GRADE INSIDE TRAINING AREAS FROM WALL OUT 1/4" PER FOOT.
 4. ALL BUILDING SIGNS TO MEET BASE STANDARDS.



MARK	DESCRIPTION	DATE

DESIGNED BY: C. WILKS	ISSUE DATE: NOVEMBER 2023
DRAWN BY: B. BRADLEY	PROJECT NO. / CONTRACT NO.:
CHECKED BY: L. BAE	CATEGORY CODE: 178-65-01
SUBMITTED BY: B. BRADLEY	FILE NAME:
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36503 WWW.POLY-INC.COM/334-799-4700

FORT LIBERTY, NORTH CAROLINA
 AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
 FY23, PN 96182
 VOLUMES 3 & 4 - DOWNRANGE
 URBAN CLUSTER
 MISCELLANEOUS FLOOR PLANS

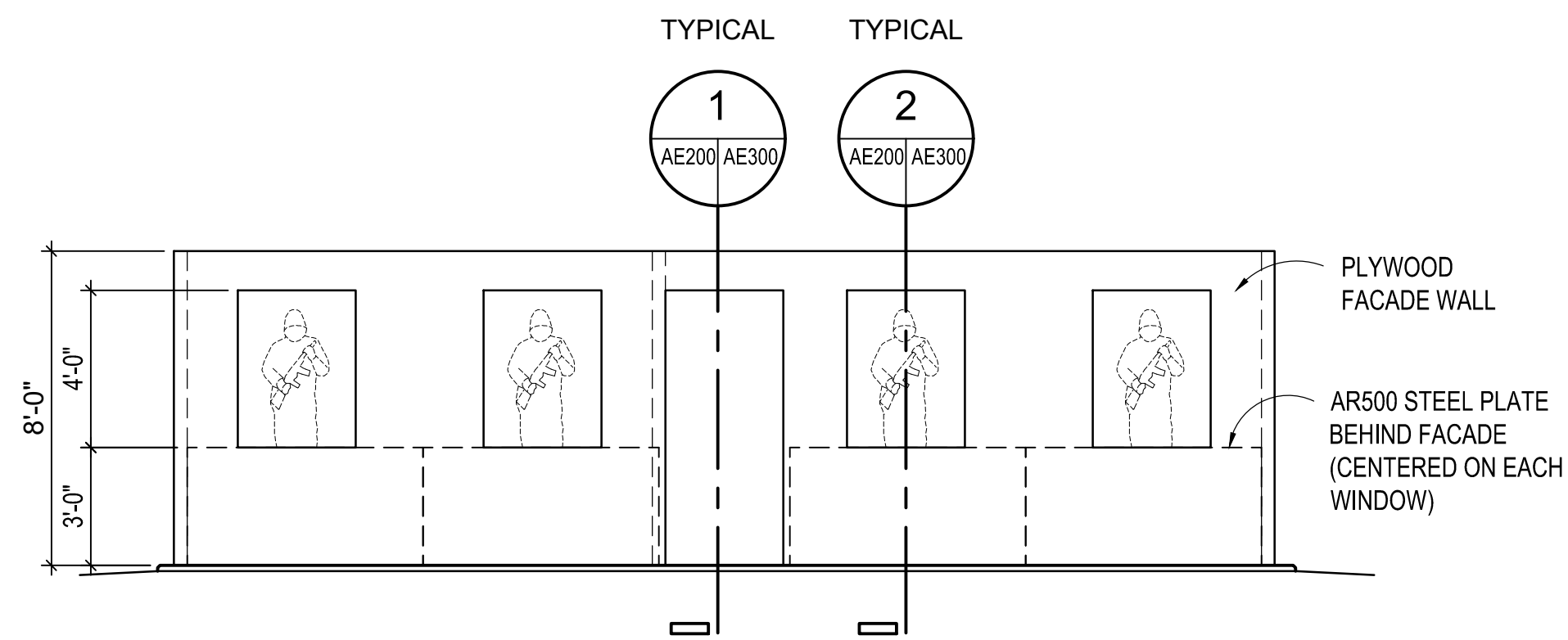
SHEET ID
AE110

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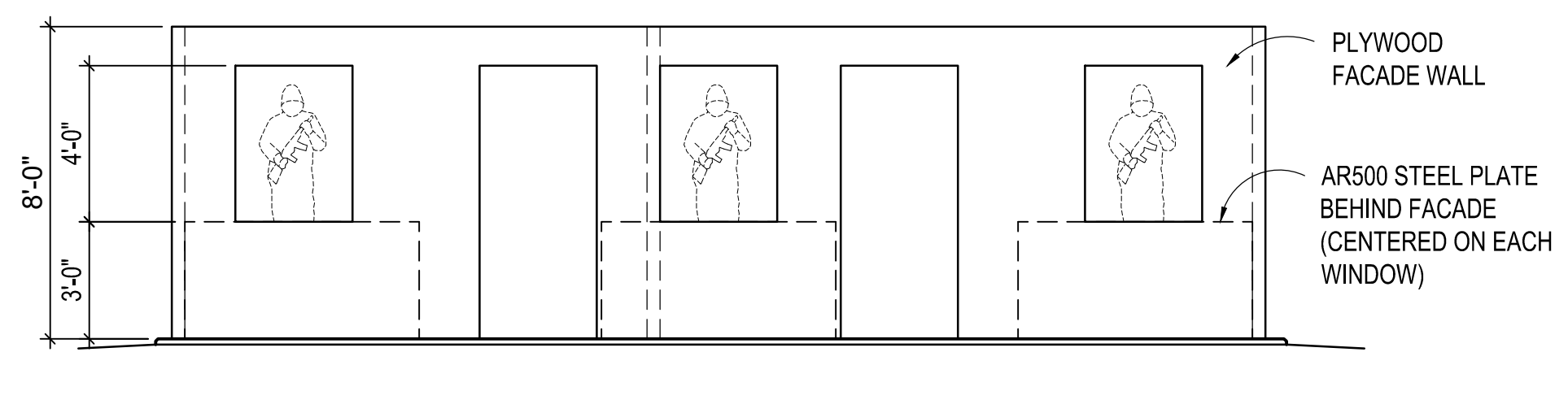
READY TO ADVERTISE (RTA)

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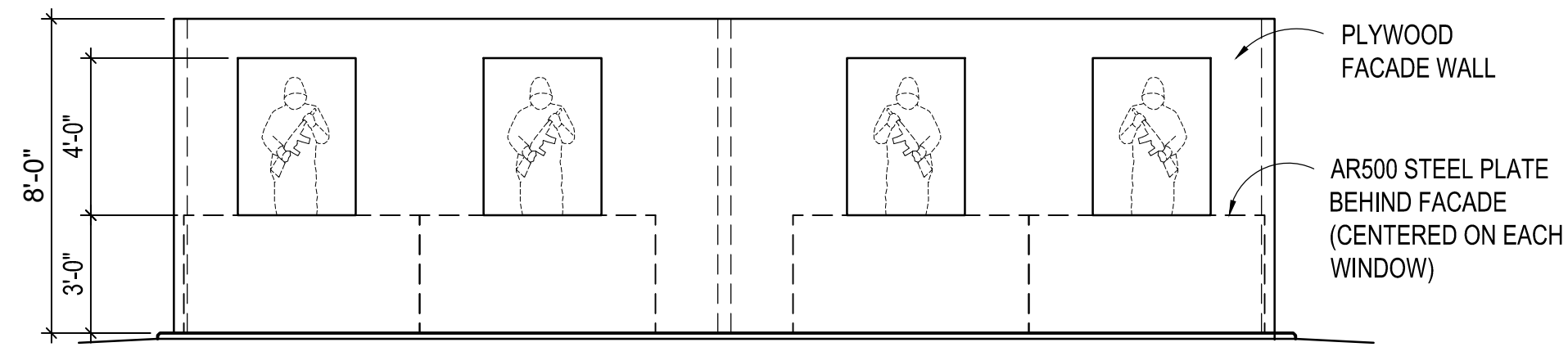
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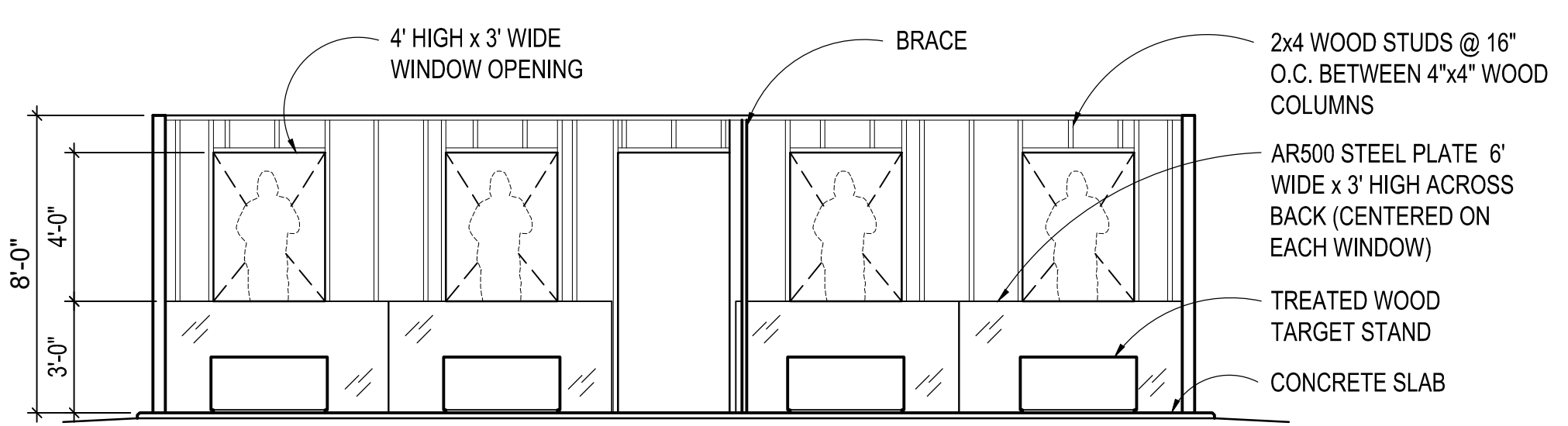
A ELEVATION
SCALE 1/4" = 1'-0"



B ELEVATION
SCALE 1/4" = 1'-0"

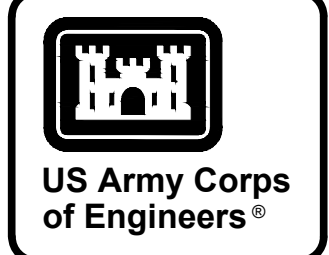
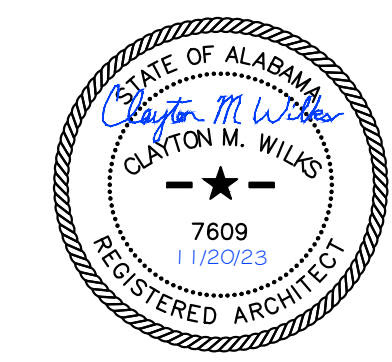
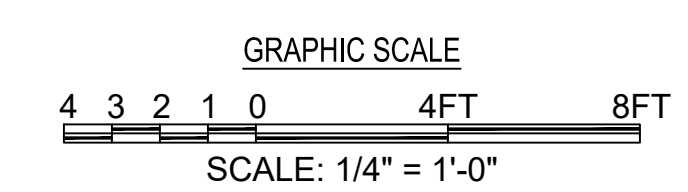


C ELEVATION
SCALE 1/4" = 1'-0"



D ELEVATION
SCALE 1/4" = 1'-0"

- NOTES:**
1. ALL WOOD FRAMING AND PLYWOOD TO BE PRESSURE TREATED.
 2. OMITTED.
 3. SLOPE SLAB INSIDE TRAINING AREAS FROM WALL OUT 1/8" PER FOOT.
 4. OMITTED.
 5. HORIZONTAL AND VERTICAL CONTROL POINT "A" IS ALWAYS ON THE NORTH SIDE OF FACADE.
 6. SEE CIVIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL POINT DATA.



MARK	DESCRIPTION	DATE

DESIGNED BY: C. WILKS	ISSUE DATE: NOVEMBER 2023
DRAWN BY: B. BRADLEY	DATE: NOV 14 2023
CHECKED BY: L. BAE	CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-65-01
ANSID:	FILE NAME:

U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT
100 W. OGLETHORPE AVE
SAVANNAH, GA 31401

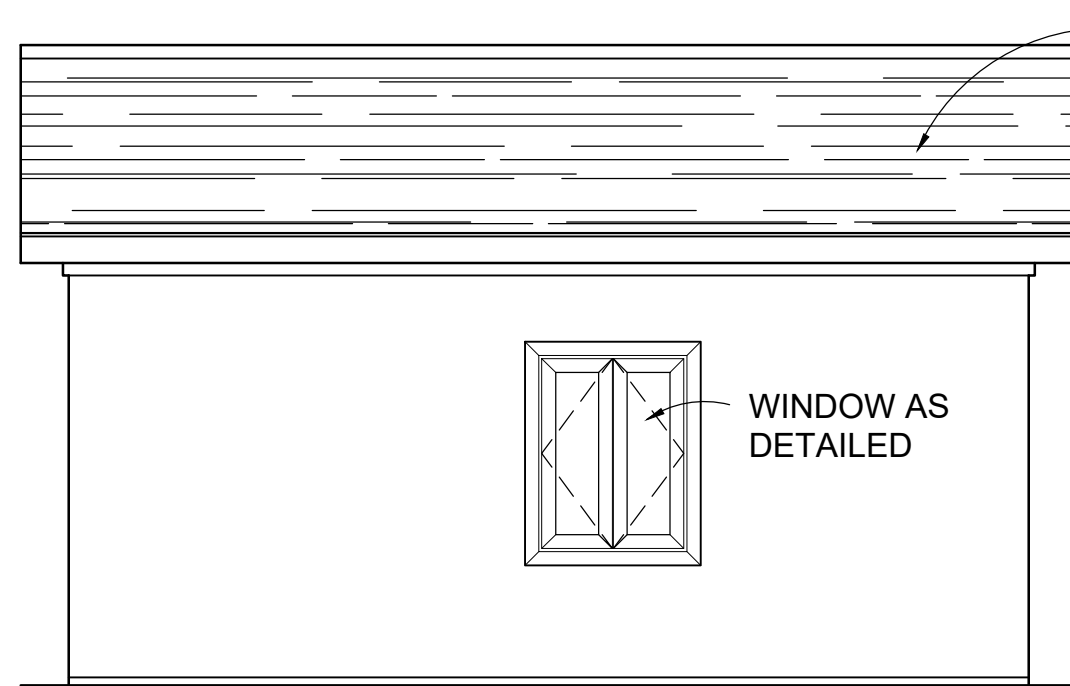
POLY, INC.
1935 HEADLAND AVENUE
DOTHAN, AL 36503
WWW.POLY-INC.COM / 334-798-4700

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTR)
FY23, PN 96182
VOLUMES 3 & 4 - DOWNRANGE
SINGLE STORY FACADE
EXTERIOR ELEVATIONS

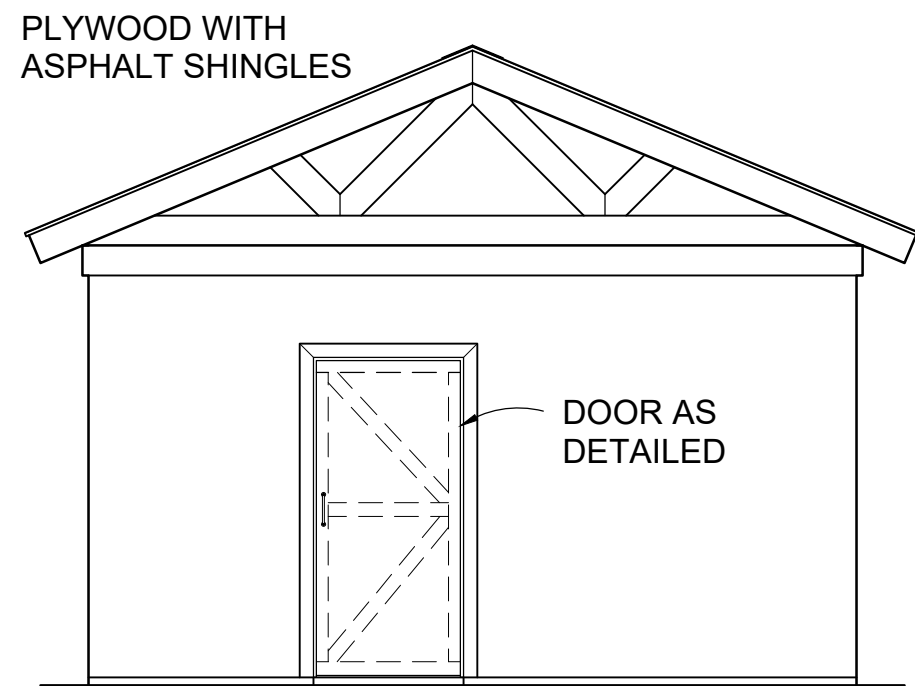
SHEET ID
AE200

READY TO ADVERTISE (RTA)

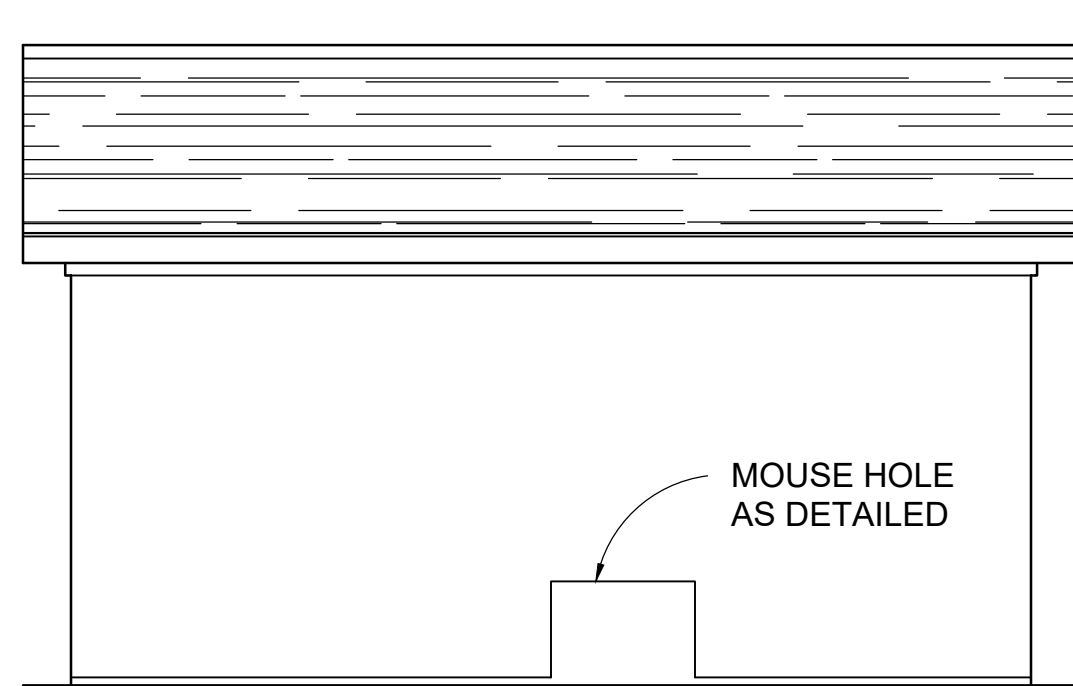
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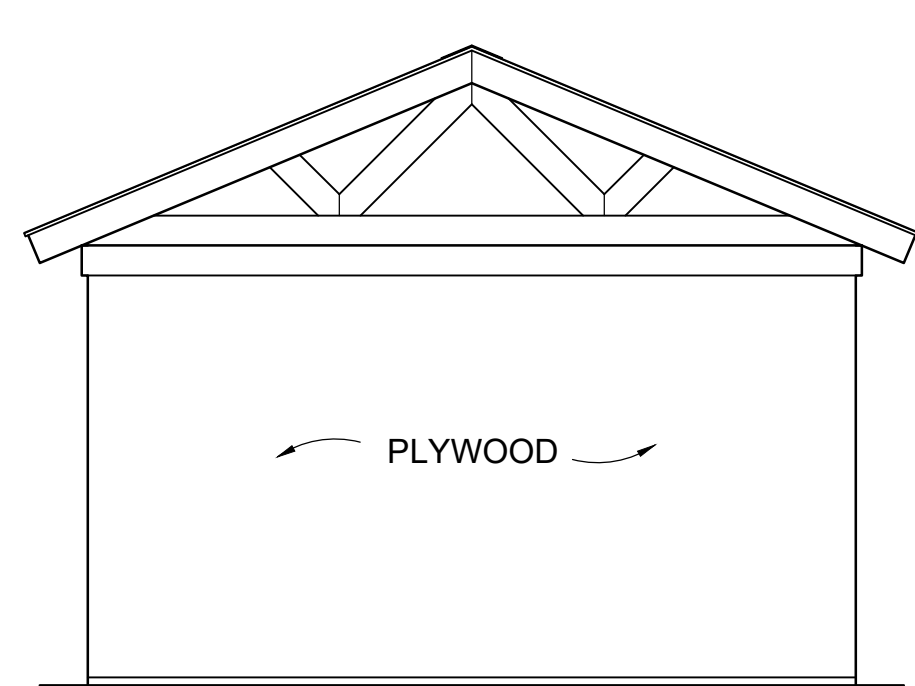
A ELEVATION
AE110/AE210 SCALE 1/4" = 1'-0"



B ELEVATION
AE110/AE210 SCALE 1/4" = 1'-0"

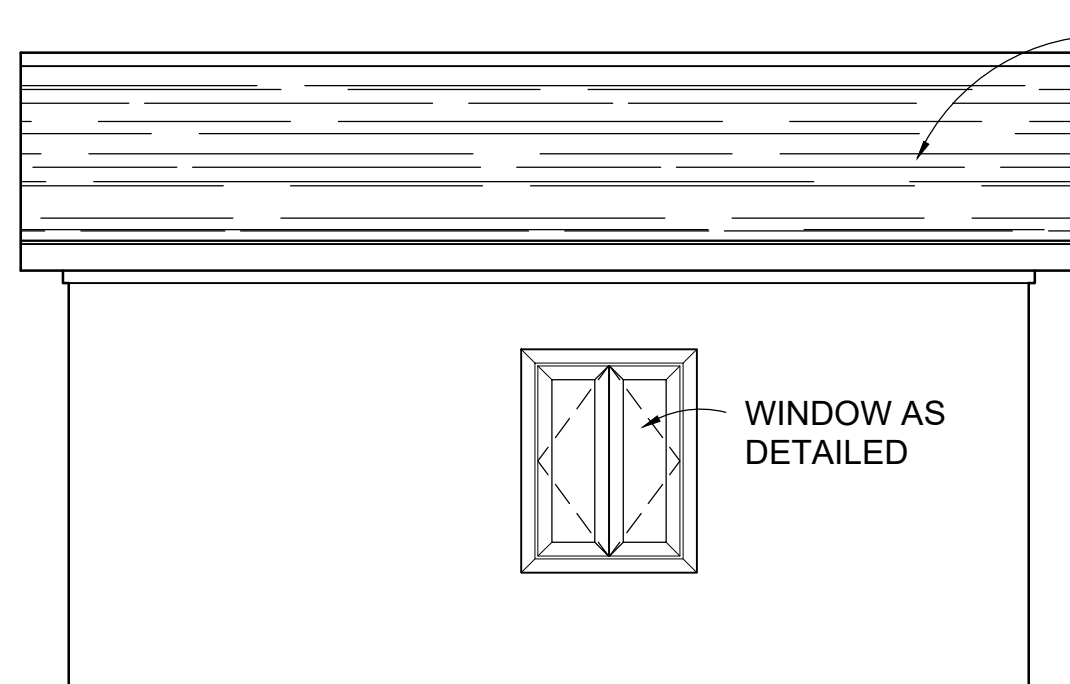


C ELEVATION
AE110/AE210 SCALE 1/4" = 1'-0"

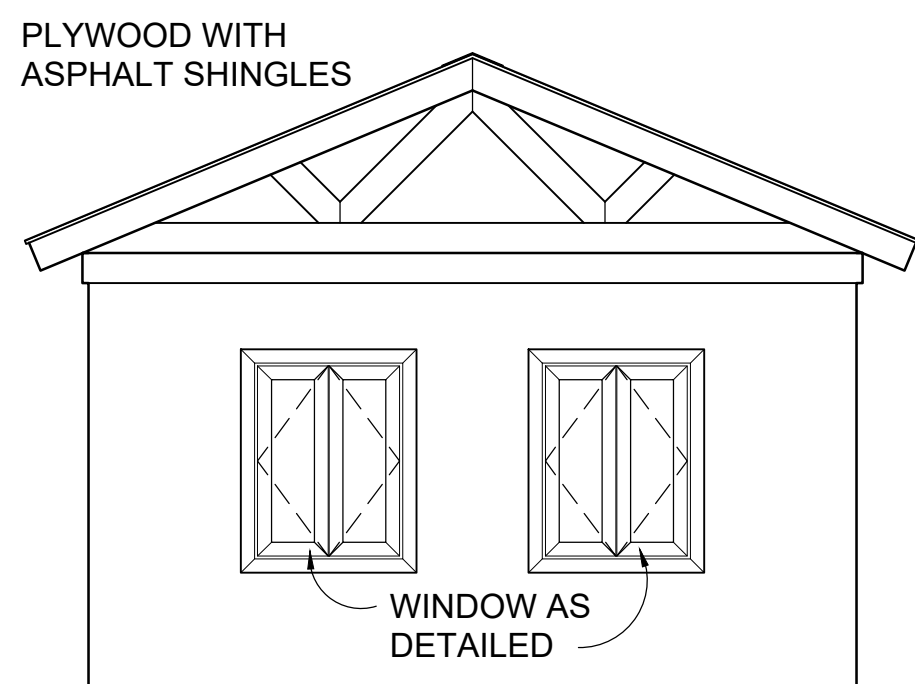


D ELEVATION
AE110/AE210 SCALE 1/4" = 1'-0"

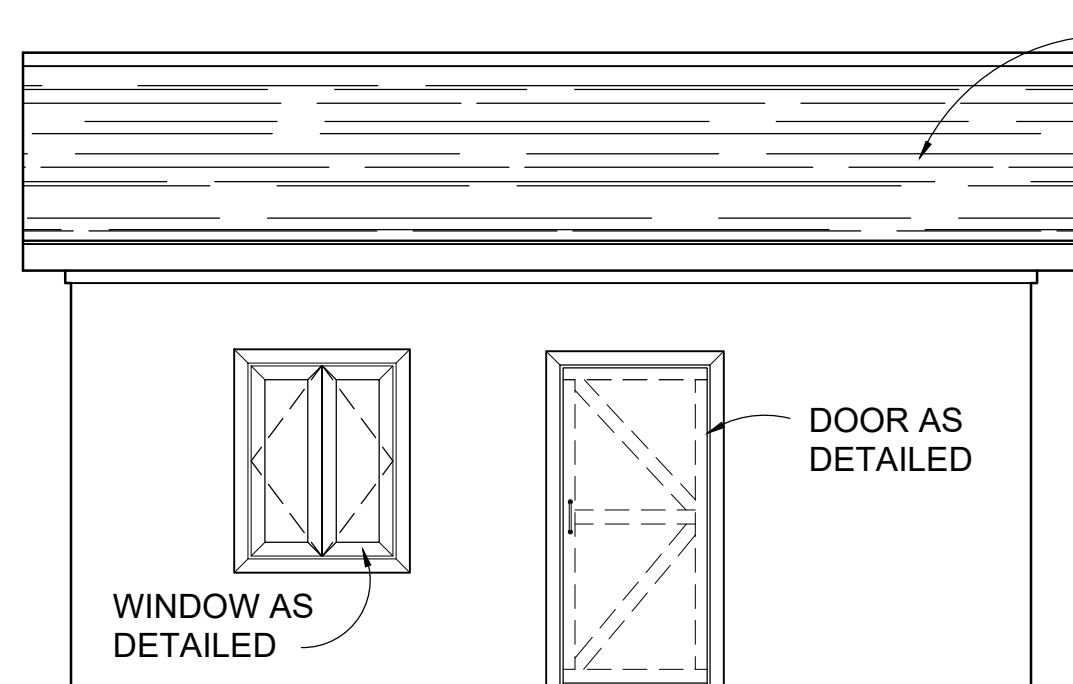
NOTE:
ALL PLYWOOD AND AND WOOD
MEMBERS TO BE PRESSURE
TREATED.



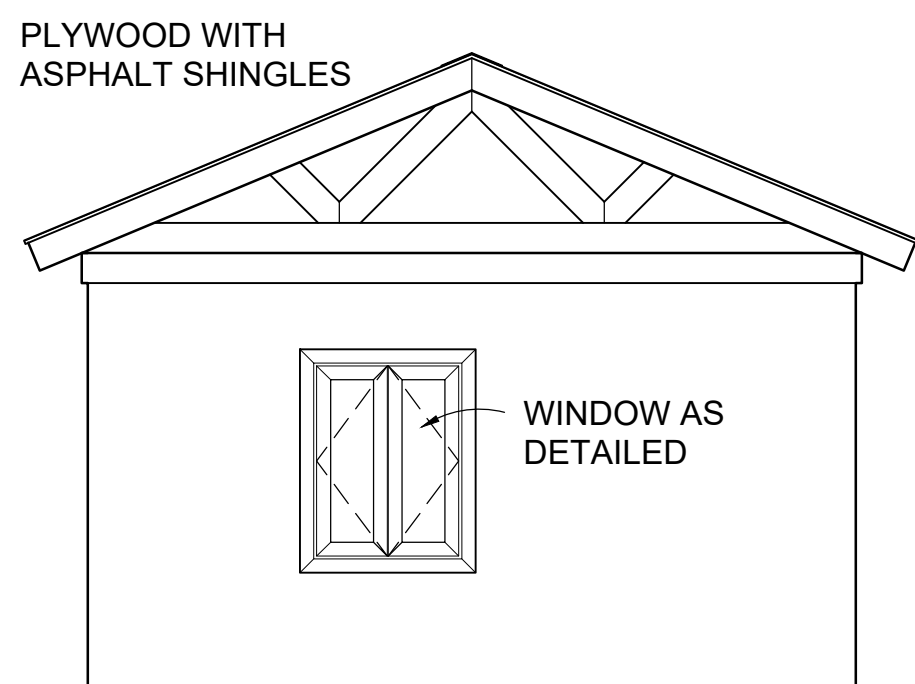
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AE110/AE210 SCALE 1/4" = 1'-0"



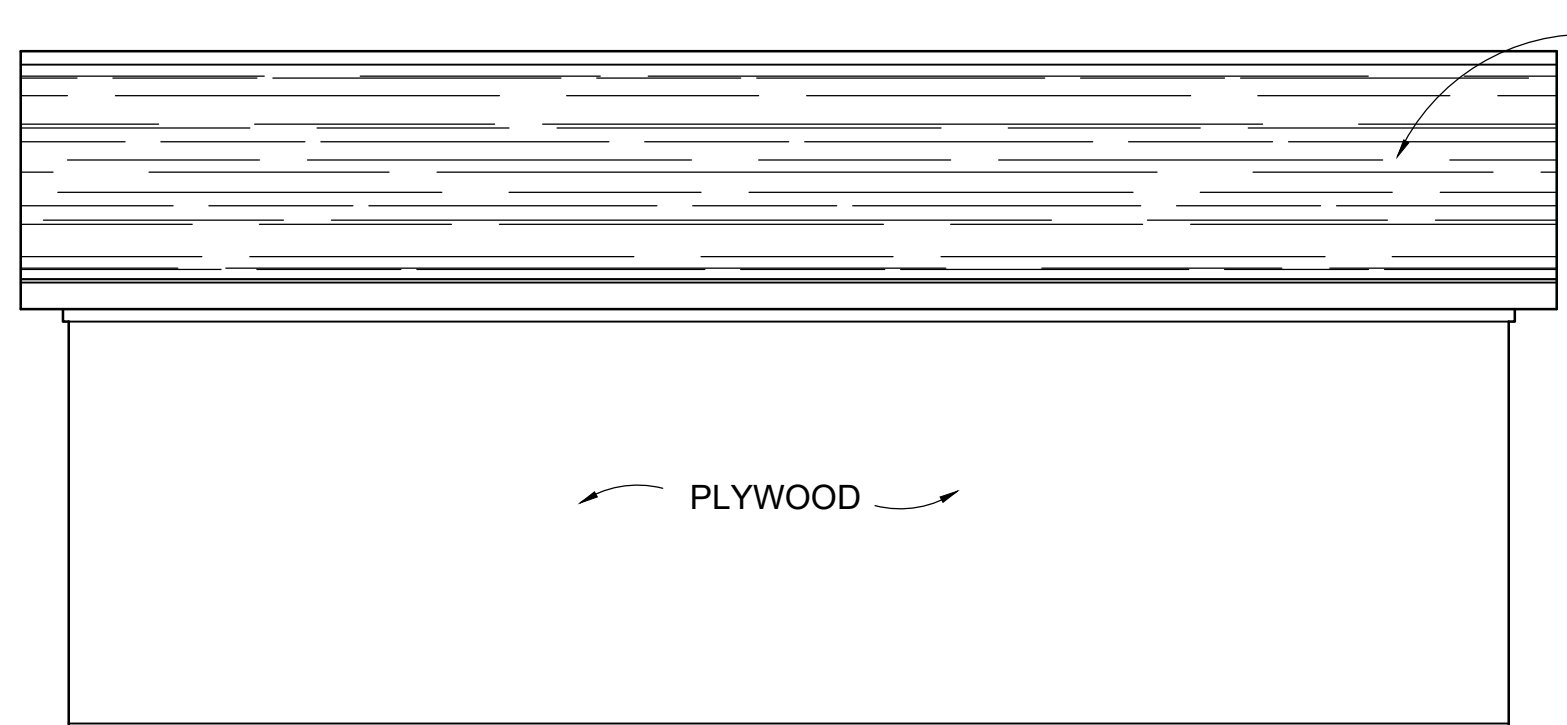
F ELEVATION
AE110/AE210 SCALE 1/4" = 1'-0"



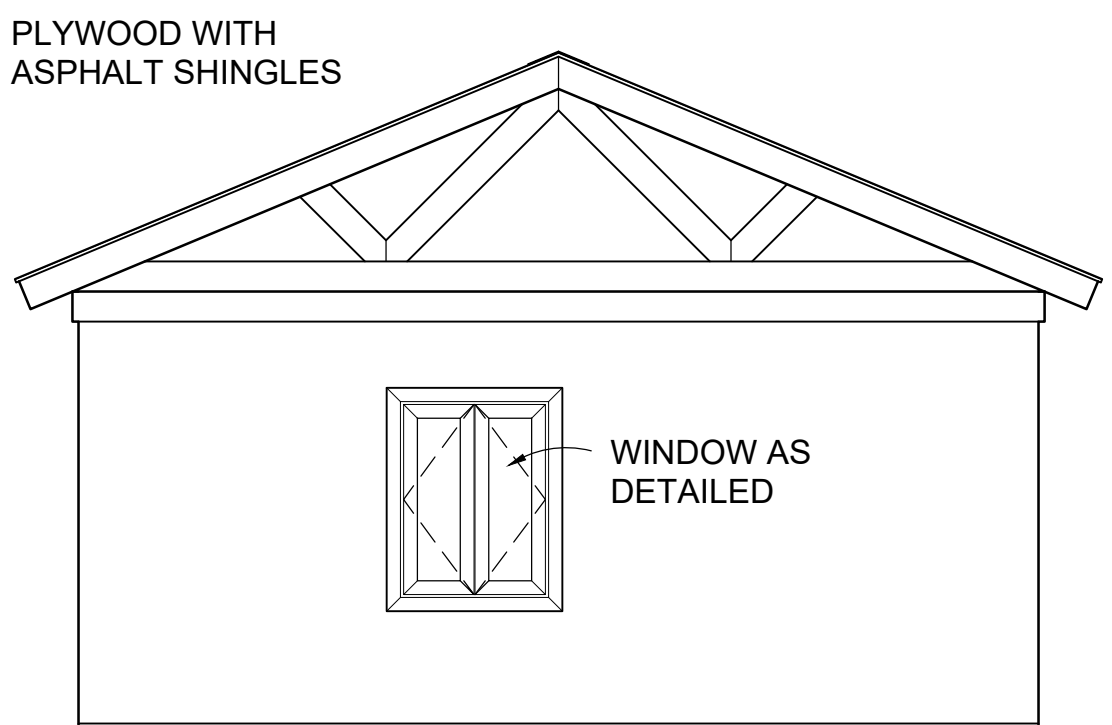
G ELEVATION
AE110/AE210 SCALE 1/4" = 1'-0"



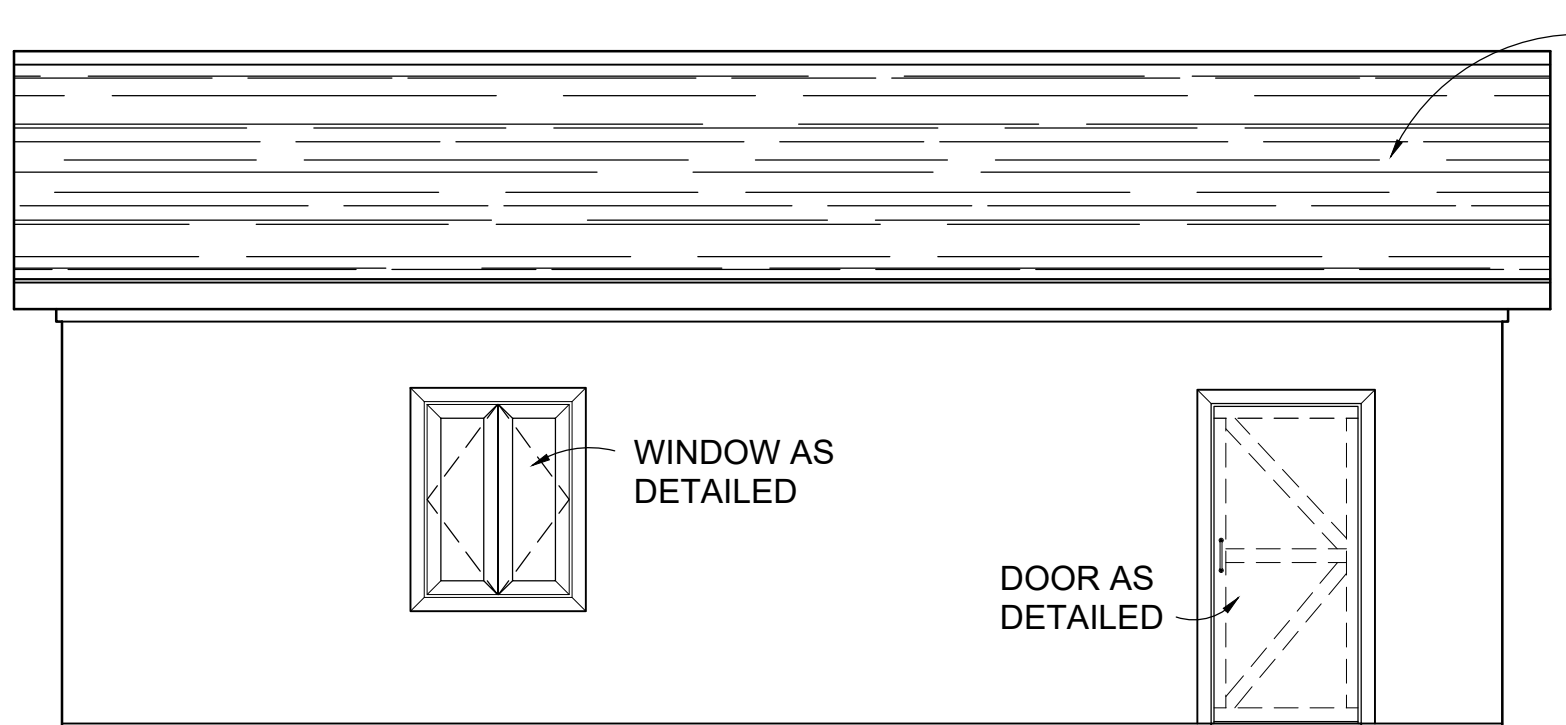
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AE110/AE210 SCALE 1/4" = 1'-0"



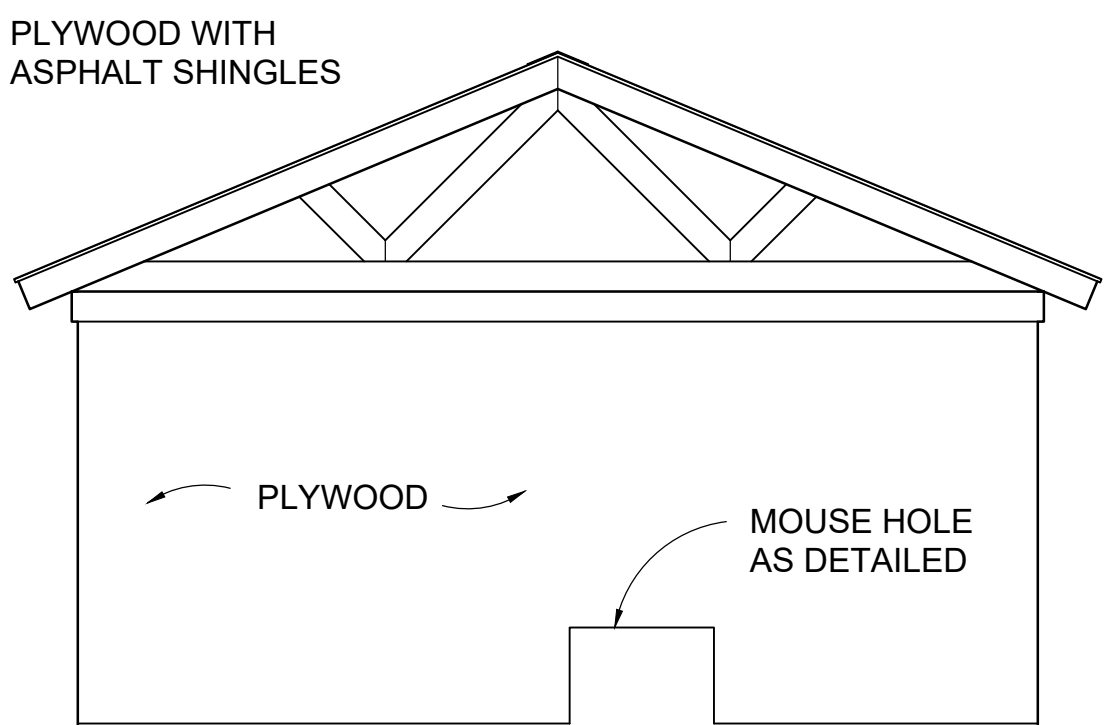
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AE110/AE210 SCALE 1/4" = 1'-0"



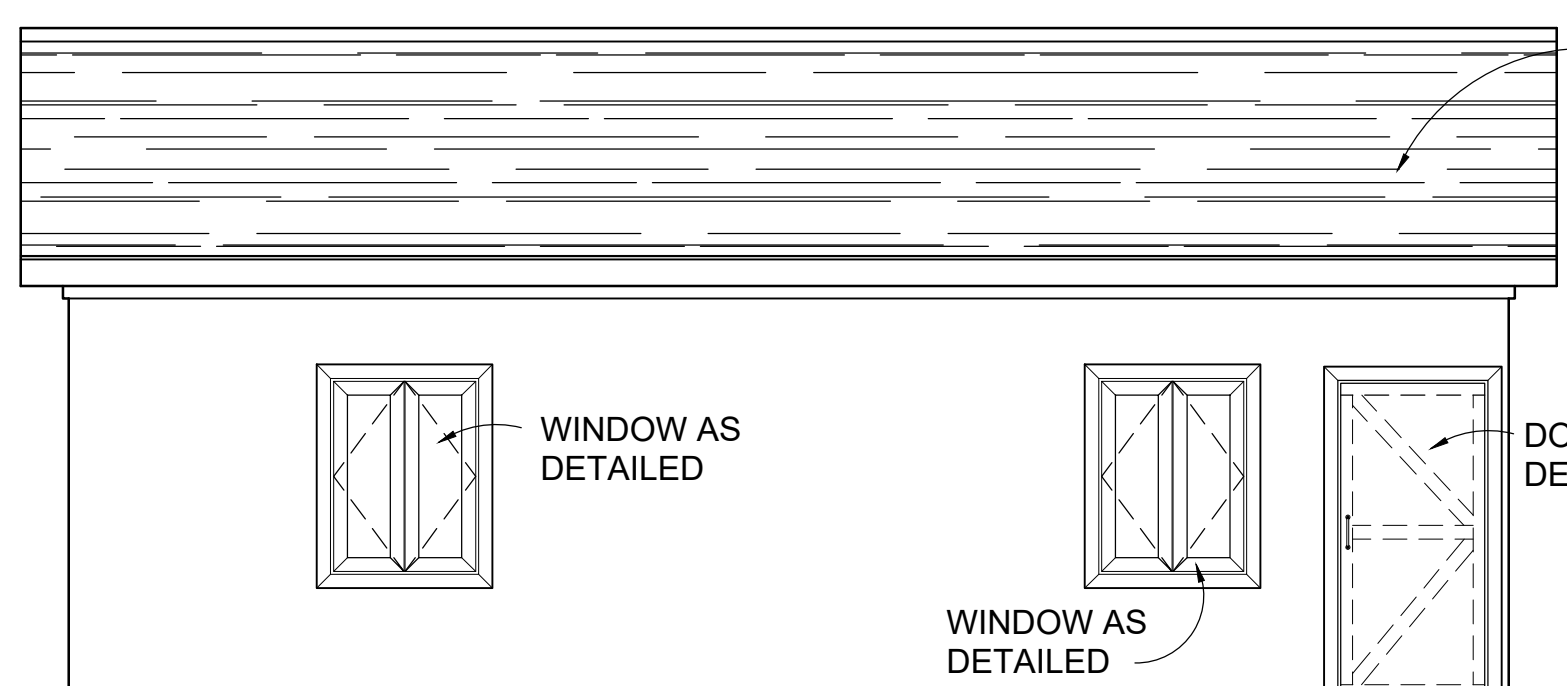
J ELEVATION
AE110/AE210 SCALE 1/4" = 1'-0"



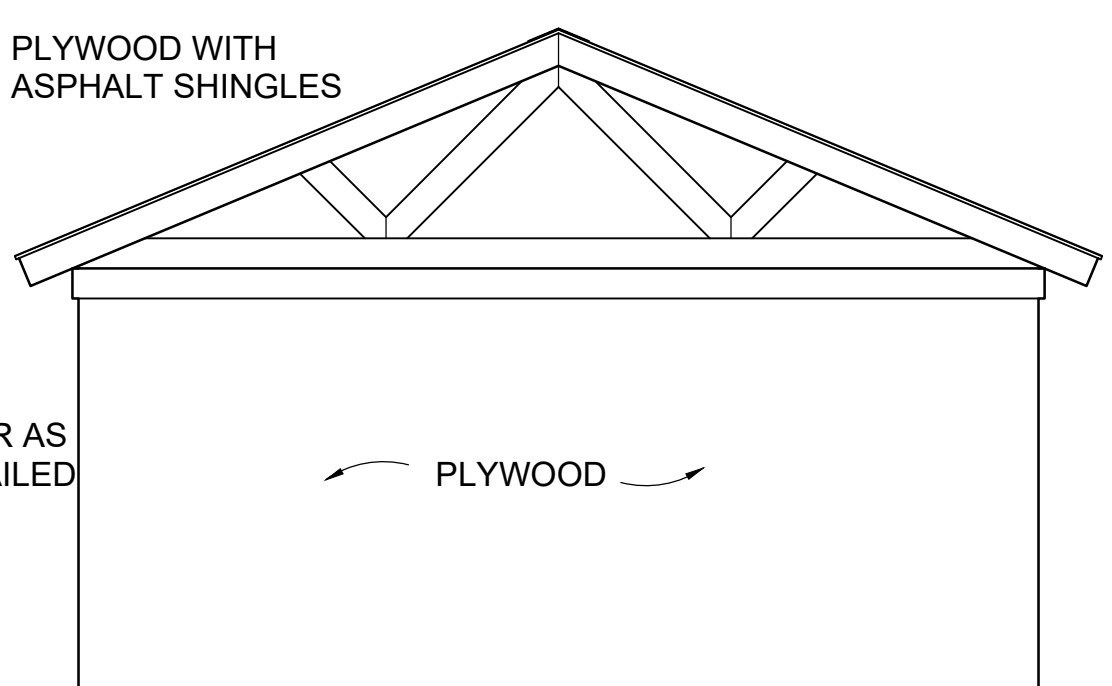
K ELEVATION
AE110/AE210 SCALE 1/4" = 1'-0"



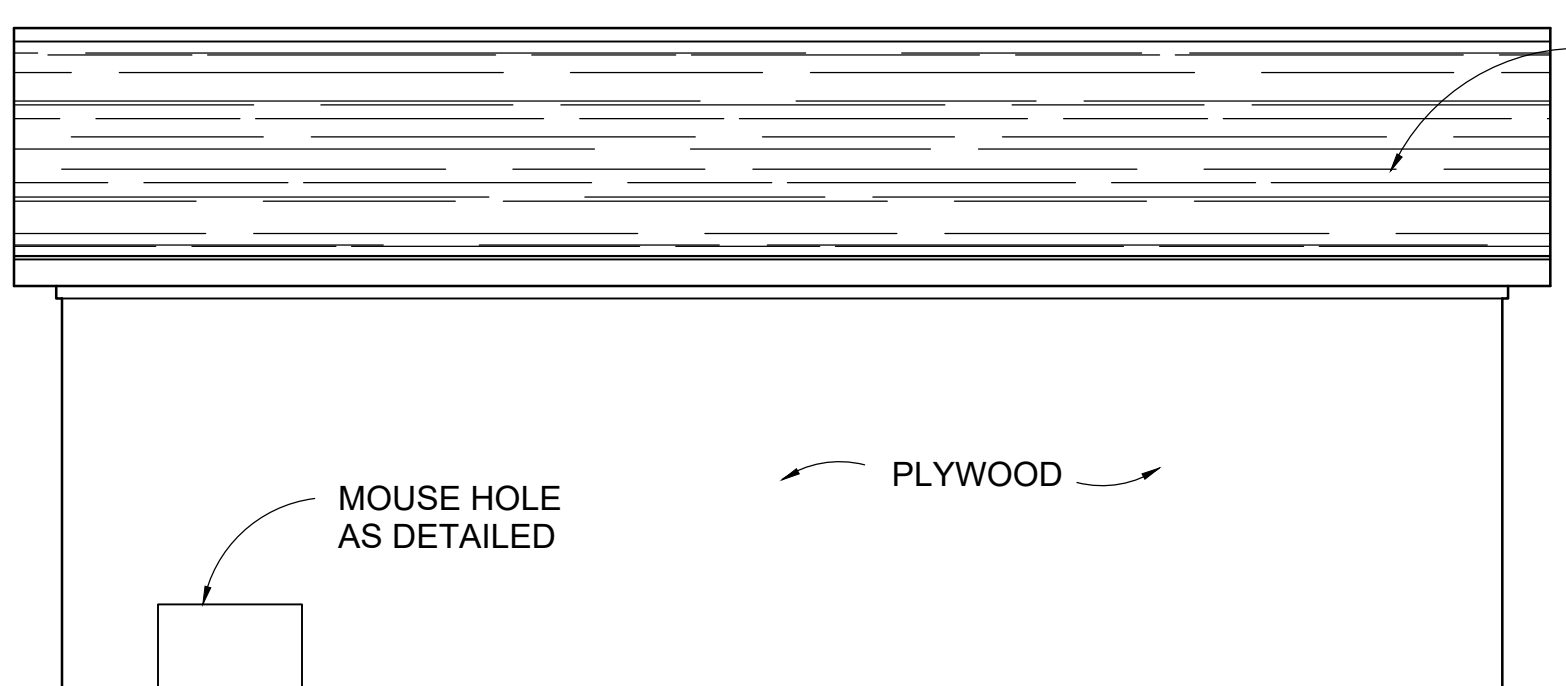
L ELEVATION
AE110/AE210 SCALE 1/4" = 1'-0"



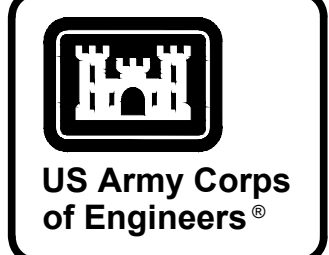
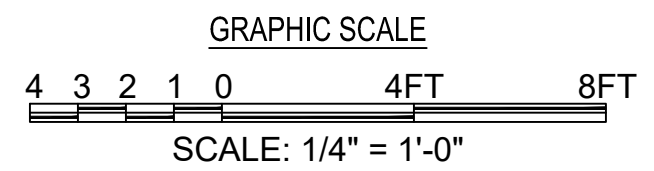
M ELEVATION
AE110/AE210 SCALE 1/4" = 1'-0"



N ELEVATION
AE110/AE210 SCALE 1/4" = 1'-0"



O ELEVATION
AE110/AE210 SCALE 1/4" = 1'-0"



MARK	DESCRIPTION	DATE

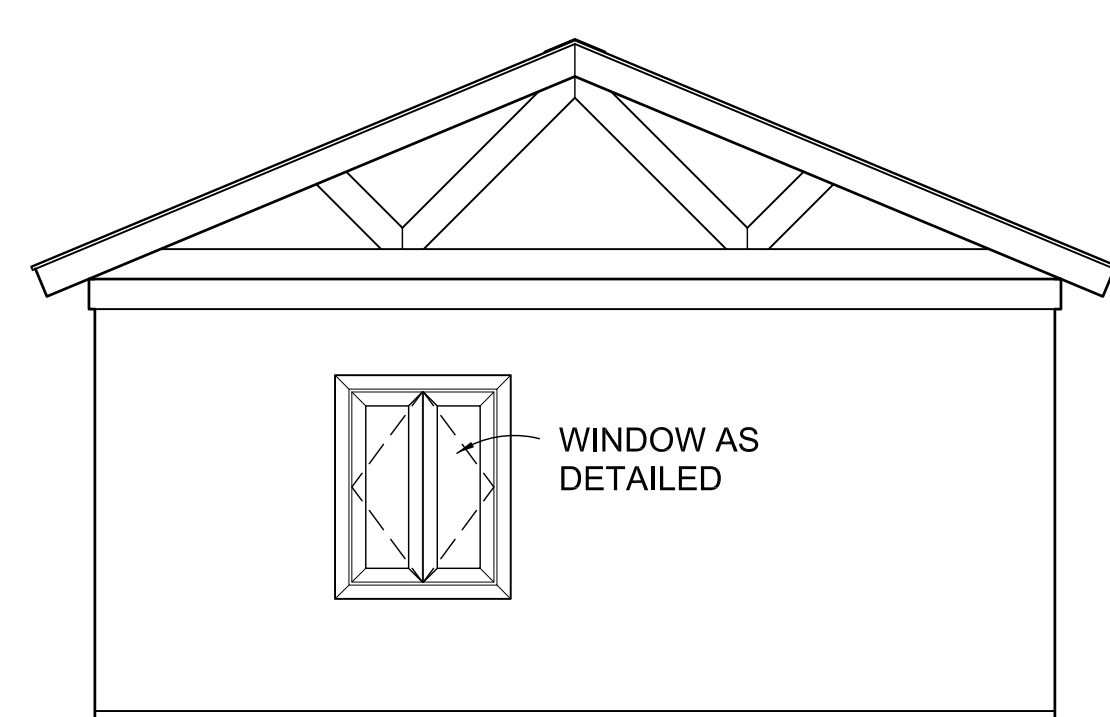
DESIGNED BY: C. WILKS	ISSUE DATE: NOVEMBER 2023
DRAWN BY: B. BRADLEY	CHECKED BY: L. BAE
PROJECT NO.: W91PH2448.3002	CONTRACT NO.:
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401
POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36503 WWW.POLY-INC.COM/334-793-4700	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36503 WWW.POLY-INC.COM/334-793-4700
FILE NAME:	FILE NAME:
SIZE:	SIZE:
ANSID:	ANSID:

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 96182
VOLUMES 3 & 4 - DOWNRANGE
URBAN CLUSTER
EXTERIOR ELEVATIONS

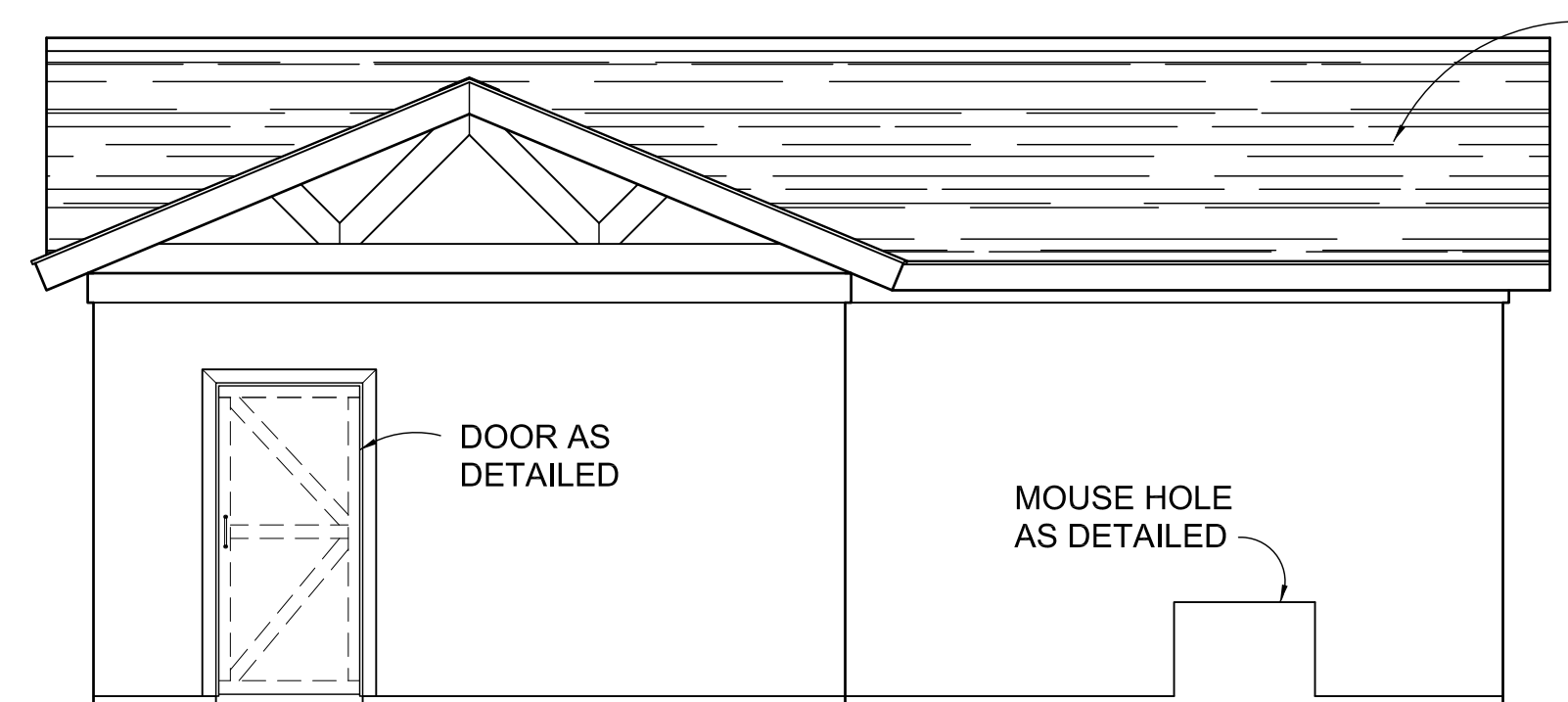
SHEET ID
AE210

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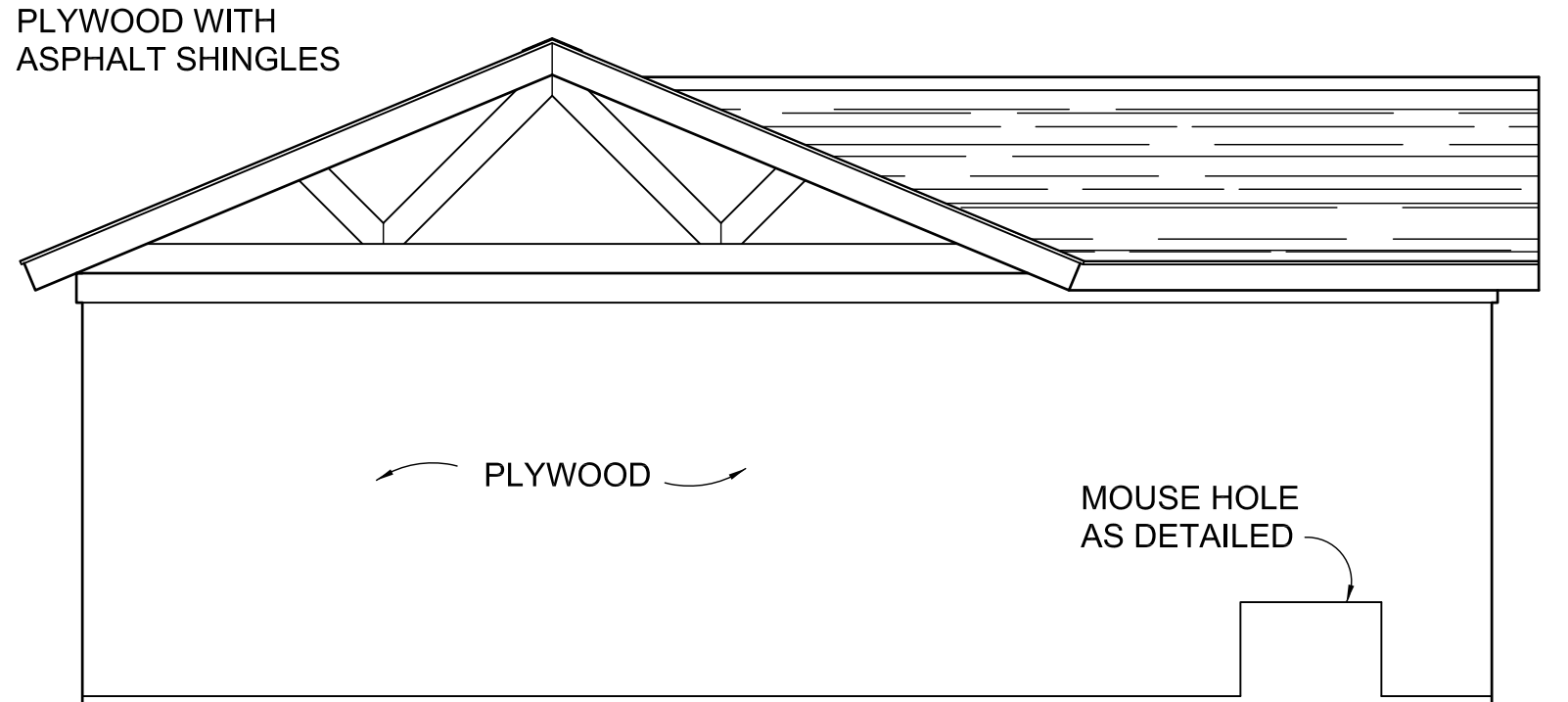
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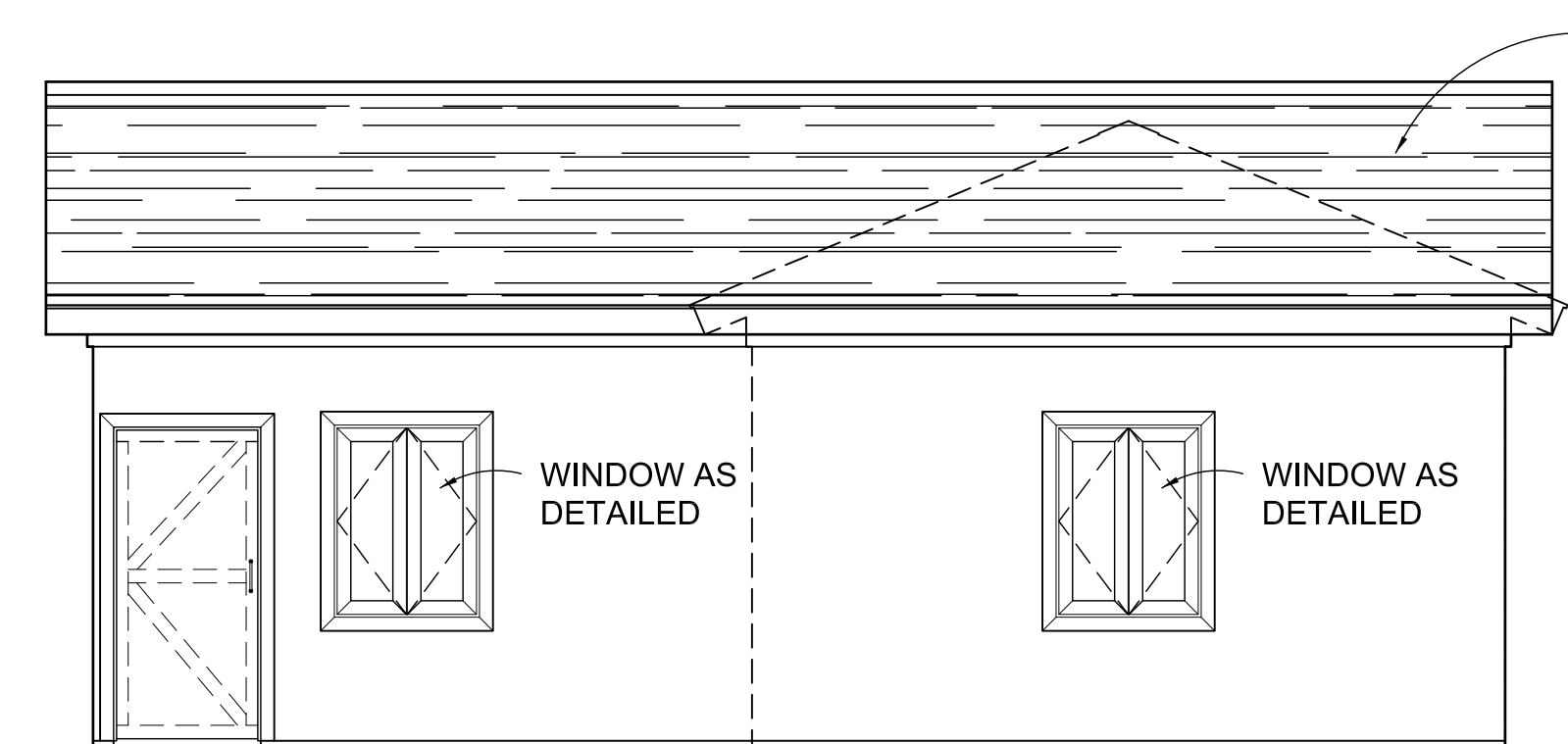
P ELEVATION
AE110|AE211 SCALE 1/4" = 1'-0"



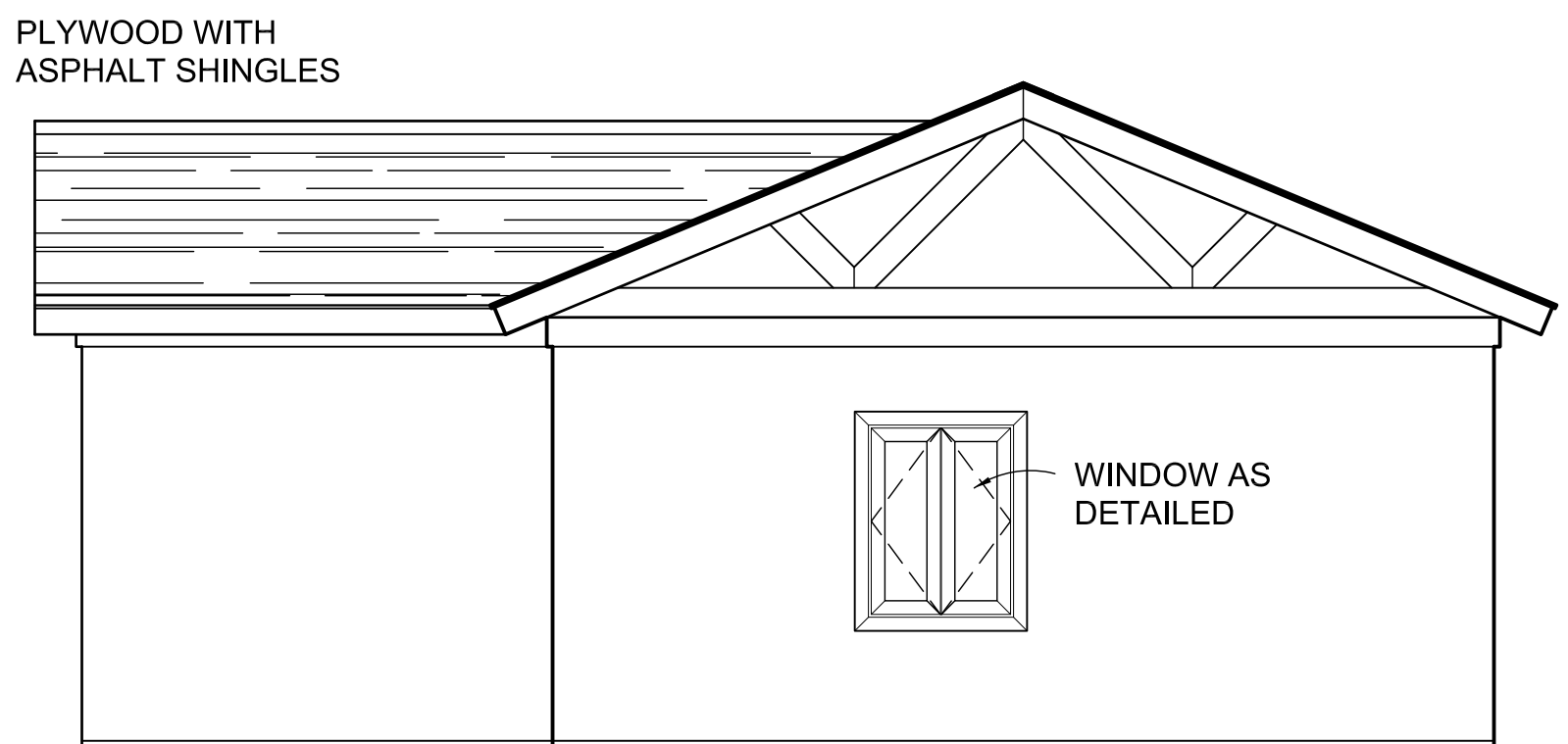
Q ELEVATION
AE110|AE211 SCALE 1/4" = 1'-0"



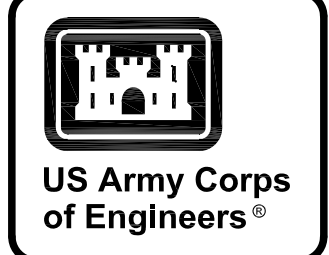
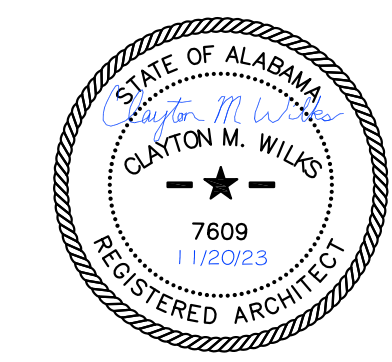
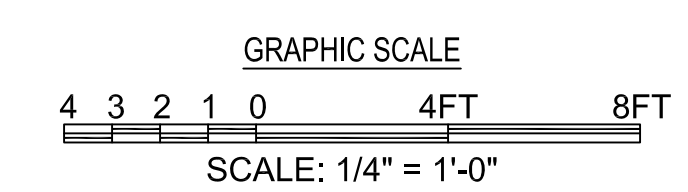
R ELEVATION
AE110|AE211 SCALE 1/4" = 1'-0"



S ELEVATION
AE110|AE211 SCALE 1/4" = 1'-0"



T ELEVATION
AE110|AE211 SCALE 1/4" = 1'-0"



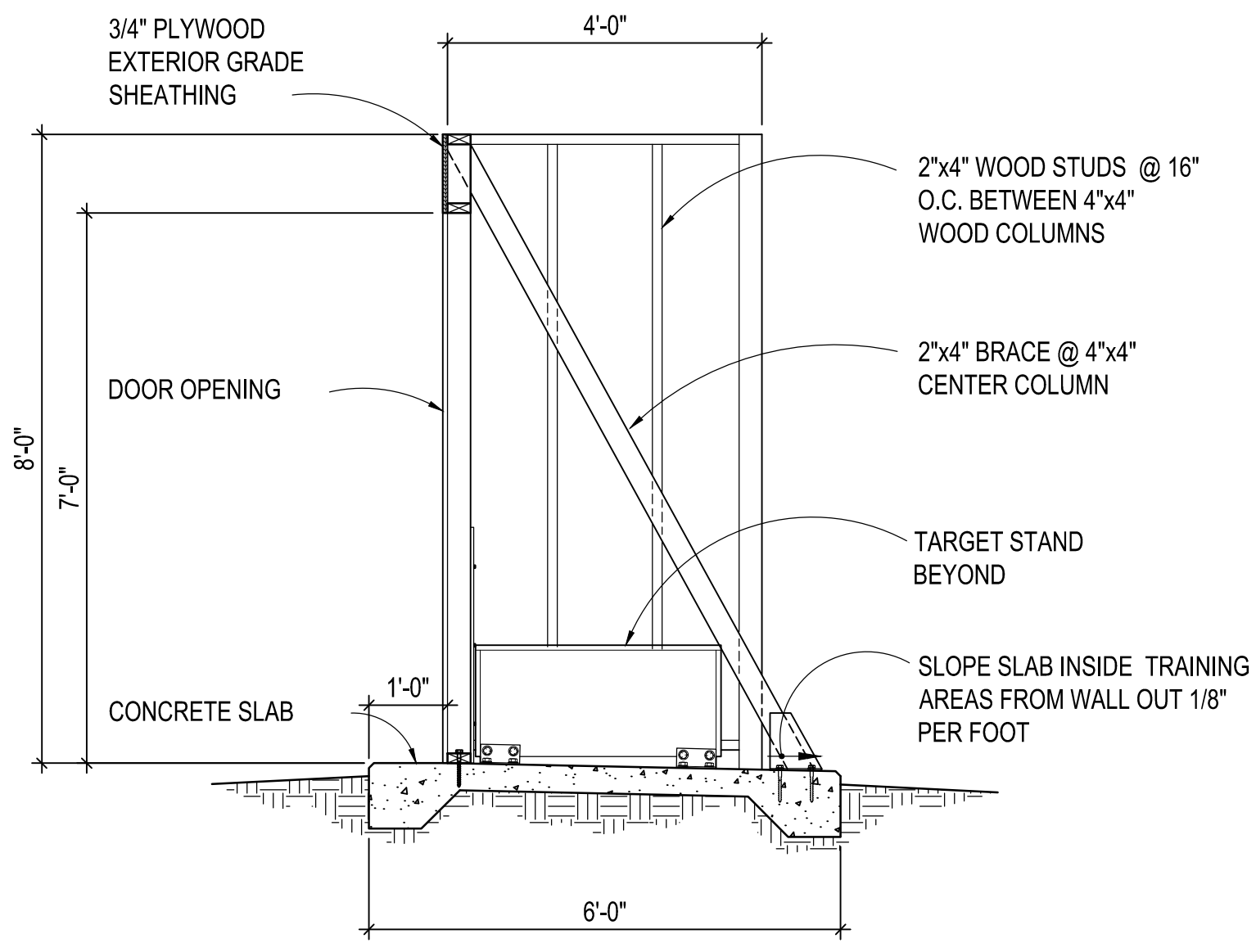
MARK	DESCRIPTION	DATE

DESIGNED BY: C. WILKS	ISSUE DATE: NOVEMBER 2023
DRAWN BY: BRADLEY	PROJECT NO. NO: 15013423.3012
CHECKED BY: L. BAE	CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-65-01
FILE NAME: ANSID	SIZE:

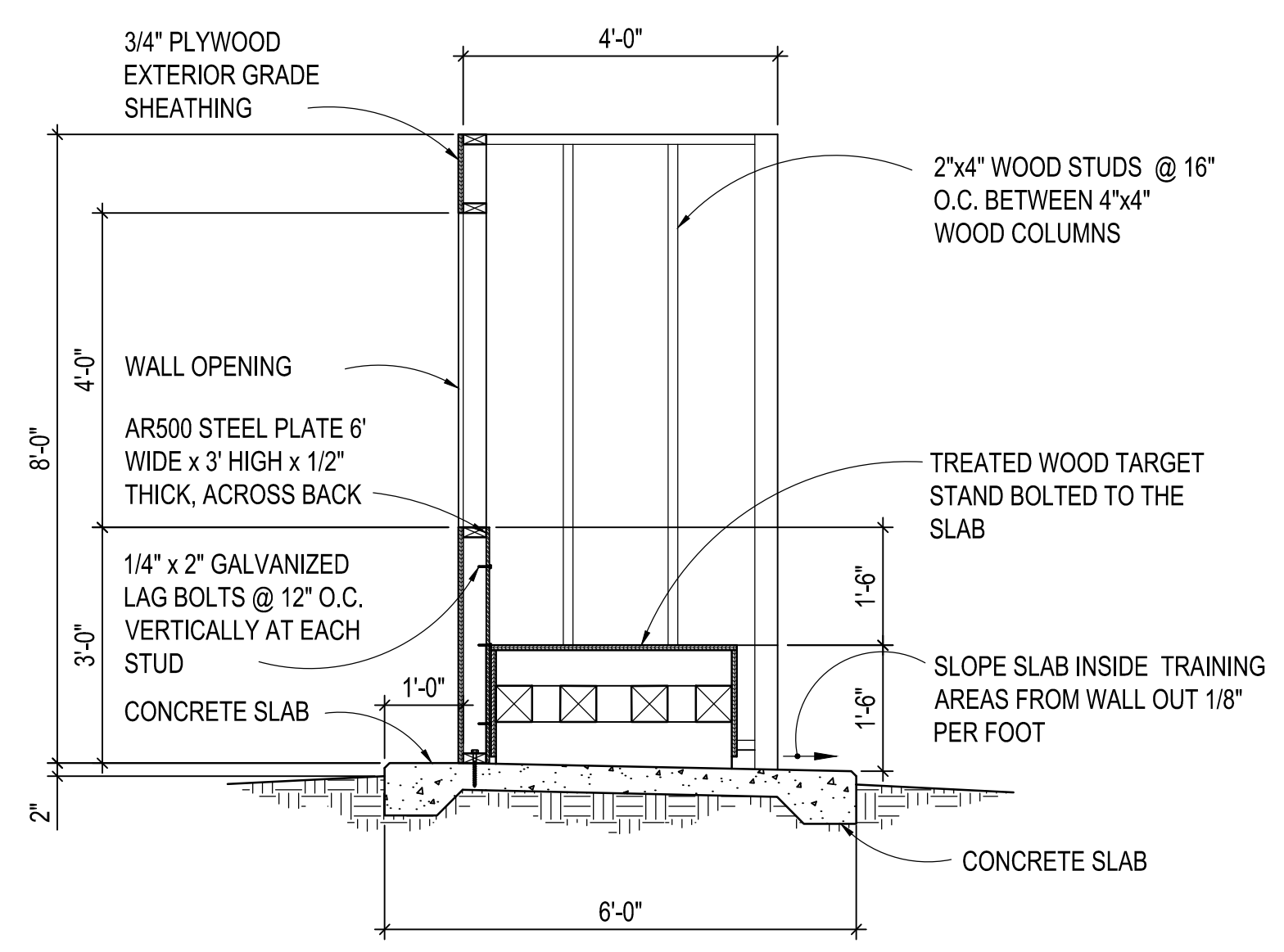
FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTR)
FY23, PN 96182
VOLUMES 3 & 4 - DOWNRANGE
URBAN CLUSTER
EXTERIOR ELEVATIONS

SHEET ID
AE211

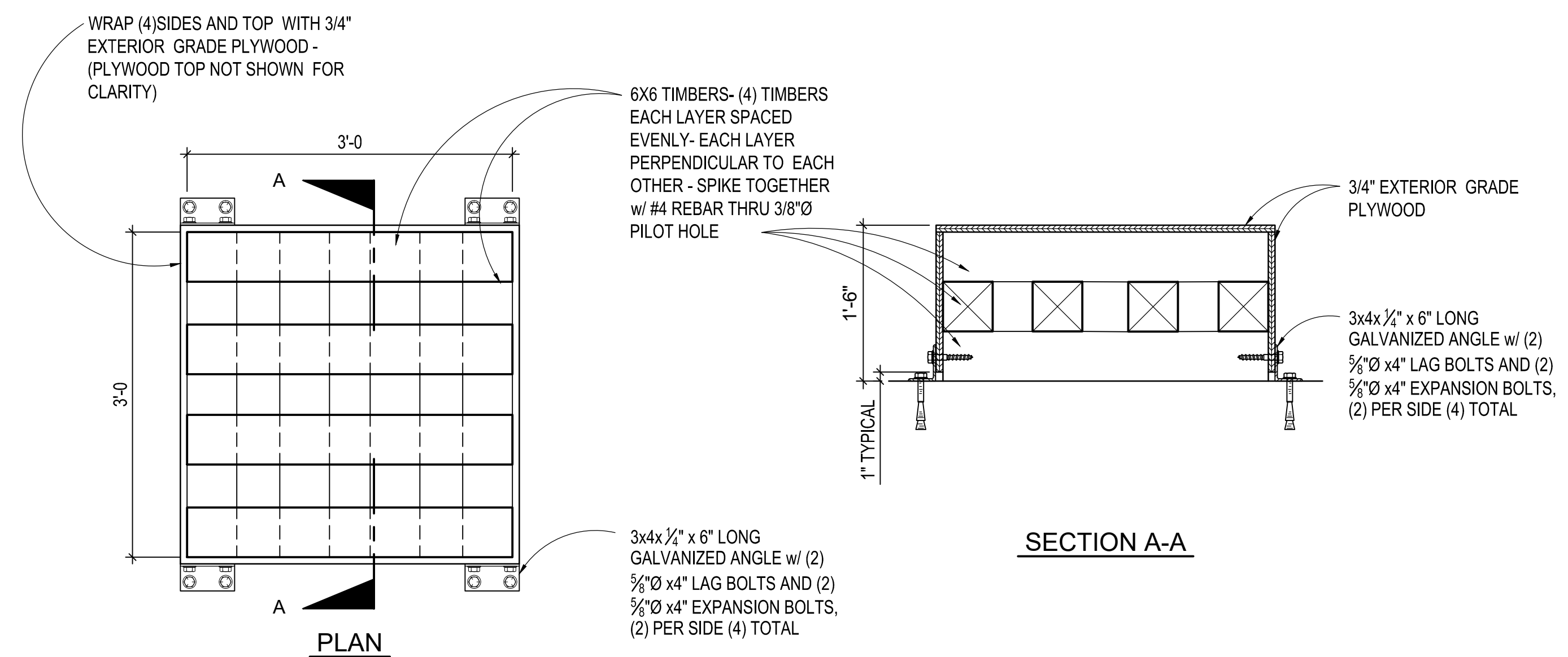
G:\CLEANSTUFF-1528115376 BRAGS\MPTR\WP07_RTA_FINAL_SUBMITTAL\06_ARCHITECTURAL\200 ELEVATIONS\B2EA211.DWG
READY TO ADVERTISE (RTA)



1 SECTION
SCALE 1/2" = 1'-0"
AE100 AE300
AE200

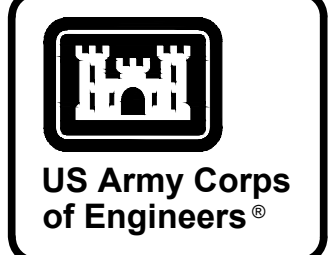


2 SECTION
SCALE 1/2" = 1'-0"
AE100 AE300
AE200



A SIT SUPPORT/PLATFORM DETAIL
SCALE 1" = 1'-0"
AE300 AE300

- NOTES:**
- ALL WOOD FRAMING AND PLYWOOD TO BE PRESSURE TREATED.
 - OMITTED.
 - SLOPE SLAB INSIDE TRAINING AREAS FROM WALL OUT 1/8" PER FOOT.
 - OMITTED.
 - HORIZONTAL AND VERTICAL CONTROL POINT "A" IS ALWAYS ON THE NORTH SIDE OF FACADE.
 - SEE CIVIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL POINT DATA.

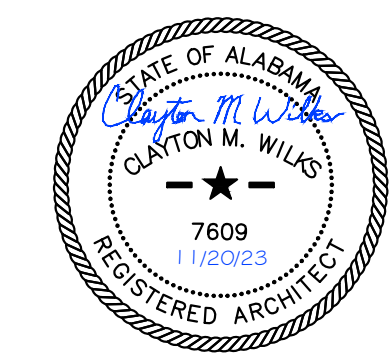
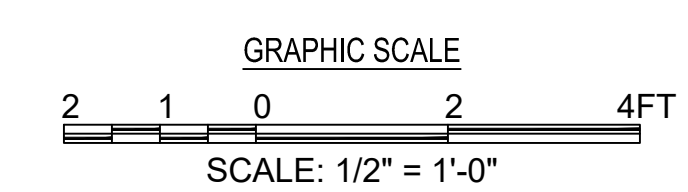


MARK	DESCRIPTION	DATE

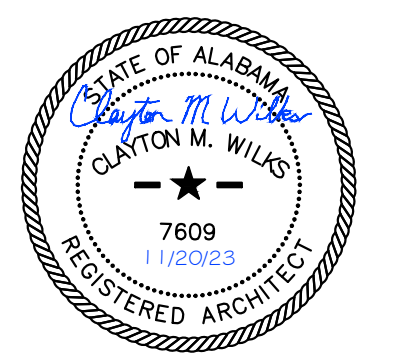
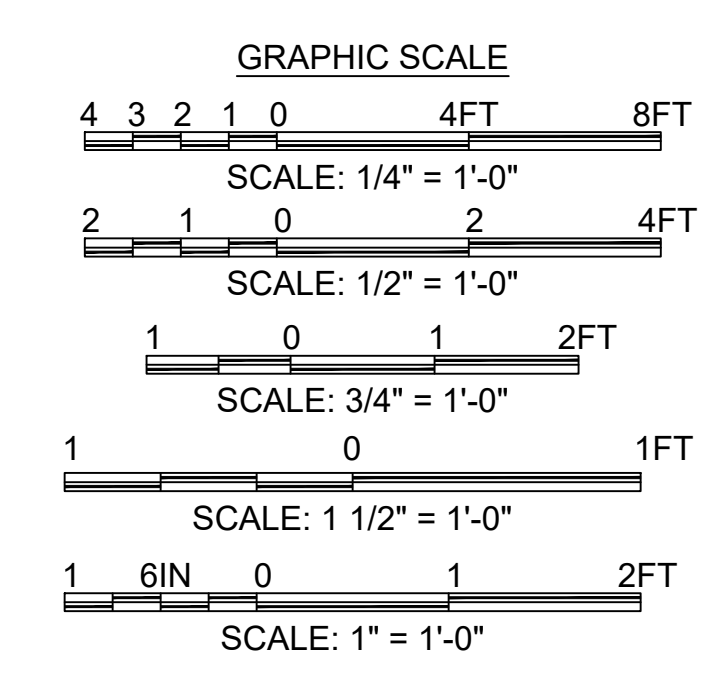
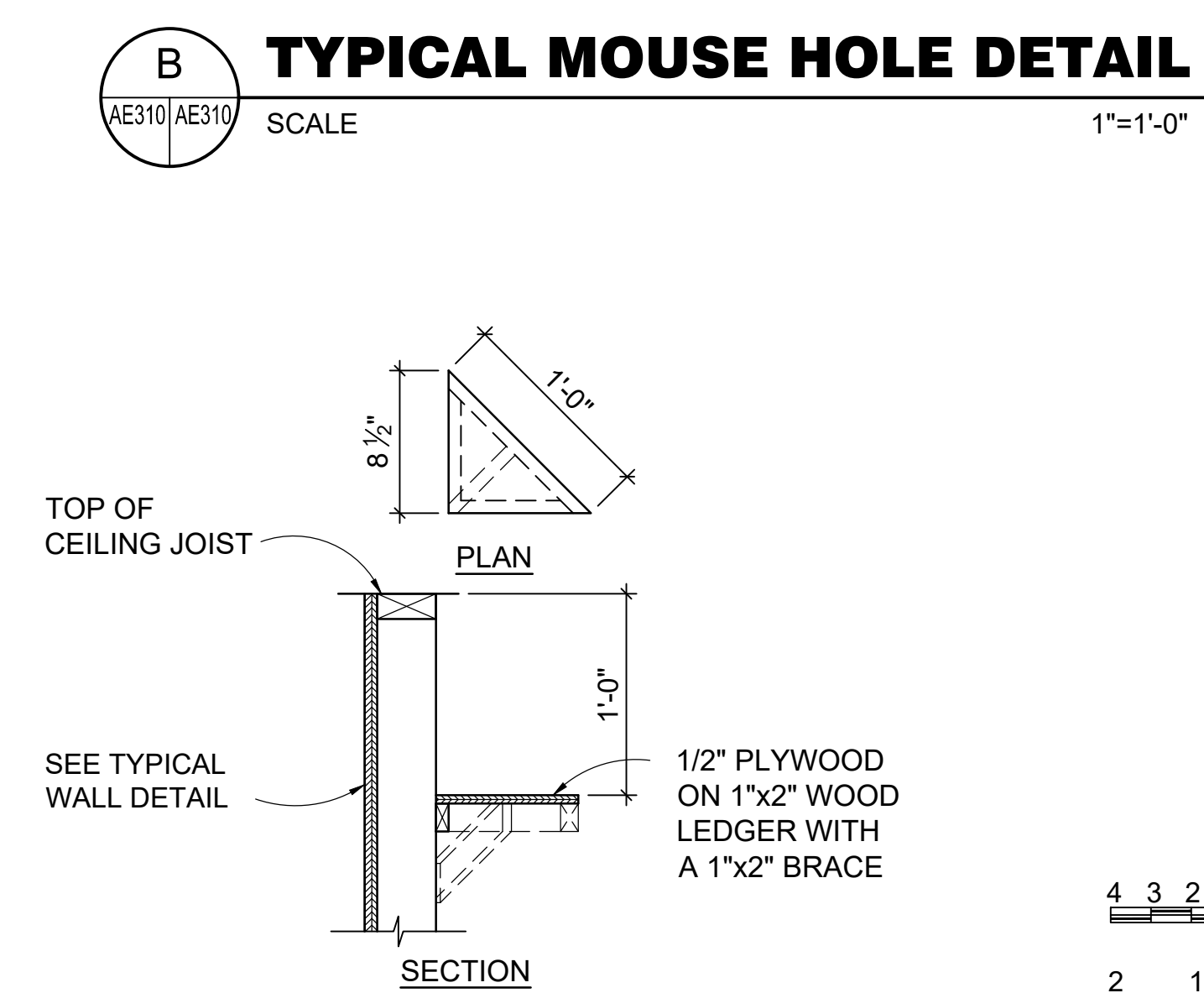
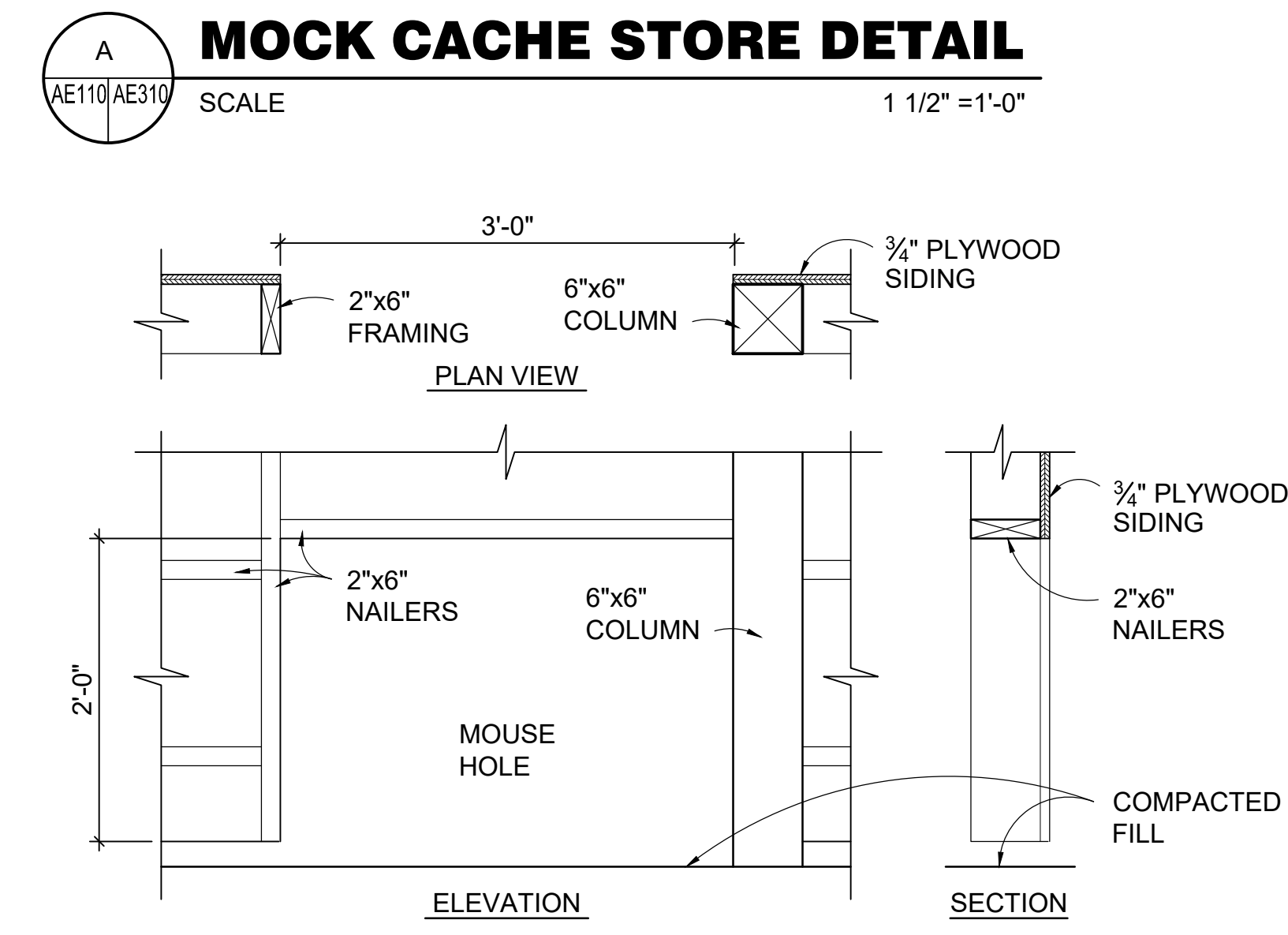
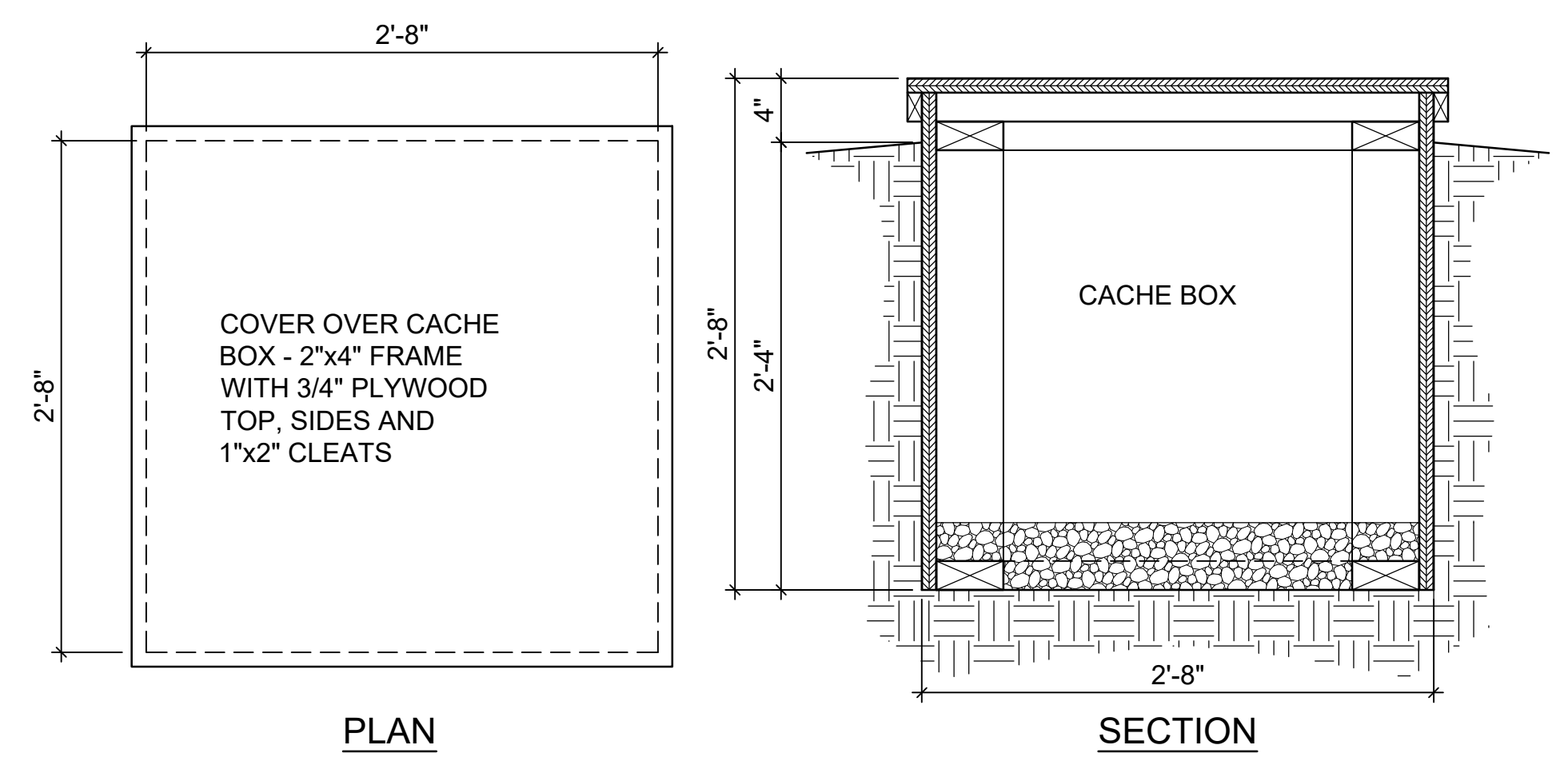
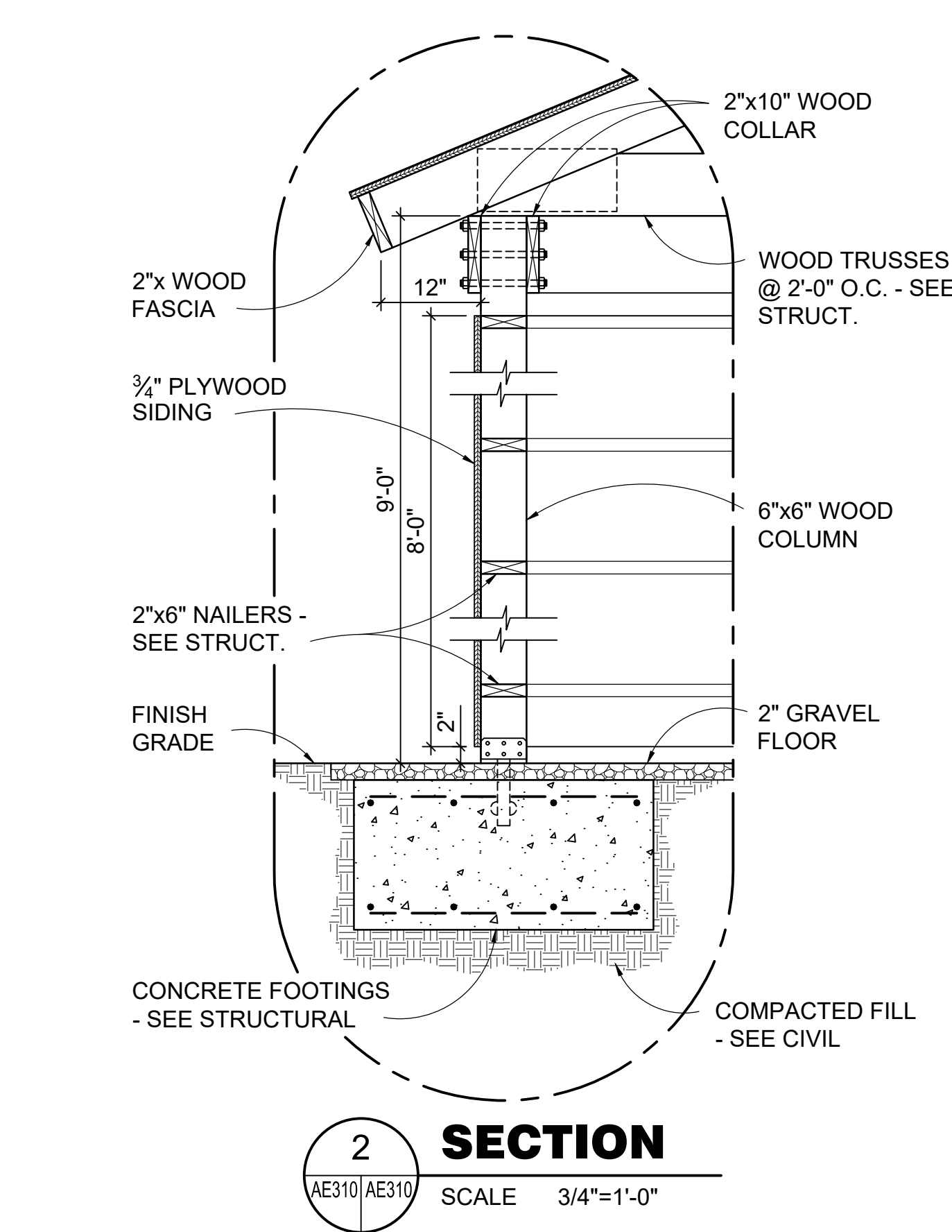
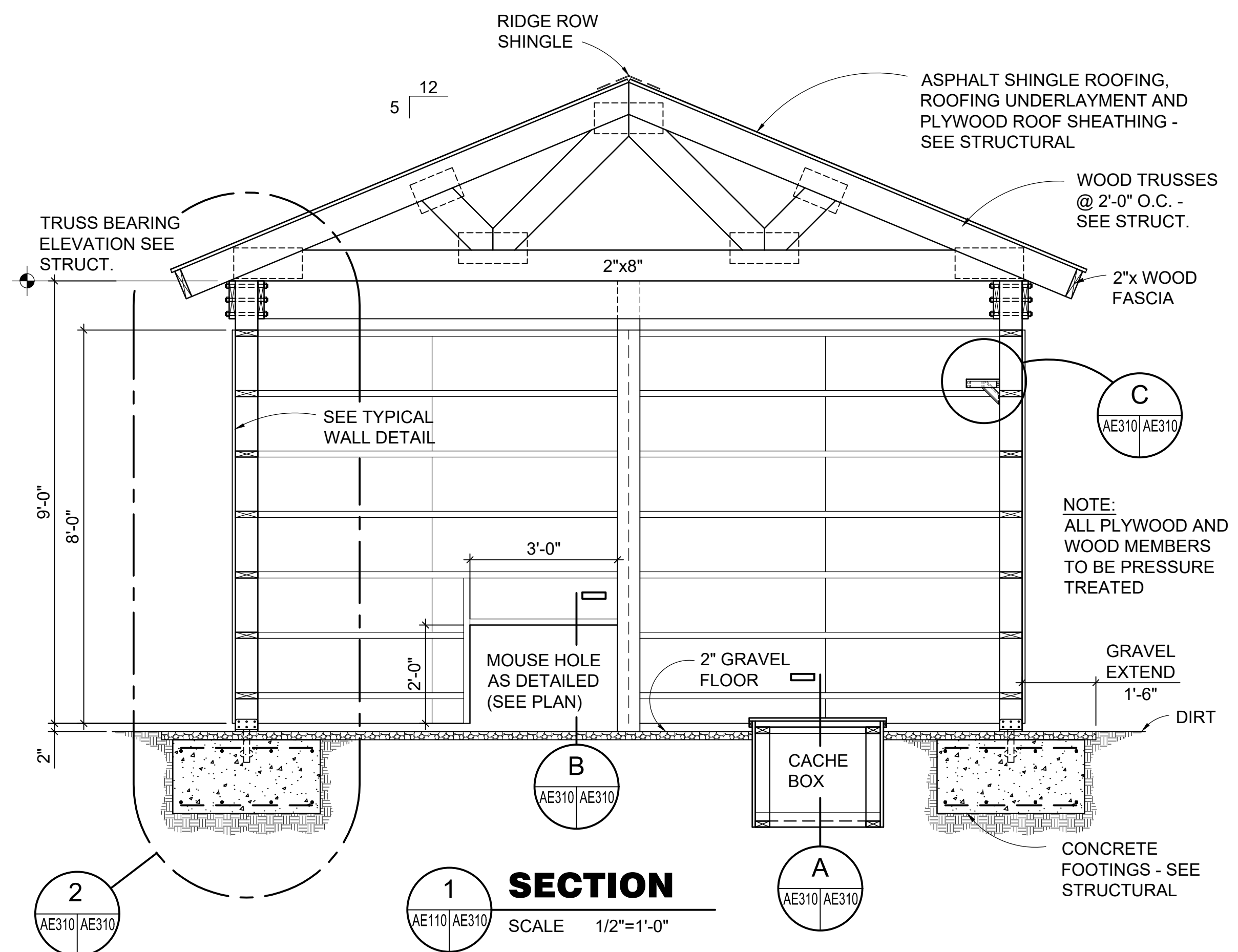
DESIGNED BY: C. WILKS	ISSUE DATE: NOVEMBER 2023
DRAWN BY: B. BRADLEY	NOVEMBER 2023
CHECKED BY: L. BAE	NOVEMBER 2023
SUBMITTED BY: B. BRADLEY	NOVEMBER 2023
FILE NAME: ANSID	NOVEMBER 2023
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	CONTRACT NO.:
POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36803 WWW.POLY-INC.COM/334799-4700	CATEGORY CODE: 178-65-01

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 96182
VOLUMES 3 & 4 - DOWNRANGE

SINGLE STORY FACADE
SECTIONS AND DETAILS



SHEET ID
AE300



US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. WILKS	ISSUE DATE: NOVEMBER 2023
DRAWN BY: B. BRADLEY	DATE: NOV 14 2023
CHECKED BY: I. BAE	CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-85-01
FILE NAME: ANSID	SIZE:

U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT
100 W. OGLETHORPE AVE
SAVANNAH, GA 31401

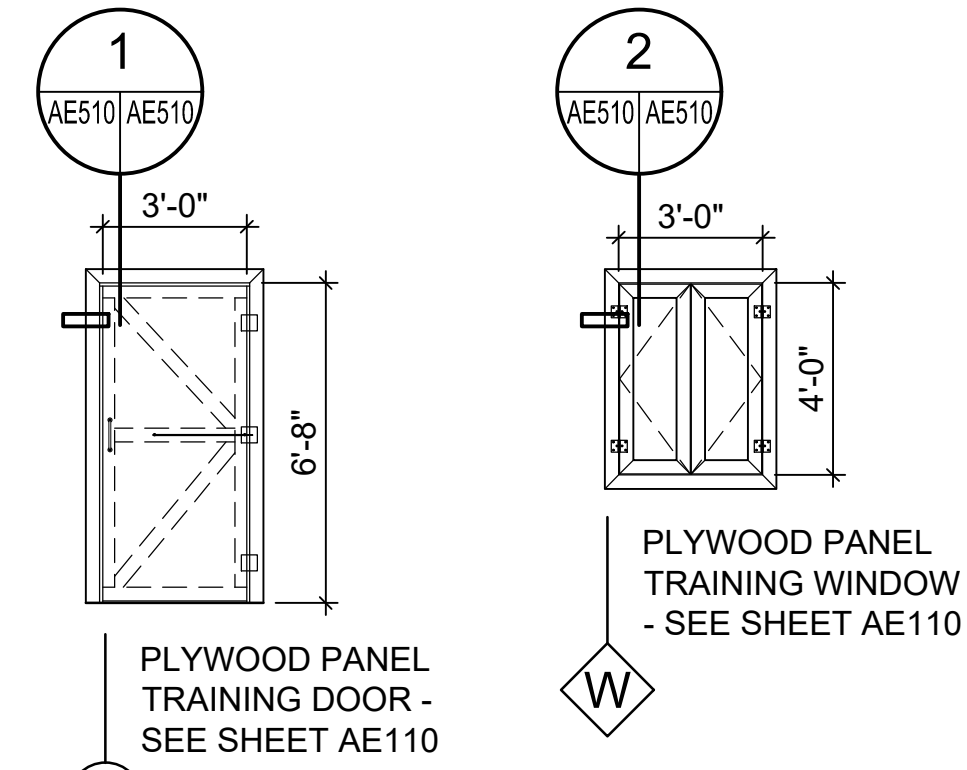
POLY, INC.
1935 HEADLAND AVENUE
DOTHAN, AL 36803
WWW.POLY-INC.COM/334799-4700

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTF)
FY23, PN 86182
VOLUMES 3 & 4 - DOWNRANGE

URBAN CLUSTER
SECTIONS AND DETAILS

SHEET ID
AE310

READY TO ADVERTISE (RTA)



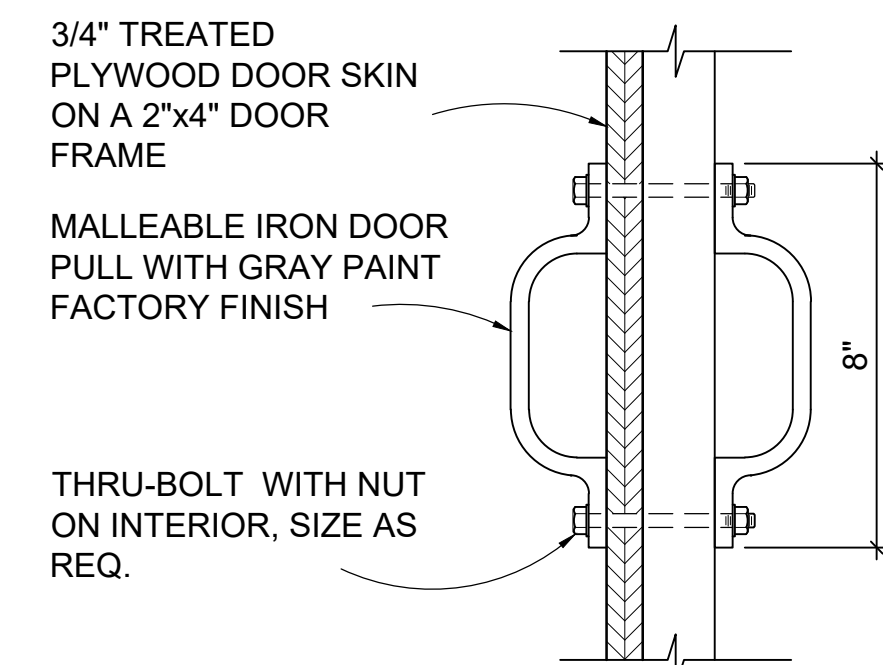
DOOR AND WINDOW TYPES:

SCALE 1/4" = 1'-0"

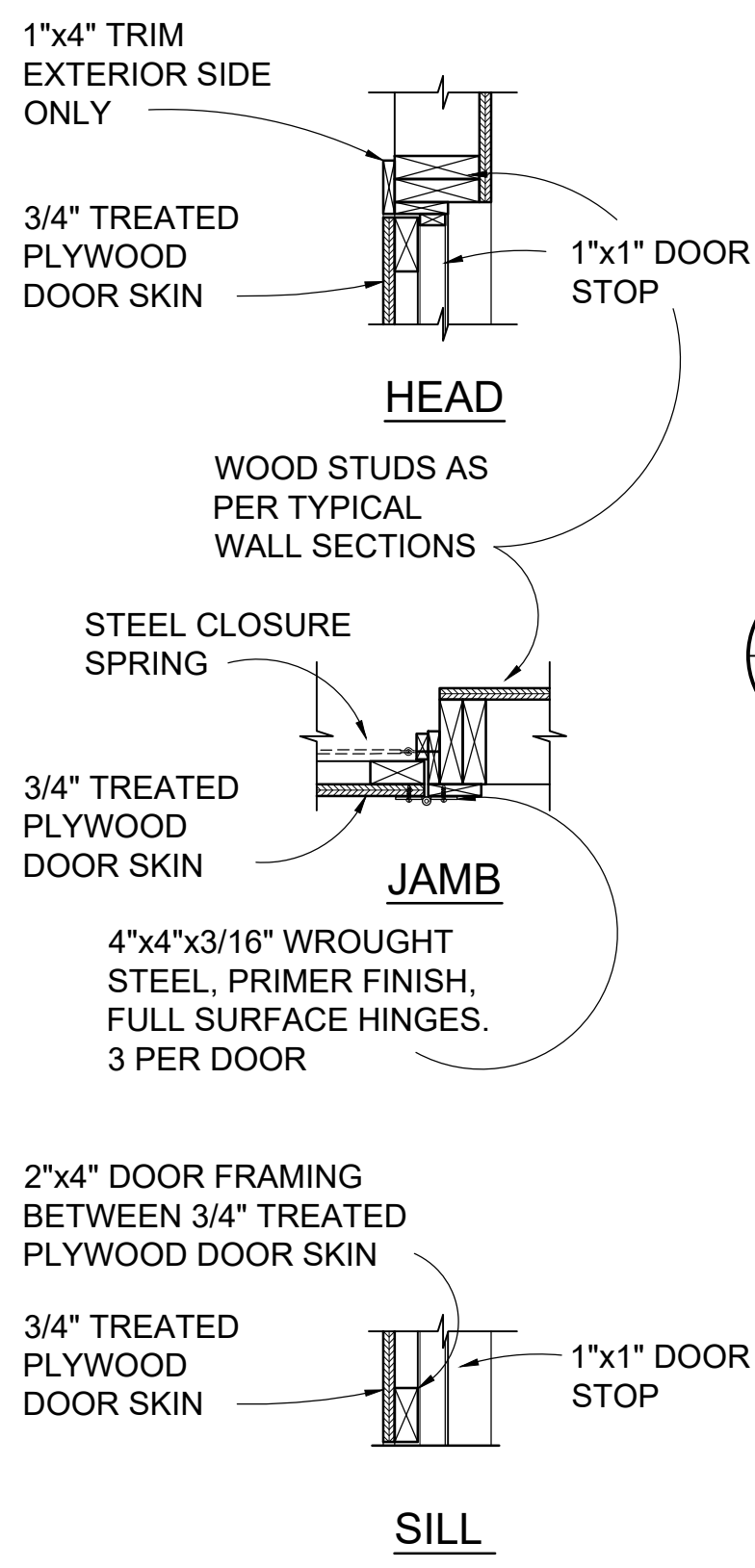
DOOR & FRAME SCHEDULE

NO.	DOORS				FRAMES			
	SIZE	GLAZ.	RATG.	TYPE	DETAILS			
					HEAD	JAMB	SILL	
1	3' 0" x 6' 8"	---	---	D	WD.	1/AE510 1/AE510	1/AE510 1/AE510	1/AE510 1/AE510
2	3' 0" x 6' 8"	---	---	D	WD.	1/AE510 1/AE510	1/AE510 1/AE510	1/AE510 1/AE510
3	3' 0" x 6' 8"	---	---	D	WD.	1/AE510 1/AE510	1/AE510 1/AE510	1/AE510 1/AE510
4	3' 0" x 6' 8"	---	---	D	WD.	1/AE510 1/AE510	1/AE510 1/AE510	1/AE510 1/AE510
5	3' 0" x 6' 8"	---	---	D	WD.	1/AE510 1/AE510	1/AE510 1/AE510	1/AE510 1/AE510
6	3' 0" x 6' 8"	---	---	D	WD.	1/AE510 1/AE510	1/AE510 1/AE510	1/AE510 1/AE510

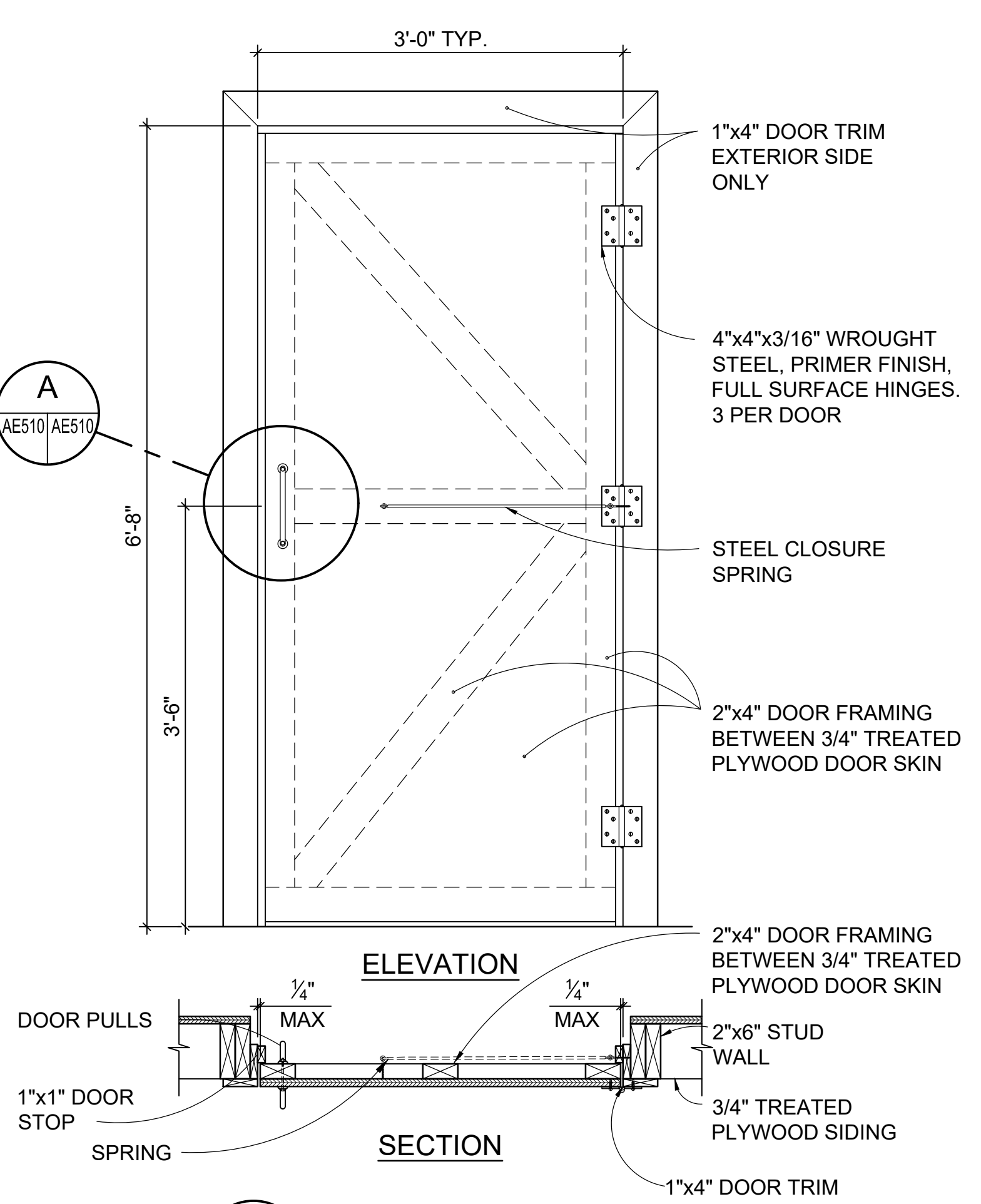
H.M. - HOLLOW METAL
WD. - WOOD FRAME



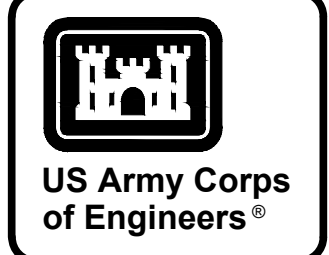
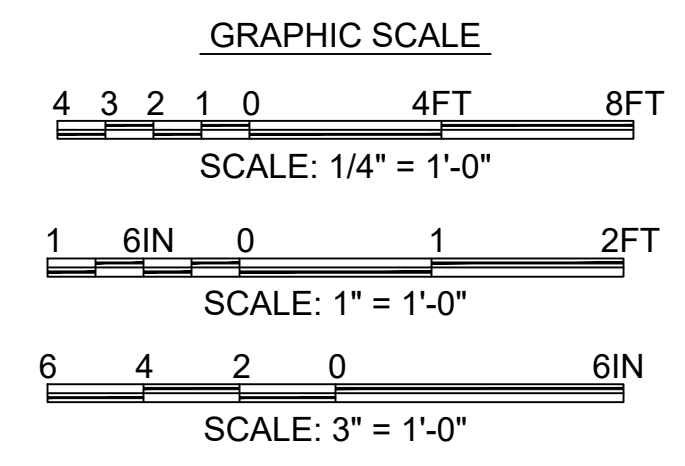
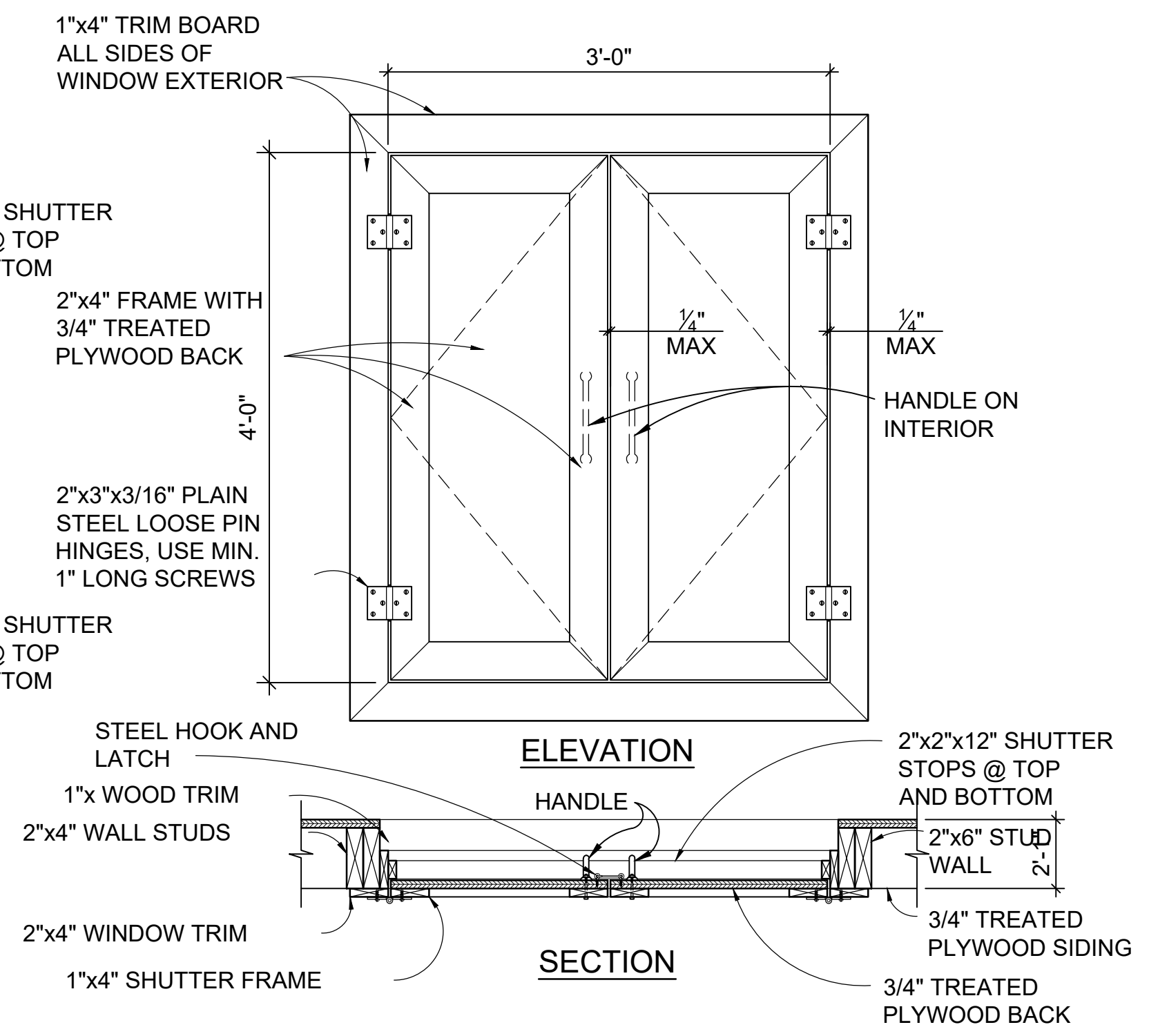
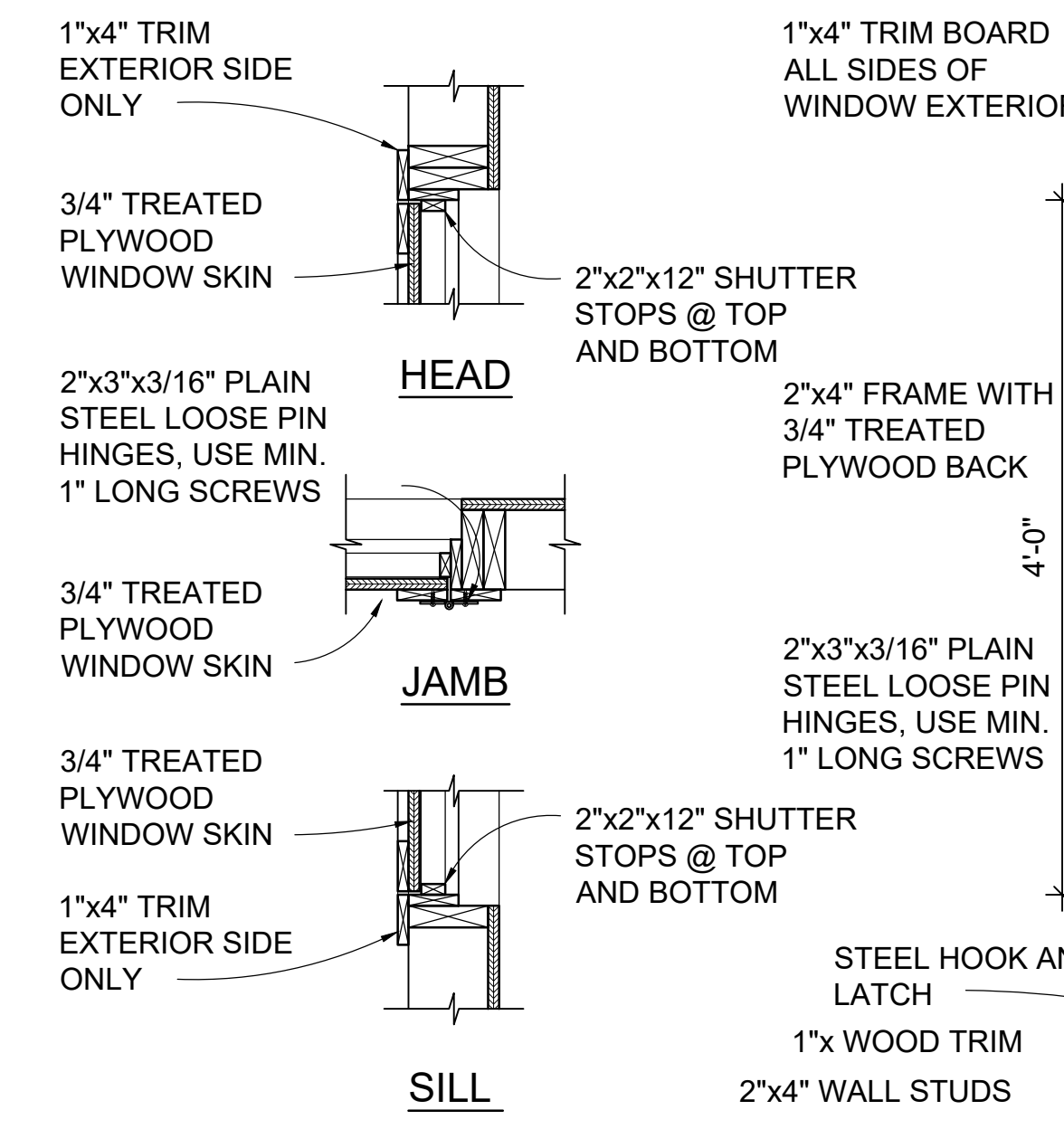
A DETAIL
SCALE 3" = 1'-0"



1 DOOR DETAIL
SCALE 1" = 1'-0"



2 WINDOW DETAIL
SCALE 1" = 1'-0"



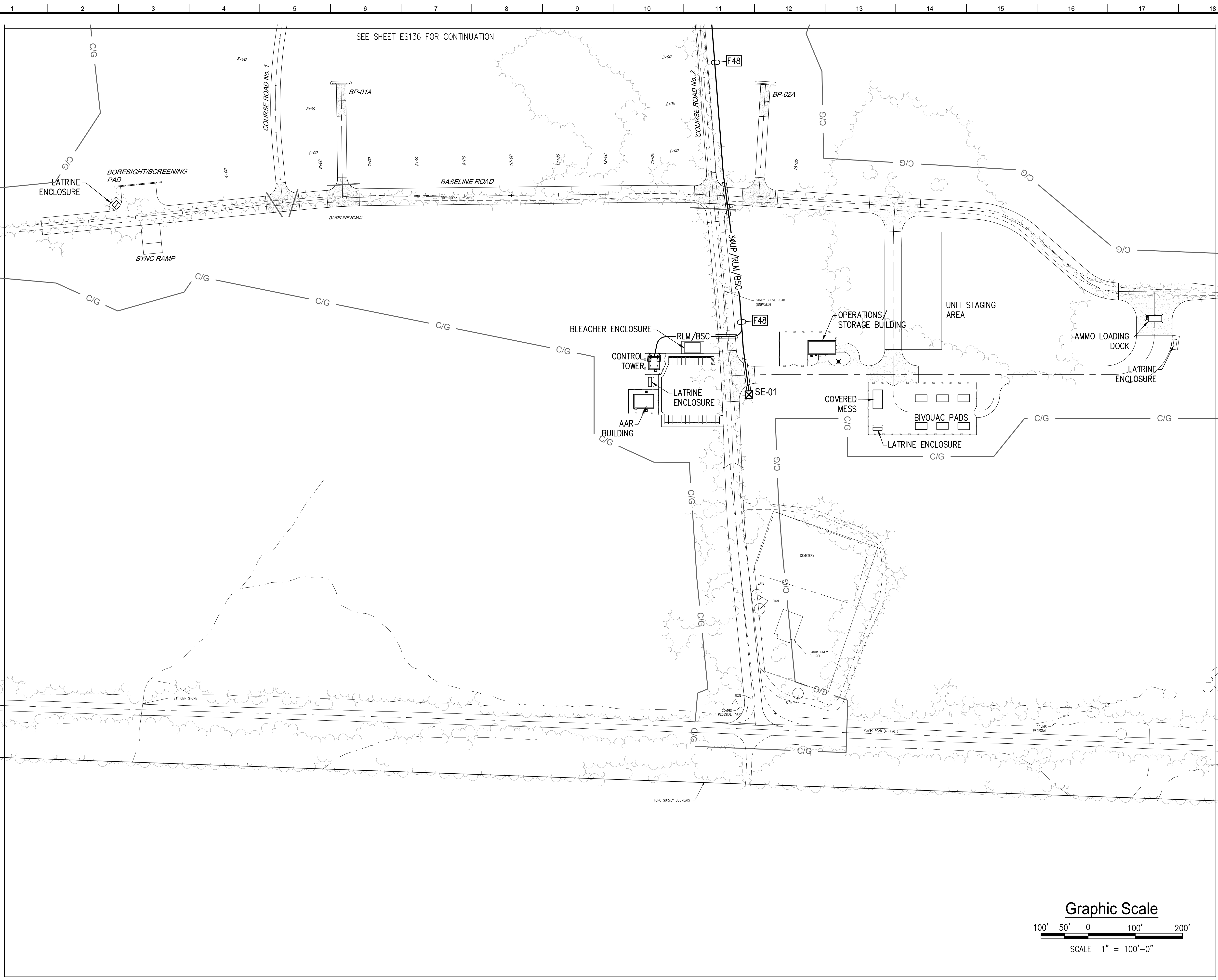
MARK	DESCRIPTION	DATE

DESIGNED BY: C. WILKS	ISSUE DATE: NOVEMBER 2023
DRAWN BY: B. BRADLEY	DESIGNED BY: C. WILKS
CHECKED BY: L. BAE	DATE: NOV 14 2023
SUBMITTED BY: B. BRADLEY	CONTRACT NO.:
FILE NAME: ANSID	CATEGORY CODE: 178-65-01
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36803 WWW.POLY-INC.COM/3347-95-4700

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTF)
VOLUMES 3 & 4 - DOWNRANGE
URBAN CLUSTER
DETAILS

SHEET ID
AE510

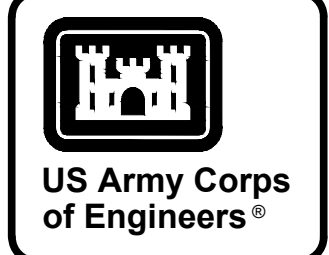
READY TO ADVERTISE (RTA)



SEE SHEET ES136 FOR CONTINUATION

Site Key Plan
NOT TO SCALE

ES143	
ES141	ES142
ES139	ES140
ES137	ES138
ES136	
ES135	

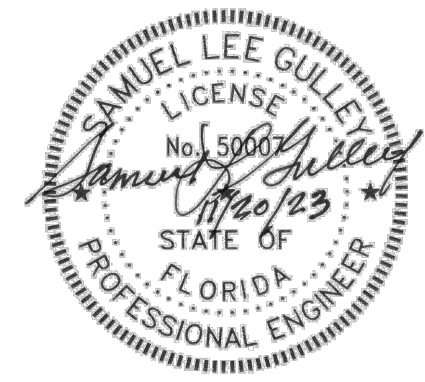
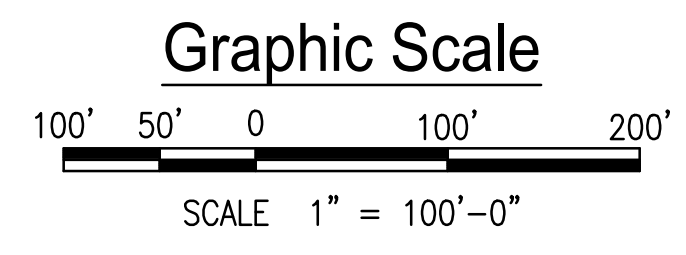


MARK	DESCRIPTION	DATE

DESIGNED BY: S. GULLEY	ISSUE DATE: NOVEMBER 2003
DRAWN BY: T. BOLTON	NO. OF SHEETS: 148
CHECKED BY: C. BROWN	CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-85-01
ANSI D	FILE NAME:

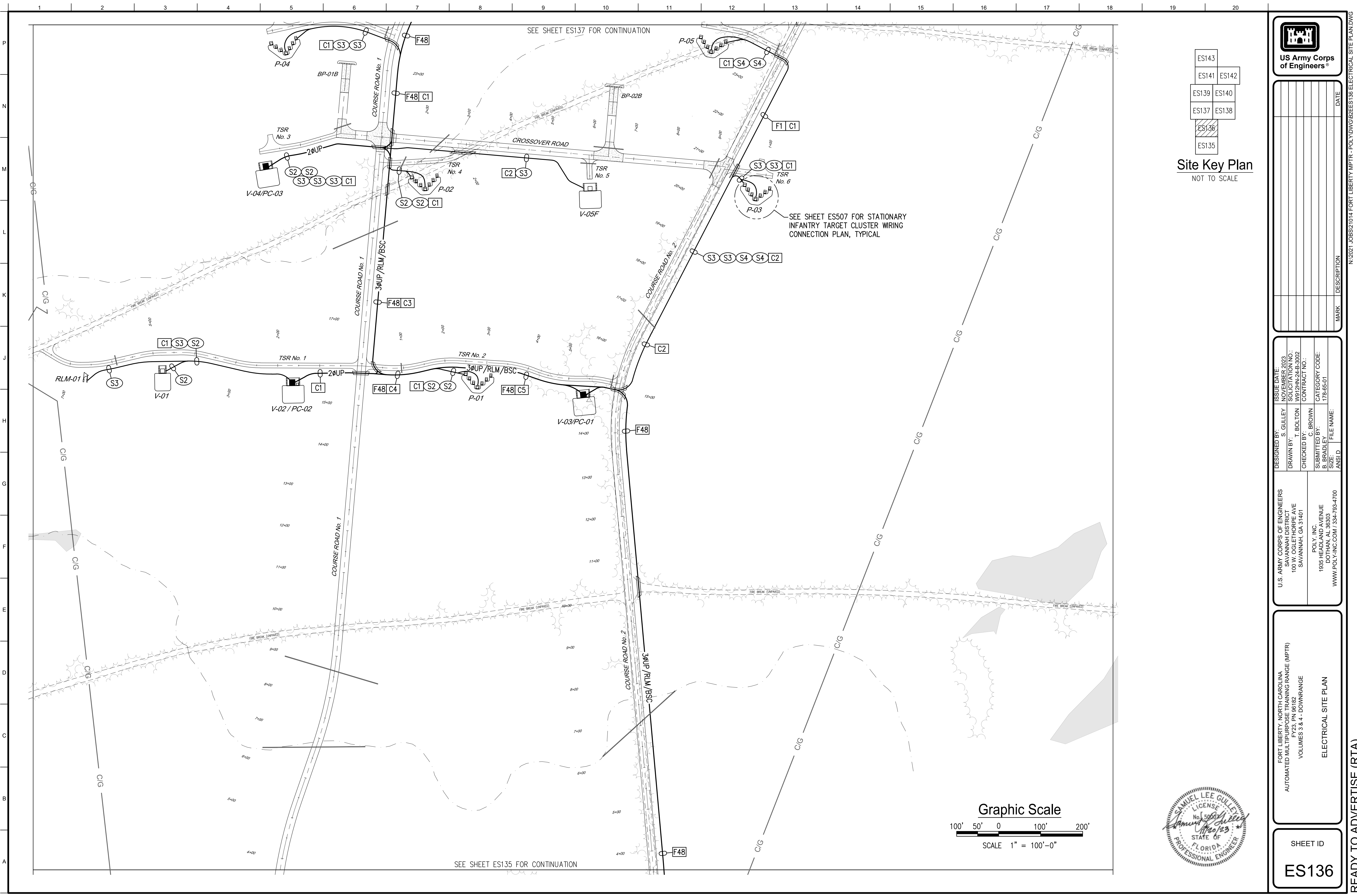
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36503 WWW.POLY-INC.COM/334799-4700
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FORT LIBERTY, NORTH CAROLINA AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTR) FY23, PN 86182 VOLUMES 3 & 4 - DOWNRANGE	ELECTRICAL SITE PLAN
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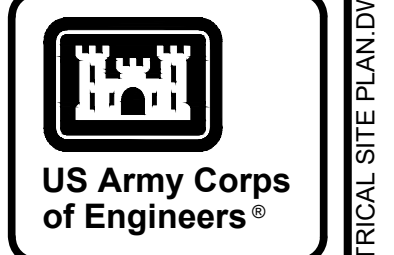
READY TO ADVERTISE (RTA)

N:\2021-JOB\21014\FORT LIBERTY MPTR - POLY\DWG\B2EES135 ELECTRICAL SITE PLAN.DWG



ES143
ES141 ES142
ES139 ES140
ES137 ES138
ES136
ES135

Site Key Plan
NOT TO SCALE

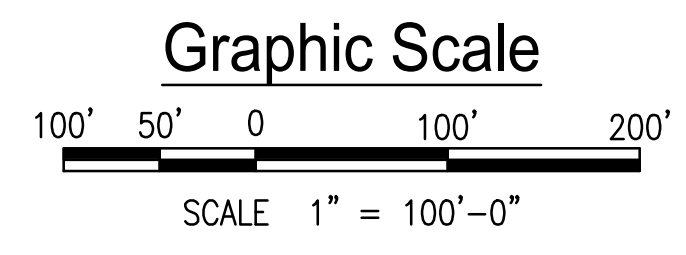
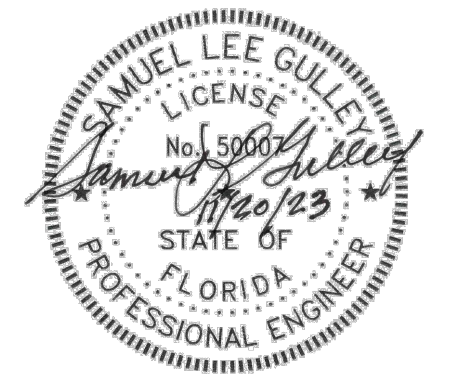


MARK	DESCRIPTION	DATE

U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36503 WWW.POLY-INC.COM/334793-4700
DESIGNED BY: S. GUILLEY DRAWN BY: T. BOLTON CHECKED BY: C. BROWN SUBMITTED BY: B. BRADLEY	ISSUE DATE: NOVEMBER 2023 PROJECT NO.: W91PHZ0483002 CONTRACT NO.: CATEGORY CODE: 178-85-01 FILE NAME: ANSID:

FORT LIBERTY, NORTH CAROLINA
 AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTR)
 FY23, PN 86182
 VOLUMES 3 & 4 - DOWNRANGE
 ELECTRICAL SITE PLAN

SHEET ID
ES136



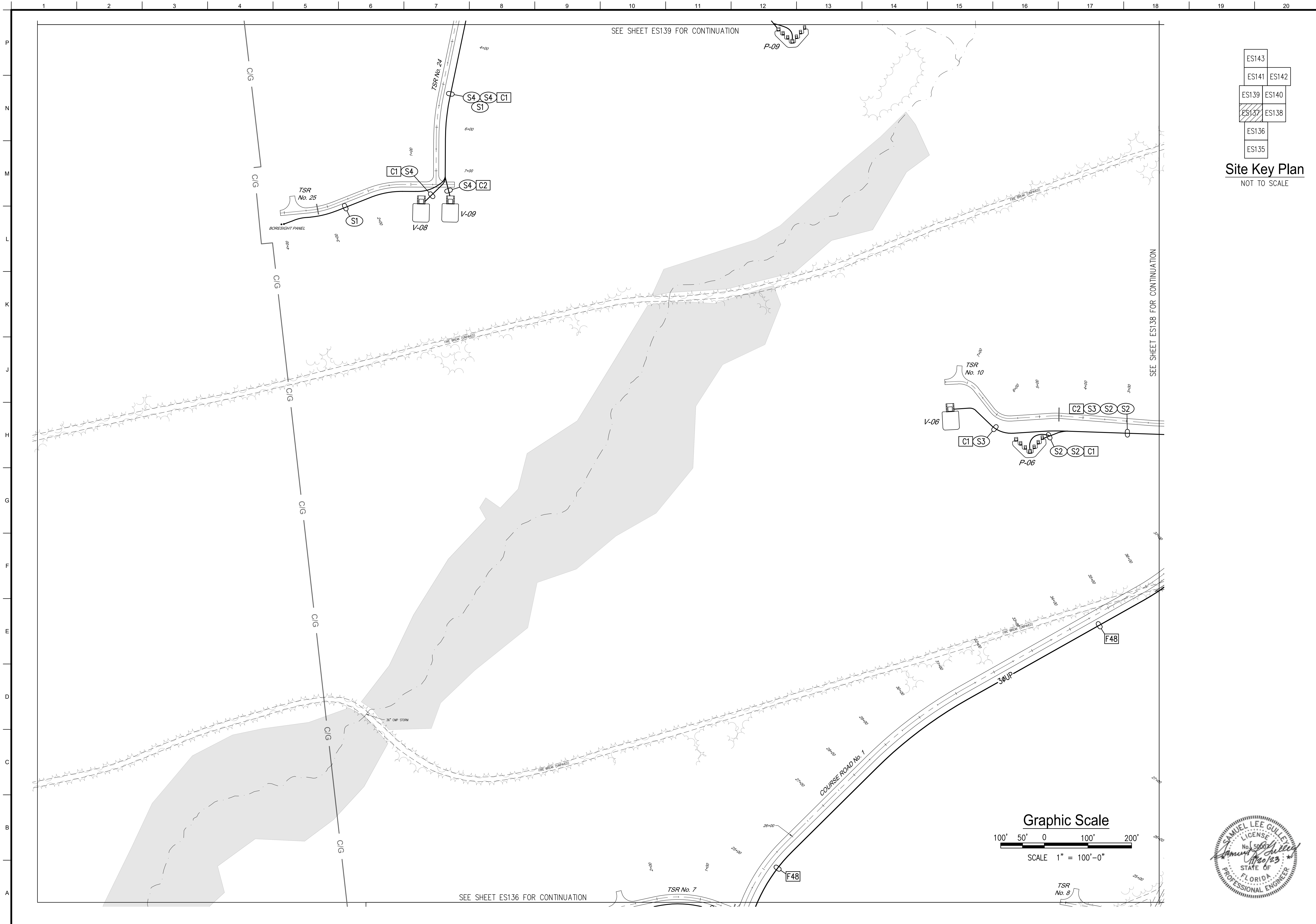
SEE SHEET ES135 FOR CONTINUATION

SEE SHEET ES137 FOR CONTINUATION

SEE SHEET ES07 FOR STATIONARY INFANTRY TARGET CLUSTER WIRING CONNECTION PLAN, TYPICAL

READY TO ADVERTISE (RTA)

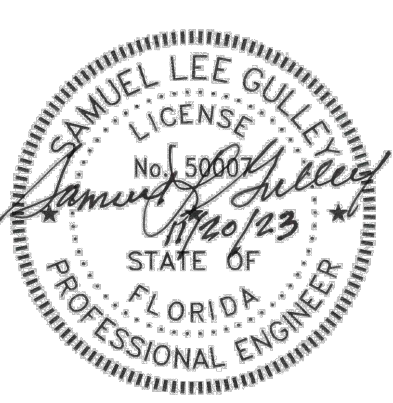
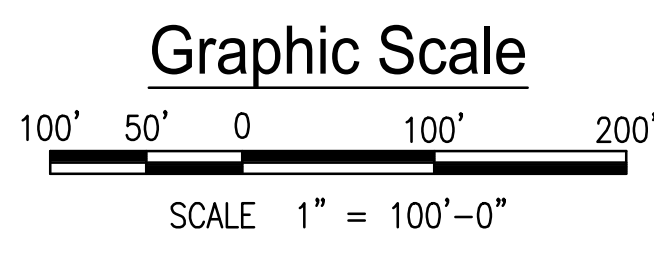
N:\2021-JOB\521014\FORT LIBERTY MPTR - POLY\DWG\B2EES136 ELECTRICAL SITE PLAN.DWG



SEE SHEET ES139 FOR CONTINUATION

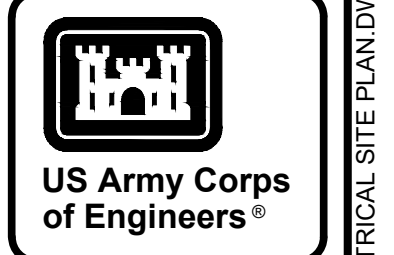
SEE SHEET ES138 FOR CONTINUATION

SEE SHEET ES136 FOR CONTINUATION



Site Key Plan
NOT TO SCALE

ES143	
ES141	ES142
ES139	ES140
ES137	ES138
ES136	
ES135	



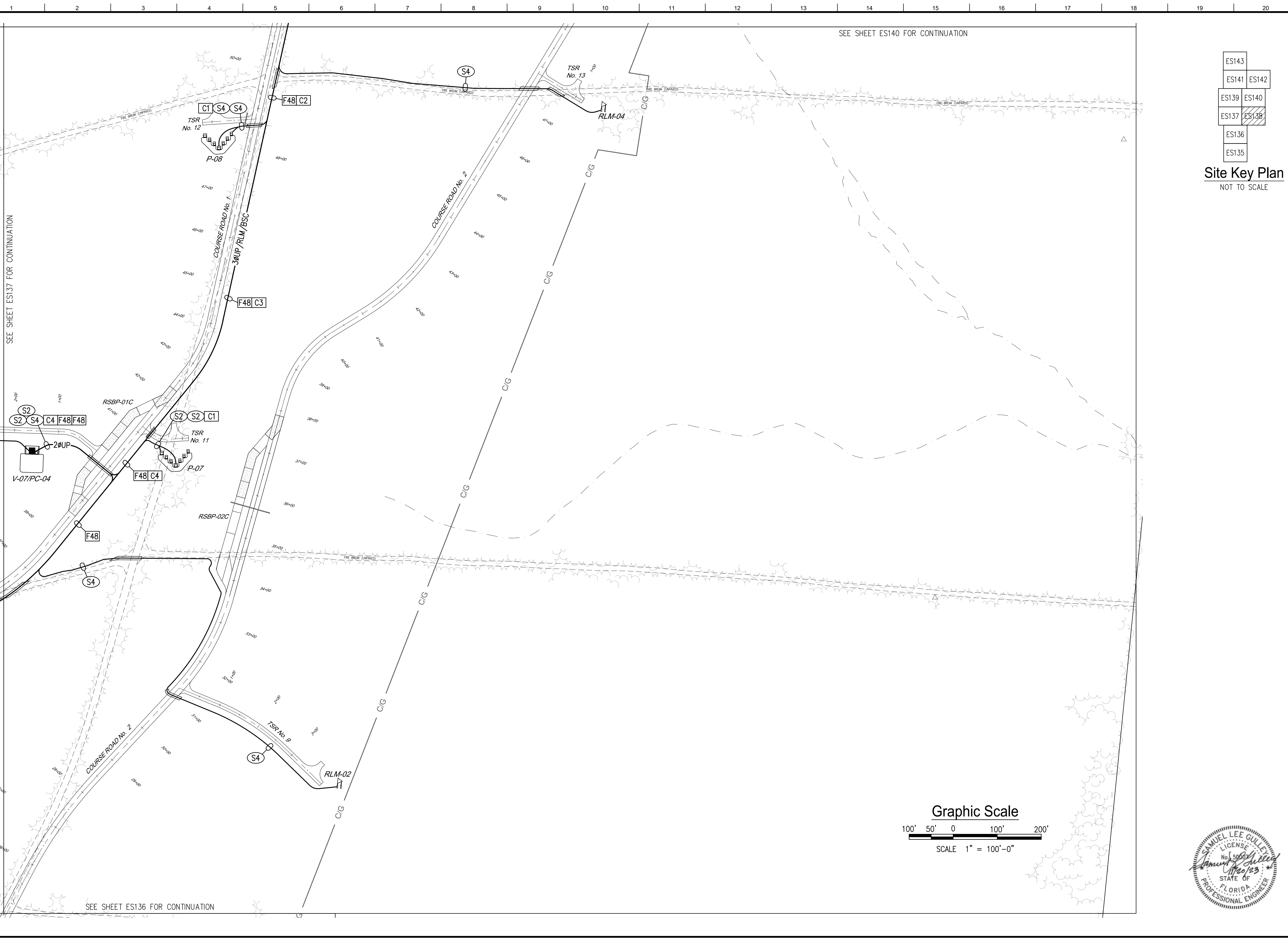
MARK	DESCRIPTION	DATE

DESIGNED BY: S. GULLEY DRAWN BY: T. BOLTON CHECKED BY: C. BROWN SUBMITTED BY: B. BRADLEY	ISSUE DATE: NOVEMBER 2023 PROJECT NO.: W91PH24A 3002 CONTRACT NO.: CATEGORY CODE: 178-65-01 FILE NAME:
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36503 WWW.POLY-INC.COM / 334-798-4700

FORT LIBERTY, NORTH CAROLINA
 AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
 FY23, PN 86182
 VOLUMES 3 & 4 - DOWNRANGE
 ELECTRICAL SITE PLAN

SHEET ID
ES137

READY TO ADVERTISE (RTA) N:\2021-JOB\521014 FORT LIBERTY MPTTR - POLY\DWG\B2EES137 ELECTRICAL SITE PLAN.DWG



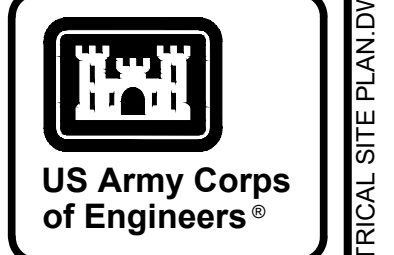
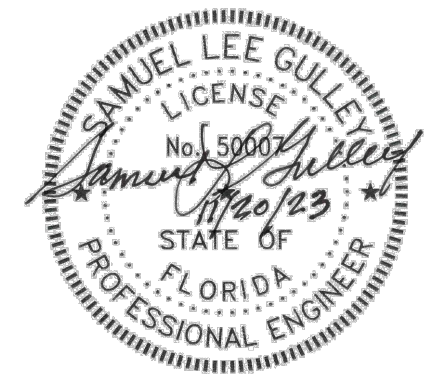
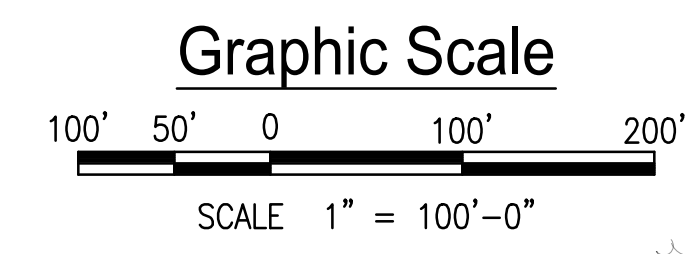
SEE SHEET ES140 FOR CONTINUATION

SEE SHEET ES137 FOR CONTINUATION

SEE SHEET ES136 FOR CONTINUATION

ES143	ES141	ES142
ES139	ES140	
ES137	ES138	
ES136		
ES135		

Site Key Plan
NOT TO SCALE



MARK	DESCRIPTION	DATE

DESIGNED BY: S. GULLEY	ISSUE DATE: NOVEMBER 2023
DRAWN BY: T. BOLTON	DATE: 10/24/23
CHECKED BY: C. BROWN	CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-85-01
ANS/D:	FILE NAME:
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36803 WWW.POLY-INC.COM/3547-95-4700

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTR)
FY23, PN 86182
VOLUMES 3 & 4 - DOWNRANGE
ELECTRICAL SITE PLAN

SHEET ID
ES138

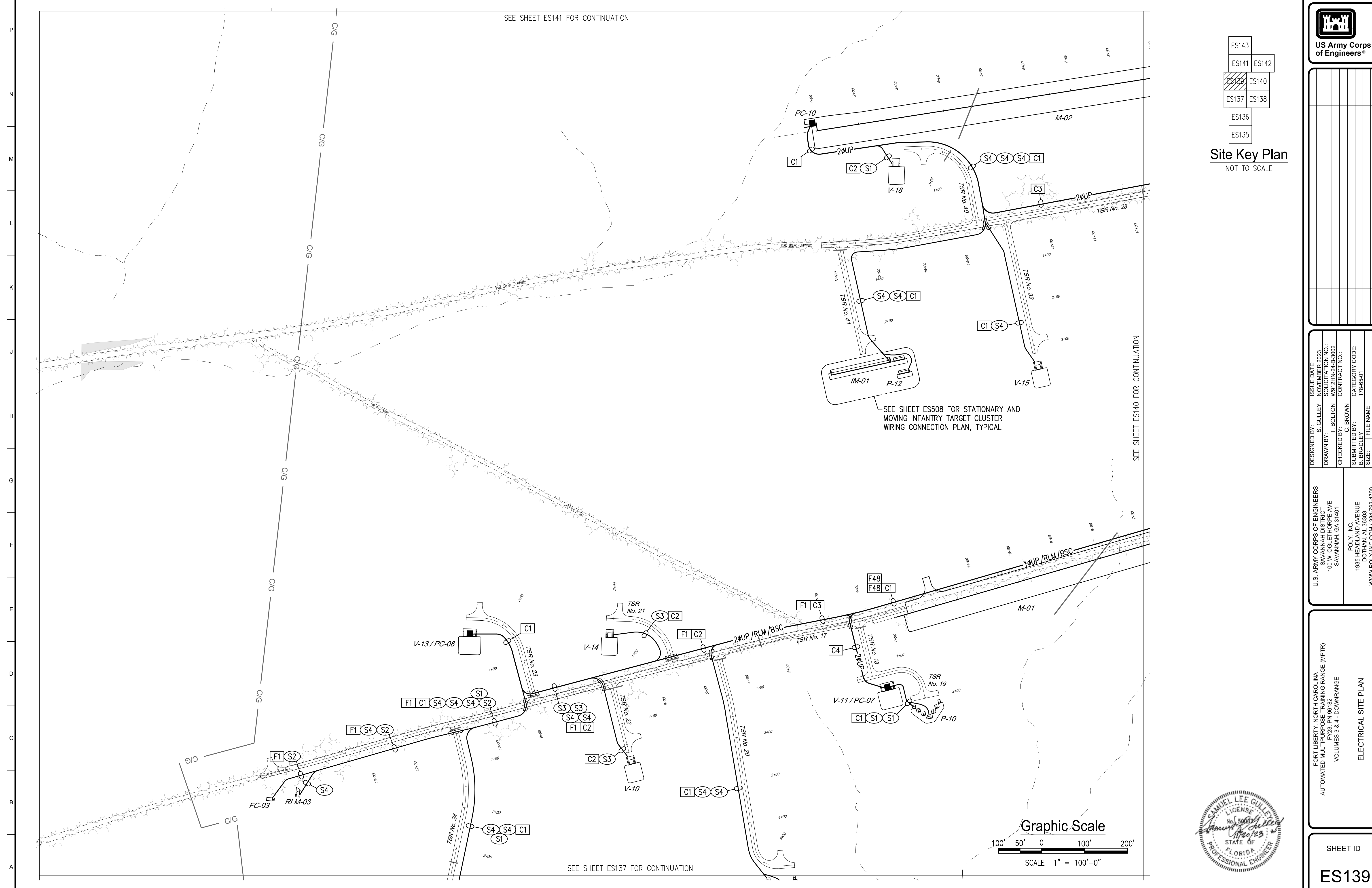
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READY TO ADVERTISE (RTA)

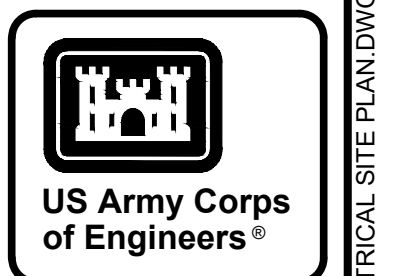
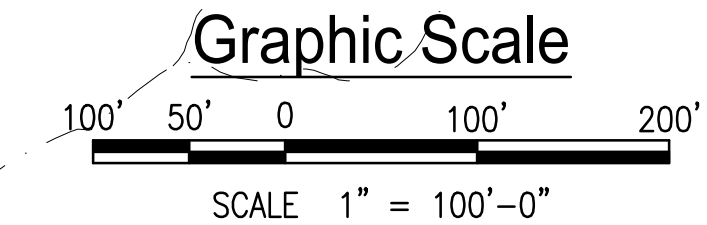
SEE SHEET ES141 FOR CONTINUATION

ES143	
ES141	ES142
ES138	ES140
ES137	ES138
ES136	
ES135	

Site Key Plan
NOT TO SCALE



SEE SHEET ES137 FOR CONTINUATION

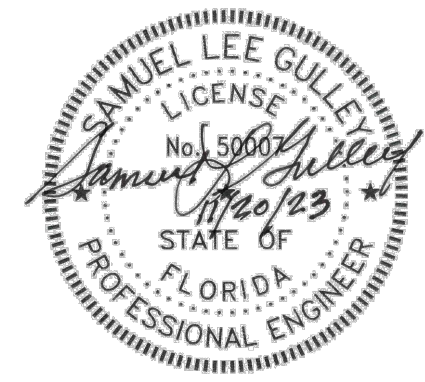


MARK	DATE

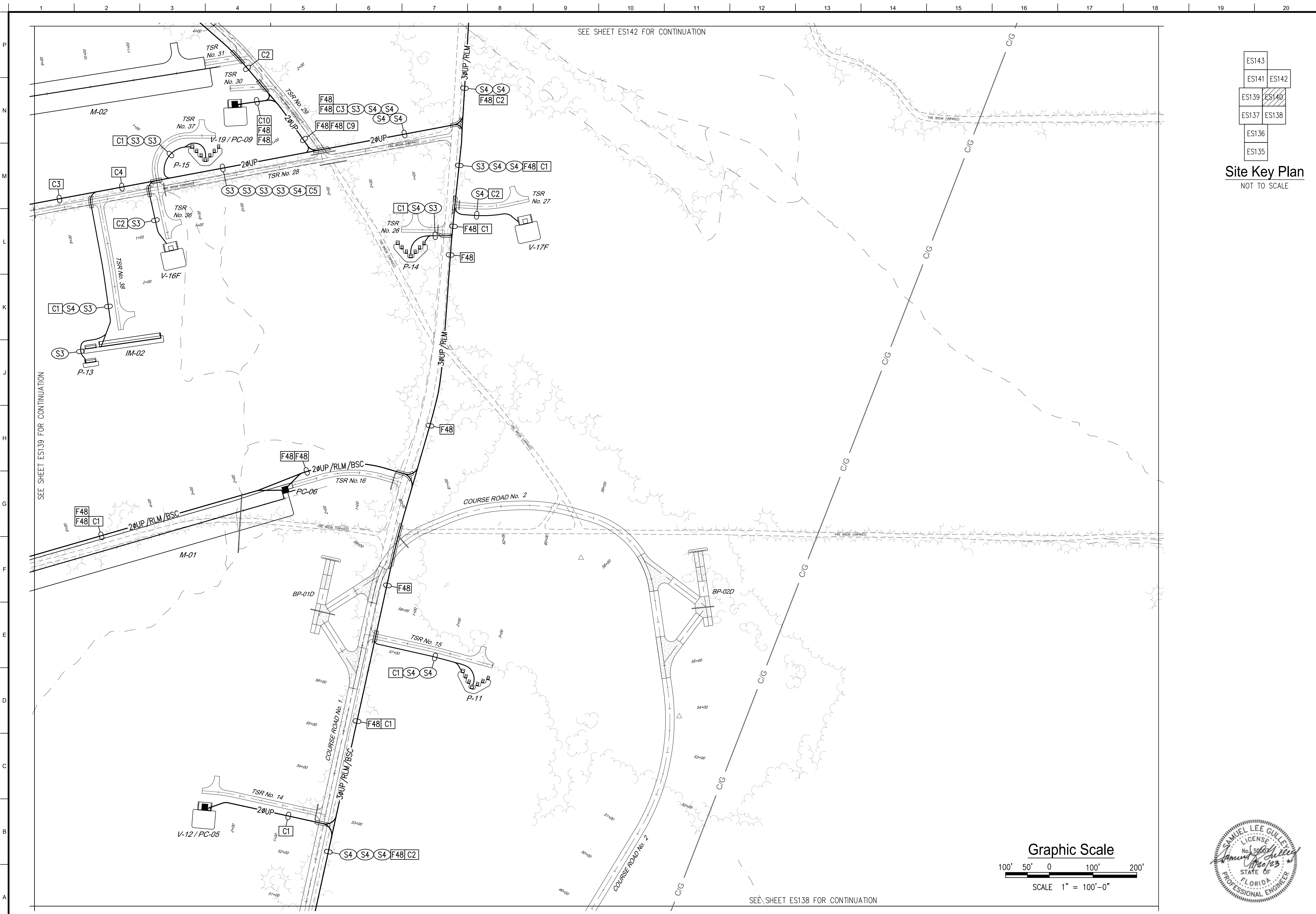
DESIGNED BY: S. GULLEY	ISSUE DATE: NOVEMBER 2003
DRAWN BY: T. BOLTON	NO. OF SHEETS: 34
CHECKED BY: C. BROWN	CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-85-01
SIZE: ANSI D	FILE NAME:
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	
POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36803 WWW.POLY-INC.COM/334-798-4700	

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 86182
VOLUMES 3 & 4 - DOWNRANGE
ELECTRICAL SITE PLAN

SHEET ID
ES139

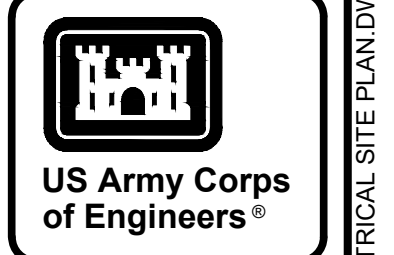


READY TO ADVERTISE (RTA) N:\2021-10\6521014\FORT LIBERTY MPTTR - POLY\DWG\B2EES139 ELECTRICAL SITE PLAN.DWG



ES143
ES141 ES142
ES139 ES140
ES137 ES138
ES136
ES135

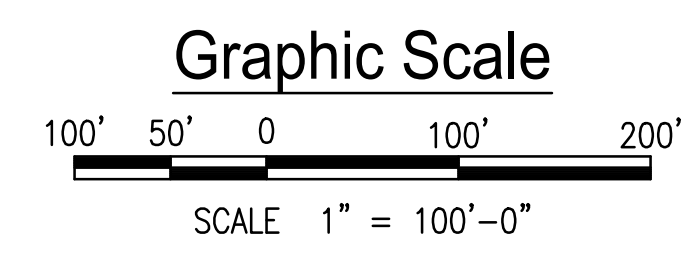
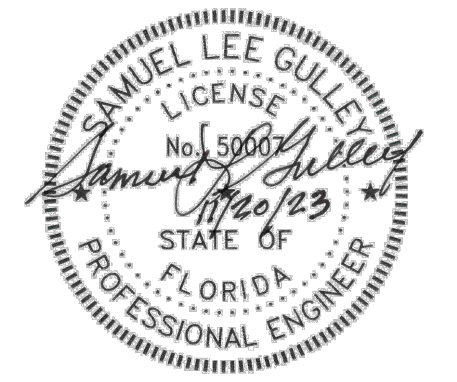
Site Key Plan
NOT TO SCALE



MARK	DESCRIPTION	DATE

DESIGNED BY: S. GULLEY DRAWN BY: T. BOLTON CHECKED BY: C. BROWN SUBMITTED BY: B. BRADLEY ANSID:	ISSUE DATE: NOVEMBER 2023 PROJECT NO: M01P14L2448.3002 CONTRACT NO.: CATEGORY CODE: 178-85-01 FILE NAME:
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36803 WWW.POLY-INC.COM/3347-95-4700

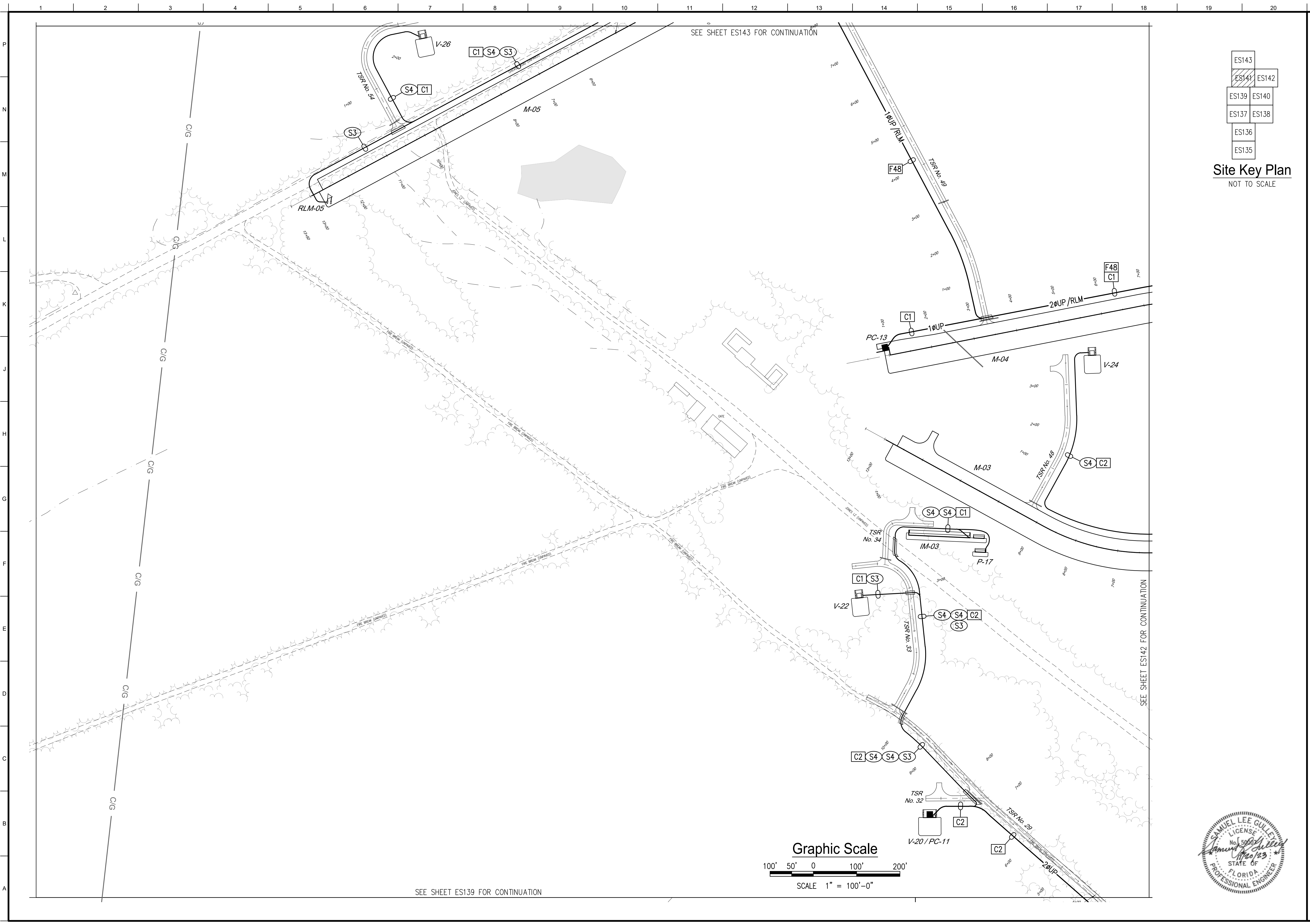
FORT LIBERTY, NORTH CAROLINA
 AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
 FY23, PN 86182
 VOLUMES 3 & 4 - DOWNRANGE
 ELECTRICAL SITE PLAN



SHEET ID
ES140

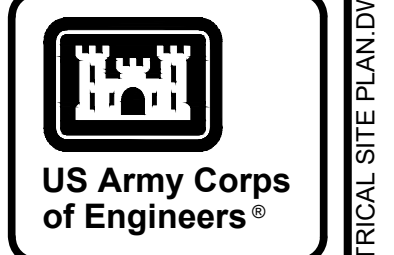
READY TO ADVERTISE (RTA)

N:\2021-JOB\21014 FORT LIBERTY MPTTR - POLY\DWG\B2EES140 ELECTRICAL SITE PLAN.DWG



ES143	
ES141	ES142
ES139	ES140
ES137	ES138
ES136	
ES135	

Site Key Plan
NOT TO SCALE

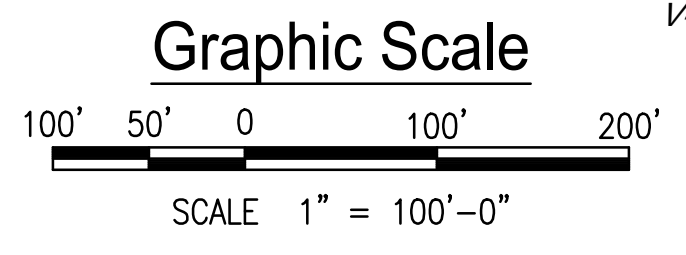


MARK	DESCRIPTION	DATE

DESIGNED BY: S. GUILLEY	ISSUE DATE: NOVEMBER 2003
DRAWN BY: T. BOLTON	PROJECT NO. / CONTRACT NO.:
CHECKED BY: C. BROWN	CATEGORY CODE: 178-85-01
SUBMITTED BY: B. BRADLEY	FILE NAME:
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36803 WWW.POLY-INC.COM / 334-799-4700

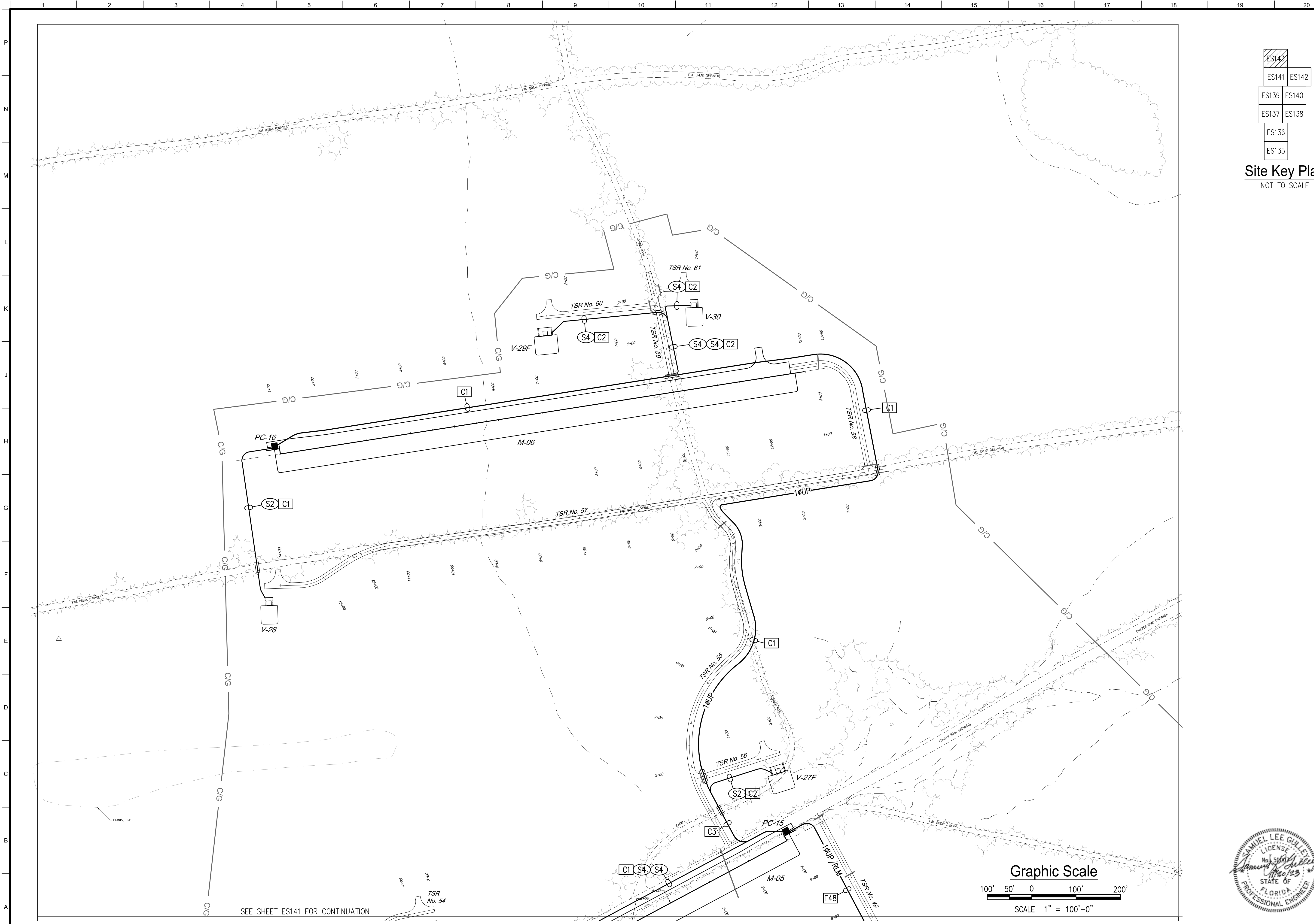
FORT LIBERTY, NORTH CAROLINA AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR) FY23, PN 86182 VOLUMES 3 & 4 - DOWNRANGE	ELECTRICAL SITE PLAN
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SHEET ID ES141



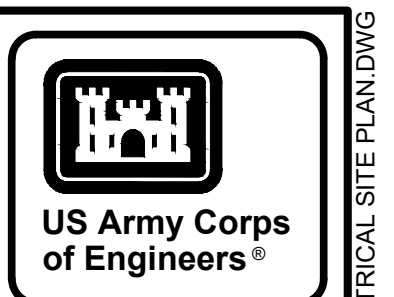
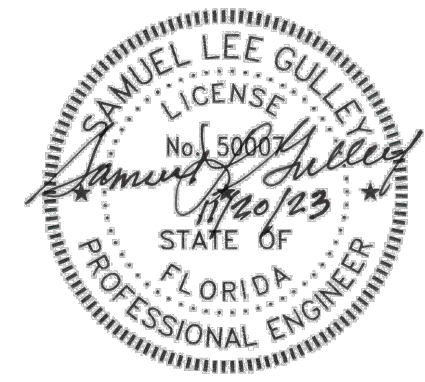
N:\2021-10\6521014\FORT LIBERTY MPTTR - POLY\DWG\B2EES141 ELECTRICAL SITE PLAN.DWG

READY TO ADVERTISE (RTA)



ES143	ES141	ES142
ES139	ES140	
ES137	ES138	
ES136		
ES135		

Site Key Plan
NOT TO SCALE



MARK	DESCRIPTION	DATE

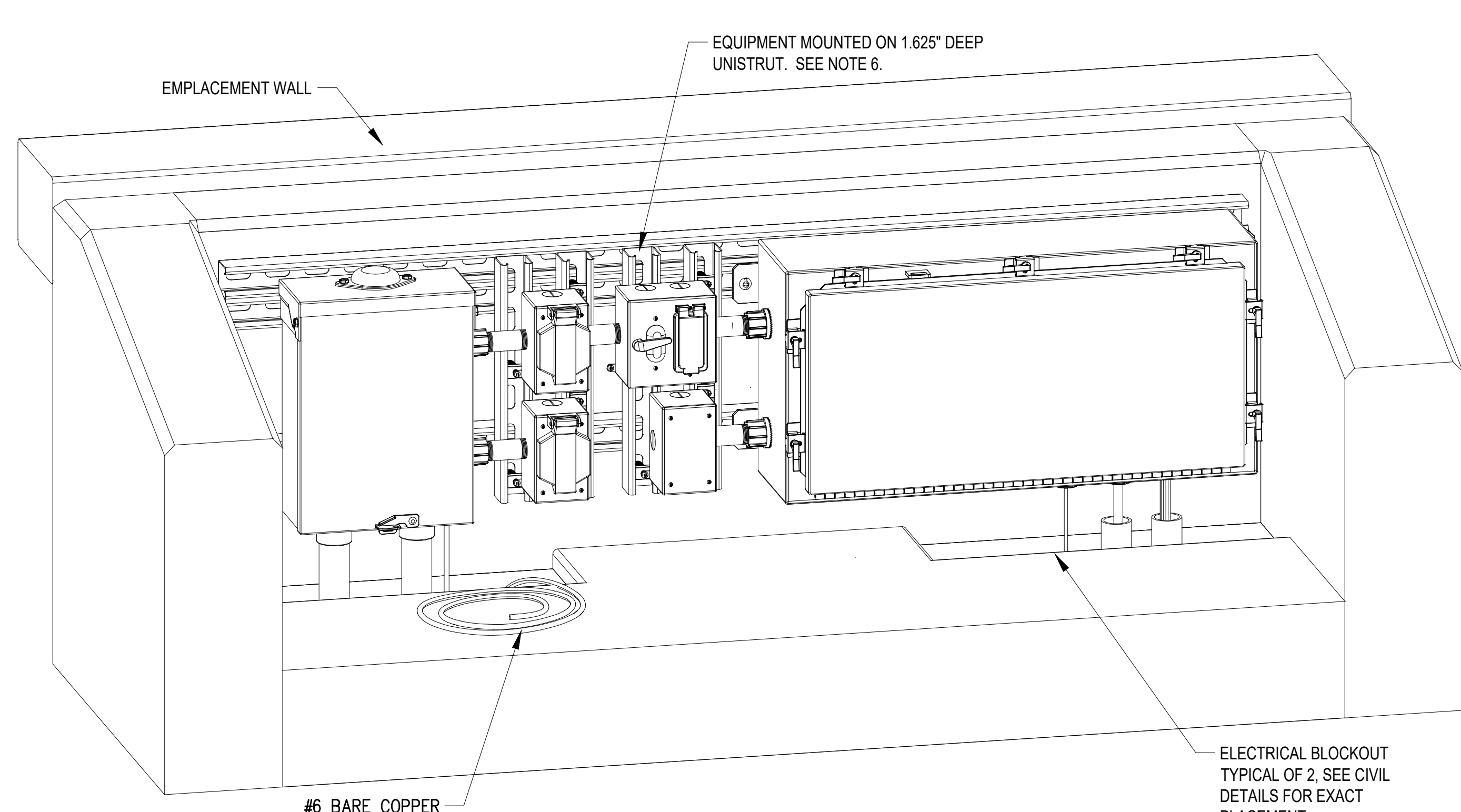
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	DESIGNED BY: S. GULLEY	ISSUE DATE: NOVEMBER 2003	
	DRAWN BY: T. BOLTON	CHECKED BY: C. BROWN	CONTRACT NO.: W9134L248 3002
	SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-85-01	FILE NAME: ANSID

FORT LIBERTY, NORTH CAROLINA
 AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
 FY23, PN 96182
 VOLUMES 3 & 4 - DOWNRANGE
 ELECTRICAL SITE PLAN

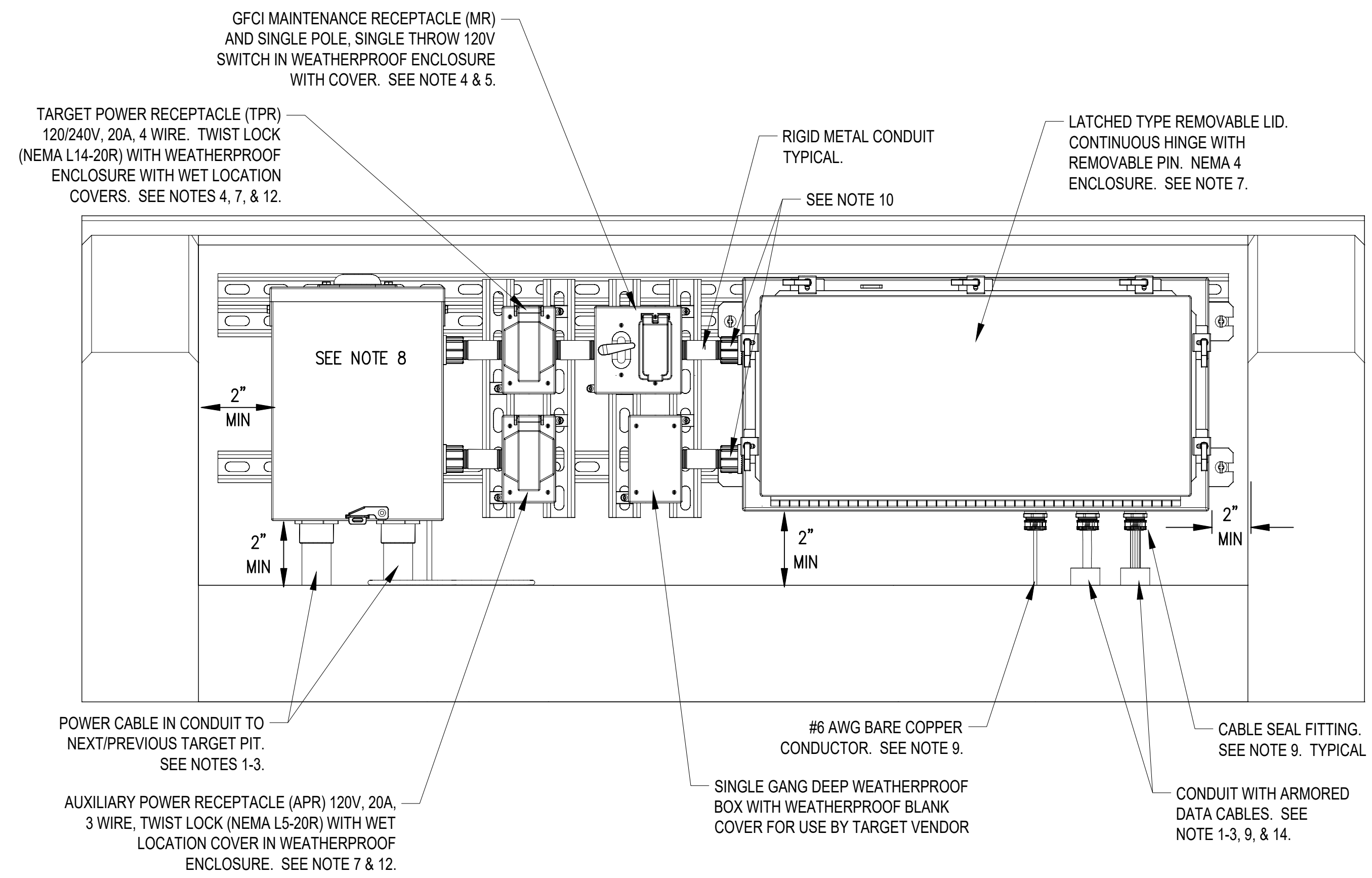
SHEET ID
ES143

READY TO ADVERTISE (RTA)

N:\2021-JOB\21014 FORT LIBERTY MPTTR - POLY\DWG\B2EES143 ELECTRICAL SITE PLAN.DWG

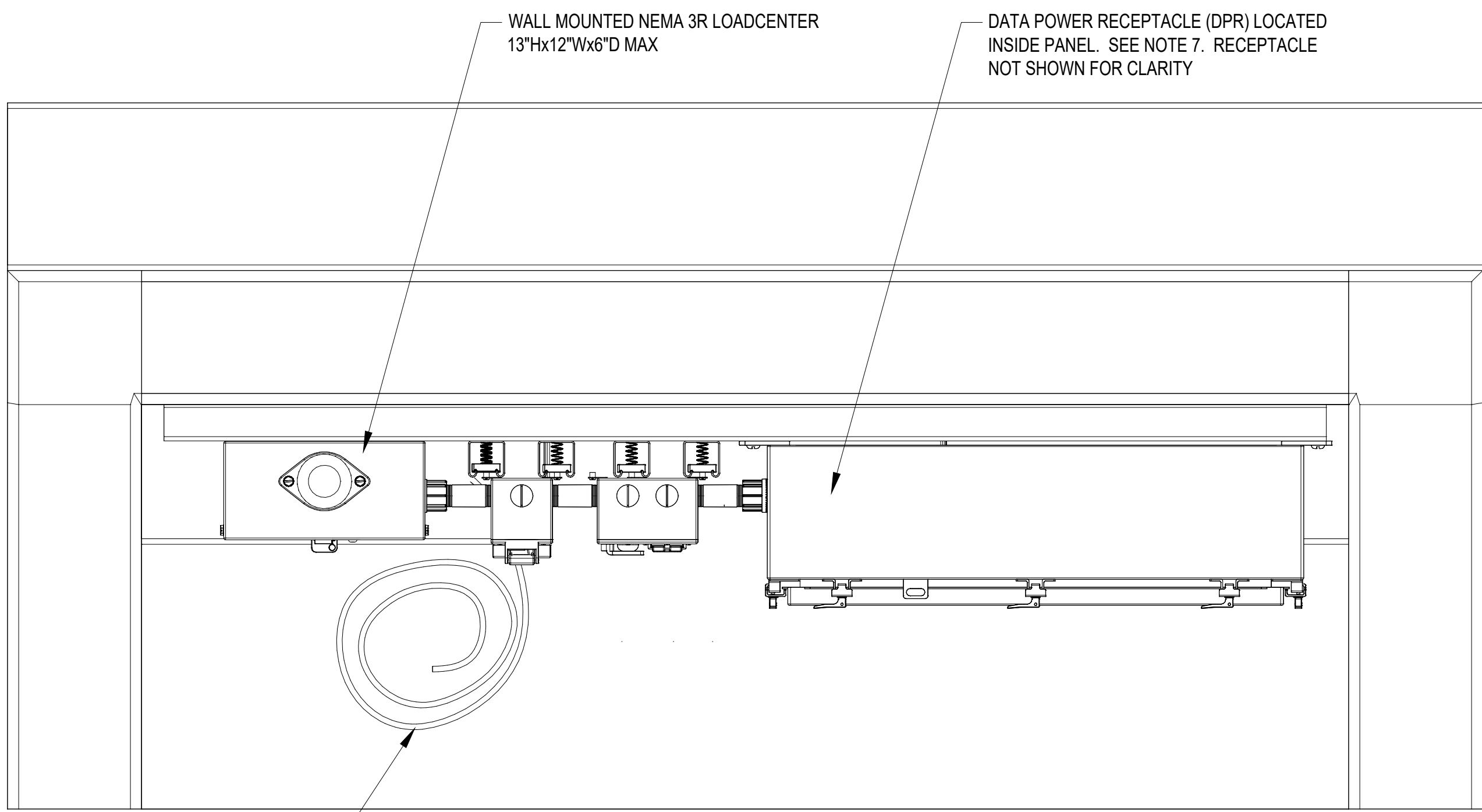


**ISOMETRIC ELEVATION
STATIONARY INFANTRY TARGET**
NOT TO SCALE



**FRONT ELEVATION
STATIONARY INFANTRY TARGET**
NOT TO SCALE

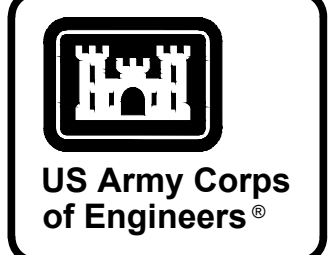
- NOTES:
- CONDUIT TO EXTEND 5 FEET BEYOND EMPLACEMENT.
 - CABLES/CONDUITS ARE ROUTED FROM SIDE OF BERM TO PREVENT CABLE DAMAGE DURING MAINTENANCE OF BERM.
 - ROUTE UNDER SLAB. POWER AND DATA INSTALLED IN SAME TRENCH.
 - EQUIPMENT SHALL NOT BE MOUNTED HIGHER THAN 2" FROM TOP OF EMPLACEMENT WALL.
 - POWER TO DATA PANEL RECEPTACLE IN MTPD SHALL BE ROUTED THROUGH SINGLE POLE SINGLE THROW SWITCH.
 - ALL EQUIPMENT SHALL BE MOUNTED ON 1.625" DEEP UNISTRUT. NO EQUIPMENT SHALL BE PERMITTED TO BE INSTALLED DIRECTLY TO CONCRETE WALL.
 - TPR, APR AND DPR SHALL NOT BE GFCI PROTECTED.
 - PERMANENTLY LABEL THE EMPLACEMENT ACCORDING TO THE CIVIL AND ELECTRICAL DESIGNATIONS.
 - PROVIDE SEAL FITTINGS AS SHOWN IN CABLE SEAL FITTING DETAIL ON SHEET ES513 FOR ALL CABLE ENTRANCES INTO NEMA 4, 4X, OR 6P RATED ENCLOSURES.
 - INSTALL MYERS TYPE HUBS ON ALL CONDUIT PENETRATIONS TO SIDE OF ENCLOSURE.
 - ALL DIMENSIONS SHOWN IN INCHES UNLESS OTHERWISE NOTED.
 - PROVIDE TARGET AND AUXILIARY OUTLETS WITH NEMA 3R WET LOCATION COVERS MAKING OUTLETS SUITABLE FOR USE IN WET LOCATIONS. SEE DETAIL SHEET ES513 FOR WET LOCATION COVER. IN USE COVERS WITH COVERS INTENDED TO CLOSE OVER THE INSERTED CORD ARE NOT ACCEPTABLE AS THESE COVERS WILL NOT CLOSE OVER TARGET OR AUXILIARY CORDS.
 - DEVIATIONS TO THE EQUIPMENT SIZES, EQUIPMENT NUMBERS, RECEPTACLE COVERS, OR CABLE ENTRY METHODS INTO ENCLOSURES WILL REQUIRE RANGE TRAINING AND LAND PROGRAM HUNTSVILLE CENTER MANDATORY CENTER OF EXPERTISE APPROVAL.
 - CONDUIT STUBBED UP AS CLOSE TO CABLE SEAL FITTING AS POSSIBLE.
 - SEE SHEET TN507 FOR ADDITIONAL INFORMATION ON TARGET DATA PANELS. SEE SHEET TN507 FOR ADDITIONAL INFORMATION ON MASTER TARGET DATA PANELS.



**TOP ELEVATION
STATIONARY INFANTRY TARGET**
NOT TO SCALE

PANELBOARD: PB-xx		LOCATION: SIT		MOUNTED: SURFACE		FEED: BOTTOM			
125 MAIN		MAIN LUGS ONLY		ASYM A.I.C MIN.: 10,000					
VOLTAGE: 240/120		PHASE: 1		WIRE: 3		RATING: NEMA 3R			
		VA/PHASE		VA/PHASE					
LOAD SERVED	NO. POLES	TRIP AMPS	WIRE SIZE	A	B	WIRE SIZE	TRIP AMPS	NO. POLES	LOAD SERVED
SURGE ARRESTOR	2	-	-	-	-	12	20	2	SIT (NEMA L14-20R, 1-NEMA L5-20R)
SUB FEED THRU LUGS	2	-	-	-	-	12	20	1	TDP AND MR
						20	20	1	SPARE
				0	0				
TOTAL VA PHASE A: 530		TOTAL VA PHASE B: 480		530		480			
SUPPLIED FROM: IRSF-XX				TOTAL CONNECTED WATTAGE: 1,010					
				DEMAND WATTAGE: 960					
				TOTAL DEMAND AMPS: 4					

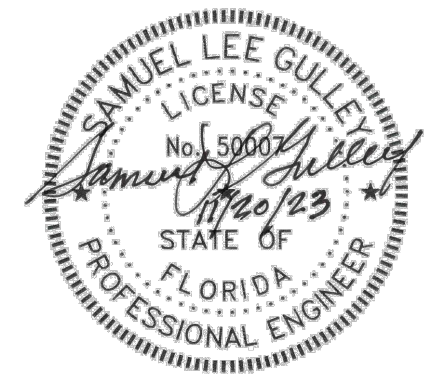
GENERAL NOTE:
THIS EMPLACEMENT DETAIL ALSO APPLIES FOR BATTLE EFFECTS SIMULATORS, MORTAR SIMULATION DEVICES, AND SOUND EFFECTS SIMULATORS.



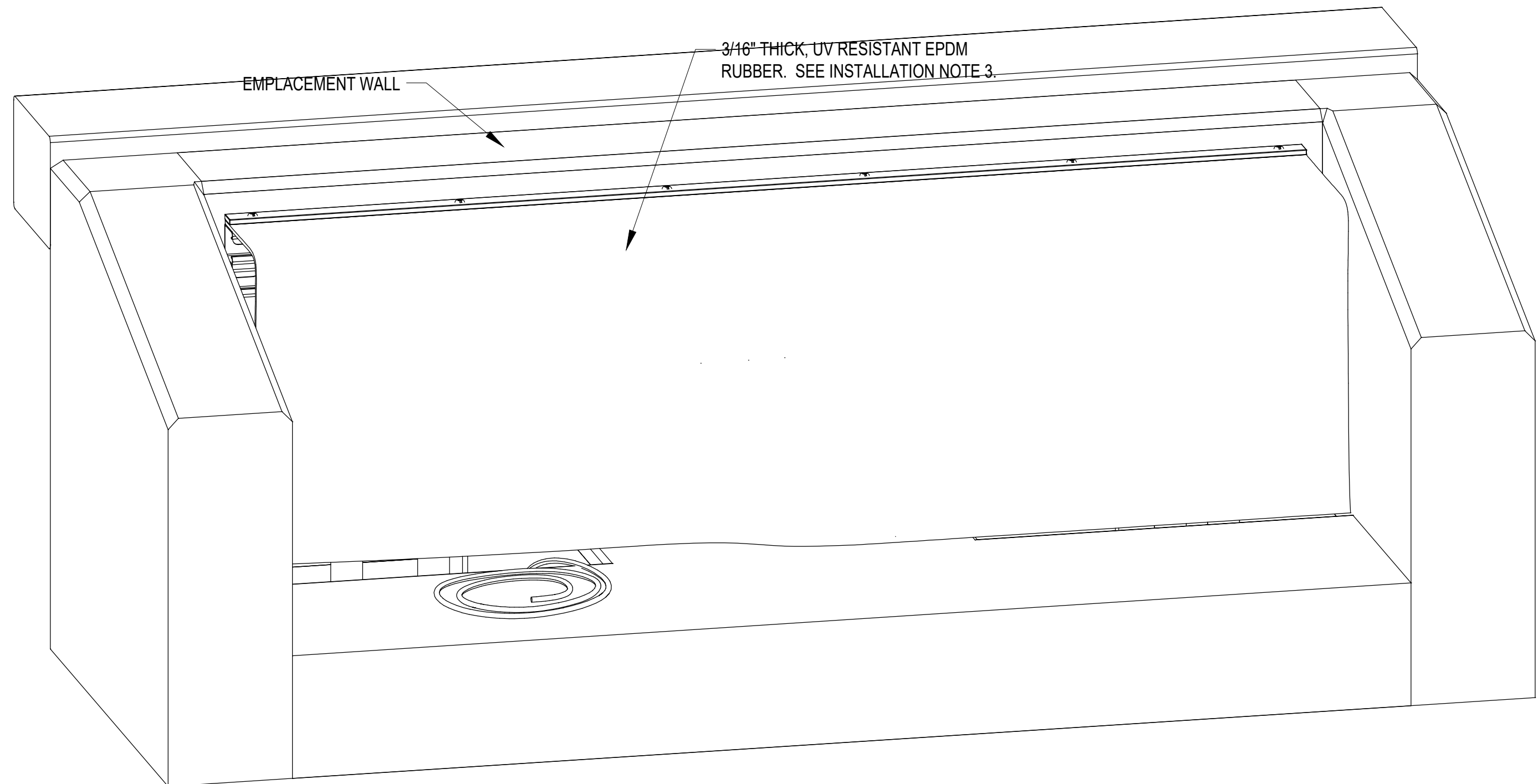
MARK	DESCRIPTION	DATE

DESIGNED BY: S. GULLEY	ISSUE DATE: NOVEMBER 2023
DRAWN BY: T. BOLTON	NO. OF SHEETS: 14 OF 14
CHECKED BY: C. BROWN	CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-85-01
ANSI D:	FILE NAME:
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1985 HEADLAND AVENUE DOTHAN, AL 36503 WWW.POLY-INC.COM/3547-95-4700

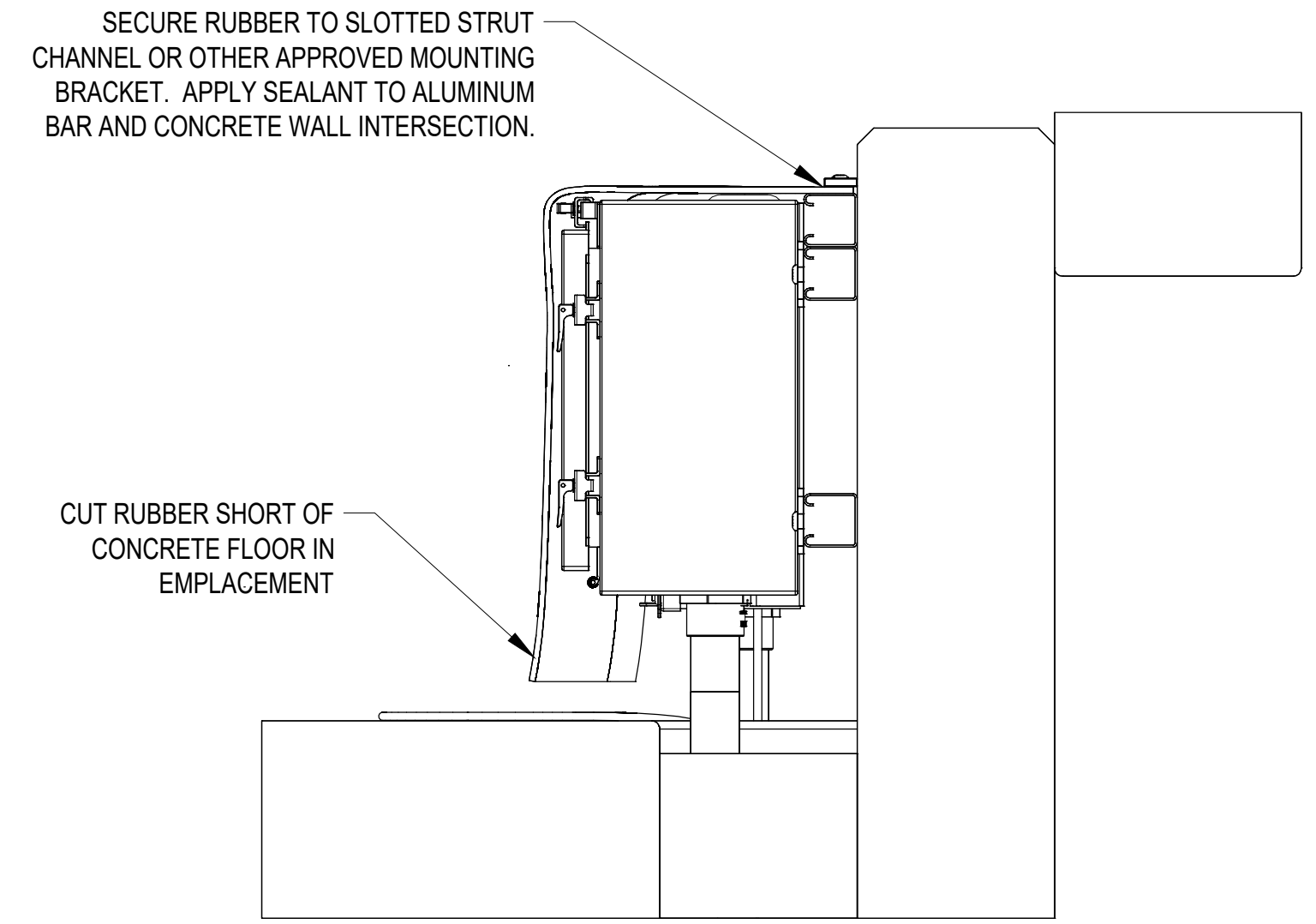
FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 96182
VOLUMES 3 & 4 - DOWNRANGE
EMPLACEMENT DETAILS
STATIONARY INFANTRY TARGET
(SIT)



SHEET ID
ES505



SIT EMPLACEMENT WITH RUBBER FLAP
NOT TO SCALE



RUBBER FLAP SIDE VIEW
NOT TO SCALE

INSTALLATION NOTES:

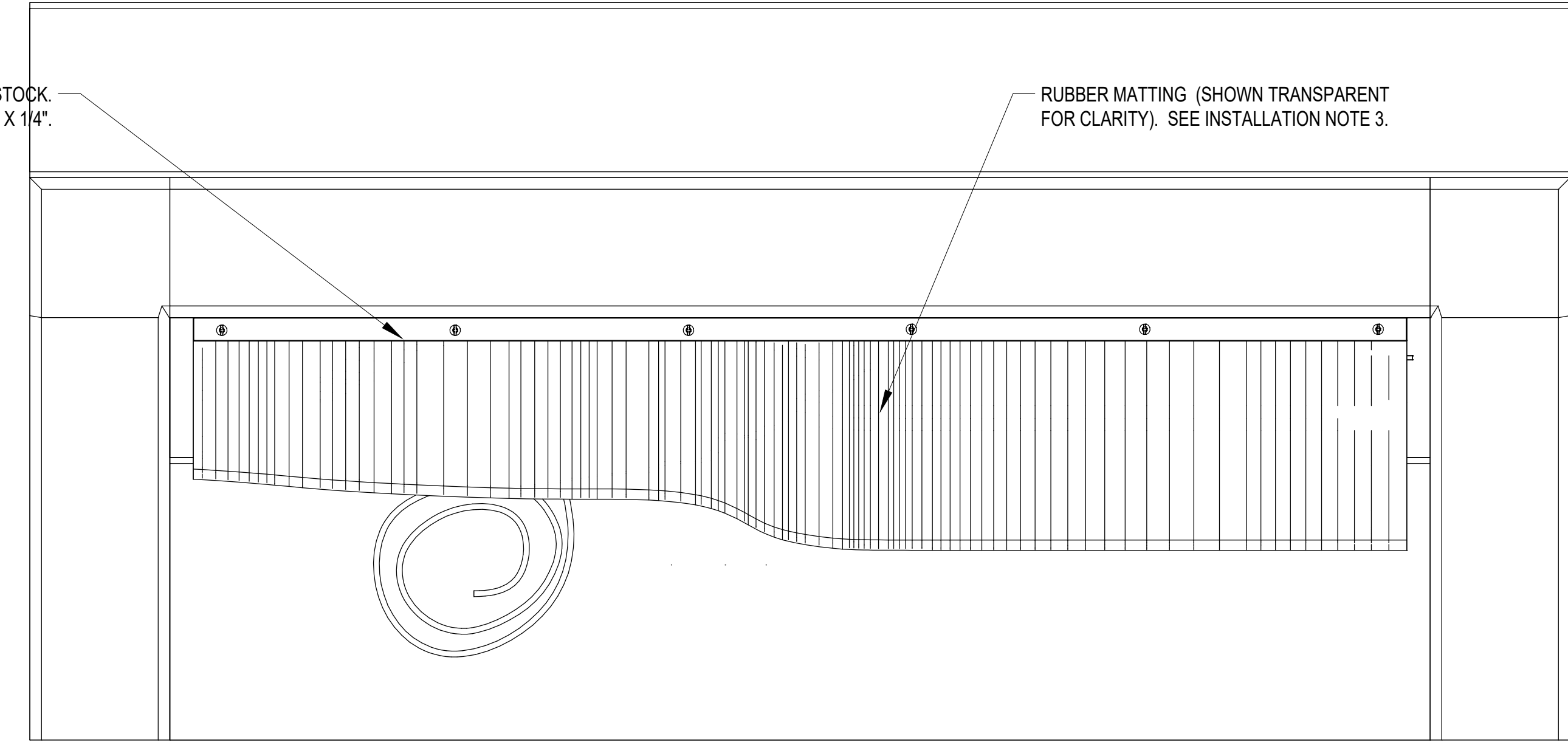
1. INSTALL RUBBER MATTING OVER THE ENTIRE EMPLACEMENT TO BLOCK MOISTURE AND DIRECT SUNLIGHT TO ALL COMMUNICATIONS AND ELECTRICAL EQUIPMENT. MOUNT RUBBER MAT TO CONCRETE EMPLACEMENT ABOVE DATA ENCLOSURE WITH ALUMINUM BAR STOCK AND APPROVED CONCRETE FASTENERS. RUBBER MAT SHALL DRAPE OVER DATA ENCLOSURE AND BE CUT TO A HEIGHT JUST ABOVE THE CONCRETE EMPLACEMENT FLOOR. A CONTINUOUS BEAD OF APPROVED SEALANT SHALL BE APPLIED TO ALUMINUM FLASHING (BAR STOCK) AT CONCRETE WALL TO PREVENT WATER SEEPAGE BETWEEN MATTING AND WALL.
2. THE DETAILS PRESENTED ON THIS PLAN ARE REPRESENTATIONAL ONLY. DETAILS DO NOT REFLECT ALL OF THE OUTLETS AND BOXES THAT ARE REQUIRED. EMPLACEMENTS SHALL BE INSTALLED AS PRESENTED ON THE EMPLACEMENT DETAIL PLANS. RUBBER MATS MUST COVER ALL OF THE INSTALLED EQUIPMENT.
3. RUBBER MATTING FLAP SHALL BE PROVIDED FOR ALL TYPES OF TARGET EMPLACEMENTS.

MATERIALS:

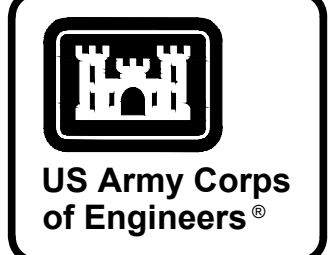
1. RUBBER MATTING SHALL BE ONE PIECE, 54" WIDE X 30" HIGH 3/16" THICK, UV RESISTANT EPDM RUBBER. (HTTP://WWW.RUBBERCAL.COM.HTML OR FUNCTIONALLY APPROVED EQUAL).
2. BAR STOCK SHALL BE SOLID ALUMINUM 54" WIDE X 1" HIGH X 1/4" THICK, INSTALLED USING APPROVED CONCRETE FASTENERS.
3. SEALANT SHALL BE A FLEXIBLE BUTYL RUBBER PRODUCT TO PROVIDE A 100% WATERTIGHT SEAL.

ALUMINUM BAR STOCK.
1" X 1/4".

RUBBER MATTING (SHOWN TRANSPARENT FOR CLARITY). SEE INSTALLATION NOTE 3.



RUBBER FLAP TOP VIEW
NOT TO SCALE



MARK	DESCRIPTION	DATE

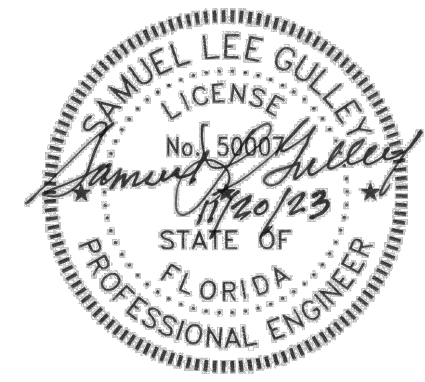
DESIGNED BY: S. GULLEY	ISSUE DATE: NOVEMBER 2023
DRAWN BY: T. BOLTON	DATE: NOV 24 2023
CHECKED BY: C. BROWN	CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-85-01
SIZE: ANSI D	FILE NAME:

U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT
100 W. OGLETHORPE AVE
SAVANNAH, GA 31401

POLY, INC.
1935 HEADLAND AVENUE
DOTHAN, AL 36503
WWW.POLY-INC.COM/334799-4700

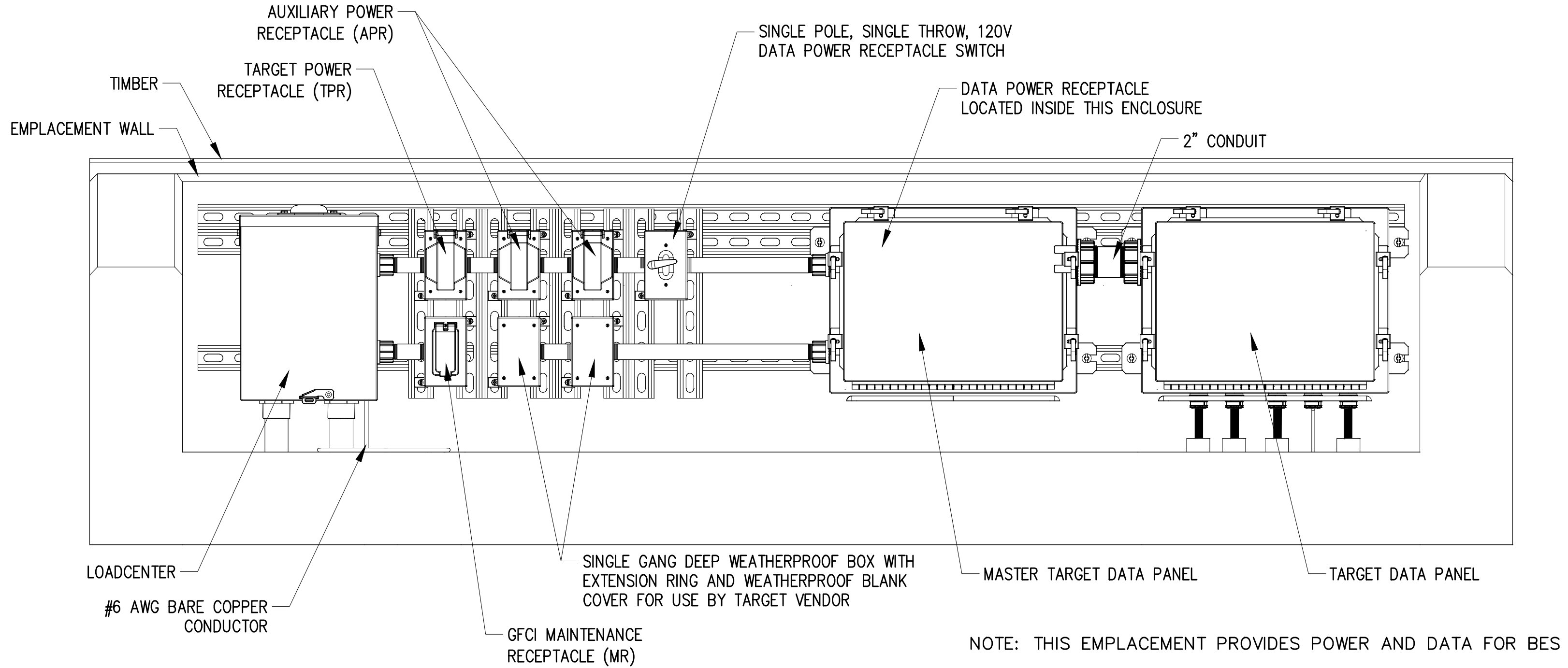
FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 86182
VOLUMES 3 & 4 - DOWNRANGE

EMPLACEMENT DETAILS
STATIONARY INFANTRY TARGET (SIT)
RUBBER FLAP

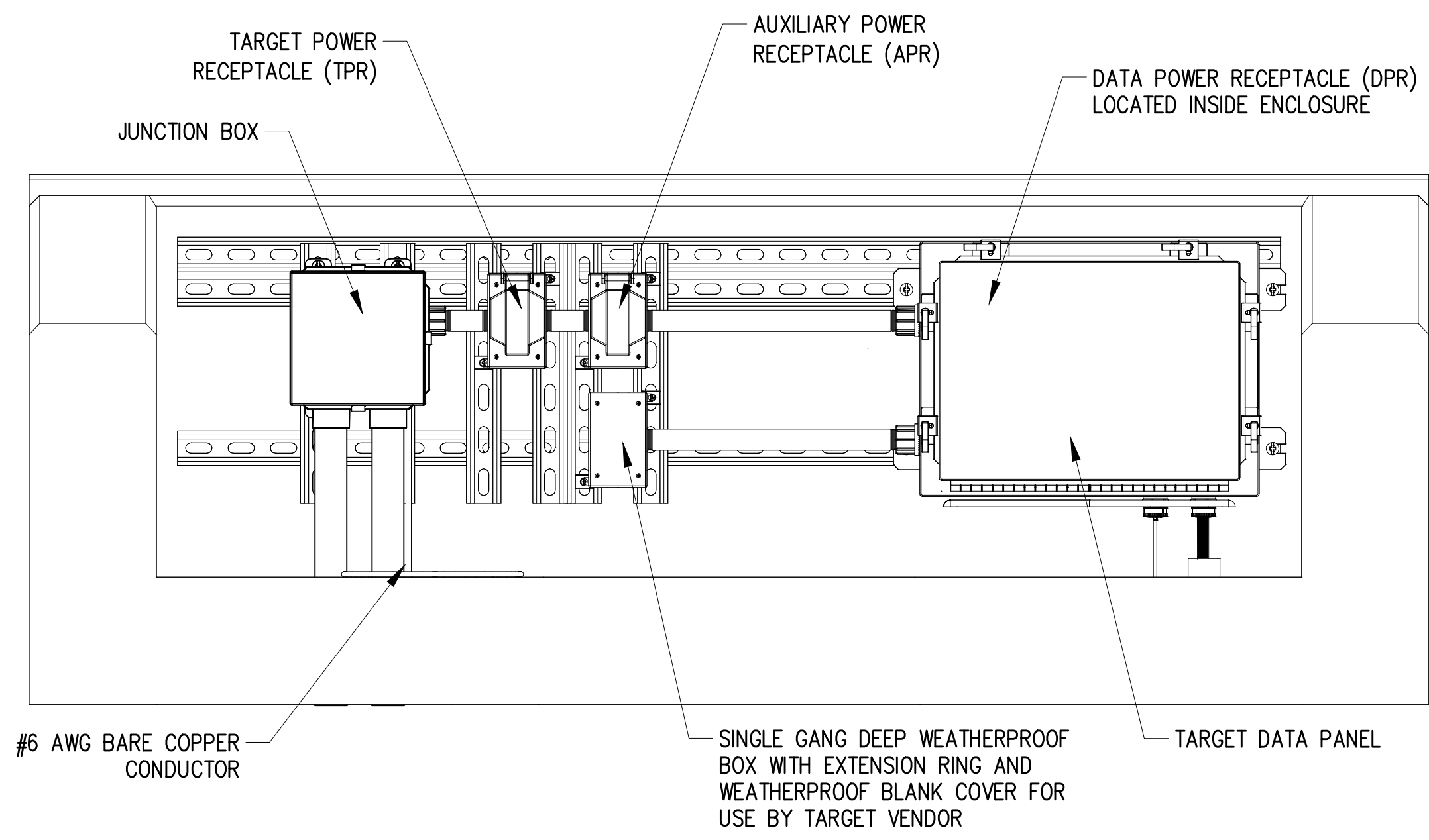


SHEET ID
ES506

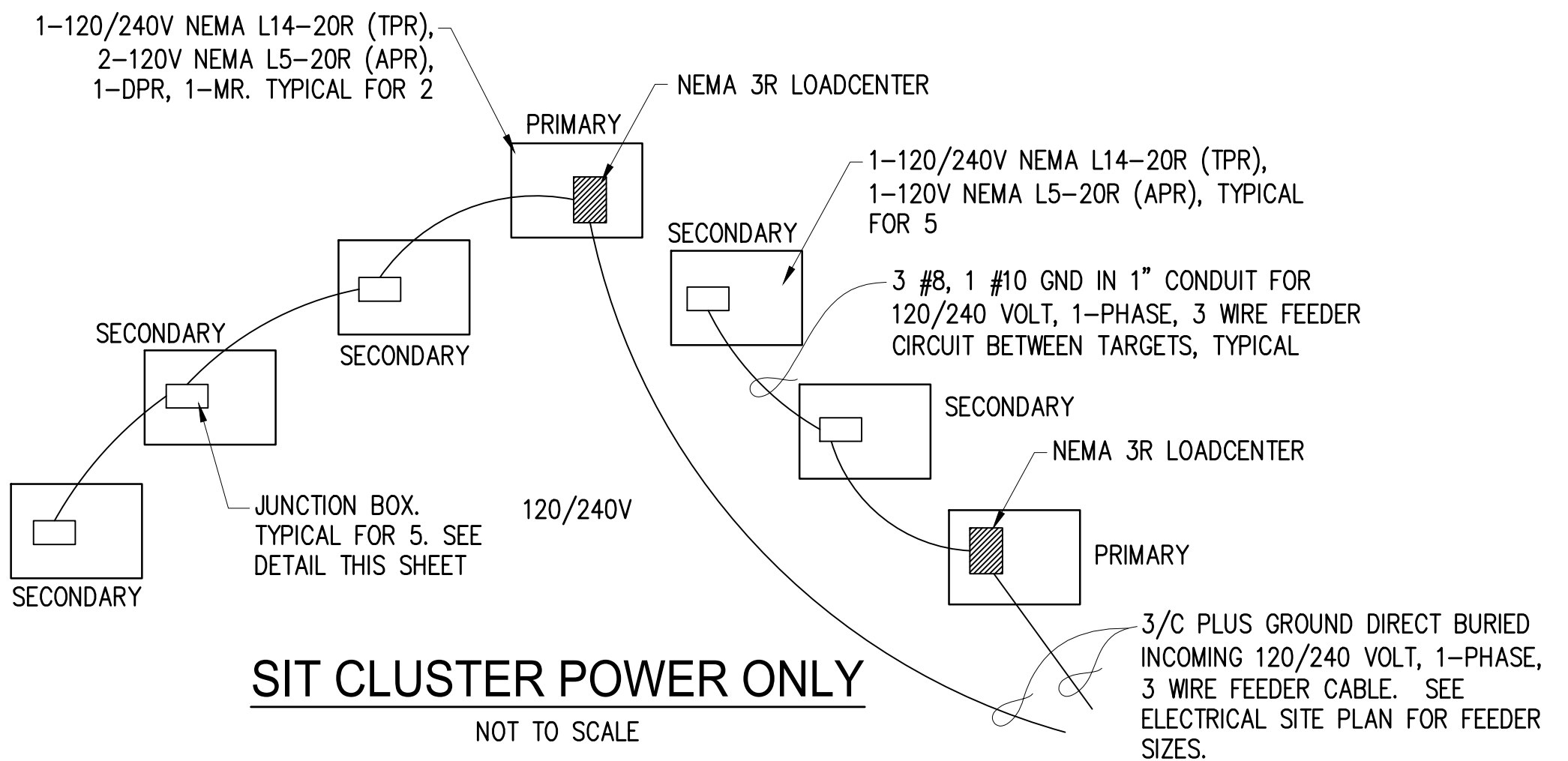
P
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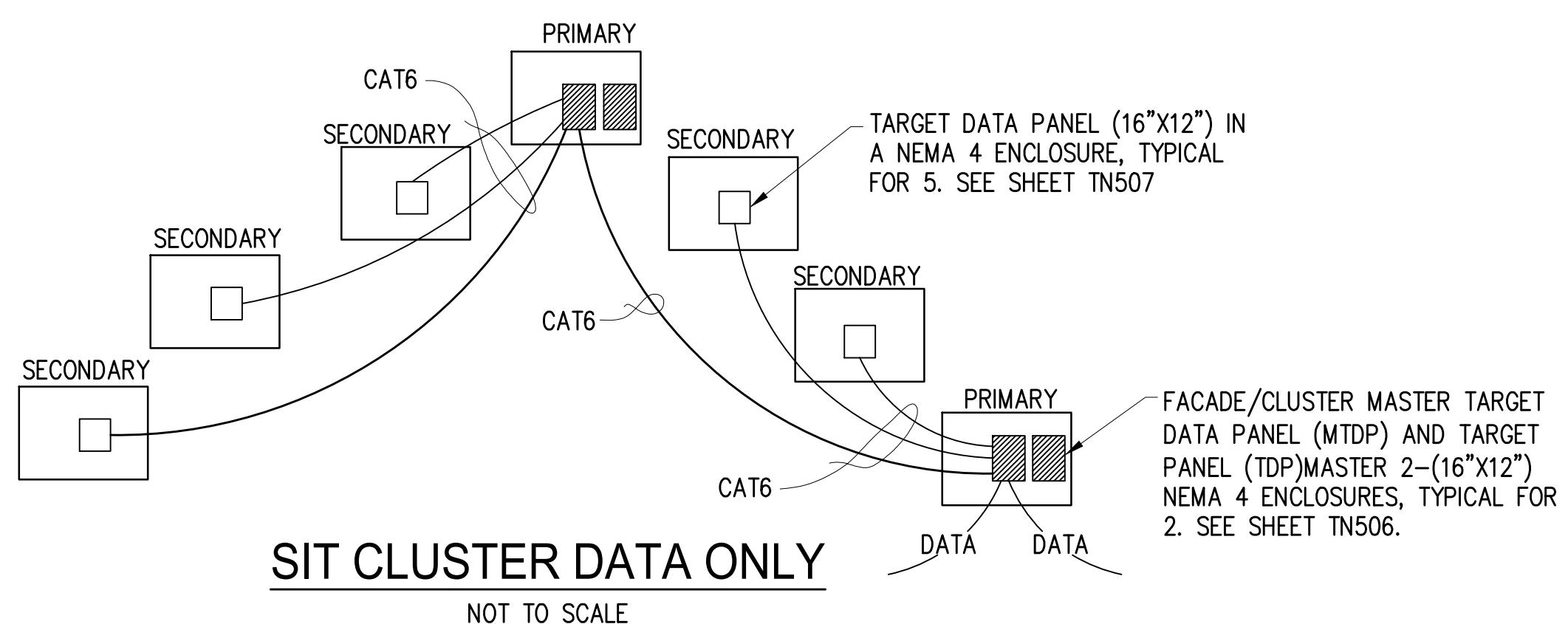
**STATIONARY INFANTRY TARGET CLUSTER
PRIMARY TARGET ELEVATION**
NOT TO SCALE



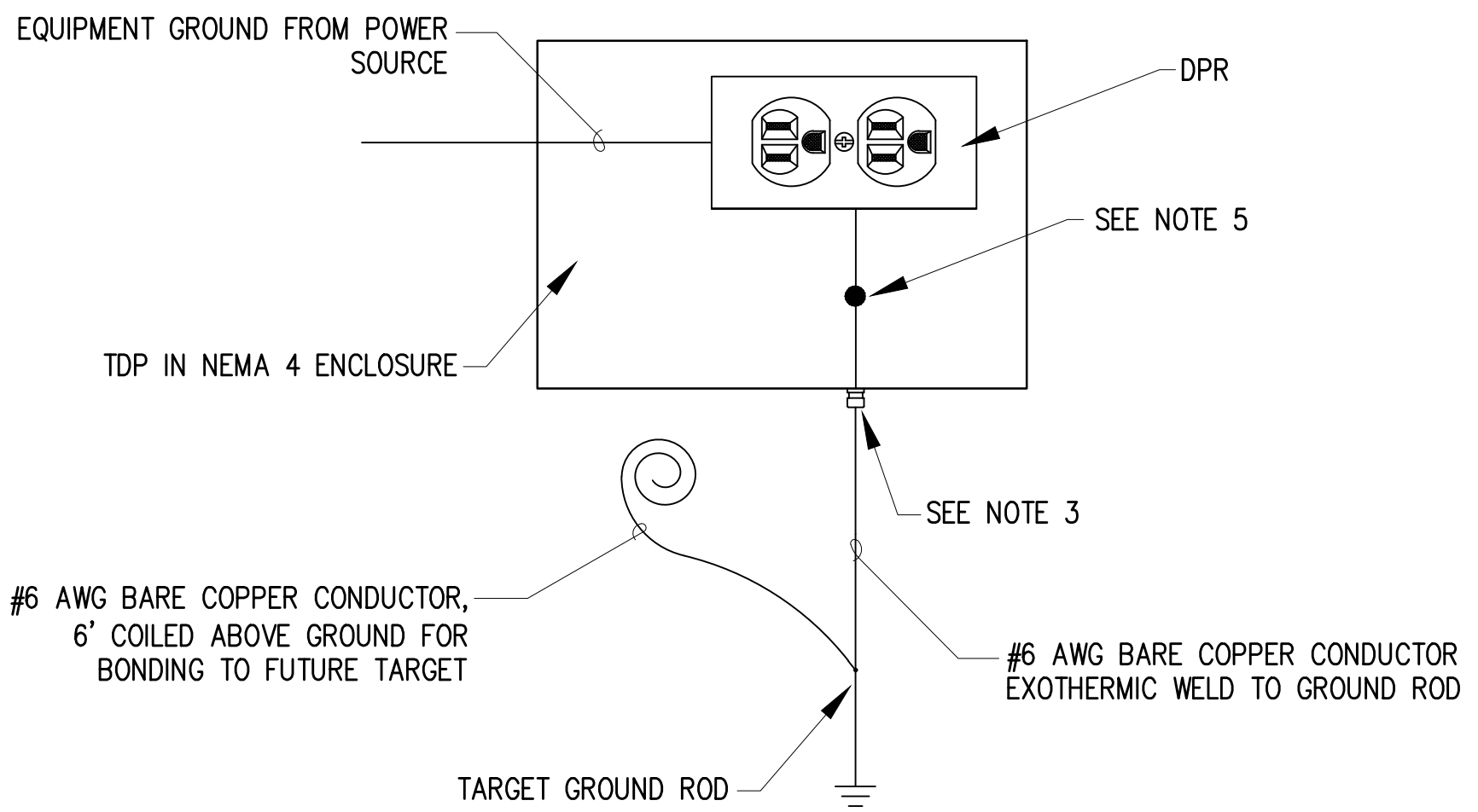
**STATIONARY INFANTRY TARGET CLUSTER
SECONDARY TARGET ELEVATION**
NOT TO SCALE



SIT CLUSTER POWER ONLY
NOT TO SCALE

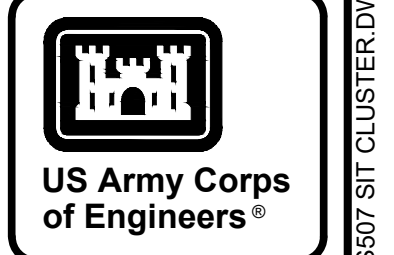
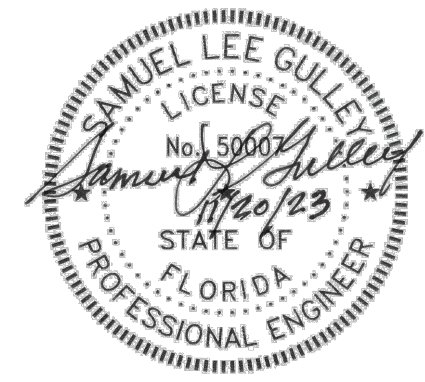


SIT CLUSTER DATA ONLY
NOT TO SCALE



SECONDARY EMPLACEMENT GROUNDING DETAIL
NOT TO SCALE

- NOTE**
DETAIL APPLICABLE TO SECONDARY EMPLACEMENT ONLY. SEE DETAIL SHEET ES513 FOR GROUNDING DETAIL FOR PRIMARY DETAIL EMPLACEMENT.
- NOTES:**
1. CABLES/CONDUITS ARE ROUTED FROM SIDE OF BERM TO PREVENT CABLE DAMAGE DURING MAINTENANCE OF BERM.
 2. ALL EQUIPMENT SHALL NOT BE MOUNTED HIGHER THAN 2" FROM TOP OF EMPLACEMENT WALL.
 3. PROVIDE SEAL FITTINGS AS SHOWN IN DETAIL ON SHEET ES513 FOR ALL NEMA 4, 4X, OR 6P RATED ENCLOSURES.
 4. PROVIDE TARGET AND AUXILIARY OUTLETS WITH WET LOCATION COVERS MAKING OUTLETS SUITABLE FOR USE IN WET LOCATIONS. SEE DETAIL ON SHEET ES513 FOR WE LOCATION COVER. STANDARD IN USE COVERS FOR REGULAR DUPLEX OUTLETS WILL NOT CLOSE OVER TARGET PLUG AND CORD.
 5. BOND EQUIPMENT GROUND FROM POWER SOURCE TO TARGET DATA PANEL (TDP).
 6. SEE SHEET TN506 FOR CLUSTER MTDI DESIGN AND TN507 FOR TDP DESIGN.



MARK	DESCRIPTION	DATE

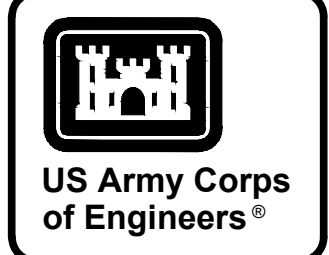
DESIGNED BY: S. GULLEY	ISSUE DATE: NOVEMBER 2023
DRAWN BY: T. BOLTON	NO. OF SHEETS: 14 OF 14
CHECKED BY: C. BRWON	CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-85-01
SIZE: ANSI D	FILE NAME:
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	
POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36503 WWW.POLY-INC.COM/3347-98-4700	

FORT LIBERTY, NORTH CAROLINA AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR) FY23, PN 96182 VOLUMES 3 & 4 - DOWNRANGE	EMPLACEMENT DETAILS STATIONARY INFANTRY TARGET (SIT) CLUSTERS
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SHEET ID ES507

NI2021_JOB521014_FORT LIBERTY MPTTR - POLYDOWG2EE507 SIT CLUSTER.DWG

READY TO ADVERTISE (RTA)



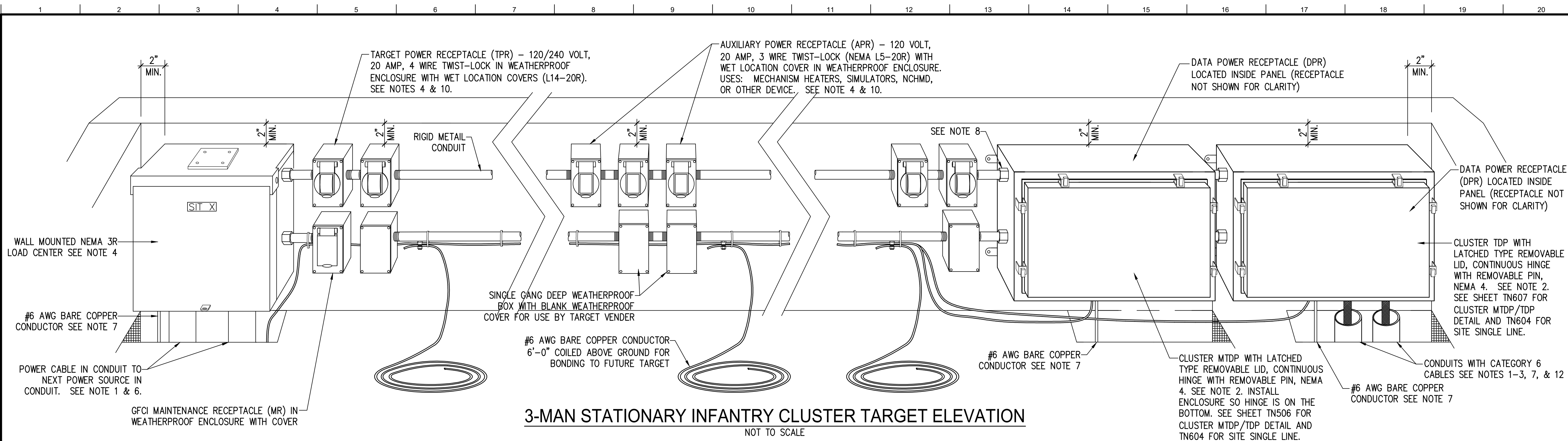
DATE	DESCRIPTION	MARK

DESIGNED BY: S. GUILLEY	ISSUE DATE: NOVEMBER 2003
DRAWN BY: T. BOLTON	NO. 104194L-04-002
CHECKED BY: C. BROWN	CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-85-01
SIZE: ANSID	FILE NAME:
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	
POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36503 WWW.POLY-INC.COM/334799-4700	

FORT LIBERTY, NORTH CAROLINA AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR) FY23, PN 96182 VOLUMES 3 & 4 - DOWNRANGE	EMPLACEMENT DETAILS STATIONARY INFANTRY TARGET (SIT) 3-MAN SIT PLAN AND CLUSTER
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SHEET ID
ES508

N:\2021\J06521014 FORT LIBERTY MPTTR - POLY\DWG\B2E5508 SIT 3-MAN CLUSTER.DWG



3-MAN STATIONARY INFANTRY CLUSTER TARGET ELEVATION
NOT TO SCALE

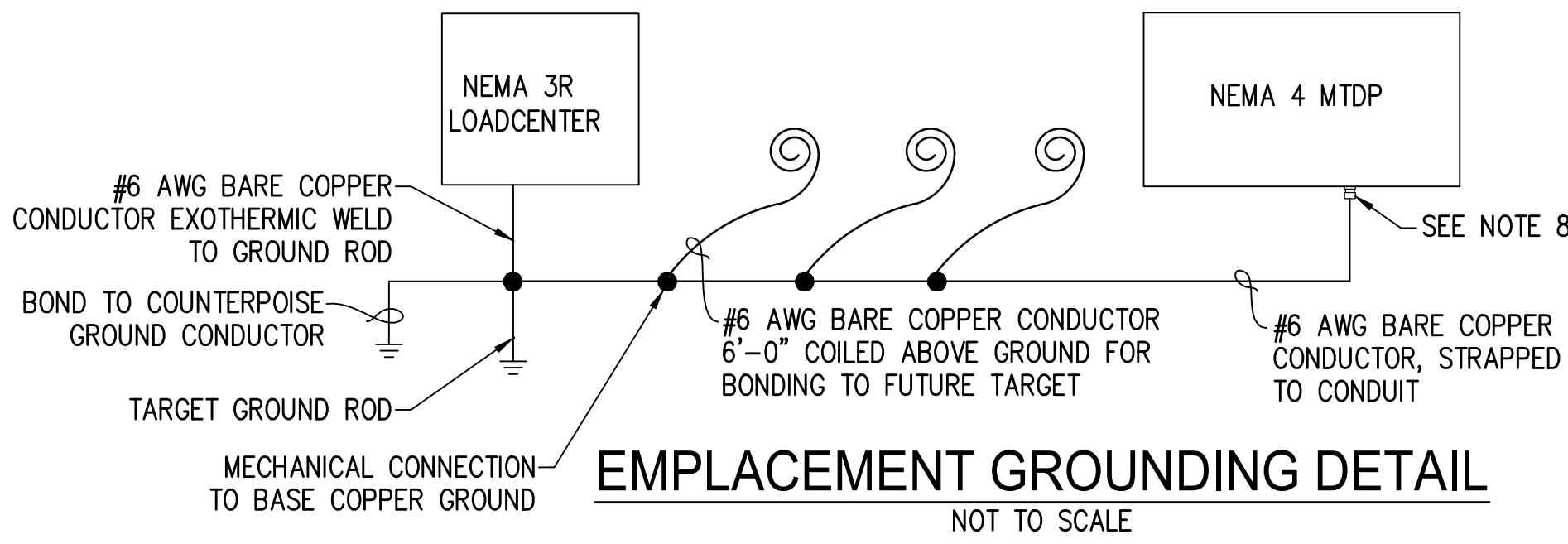
3-Man Target Cluster Loadcenter

BREAKER INTERRUPTING CAPACITY 10,000 AMPS SYM.		PANEL SCHEDULE				NEMA 3R ENCLOSURE		BRACED FOR MINIMUM 10,000 AMPS SYM.	
SIT TARGET LOADCENTER, 120/240 VOLT AC, 1-PHASE, 3 WIRE, 125 AMP, MAIN LUGS ONLY - SURFACE MOUNTED									
EQUIPMENT SERVED	CKT. BKR. TRIP	VA/PHASE POLE	CKT. No.	CKT. No.	VA/PHASE POLE	CKT. BKR. TRIP	EQUIPMENT SERVED		
SURGE ARRESTER [SI]	2		1	2	1440	2	20	SIT (NEMA L14-20R, NEMA L5-20R)	
			3	4	1440				
FEED THRU PROVISIONS	2		5	6	50	1	20	DPR & MR	
			7	8		1		SPARE BREAKER	

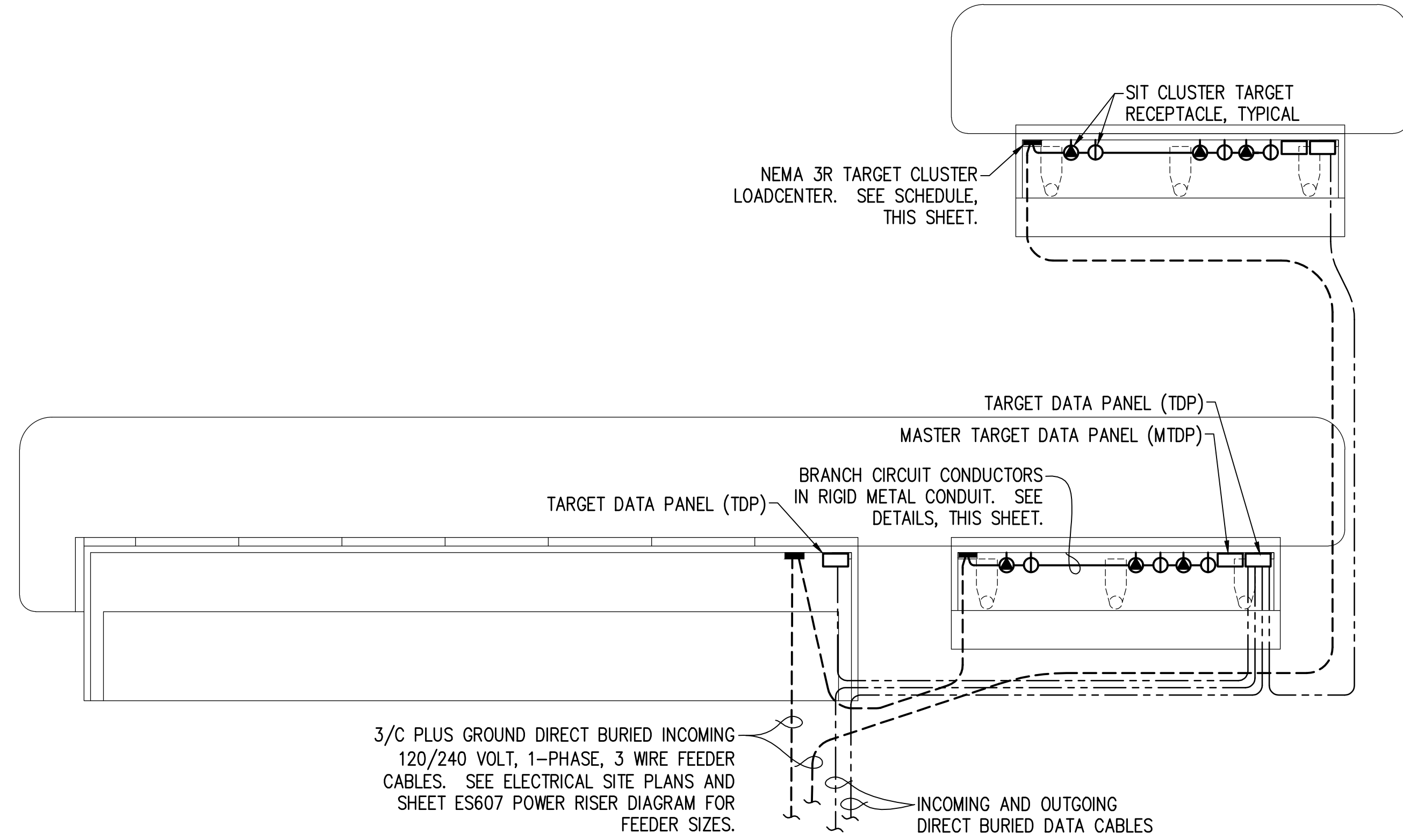
TOTAL CONNECTED VOLT - AMPS $\frac{1,490}{A} \frac{1,440}{B} = 2,930 \text{ VA} / 12.21 \text{ AMPS}$
 TOTAL DEMAND VOLT-AMPS = 2,930 VA / 12.21 AMPS

Notes

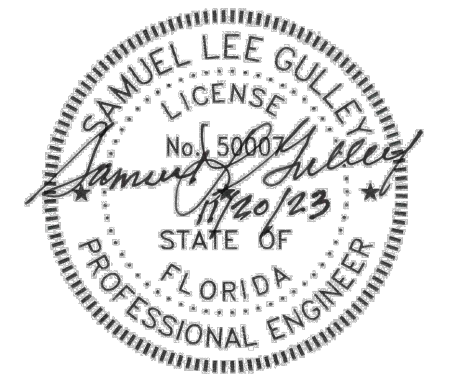
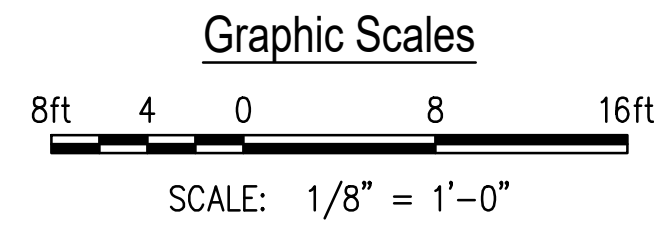
- CONDUIT TO EXTEND 5 FEET BEYOND EMPLACEMENT.
- CABLES/CONDUITS ARE ROUTED FROM SIDE OF BERM TO PREVENT CABLE DAMAGE DURING MAINTENANCE OF BERM.
- ROUTE UNDER SLAB POWER AND DATA INSTALLED IN SAME TRENCH.
- ALL EQUIPMENT SHALL NOT BE MOUNTED HIGHER THAN 2" FROM TOP OF EMPLACEMENT WALL.
- WIRE THE DTR AHEAD OF THE GFCI MAINTENANCE RECEPTACLE TO AVOID NUISANCE TRIPPING.
- PERMANENTLY LABEL THE EMPLACEMENT ACCORDING TO THE CIVIL AND ELECTRICAL DESIGNATIONS.
- PROVIDE SEAL FITTINGS AS SHOWN IN CABLE SEAL FITTING DETAIL ON ALL CABLE ENTRANCES INTO NEMA 4, 4X, OR 6P RATED ENCLOSURES.
- INSTALL MYERS TYPE HUBS ON ALL CONDUIT PENETRATIONS TO SIDE OF ENCLOSURE.
- ALL DIMENSIONS SHOWN IN INCHES UNLESS OTHERWISE NOTED.
- PROVIDE TARGET AND AUXILIARY OUTLETS WITH NEMA 3R WET LOCATION COVERS MAKING OUTLETS SUITABLE FOR USE IN WET LOCATIONS.
- DEVIATIONS TO THE EQUIPMENT SIZES, NUMBERS, RECEPTACLE COVERS, OR CABLE ENTRY METHODS INTO ENCLOSURES WILL REQUIRE RANGE TRAINING AND LAND PROGRAM HUNTSVILLE CENTER MANDATORY CENTER OF EXPERTISE APPROVAL
- CONDUIT STUBBED UP AS CLOSE TO CABLE SEAL FITTINGS AS POSSIBLE.



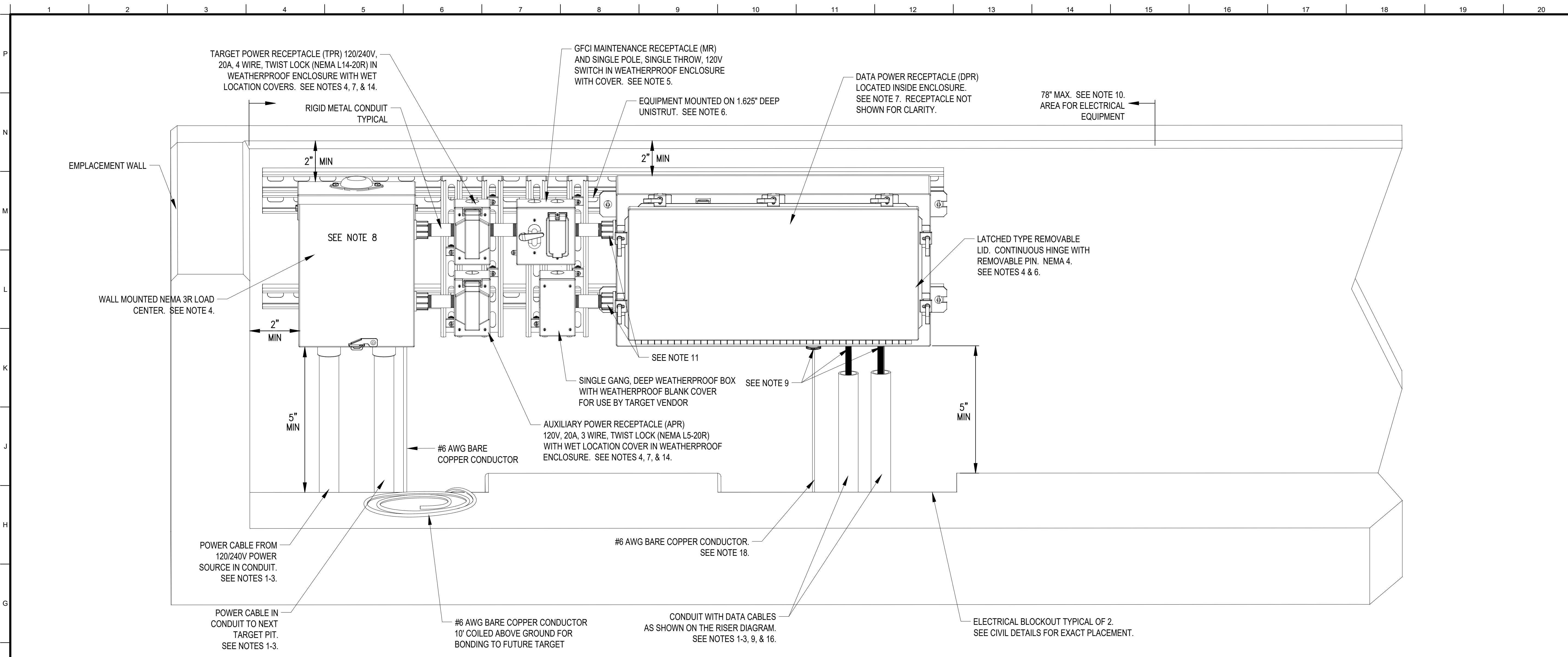
EMPLACEMENT GROUNDING DETAIL
NOT TO SCALE



STATIONARY AND MOVING INFANTRY TARGET CLUSTER
6-MAN LINEAR SIT & 40m MIT
SCALE: 1/8" = 1'-0"



READY TO ADVERTISE (RTA)

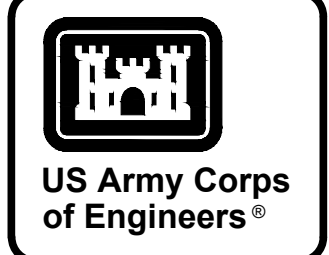
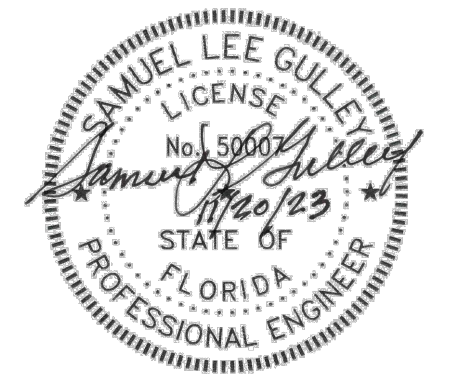


**ELEVATION
MOVING INFANTRY TARGET**
NOT TO SCALE

NOTES:

- CONDUIT TO EXTEND 5 FEET BEYOND EMPLACEMENT.
- CABLES/CONDUITS ARE ROUTED FROM SIDE OF BERM TO PREVENT CABLE DAMAGE DURING MAINTENANCE OF BERM.
- ROUTE UNDER SLAB. POWER AND DATA INSTALLED IN SAME TRENCH.
- EQUIPMENT SHALL NOT BE MOUNTED HIGHER THAN 2" FROM TOP OF EMPLACEMENT WALL.
- POWER TO DATA PANEL RECEPTACLE IN MTPD SHALL BE ROUTED THROUGH SINGLE POLE SINGLE THROW SWITCH.
- ALL EQUIPMENT SHALL BE MOUNTED ON 1.625" DEEP UNISTRUT. NO EQUIPMENT SHALL BE PERMITTED TO BE INSTALLED DIRECTLY TO CONCRETE WALL.
- TPR, APR AND DPR SHALL NOT BE GFCI PROTECTED.
- PERMANENTLY LABEL THE EMPLACEMENT ACCORDING TO THE CIVIL AND ELECTRICAL DESIGNATIONS.
- PROVIDE SEAL FITTINGS AS SHOWN IN CABLE SEAL FITTING DETAIL FOR ALL CABLE ENTRANCES INTO NEMA 4, 4X, OR 6P RATED ENCLOSURES.
- INSTALL POWER AND DATA ON THE FIRST 78" OF THE FRONT WALL CLOSEST TO THE DIRECTION OF FIRE.
- INSTALL MYERS TYPE HUBS ON ALL CONDUIT PENETRATIONS INTO THE SIDE OF THE DATA ENCLOSURE.
- ALL DIMENSIONS SHOWN IN INCHES UNLESS OTHERWISE NOTED.
- IF TARGET IS BATTERY OPERATED WITH NO AC POWER PROVIDED, THE TARGET GROUND ROD SHALL BE INSTALLED WITH A 6' COILED #6 AWG BARE COPPER GROUND CABLE FOR FUTURE BONDING TO THE TARGET MECHANISM.
- PROVIDE TARGET AND AUXILIARY OUTLETS WITH NEMA 3R WET LOCATION COVERS MAKING OUTLETS SUITABLE FOR USE IN WET LOCATIONS. SEE DETAIL SHEET ES513 FOR WET LOCATION COVER. IN USE COVERS WITH COVERS INTENDED TO CLOSE OVER THE INSERTED CORD ARE NOT ACCEPTABLE AS THESE COVERS WILL NOT CLOSE OVER THE TARGET POWER OR AUXILIARY CORDS.
- DEVIATIONS TO THE EQUIPMENT SIZES, EQUIPMENT NUMBERS, RECEPTACLE COVERS, OR CABLE ENTRY METHODS INTO ENCLOSURES WILL REQUIRE RANGE TRAINING LAND PROGRAM, HUNTSVILLE CENTER MANDATORY CENTER OF EXPERTISE APPROVAL.
- STUB UP CONDUIT AS CLOSE AS PRACTICAL TO CABLE FITTING.
- SEE SHEET TN507 FOR ADDITIONAL INFORMATION ON TARGET DATA PANELS. SEE SHEET TN505 FOR ADDITIONAL INFORMATION ON MASTER TARGET DATA PANELS.
- PROVIDE GROUNDING IN ACCORDANCE WITH EMPLACEMENT GROUNDING DETAIL ON SHEET ES513.

PANELBOARD: MIT		LOCATION: XXXXXXX		MOUNTED: SURFACE		FEED: BOTTOM	
125 MAIN		MAIN LUGS OR FEED THRU LUGS		ASYM A.I.C MIN.: XXXXX		RATING: NEMA 3R	
VOLTAGE: 240/120		PHASE: 1		WIRE: 3			
LOAD SERVED	NO. POLES	TRIP AMPS	WIRE SIZE	VA/PHASE		CKT NO.	LOAD SERVED
				A	B		
SURGE ARRESTOR	2	-	-	-	-	1 2	MIT (NEMA L14-20R, 1-NEMA L5-20R)
FEED THRU PROVISIONS	2	-	-	-	-	5 6 8	TDP AND MR
SPARE	1	20	-	-	-	9 10	SPACE
SPACE						11 12	SPACE
TOTAL VA PHASE A: 1050				TOTAL VA PHASE B: 1000		TOTAL CONNECTED WATTAGE: 2,050	
SUPPLIED FROM: IRSF-XX						DEMAND WATTAGE: 2,000	
						TOTAL DEMAND AMPS: 8	



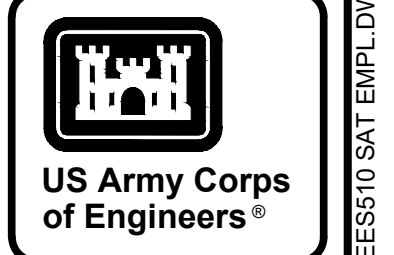
MARK	DESCRIPTION	DATE

DESIGNED BY: S. GULLEY	ISSUE DATE: NOVEMBER 2023
DRAWN BY: T. BOLTON	NO. 191414-8-2002
CHECKED BY: C. BROWN	CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-85-01
ANSID:	FILE NAME:
U.S. ARMY CORPS OF ENGINEERS	POLY, INC.
SAVANNAH DISTRICT	1985 HEADLAND AVENUE
100 W. OGLETHORPE AVE	DOTHAN, AL 36503
SAVANNAH, GA 31401	WWW.POLY-INC.COM/334799-4700

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTR)
FY23, PN 96182
VOLUMES 3 & 4 - DOWNRANGE
EMPLACEMENT DETAILS
MOVING INFANTRY TARGET (MIT)

SHEET ID
ES509

N:\2021-JOB\521014 FORT LIBERTY MPTR - POLY\DWG\BEE509.MIT EMPL.DWG
READY TO ADVERTISE (RTA)

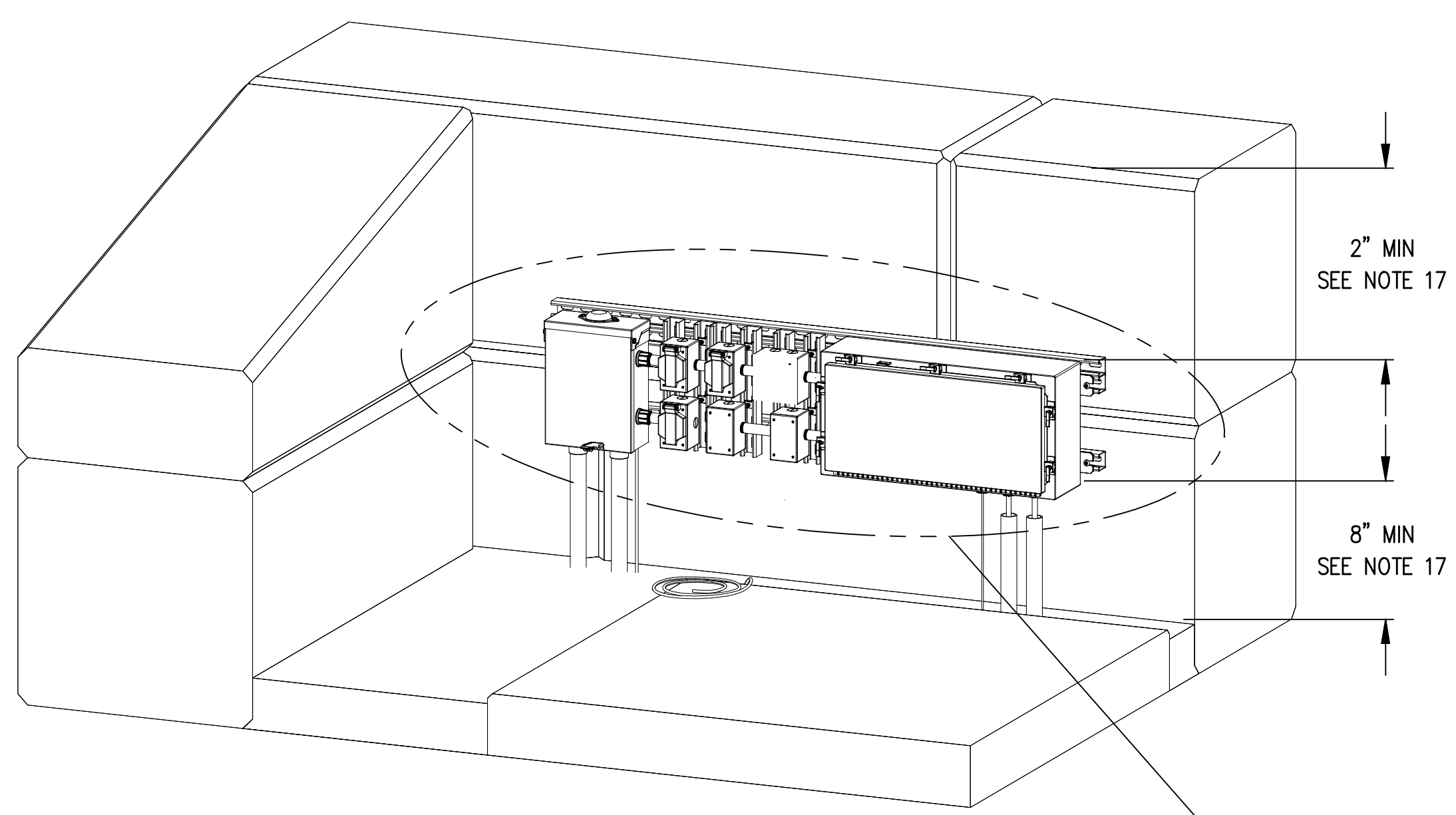


MARK	DESCRIPTION	DATE

DESIGNED BY: S. GULLEY DRAWN BY: T. BOLTON CHECKED BY: C. BROWN SUBMITTED BY: B. BRADLEY SIZE: ANSID	ISSUE DATE: NOVEMBER 2023 PROJECT NO.: W9134L24482002 CONTRACT NO.: CATEGORY CODE: 178-85-01 FILE NAME:
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36503 WWW.POLY-INC.COM/334799-4700

FORT LIBERTY, NORTH CAROLINA AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTR) FY23, PN 96182 VOLUMES 3 & 4 - DOWNRANGE EMPLOYMENT DETAILS STATIONARY ARMOR TARGET (SAT)
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SHEET ID
ES510



PARTIAL SAT TARGET ELEVATION
NOT TO SCALE

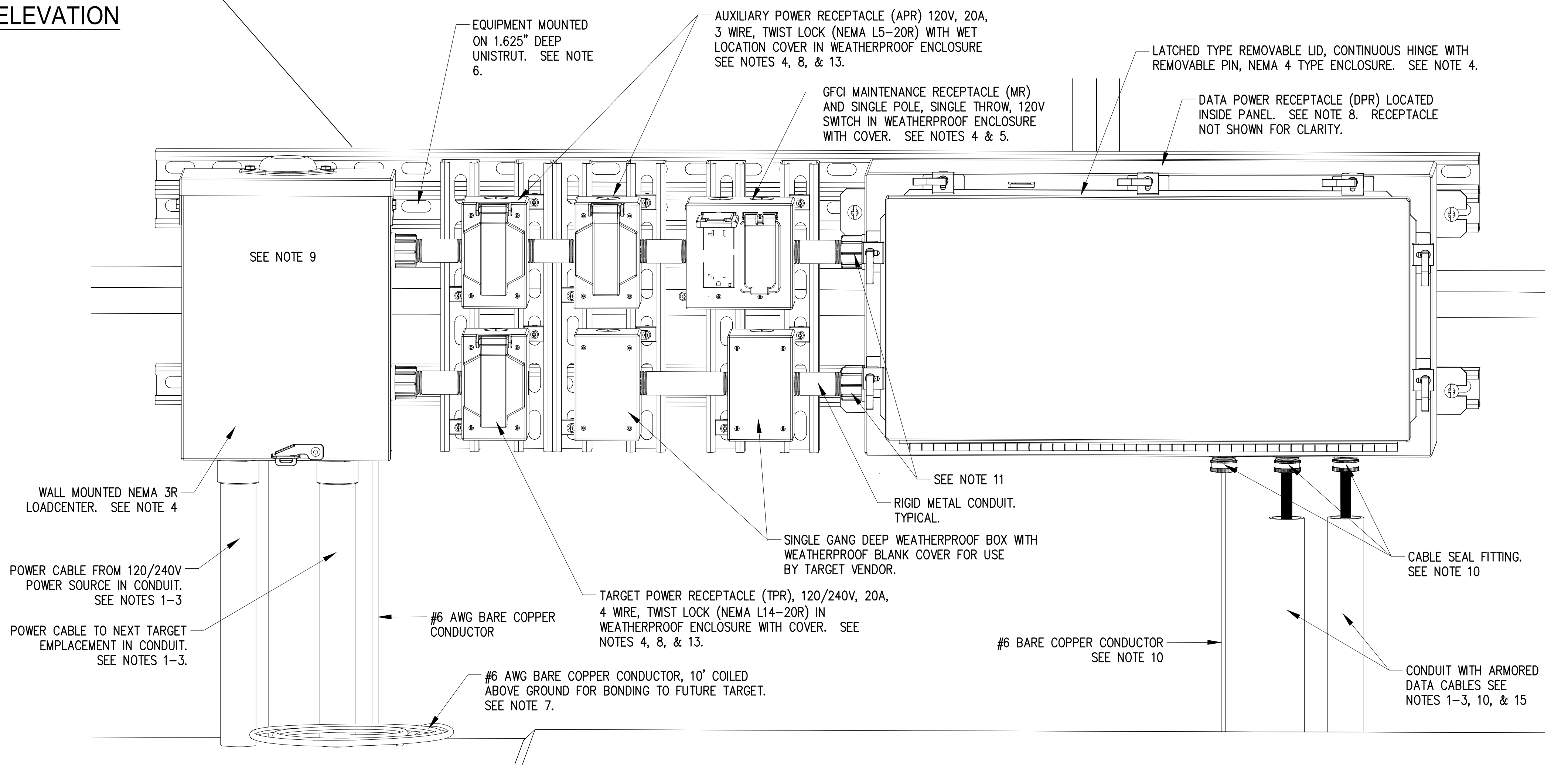
PANEL BOARD: SAT		LOCATION: XXXXXXXX		MOUNTED: SURFACE		FEED: BOTTOM				
XXXX MAIN		MAIN LUGS ONLY		ASYM A.I.C MIN.: XXXXX						
VOLTAGE: 240/120		PHASE: 1		WIRE: 3		RATING: NEMA 3R				
LOAD SERVED	NO. POLES	TRIP AMPS	WIRE SIZE	VA/ PHASE		WIRE SIZE	TRIP AMPS	NO. POLES	LOAD SERVED	
				A	B					
SURGE ARRESTOR	2	---	---	---	---	1200	20	2	SAT (NEMA L14-20R, 2-NEMA L5-20R)	
SPARE	1	20	---	---	---	1200	20	1	TDP AND MR	
SPACE						---	---	20	1	SPACE
SPACE						---	---	---	1	SPACE
SPACE						---	---	---	1	SPACE
				0	0	1450	1400			

TOTAL VA PHASE A: 1450
TOTAL VA PHASE B: 1400

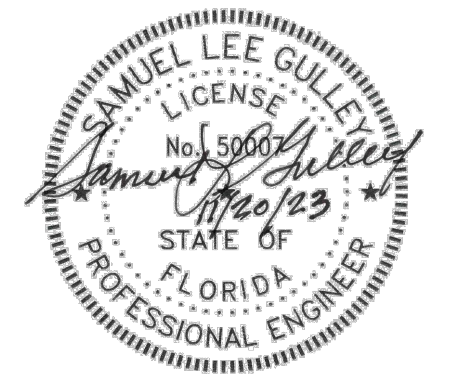
TOTAL CONNECTED WATTAGE: 2,850
DEMAND WATTAGE: 2,800
TOTAL DEMAND AMPS: 12

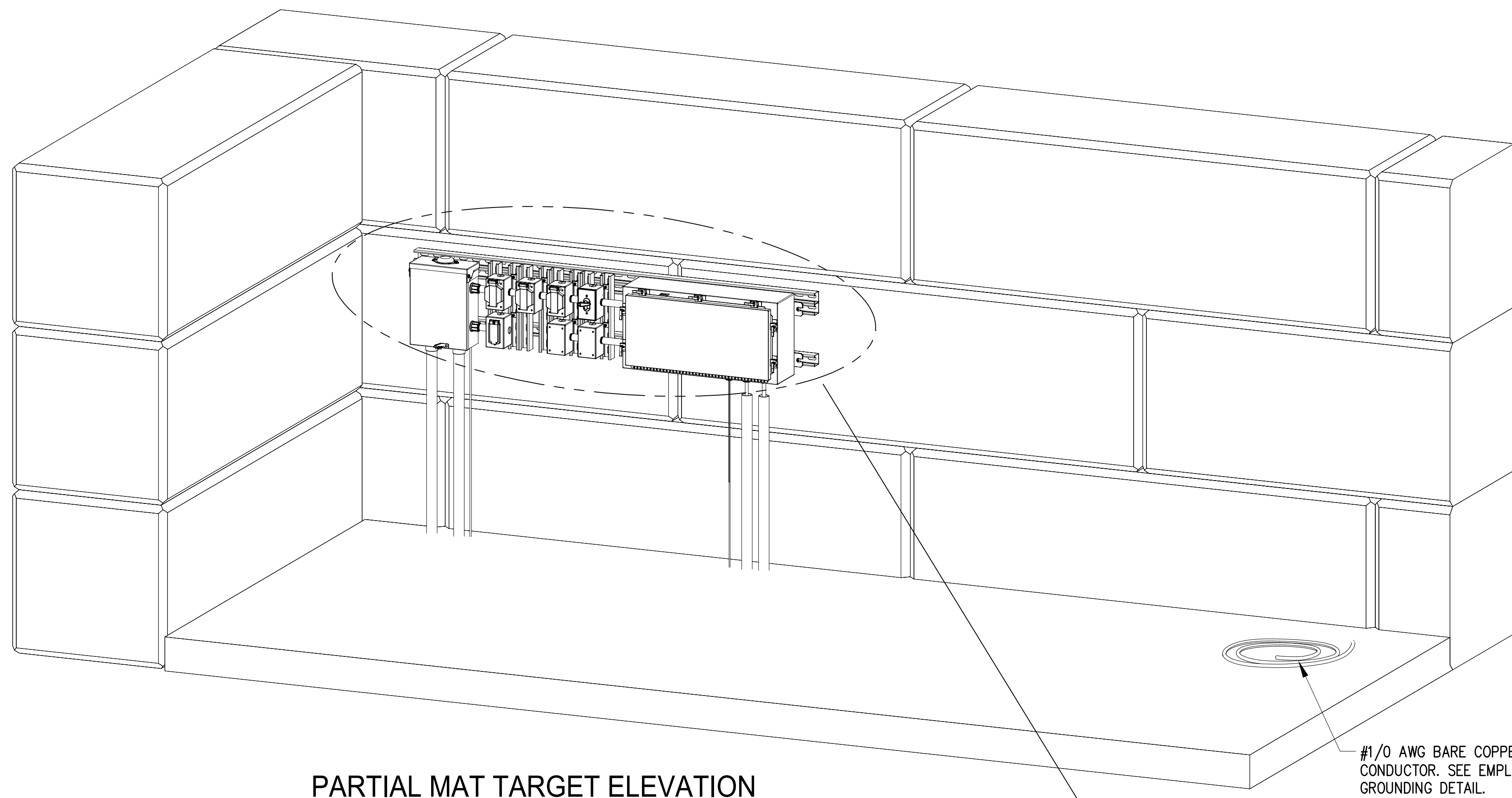
SUPPLIED FROM: TRSF-XX

- NOTES:
- CONDUIT TO EXTEND 5 FEET BEYOND EMPLACEMENT.
 - CABLES/CONDUITS ARE ROUTED FROM SIDE OF BERM TO PREVENT CABLE DAMAGE DURING MAINTENANCE OF BERM.
 - ROUTE UNDER SLAB. POWER AND DATA INSTALLED IN SAME TRENCH.
 - EQUIPMENT SHALL NOT BE MOUNTED HIGHER THAN 2" FROM TOP OF EMPLACEMENT WALL.
 - POWER TO DATA PANEL RECEPTACLE IN MTPD SHALL BE ROUTED THROUGH SINGLE POLE, SINGLE THROW SWITCH.
 - ALL EQUIPMENT SHALL BE MOUNTED ON 1.625" DEEP UNISTRUT. NO EQUIPMENT SHALL BE PERMITTED TO BE INSTALLED DIRECTLY TO CONCRETE WALL.
 - FOR FLANK TYPE SAT TARGET INCREASE THE LENGTH OF GROUND CABLE TO 18 FT.
 - TPR, APR AND DPR SHALL NOT BE GFCI PROTECTED.
 - PERMANENTLY LABEL THE EMPLACEMENT ACCORDING TO THE CIVIL AND ELECTRICAL DESIGNATIONS.
 - PROVIDE SEAL FITTINGS AS SHOWN IN DETAIL ON SHEET ES509 FOR ALL CABLE PENETRATIONS TO NEMA 4, 4X, OR 6P RATED ENCLOSURES.
 - INSTALL MYERS TYPE HUBS ON ALL CONDUIT PENETRATIONS TO SIDE OF ENCLOSURE.
 - ALL DIMENSIONS SHOWN IN INCHES UNLESS OTHERWISE NOTED.
 - PROVIDE TARGET AND AUXILIARY OUTLETS WITH NEMA 3R WET LOCATION COVERS MAKING OUTLETS SUITABLE FOR USE IN WET LOCATIONS. SEE DETAIL SHEET ES513 FOR WET LOCATION COVER. IN USE COVERS WITH COVERS INTENDED TO CLOSE OVER THE INSERTED CORD ARE NOT ACCEPTABLE AS THESE COVERS WILL NOT CLOSE OVER THE TARGET POWER OR AUXILIARY CORDS.
 - DEVIATIONS TO THE EQUIPMENT SIZES, EQUIPMENT NUMBERS, RECEPTACLE COVERS, OR CABLE ENTRY METHODS INTO ENCLOSURES WILL REQUIRE RANGE TRAINING AND LAND PROGRAM HUNTSVILLE CENTER MANDATORY CENTER OF EXPERTISE APPROVAL.
 - CONDUIT STUBBED UP AS CLOSE TO CABLE SEAL FITTING AS POSSIBLE.
 - SEE SHEET TN507 FOR ADDITIONAL INFORMATION ON TARGET DATA PANELS. SEE SHEET TN505 FOR ADDITIONAL INFORMATION ON MASTER TARGET DATA PANELS.
 - PREFERRED MOUNTING HEIGHT IS AT THE MINIMUM MOUNTING HEIGHT SHOWN FOR EQUIPMENT INSTALLED ABOVE FINISHED GRADE IN THE TARGET ELEVATION.



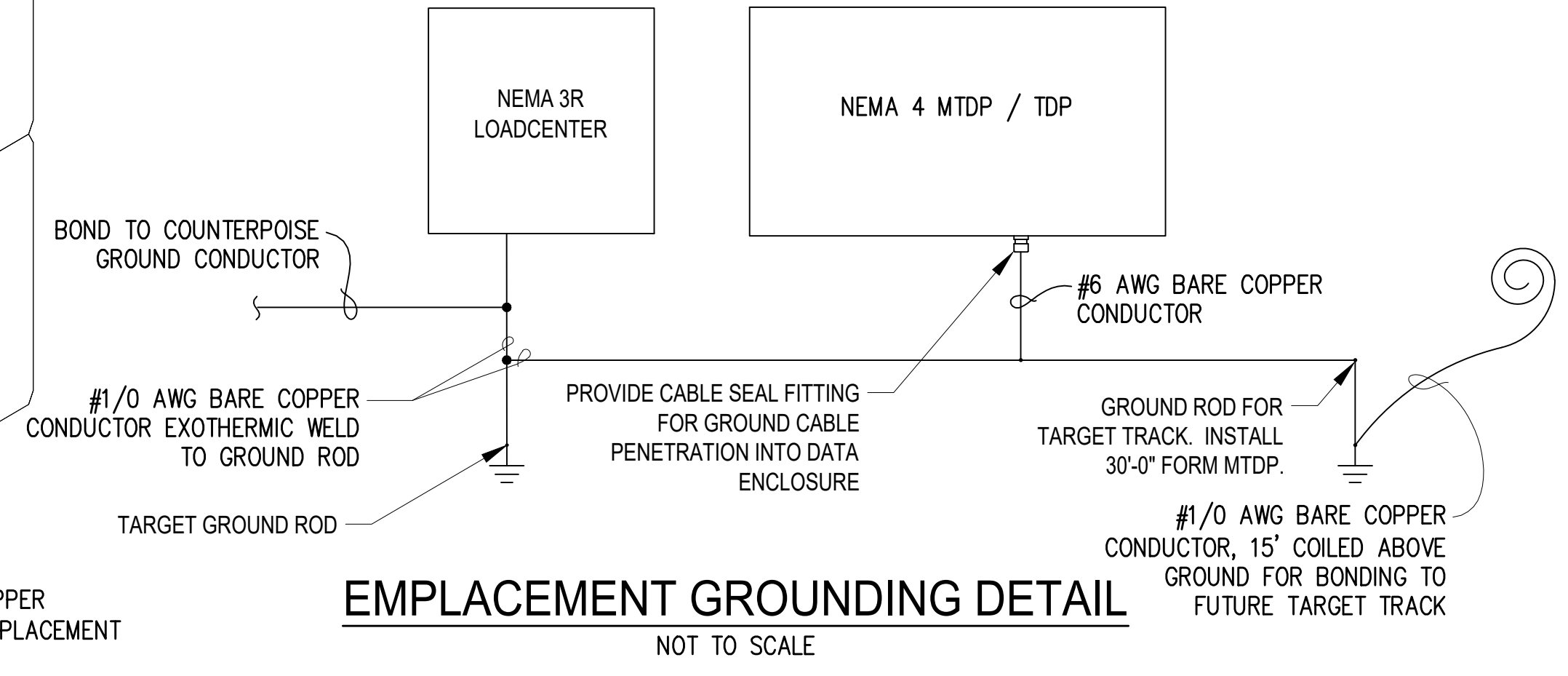
SAT TARGET ENLARGED ELECTRICAL EQUIPMENT ELEVATION
NOT TO SCALE



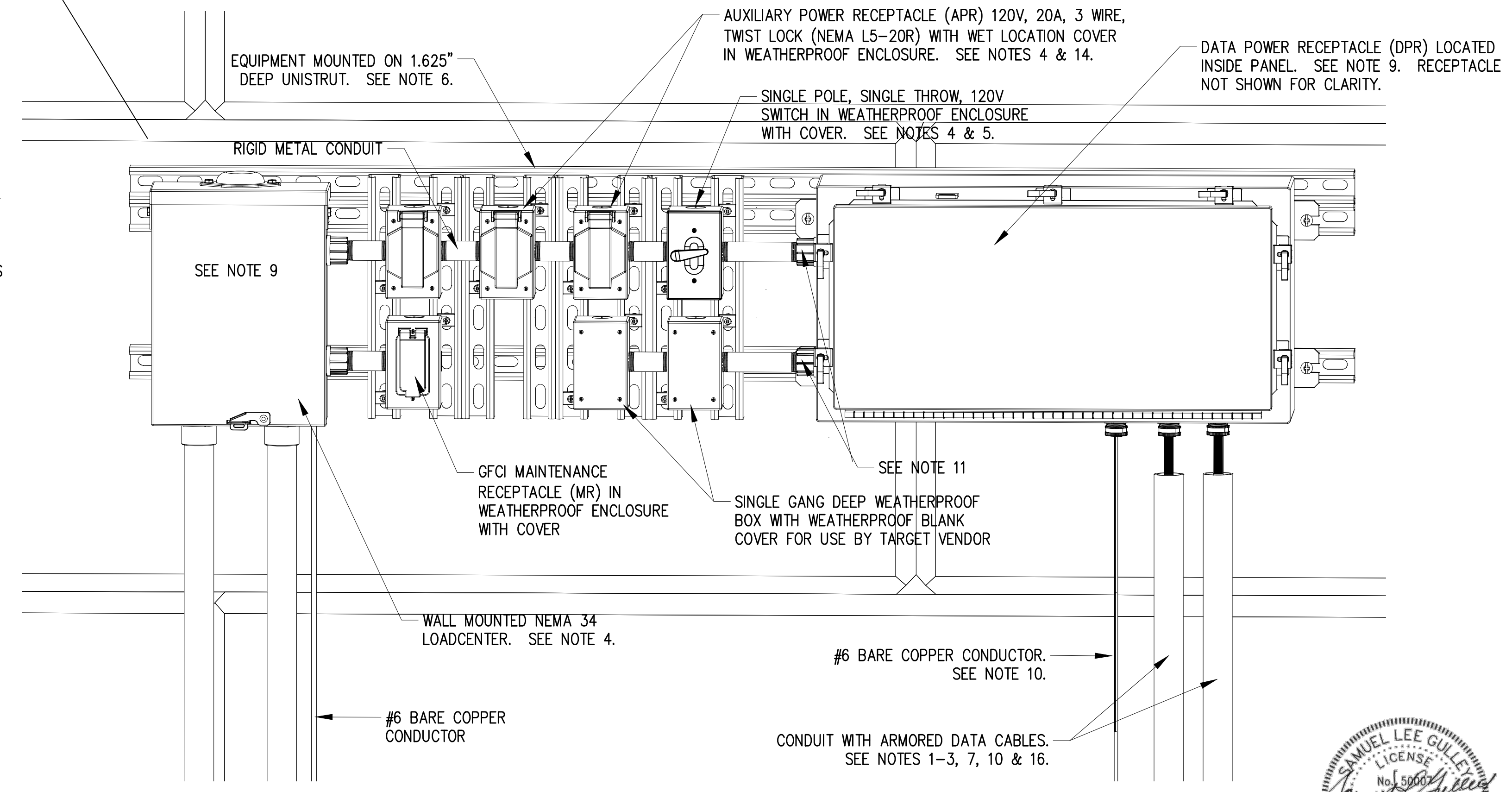


PARTIAL MAT TARGET ELEVATION
NOT TO SCALE

PANEL BOARD: MAT		LOCATION: XXXXXX		MOUNTED: SURFACE		FEED: BOTTOM				
XXX MAIN		MAIN LUGS ONLY		ASYM A.I.C MIN.: XXXX						
VOLTAGE: 240/120		PHASE: 1		WIRE: 3		RATING: NEMA 3R				
LOAD SERVED	NO. POLES	TRIP AMPS	WIRE SIZE	VA/ PHASE		WIRE SIZE	TRIP AMPS	NO. POLES	LOAD SERVED	
				A	B					
SURGE ARRESTOR	2	---	---	---	---	1900	20	2	MAT (NEMA L14-20R, 2-NEMA L5-20R)	
SPACE	1	20	---	---	---	50	20	1	TDP AND MR	
SPACE							20	1	SPACE	
SPACE								1	SPACE	
SPACE								1	SPACE	
				0	0	1950	1900			
TOTAL VA PHASE A: 1950				TOTAL VA PHASE B: 1900				TOTAL CONNECTED WATTAGE: 3,850		
								DEMAND WATTAGE: 3,800		
SUPPLIED FROM: TRSF-XX								TOTAL DEMAND AMPS: 16		

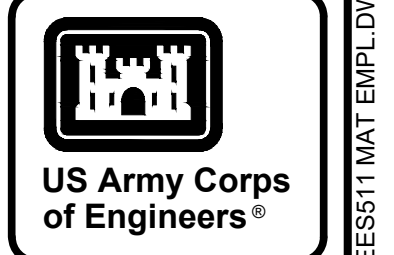
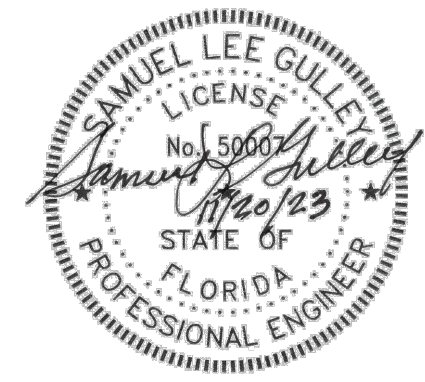


EMPLACEMENT GROUNDING DETAIL
NOT TO SCALE



MAT TARGET ENLARGED ELECTRICAL EQUIPMENT ELEVATION
NOT TO SCALE

- NOTES:
- CONDUIT TO EXTEND 5 FEET BEYOND EMPLACEMENT.
 - CABLES/CONDUITS ARE ROUTED FROM SIDE OF BERM TO PREVENT CABLE DAMAGE DURING MAINTENANCE OF BERM.
 - ROUTE UNDER SLAB. POWER AND DATA INSTALLED IN SAME TRENCH.
 - EQUIPMENT SHALL NOT BE MOUNTED HIGHER THAN 2" FROM TOP OF EMPLACEMENT WALL.
 - POWER TO DATA PANEL RECEPTACLE IN MTDP SHALL BE ROUTED THROUGH SINGLE POLE, SINGLE THROW SWITCH.
 - ALL EQUIPMENT SHALL BE MOUNTED ON 1.625" DEEP UNISTRUT. NO EQUIPMENT SHALL BE PERMITTED TO BE INSTALLED DIRECTLY TO THE CONCRETE WALL.
 - THE ENDS OF THE CAT6 CABLES SHALL BE TERMINATED WITH A DATA SURGE PROTECTOR.
 - TPR, APR AND DPR SHALL NOT BE GFCI PROTECTED.
 - PERMANENTLY LABEL THE EMPLACEMENT ACCORDING TO THE CIVIL AND ELECTRICAL DESIGNATIONS.
 - PROVIDE SEAL FITTINGS AS SHOWN IN DETAIL ON SHEET ES513 FOR ALL CABLE PENETRATIONS TO NEMA 4, 4X, OR 6P RATED ENCLOSURES.
 - INSTALL MYERS TYPE HUBS ON ALL CONDUIT PENETRATIONS TO SIDE OF ENCLOSURE.
 - ALL DIMENSIONS SHOWN IN INCHES UNLESS OTHERWISE NOTED.
 - IF TARGET IS BATTERY OPERATED WITH NO AC POWER PROVIDED, THE TARGET GROUND ROD SHALL BE INSTALLED WITH A 15' COILED #1/0 AWG BARE COPPER GROUND CABLE FOR FUTURE BONDING TO THE TARGET MECHANISM.
 - PROVIDE TARGET AND AUXILIARY OUTLETS WITH NEMA 3R WET LOCATION COVERS MAKING OUTLETS SUITABLE FOR USE IN WET LOCATIONS. SEE DETAIL SHEET ES513 FOR WET LOCATION COVER. IN USE COVERS WITH COVERS INTENDED TO CLOSE OVER THE INSERTED CORD ARE NOT ACCEPTABLE AS THESE COVERS WILL NOT CLOSE OVER THE TARGET POWER OR AUXILIARY CORDS.
 - DEVIATIONS TO THE EQUIPMENT SIZES, EQUIPMENT NUMBERS, RECEPTACLE COVERS, OR CABLE ENTRY METHODS INTO ENCLOSURES WILL REQUIRE RANGE TRAINING AND LAND PROGRAM HUNTSVILLE CENTER MANDATORY CENTER OF EXPERTISE APPROVAL.
 - CONDUIT STUBBED UP AS CLOSE TO CABLE SEAL FITTING AS POSSIBLE.
 - EQUIPMENT IS SHOWN AT THE PREFERRED MOUNTING HEIGHT. UNDER NO CIRCUMSTANCE SHOULD ANY EQUIPMENT BE INSTALLED SUCH THAT THE TOP OF THE EQUIPMENT IS LESS THAN 2" FROM THE TOP OF THE EMPLACEMENT WALL.
 - SEE SHEET TN507 FOR ADDITIONAL INFORMATION ON TARGET DATA PANELS. SEE SHEET TN505 FOR ADDITIONAL INFORMATION ON MASTER TARGET DATA PANELS.
 - LENGTH OF 157" IS FOR MAT WITH STANDARD EQUIPMENT SHOWN. INCREASE LENGTH TO 236" WHEN SECTIONALIZING ENCLOSURE IS REQUIRED IN DESIGN. COORDINATE WITH CIVIL DESIGN.



DATE	DESCRIPTION	MARK

DESIGNED BY: S. GULLEY	ISSUE DATE: NOVEMBER 2023
DRAWN BY: T. BOLTON	DRAWING NO.: 10419A144 3002
CHECKED BY: C. BROWN	CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-85-01
FILE NAME:	ANSID:

U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT
100 W. OGLETHORPE AVE
SAVANNAH, GA 31401

POLY, INC.
1935 HEADLAND AVENUE
DOTHAN, AL 36503
WWW.POLY-INC.COM/3347-95-4700

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 86182
VOLUMES 3 & 4 - DOWNRANGE

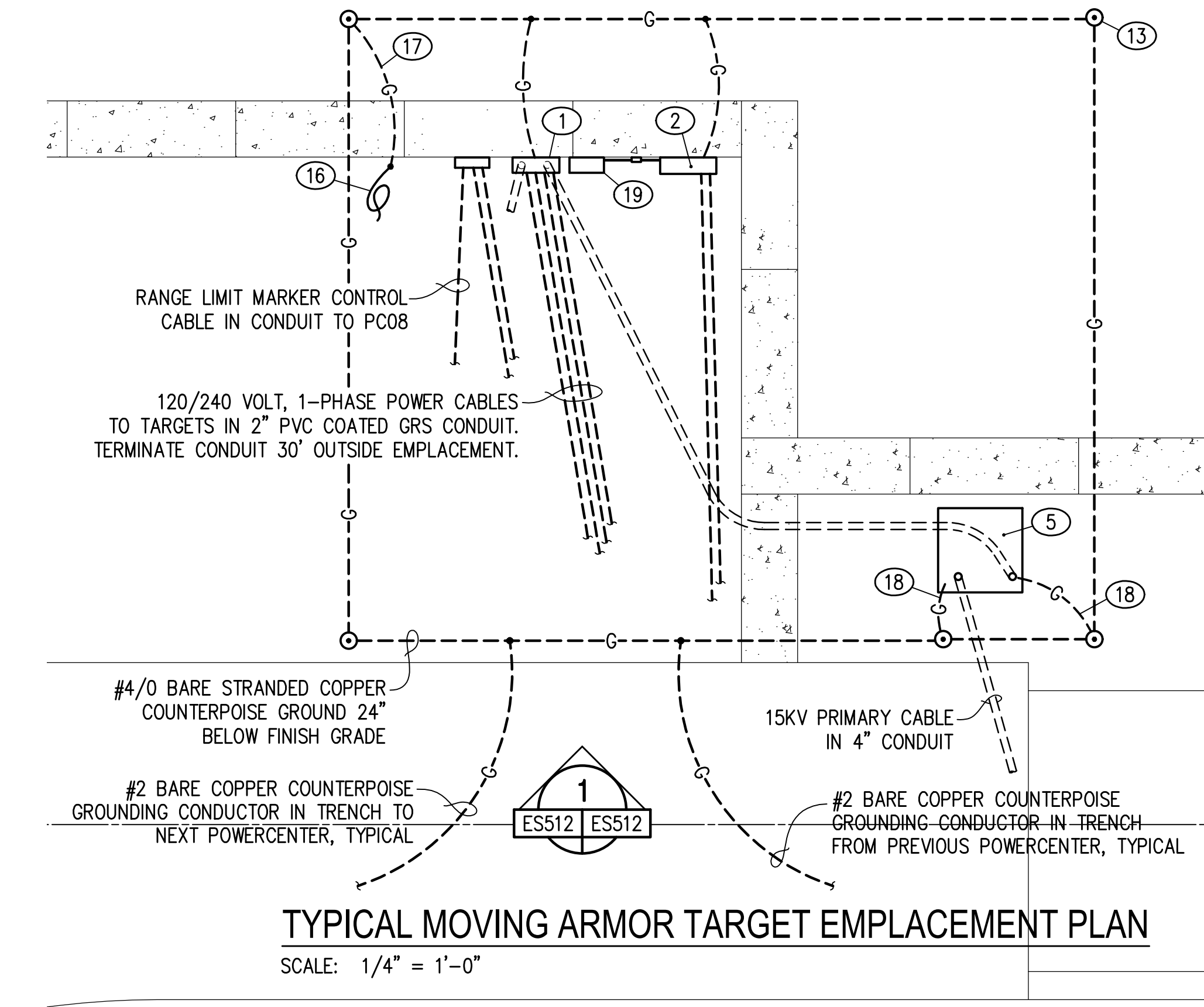
EMPLACEMENT DETAILS
MOVING ARMOR TARGET (MAT)

SHEET ID
ES511

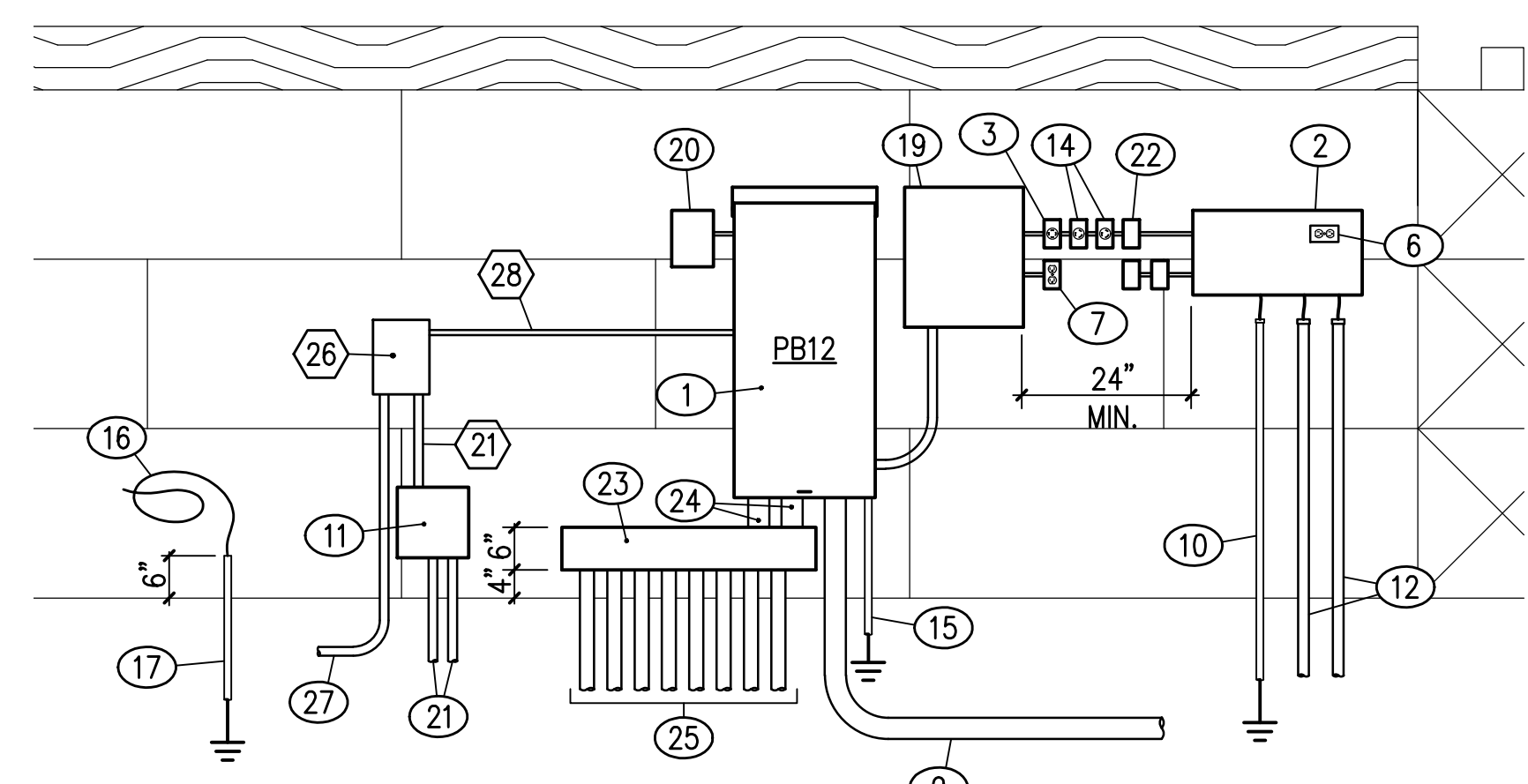
N19021 JOBSS21014 FORT LIBERTY MPTTR - POLYDOWGIBZEE8511 MAT EMPLDOWG READY TO ADVERTISE (RTA)

MAT Emplacement Key Notes

- 1 120/240 VOLT, 1-PHASE, 3 WIRE PANELBOARD WITH A NEMA 3R ENCLOSURE (MINIMUM 20" WIDE).
2 MASTER TARGET DATA PANEL (MTDP) OR TDP IN NEMA 4 ENCLOSURE. SEE DETAILS, SHEETS TN505 AND TN507.
3 WEATHERPROOF ENCLOSURE AND WET LOCATION COVER WITH 125/250 VOLT, 3 POLE, 4 WIRE GROUNDING TYPE TWIST-LOCK (NEMA L14-20R) TARGET POWER RECEPTACLE. SEE DETAILS, SHEET ES513.
4 NOT USED
5 LOW PROFILE PAD MOUNTED TRANSFORMER AND CONCRETE PAD - 7200 - 240/120 VOLT, 1-PHASE, 3 WIRE PROVIDED BY SANDHILLS UTILITY SERVICES. SEE POWER DISTRIBUTION SINGLE LINE DIAGRAM, SHEET ES606.
6 DATA POWER RECEPTACLE (DPR) LOCATED INSIDE PANEL - 20 AMP, 125 VOLT, 2 POLE, 3 WIRE GROUNDING TYPE DUPLEX
7 GFCI MAINTENANCE RECEPTACLE (MR) IN WEATHERPROOF ENCLOSURE WITH COVER.
8 POWER CABLES IN 2" PVC COATED GALVANIZED RIGID STEEL CONDUIT FROM 120/240 VOLT POWER PANEL TO OTHER TARGET EMPLACEMENTS.
9 MAIN SECONDARY SERVICE FEEDER FROM PAD MOUNTED TRANSFORMER. SEE POWER DISTRIBUTION SINGLE LINE DIAGRAM, SHEET ES606.
10 #6 BARE COPPER IN 1" CONDUIT. BOND TO GROUND BAR OF MTDP OR TDP. EXOTHERMIC WELD TO THE COUNTERPOISE GROUND.
11 RANGE LIMIT MARKER JUNCTION BOX AT M-01/PC06 ONLY. SEE CONTROL DIAGRAM, SHEET ES518.
12 ARMORED DATA CABLES AS REQUIRED IN 1-1/2" PVC COATED GALVANIZED RIGID STEEL CONDUIT STUB OUT 10'-0" BEYOND EDGE OF EMPLACEMENT BERM OR GRAVEL.
13 3/4" DIA x 10'-0" COPPERCLAD STEEL GROUND ROD. EXOTHERMIC WELD ROD TO COUNTERPOISE MINIMUM 24" BELOW FINISH GRADE, TYPICAL. INSTALL BEYOND TARGET BERM.
14 WEATHERPROOF ENCLOSURE AND WET LOCATION COVER WITH 20 AMP, 125 VOLT, 2 POLE, 3 WIRE GROUNDING TWIST-LOCK (NEMA L5-20R) AUXILIARY POWER RECEPTACLE
15 SERVICE GROUND CONDUCTOR 1 #6 IN 3/4" CONDUIT (MINIMUM) TO COUNTERPOISE
16 #1/0 AWG BARE COPPER CONDUCTOR - 15'-0" COILED FOR GROUNDING TO TARGET
17 CONNECT #1/0 AWG BARE COPPER CONDUCTOR IN 3/4" PVC COATED GALVANIZED RIGID STEEL CONDUIT TO COUNTERPOISE GROUND ROD. COORDINATE LOCATION WITH TARGET INSTALLER.
18 #1/0 AWG BARE COPPER CONDUCTOR FROM TRANSFORMER TO COUNTERPOISE
19 TARGET LOADCENTER PANEL
20 SURGE PROTECTIVE DEVICE IN NEMA 4 ENCLOSURE. CONNECT TO PANELBOARD WITH 4 #10 IN 3/4" SHORT NIPPLE CONDUIT.
21 RANGE LIMIT MARKER CONTROL CABLE IN 1-1/4" PVC COATED GALVANIZED RIGID STEEL CONDUIT TO 10'-0" BEYOND EDGE OF EMPLACEMENT BERM OR GRAVEL.
22 SINGLE POLE, SINGLE THROW 120 VOLT SWITCH IN WEATHERPROOF ENCLOSURE WITH COVER.

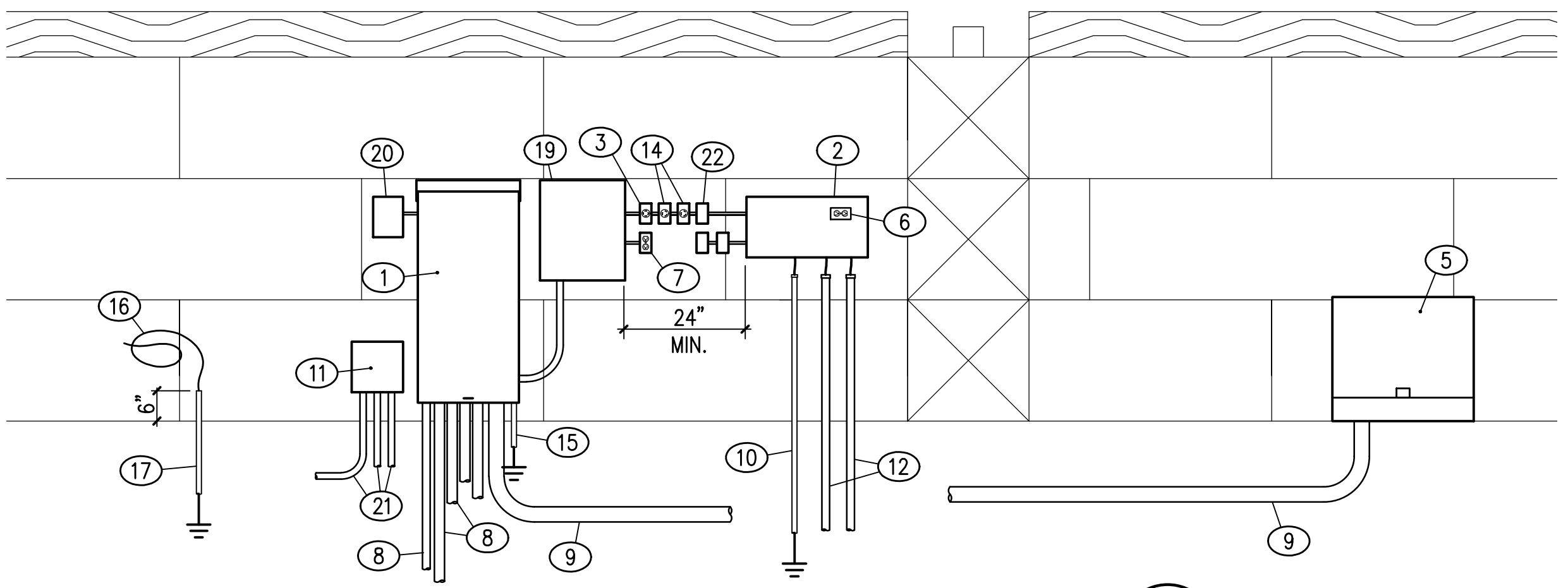


- NOTES
DO NOT RUN CONDUITS IN COMPACTED FILL FOR BERM. ALL CONDUITS SHALL ENTER THE EMPLACEMENT FROM THE REAR OR SIDES ONLY.
GROUND RESISTANCE OF THE TARGET EMPLACEMENT GROUNDING SYSTEM SHALL BE 25 OHMS OR LESS.
SEAL OPENINGS IN CONDUITS AROUND CABLES WHERE DIRECT BURIED CABLES ENTER STUBBED OUT CONDUITS.
PROVIDE WATERTIGHT FITTINGS FOR ALL CONDUIT AND CABLE ENTRIES.
DO NOT INSTALL COUNTERPOISE SYSTEM UNDER TARGET BERM.



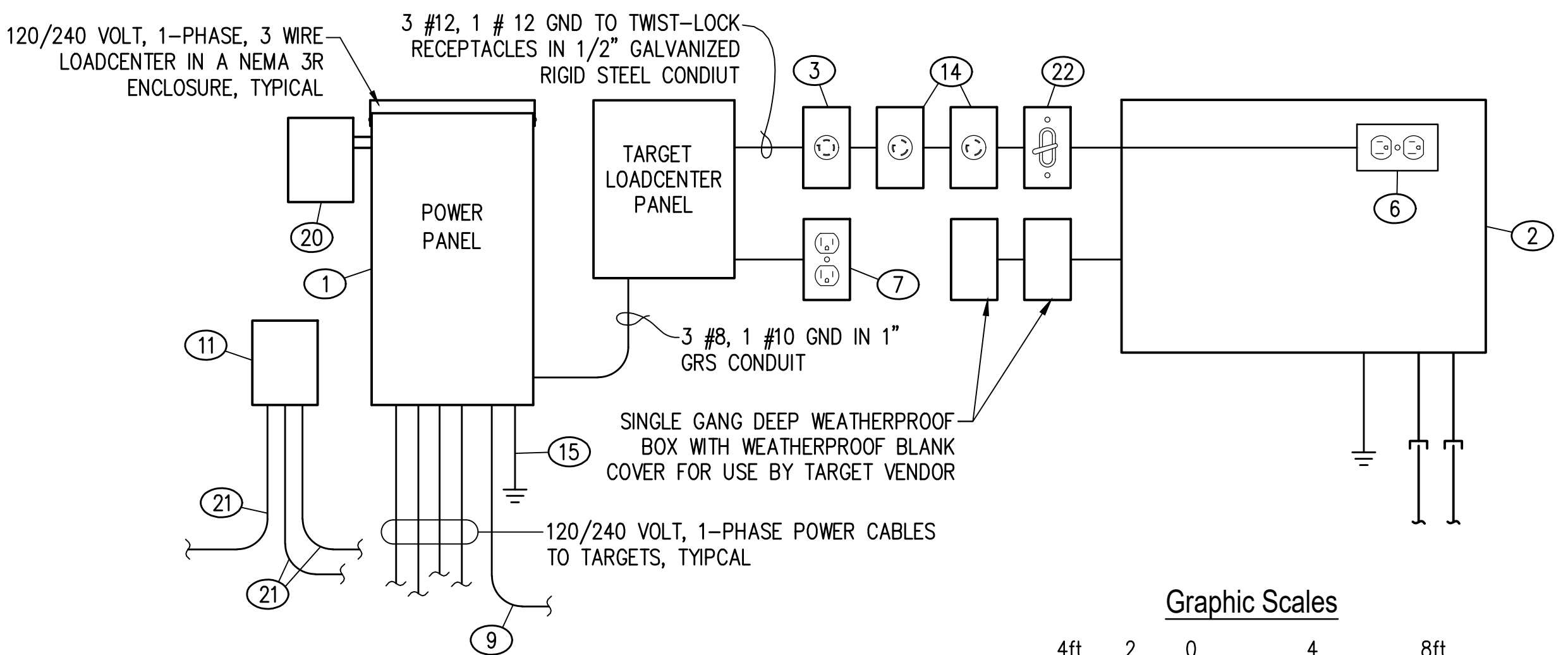
MOVING ARMOR TARGET ELEVATION PC-12 (M-03)

- 23 6"x6"x36" LONG NEMA 3R WIREWAY WITH GASKETED SCREW COVER
24 PROVIDE TWO (2) 3-1/2" GALVANIZED RIGID STEEL CONDUIT NIPPLE
25 EIGHT (8) BRANCH CIRCUIT POWER CABLES TO TARGETS IN 2" GALVANIZED RIGID STEEL CONDUITS
26 RANGE LIMIT MARKER CONTROLLER
27 POWER CABLE TO RANGE LIMIT MARKER IN 1-1/2" PVC COATED GALVANIZED RIGID STEEL CONDUIT STUBBED OUT MINIMUM 10'-0" BEYOND EDGE OF BERM OR GRAVEL
28 BRANCH CIRCUIT CONDUIT AND CONDUCTORS FROM POWER PANEL FOR 120 VOLT, 1-PHASE SERVICE TO LIMIT MARKER



MOVING ARMOR TARGET ELEVATION

NOTE
ALL EXPOSED CONDUITS SHALL BE GALVANIZED RIGID STEEL. ALL UNDERGROUND CONDUITS SHALL BE PVC COATED GALVANIZED RIGID STEEL.



MAT EMPLACEMENT POWER RISER DIAGRAM

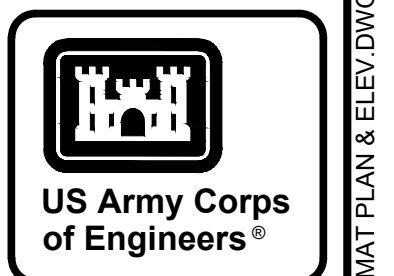
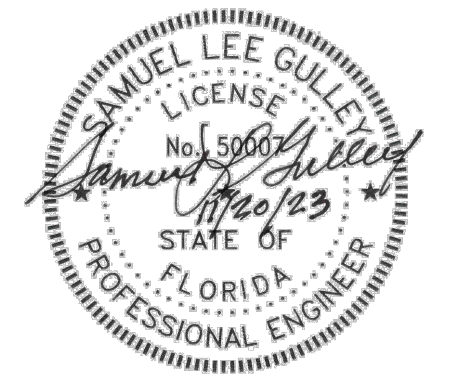
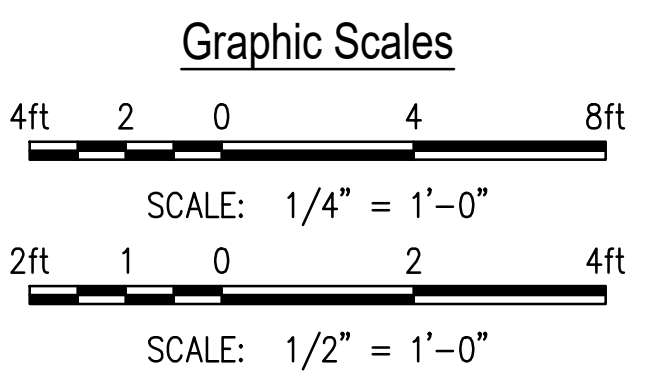
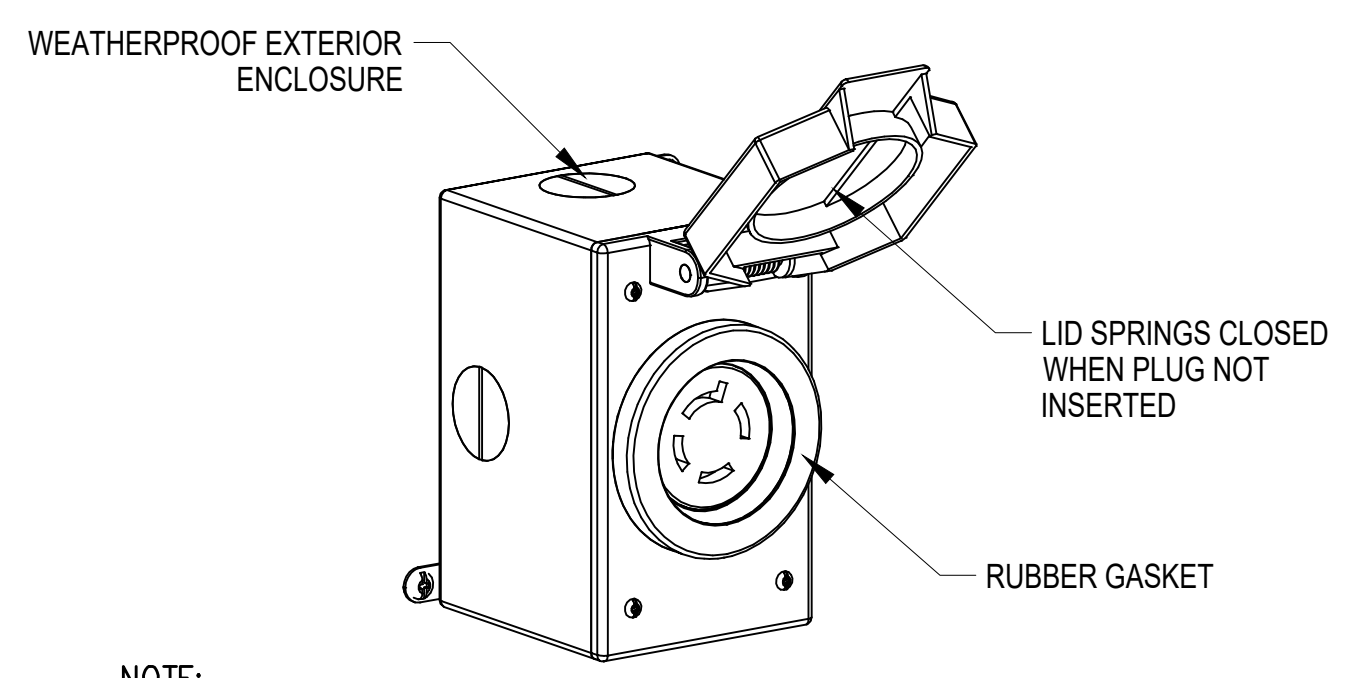


Table with columns for DATE and DESCRIPTION.

DESIGNED BY: S. GULLEY
DRAWN BY: T. BOLTON
CHECKED BY: C. BROWN
SUBMITTED BY: B. BRADLEY
U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT
100 W. OGLETHORPE AVE
SAVANNAH, GA 31401
POLY, INC.
1935 HEADLAND AVENUE
DOTHAN, AL 36503
WWW.POLY-INC.COM/3347-95-4700

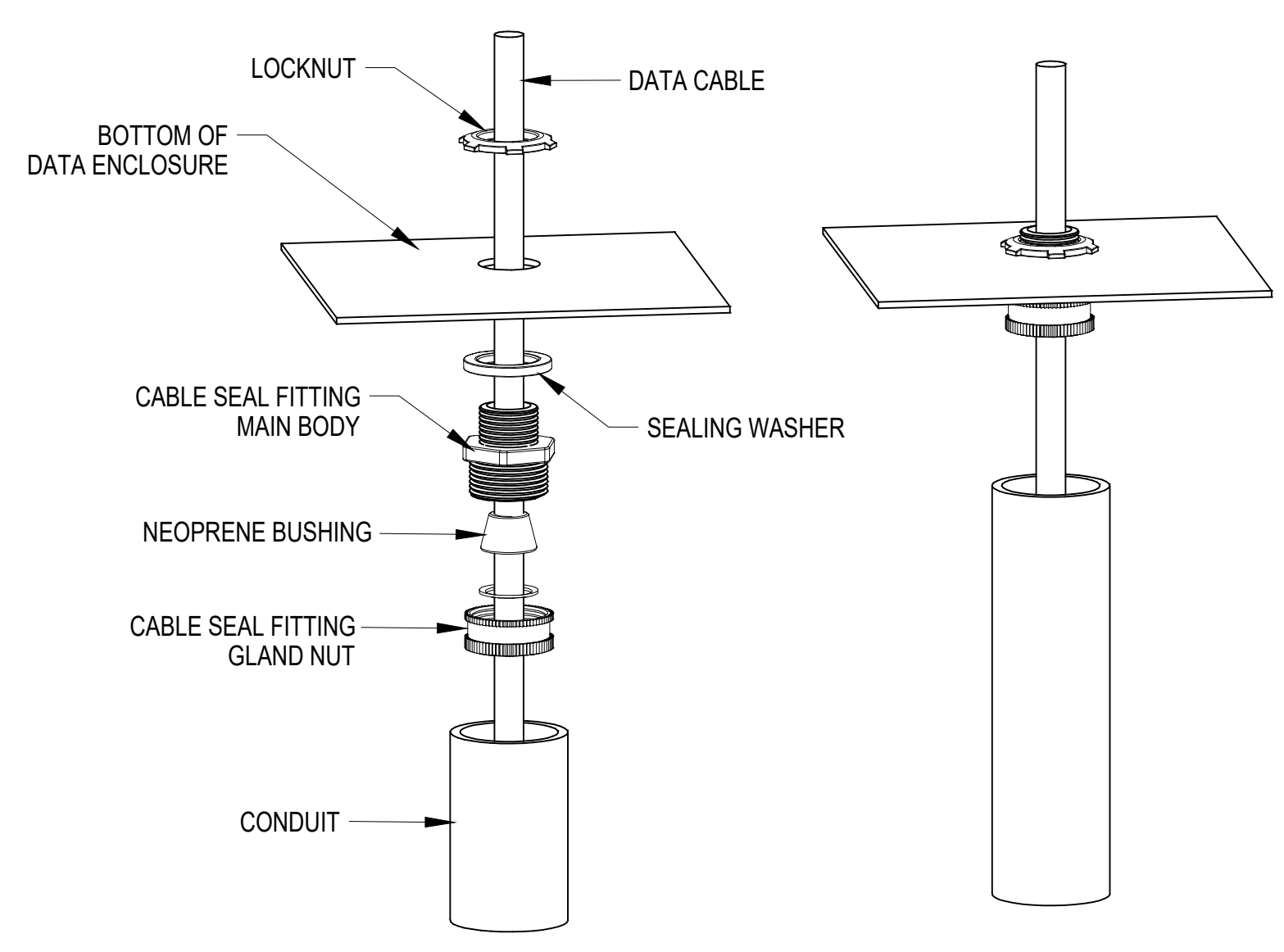
FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
VOLUMES 3 & 4 - DOWNRRANGE
EMPLACEMENT DETAILS
MOVING ARMOR TARGET (MAT)
EMPLACEMENT PLAN AND DETAILS

SHEET ID
ES512

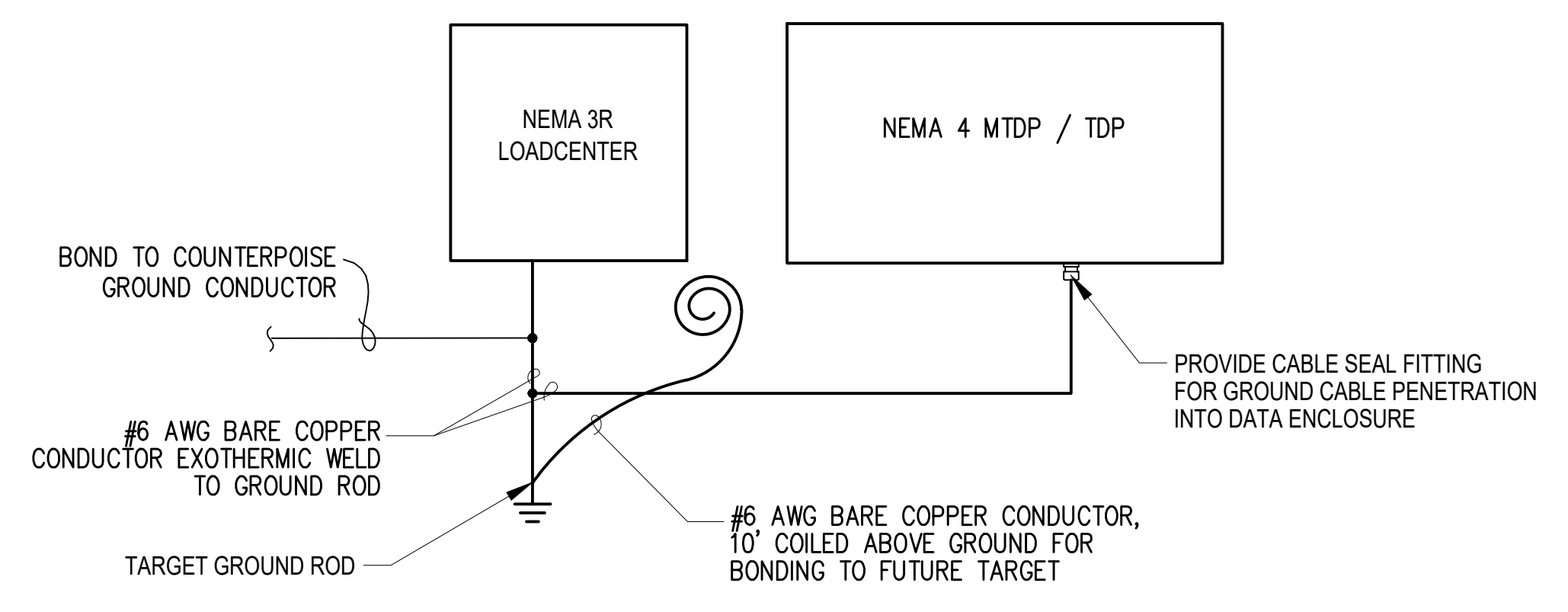


NOTE:
WEATHERPROOF, IN-USE WET LOCATION COVERS SHALL BE PROVIDED WITH ETHYLENE PROPYLENE RUBBER GASKETS AROUND THE FACE OF THE RECEPTACLE TO PREVENT THE ENTRANCE OF MOISTURE AND DIRT WITH COVER OPEN AND PLUG INSERTED. COVER SHALL ACCEPT MALE PLUG WITH DIAMETER OF 1.8" - 1.95".

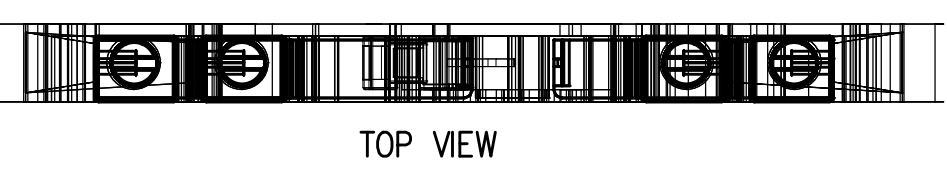
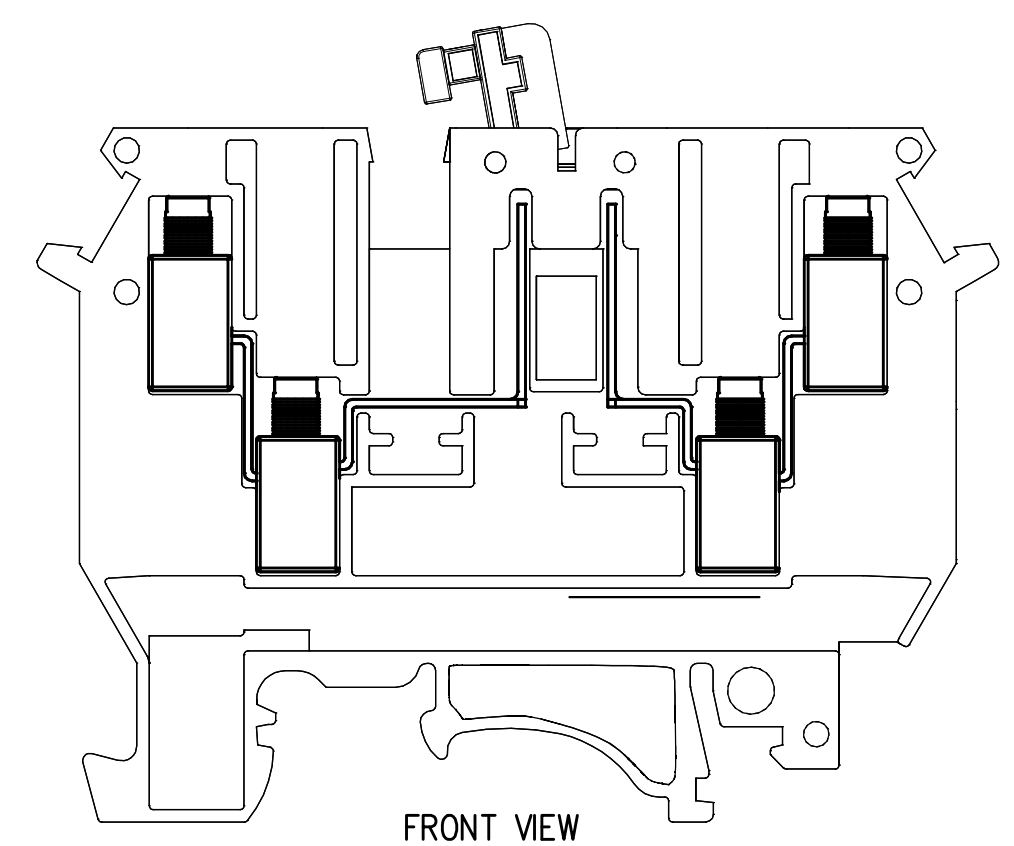
WET LOCATION RECEPTACLE COVER
NOT TO SCALE



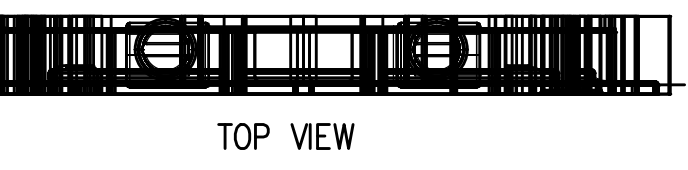
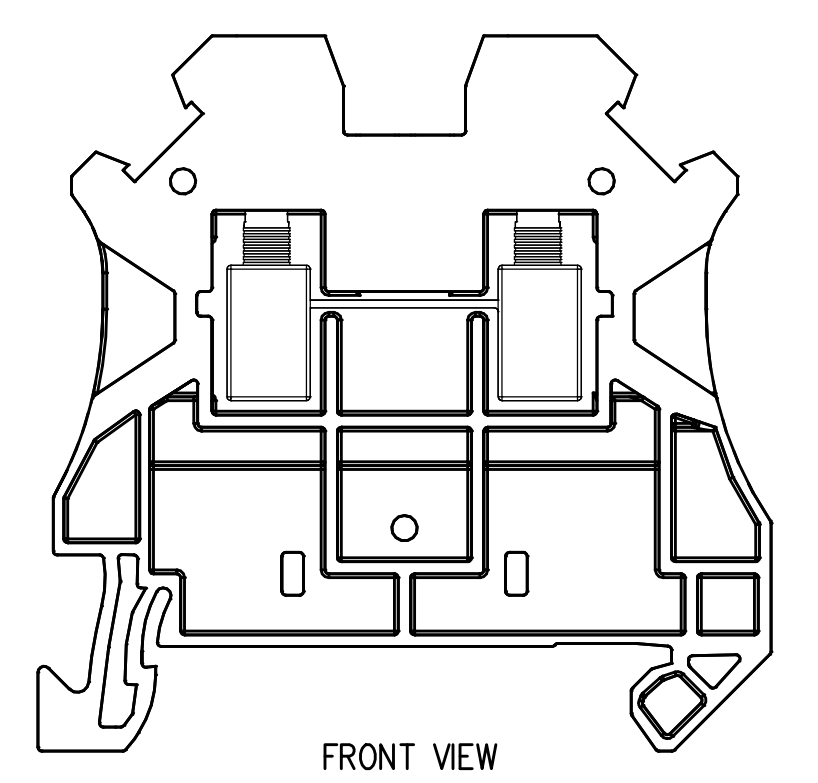
CABLE SEAL FITTING DETAIL
NOT TO SCALE



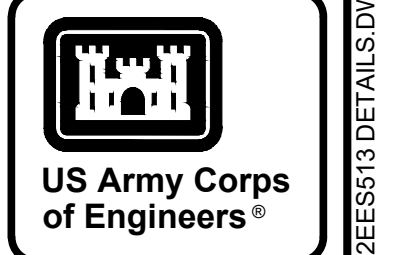
EMPLACEMENT GROUNDING DETAIL
NOT TO SCALE



WIRING DIAGRAM
SCREW CONNECTIONS, 4 TERMINALS, CENTER DISCONNECT
KNIFE DISCONNECT TERMINAL BLOCK
NOT TO SCALE



WIRING DIAGRAM
SCREW CONNECTIONS, 2 TERMINALS, FEED-THROUGH TYPE
FEED-THROUGH TERMINAL BLOCK
NOT TO SCALE



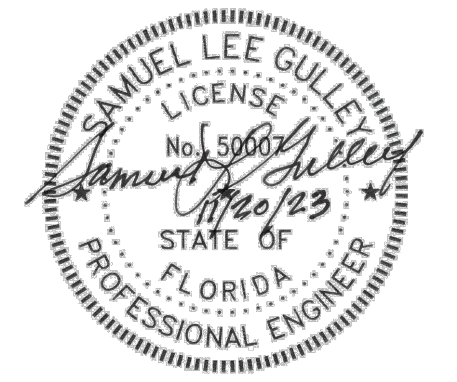
MARK	DESCRIPTION	DATE

DESIGNED BY: S. GULLEY	ISSUE DATE: NOVEMBER 2023
DRAWN BY: T. BOLTON	NOVEMBER 2023
CHECKED BY: C. BROWN	NOVEMBER 2023
SUBMITTED BY: B. BRADLEY	CONTRACT NO.:
SIZE: ANSI D	CATEGORY CODE: 178-85-01
FILE NAME:	

U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT
100 W. OGLETHORPE AVE
SAVANNAH, GA 31401

POLY, INC.
1935 HEADLAND AVENUE
DOTHAN, AL 36803
WWW.POLY-INC.COM/334799-4700

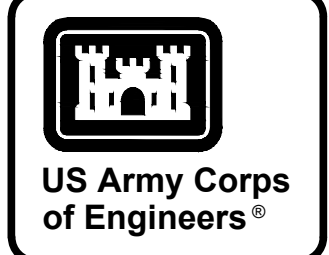
FORT LIBERTY, NORTH CAROLINA AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTR) FY23, PN 86182 VOLUMES 3 & 4 - DOWNRANGE	EMPLACEMENT DETAILS
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SHEET ID
ES513

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

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US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. GULLEY	ISSUE DATE: NOVEMBER 2003
DRAWN BY: T. BOLTON	NO. OF REVISIONS: 0
CHECKED BY: C. BROWN	CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-85-01
SIZE: ANSI D	FILE NAME:

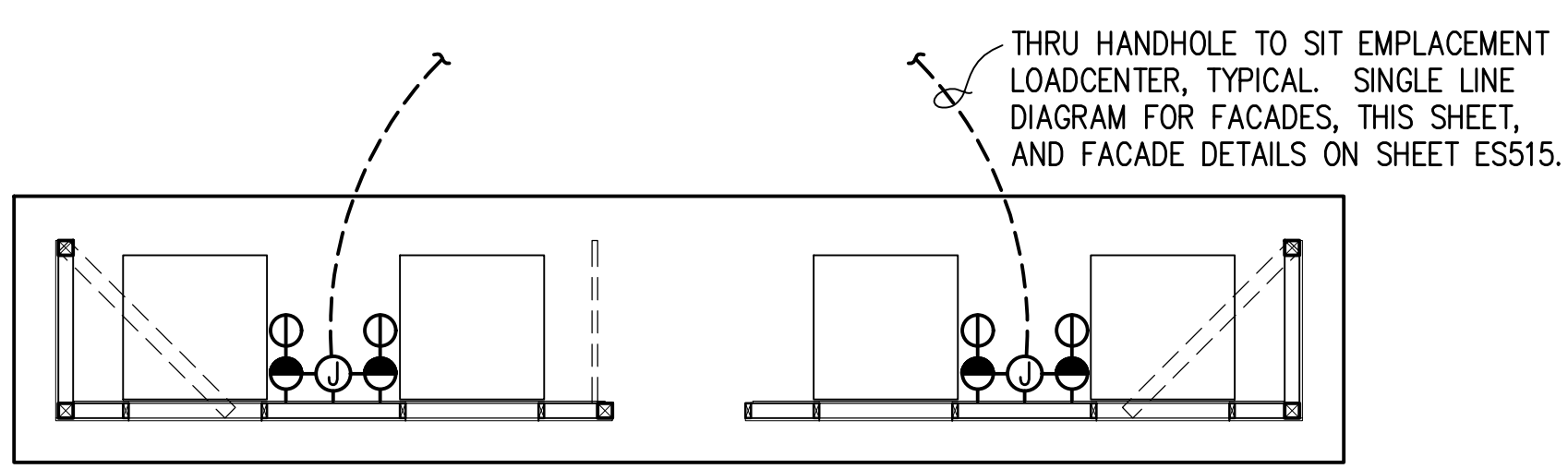
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36803 WWW.POLY-INC.COM/3347-99-4700
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FORT LIBERTY, NORTH CAROLINA AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTR) FY23, PN 86182 VOLUMES 3 & 4 - DOWNRANGE	BUILDING FACADE FLOOR PLANS
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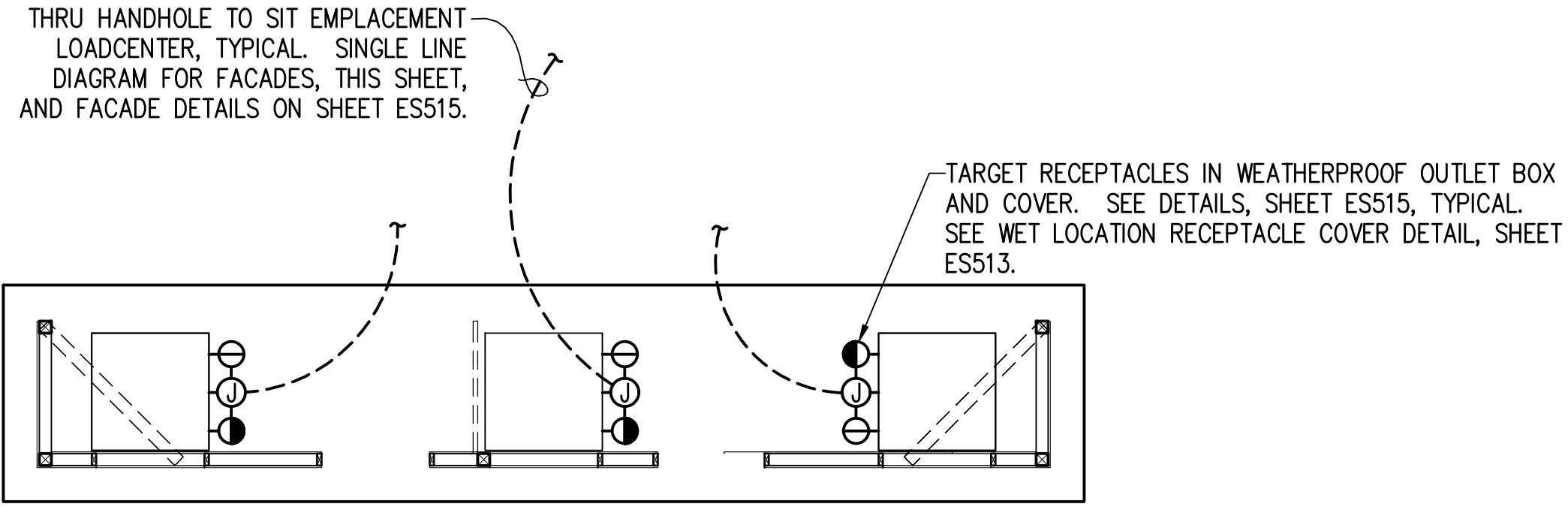
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ELECTRICAL LEGEND - FACADES

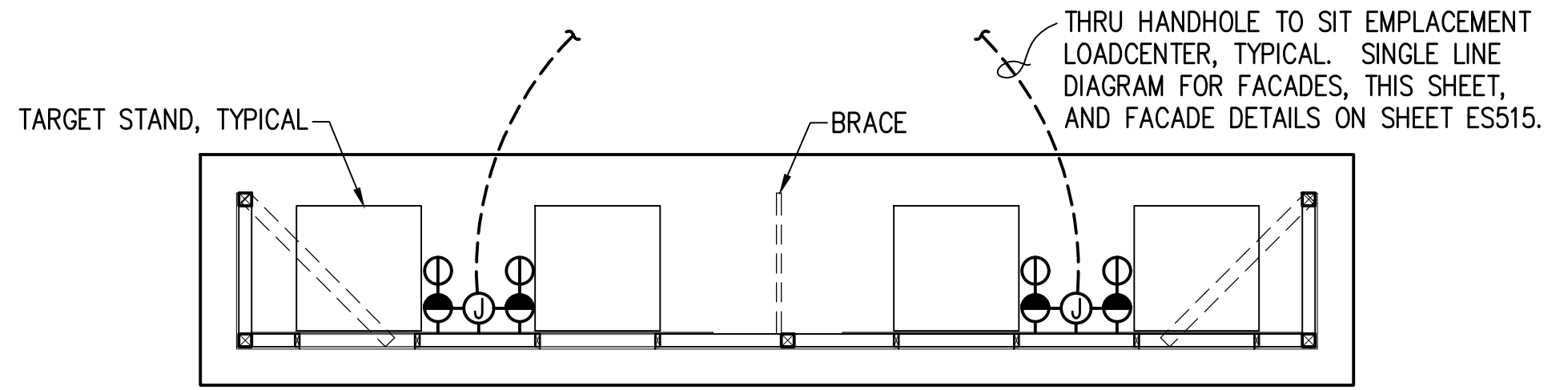
- TARGET RECEPTACLE - 20 AMP, 125/250 VOLT, 3-POLE, 4 WIRE GROUNDING TYPE, NEMA L14-20R IN WET LOCATION BOX AND COVER. SEE MOUNTING DETAILS, SHEET ES515.
- ⊖ SINGLE RECEPTACLE - 20 AMP, 125 VOLT, 2-POLE, 3 WIRE GROUNDING TYPE, NEMA L5-20R. SEE MOUNTING DETAILS, SHEET ES515.
- ⓐ POWER JUNCTION BOX - SEE DETAILS FOR MOUNTING AND OUTLET CONFIGURATION, SHEET ES515.
- BRANCH CIRCUIT CONDUIT AND CONDUCTORS. RUN CONCEALED UNDERGROUND.



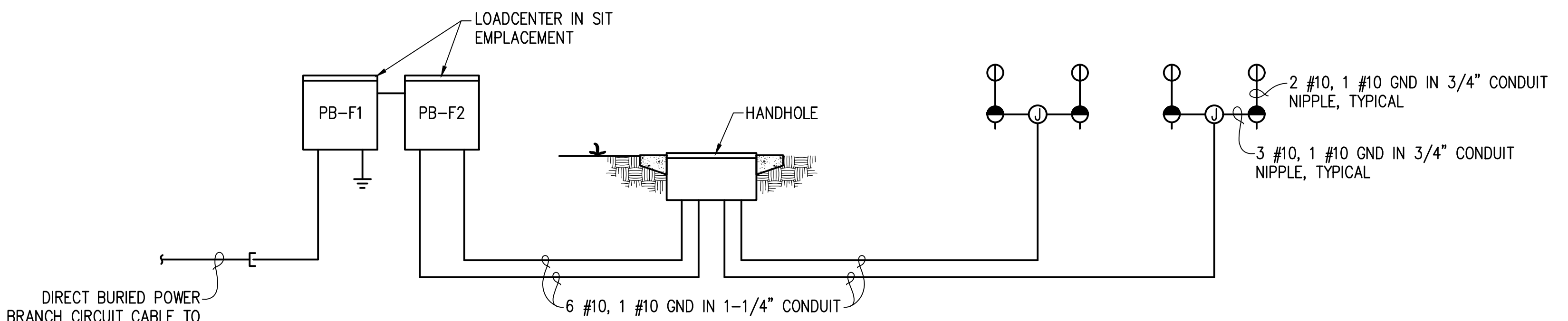
ELECTRICAL FACADE PLAN - A VERSION
SCALE: 1/4" = 1'-0"
FACADES F1-01A AND F4-01A



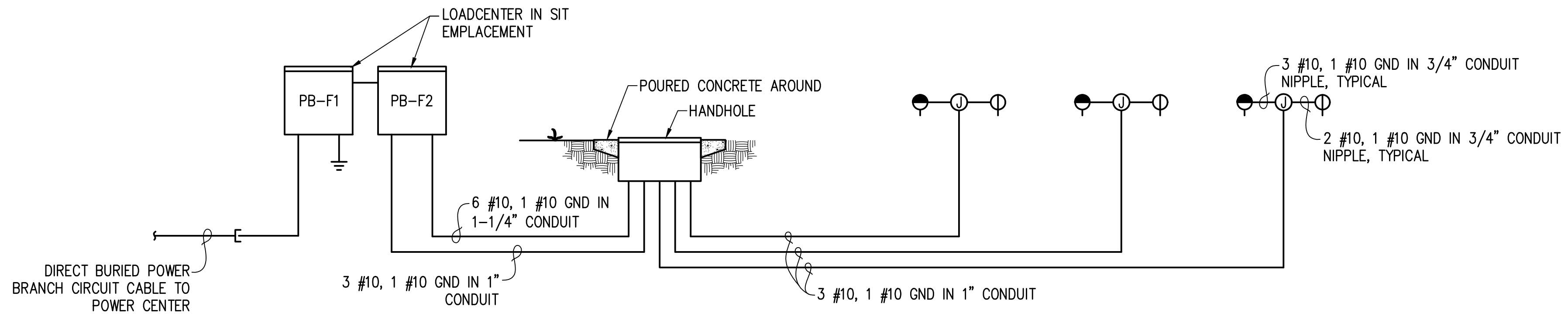
ELECTRICAL FACADE PLAN - B VERSION
SCALE: 1/4" = 1'-0"
FACADES F2-01B AND F5-01B



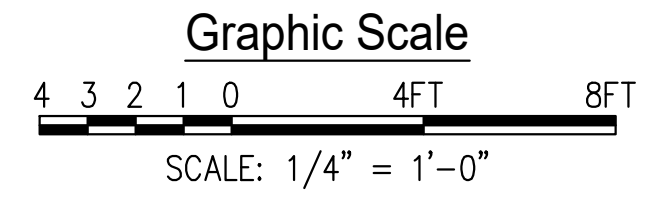
ELECTRICAL FACADE PLAN - C VERSION
SCALE: 1/4" = 1'-0"
FACADE F3-01C



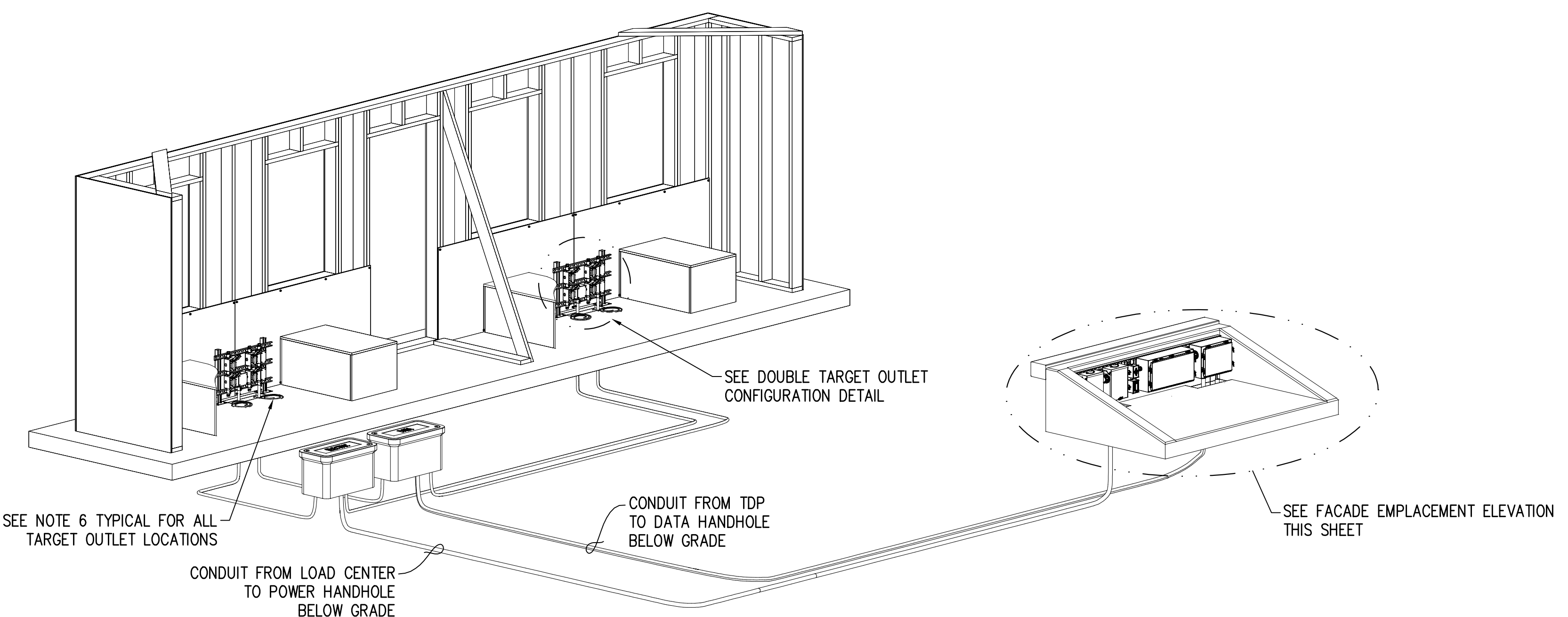
SINGLE LINE DIAGRAM - TYPICAL FOR "A" & "C" VERSIONS
NOT TO SCALE



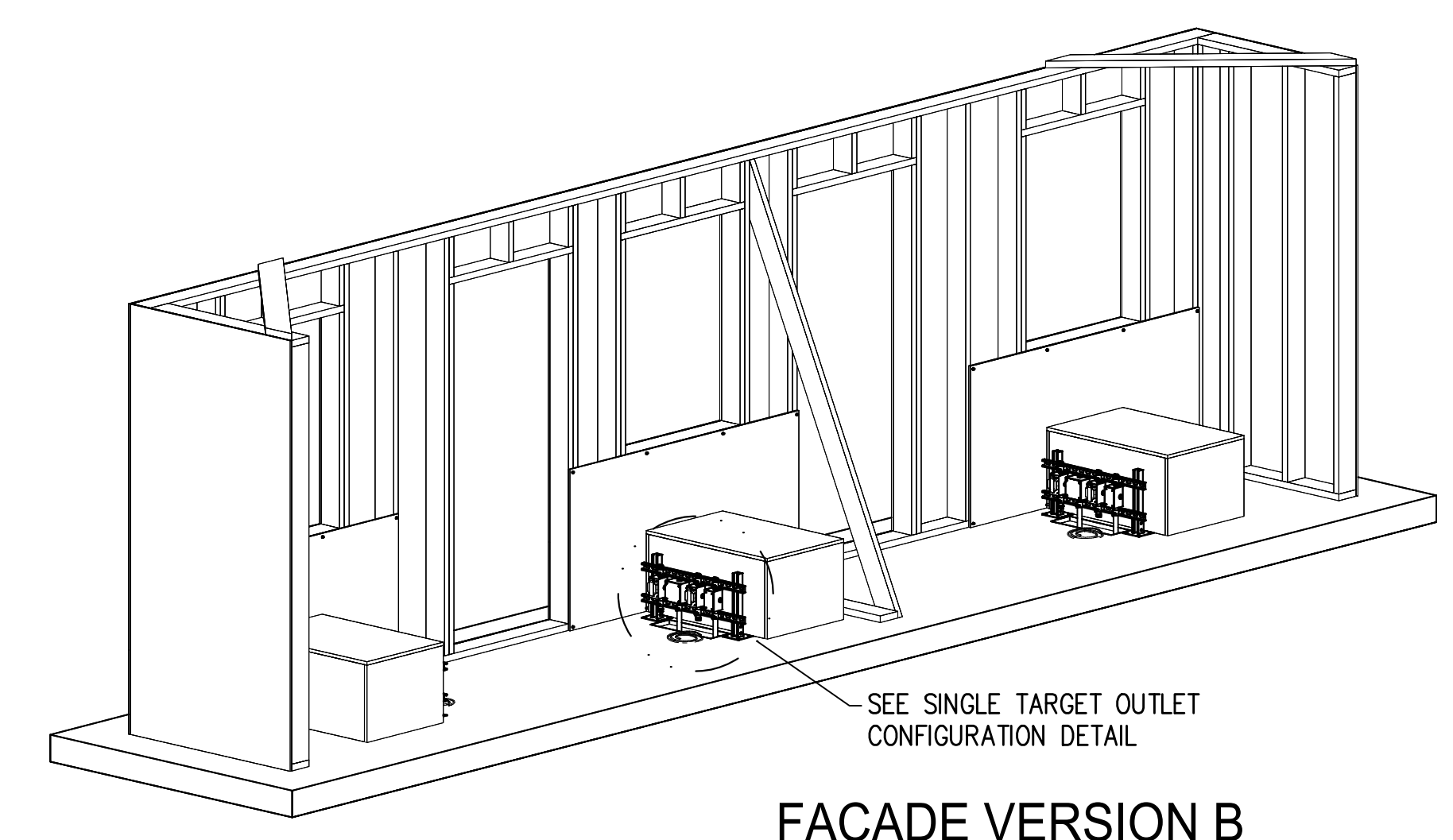
SINGLE LINE DIAGRAM - "B" VERSION
NOT TO SCALE



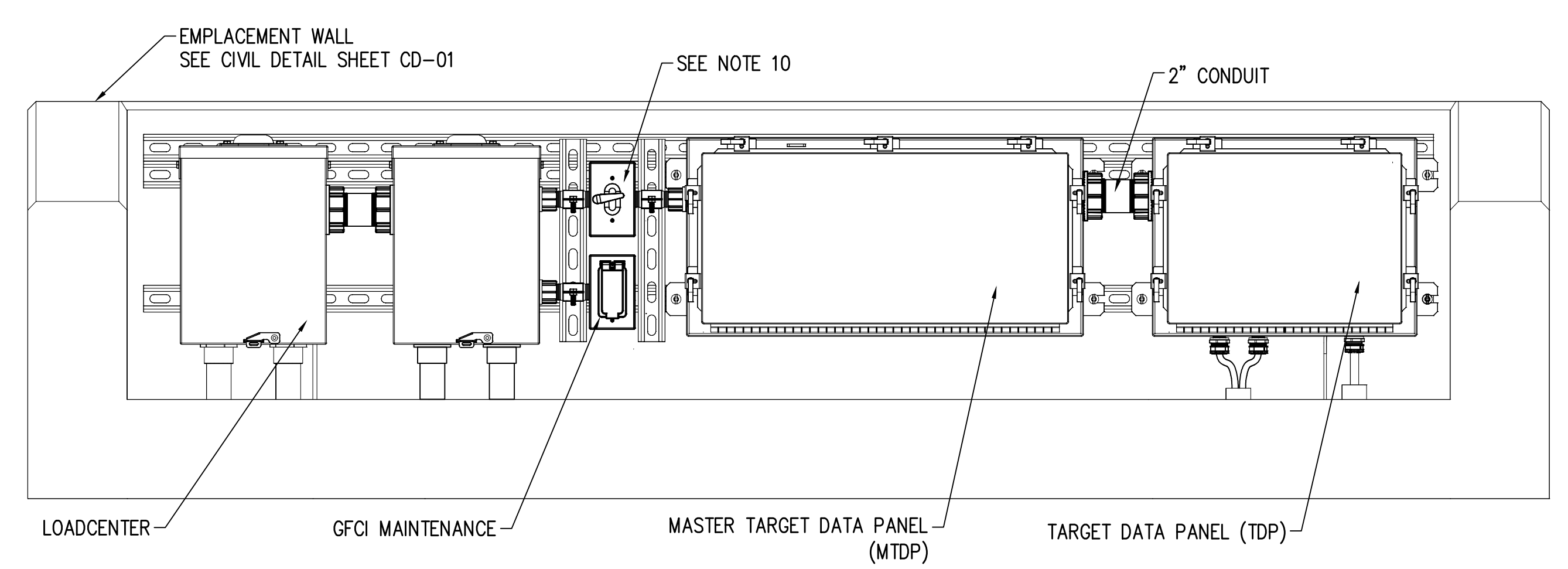
N:\2021\JOBS\21014 FORT LIBERTY MPTR - POLY\DWG\2ES514 ELECTRICAL FACADE BUILDINGS.DWG
READY TO ADVERTISE (RTA)



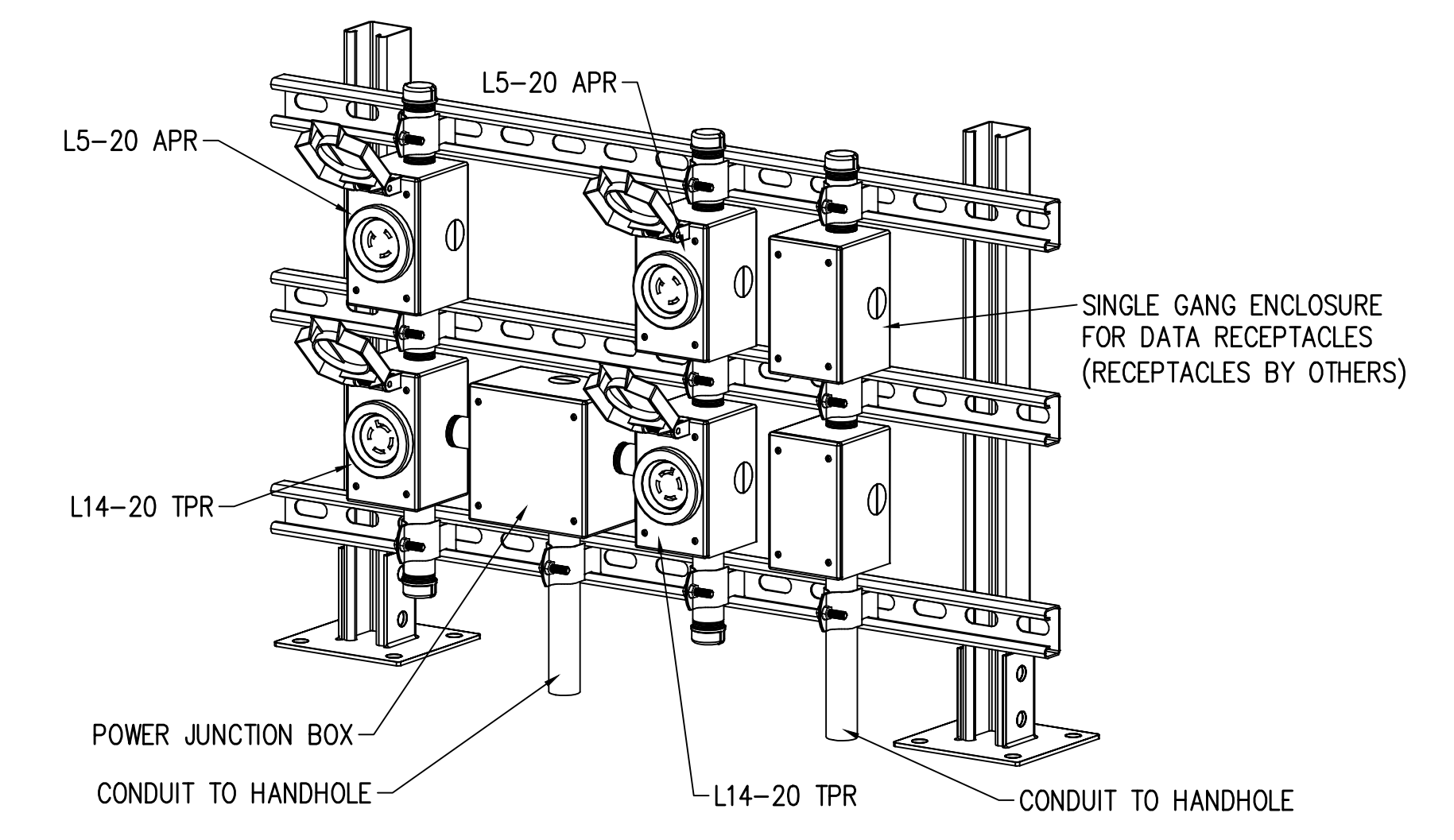
FACADE VERSIONS A & C
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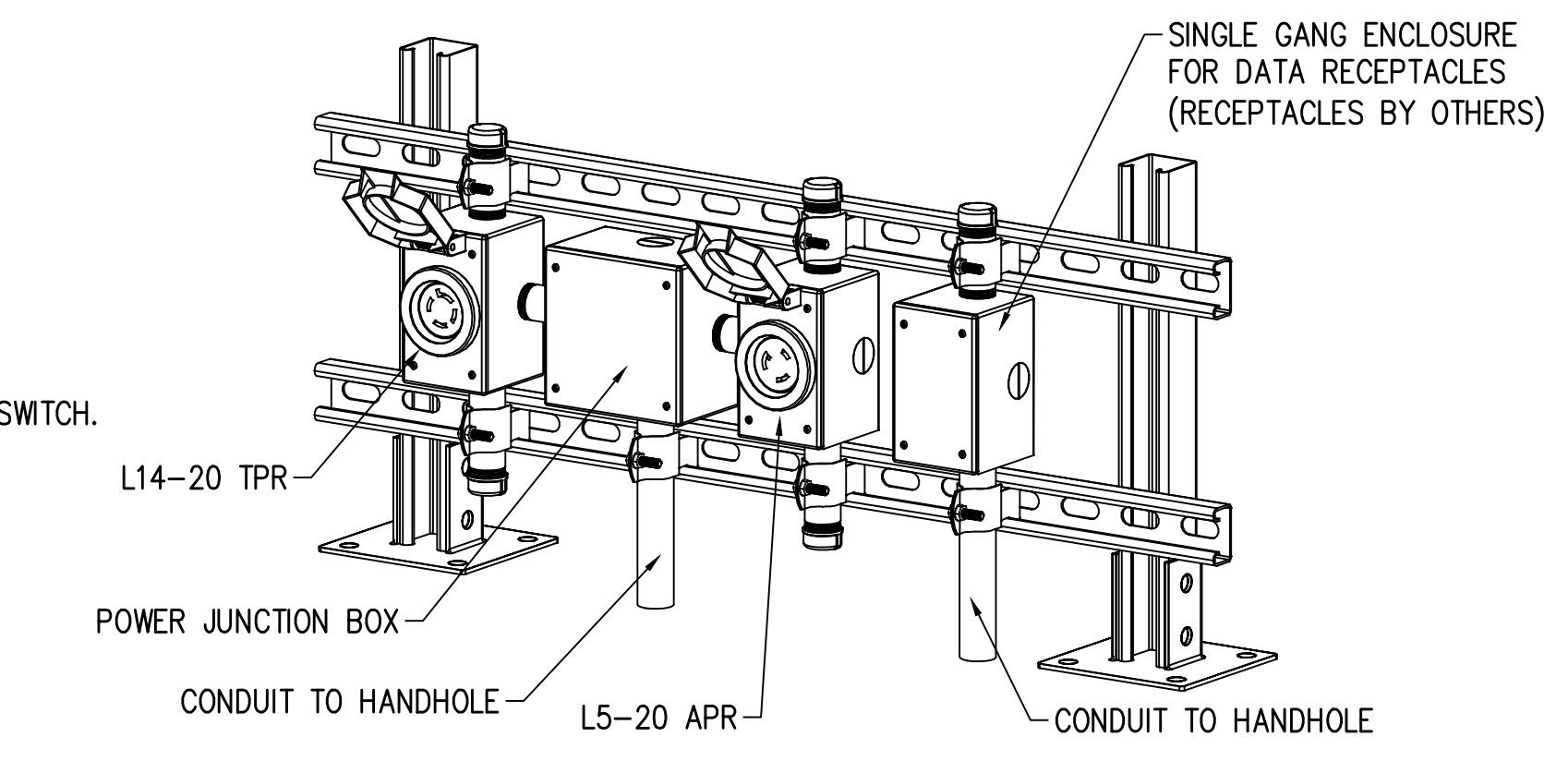
FACADE VERSION B
NOT TO SCALE



FACADE EMPLACEMENT ELEVATION
NOT TO SCALE



DOUBLE TARGET OUTLET CONFIGURATION
NOT TO SCALE VERSIONS "A" & "C"



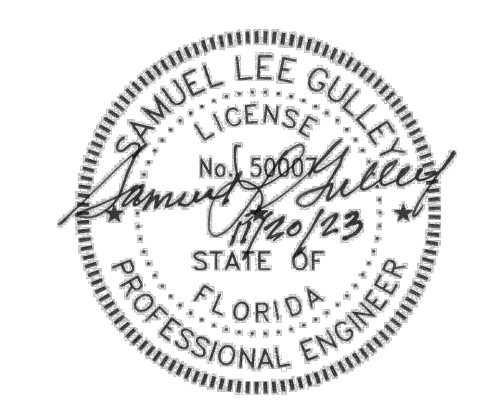
SINGLE TARGET OUTLET CONFIGURATION
NOT TO SCALE VERSIONS "B"

NOTES:

- SEE FAC-1-02 FOR FACADE VERSION CONFIGURATIONS.
- PROVIDE FACADE VERSIONS A, C, AND V WITH TWO SETS OF POWER AND DATA OUTLETS IN THE DOUBLE TARGET OUTLET CONFIGURATION. PROVIDE FACADE VERSION B WITH THREE SETS POWER AND DATA OUTLETS IN THE SINGLE TARGET OUTLET CONFIGURATION.
- CONNECT SIT, HAND HOLES AND POWER AND DATA OUTLETS WITH UNDERGROUND CONDUIT AS SHOWN. INSTALL TWO, EIGHT-CIRCUIT LOAD CENTERS; ONE 12"x24" MTDP; AND ONE 12"x16" TDP IN THE WSIT AS SHOWN.
- ALL DATA CABLES ROUTED TO THE FACADE AND OTHER EMPLACEMENTS SHALL BE TERMINATED INSIDE THE TDP IN THE FACADE EMPLACEMENT. THE MTDP SHALL BE DEDICATED FOR TARGET NETWORKING EQUIPMENT. PROVIDE MTDP WITH DATA POWER RECEPTACLE AND GROUND LUGS ON BACK PLATE, LOCATED TO ALLOW MAXIMUM SPACE FOR TARGET NETWORKING EQUIPMENT.
- SEE SHEET ES507 AND TN506 FOR FACADE MTDP/TDP REQUIREMENTS.
- LEAVE A 6 FOOT #6 AWG BARE COPPER COIL AT EACH TARGET LOCATION FOR FUTURE CONNECTION TO TARGET MECHANISM. COPPER COIL MUST BE ELECTRICALLY CONTINUOUS TO GROUNDING ELECTRODE IN WSIT EMPLACEMENT BEHIND FACADE. GROUNDING PATHWAY MUST BE VIA #6 AWG COPPER GROUND CABLE.
- ALL L14-20R AND L5-20R TARGET OUTLETS SHALL BE PROVIDED IN WET LOCATION COVERS AS SHOWN IN RECEPTACLE WET LOCATION COVER DETAIL ON SHEET ES513.
- PROVIDE A SHIELDED MALE RJ45 CONNECTOR ON THE END OF EACH CAT 6 OR BETTER DATA CABLE INSTALLED IN OUTLET BOXES. PROVIDE BOXES WITH EXTENSION RINGS AND BLANK FACE PLATE. (GOVERNMENT WILL PROVIDE AND INSTALL DATA CONNECTOR IN OUTLET FACEPLATE). PROVIDE 6" TO 12" OF CABLE BEHIND FACE PLATE TO ALLOW FOR CONNECTION OF DATA CABLE TO FUTURE DATA CONNECTOR.
- PROVIDE GROUNDING FOR FACADE EMPLACEMENT DETAIL AS SHOWN IN EMPLACEMENT GROUNDING DETAIL ON SHEET ES513. PROVIDE A #6 AWG COPPER GROUND CONNECTION BETWEEN MTDP AND TDP.
- POWER TO DATA PANEL RECEPTACLE IN MTDP SHALL BE ROUTED THROUGH SINGLE POLE SINGLE THROW SWITCH.

PANEL BOARD: PB-F1xx		LOCATION: XXXXXXX		MOUNTED: SURFACE		FEED: BOTTOM	
100 MINIMUM		MAIN LUGS ONLY		ASYM A.I.C. MIN: 10,000			
VOLTAGE: 240/120		PHASE: 1		WIRE: 3		RATING: NEMA 3R	
		VA/ PHASE		VA/ PHASE			
LOAD SERVED	NO. POLES	TRIP AMPS	WIRE SIZE	A	B	CKT. NO.	LOAD SERVED
SURGE ARRESTOR	2	---	---	---	---	1 2	PANEL BOARD PB-F2XX
FEED THRU PROVISIONS	2	---	---	---	---	5 8	DPR AND MR SPARE
TOTAL VA PHASE: A: 1970		TOTAL VA PHASE: B: 1920		TOTAL CONNECTED WATTAGE: 3890		95% DEMAND WATTAGE: xxx	
SUPPLIED FROM: TRSF-XX		TOTAL DEMAND AMPS: xx					

PANEL BOARD: PB-F2xx		LOCATION: XXXXXXX		MOUNTED: SURFACE		FEED: BOTTOM	
100 MINIMUM		MAIN LUGS ONLY		ASYM A.I.C. MIN: 10,000			
VOLTAGE: 240/120		PHASE: 1		WIRE: 3		RATING: NEMA 3R	
		VA/ PHASE		VA/ PHASE			
LOAD SERVED	NO. POLES	TRIP AMPS	WIRE SIZE	A	B	CKT. NO.	LOAD SERVED
SIT (NEMA L14-20R, NEMA L5-20R)	2	20	12	480	480	1 2	SIT (NEMA L14-20R, NEMA L5-20R)
SIT (NEMA L14-20R, NEMA L5-20R)	2	20	12	480	480	5 8	SIT (NEMA L14-20R, NEMA L5-20R)
TOTAL VA PHASE: A: 1920		TOTAL VA PHASE: B: 1920		TOTAL CONNECTED WATTAGE: 3840		95% DEMAND WATTAGE: xx	
SUPPLIED FROM: PB-F1xx		TOTAL DEMAND AMPS: xx					



US Army Corps of Engineers®

	DATE
	DESCRIPTION
	MARK

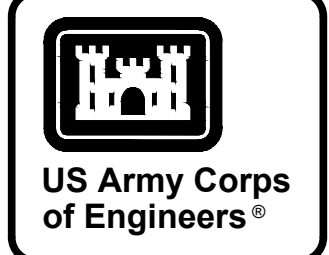
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U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36803 WWW.POLY-INC.COM/3347-98-4700
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FORT LIBERTY, NORTH CAROLINA AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTR) FY23, PN 96182 VOLUMES 3 & 4 - DOWNRANGE	ELECTRICAL FACADE DETAILS
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SHEET ID	DATE
ES515	

READY TO ADVERTISE (RTA)



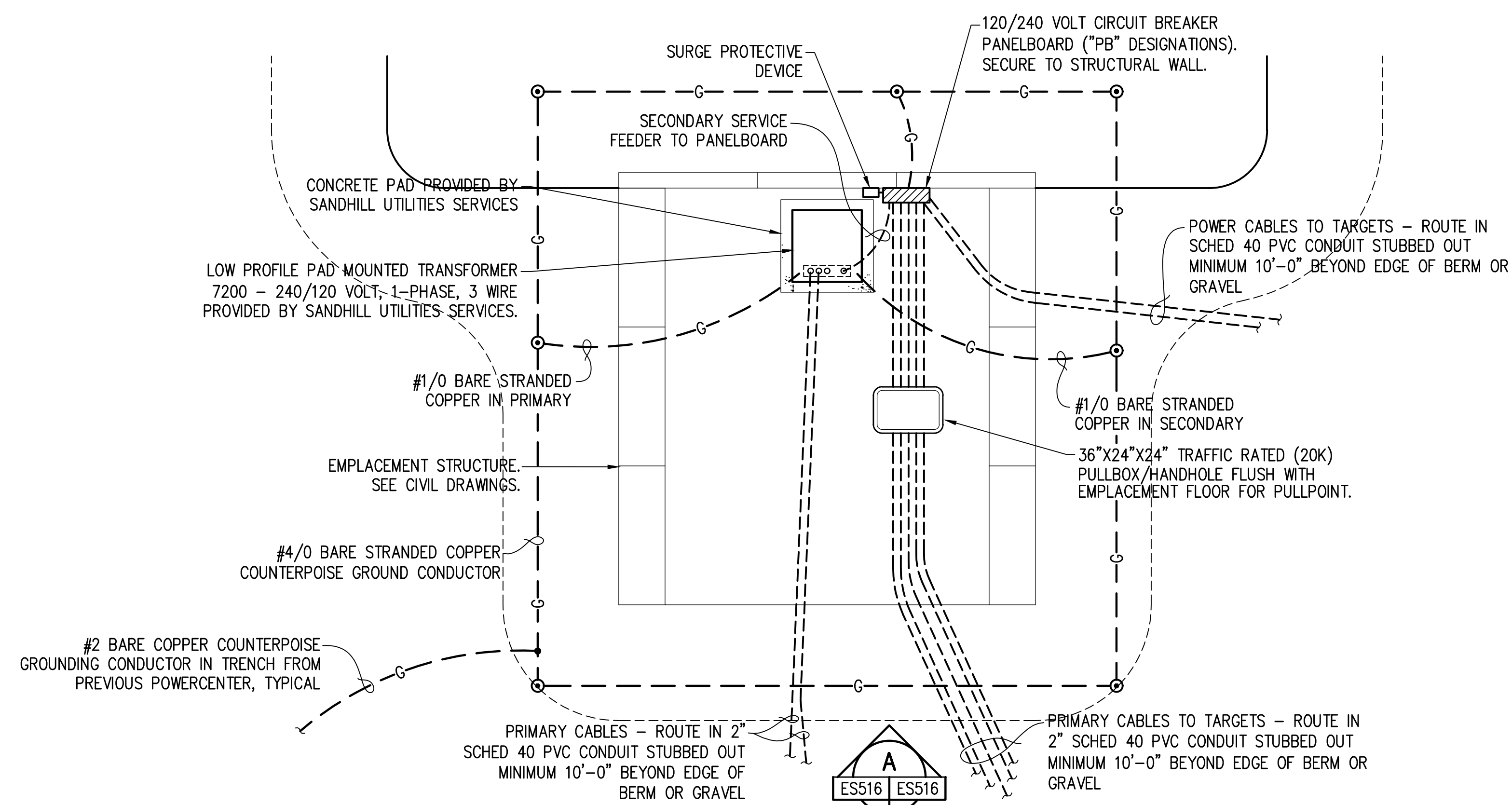
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MARK	DESCRIPTION	DATE

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DRAWN BY: T. BOLTON	SCALE: AS SHOWN
CHECKED BY: C. BROWN	CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-65-01
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U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36503 WWW.POLY-INC.COM/334-798-4700

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTR)
FY23, PN 86182
VOLUMES 3 & 4 - DOWNRANGE
DOWNRANGE POWERCENTER
EMPLACEMENT DETAILS

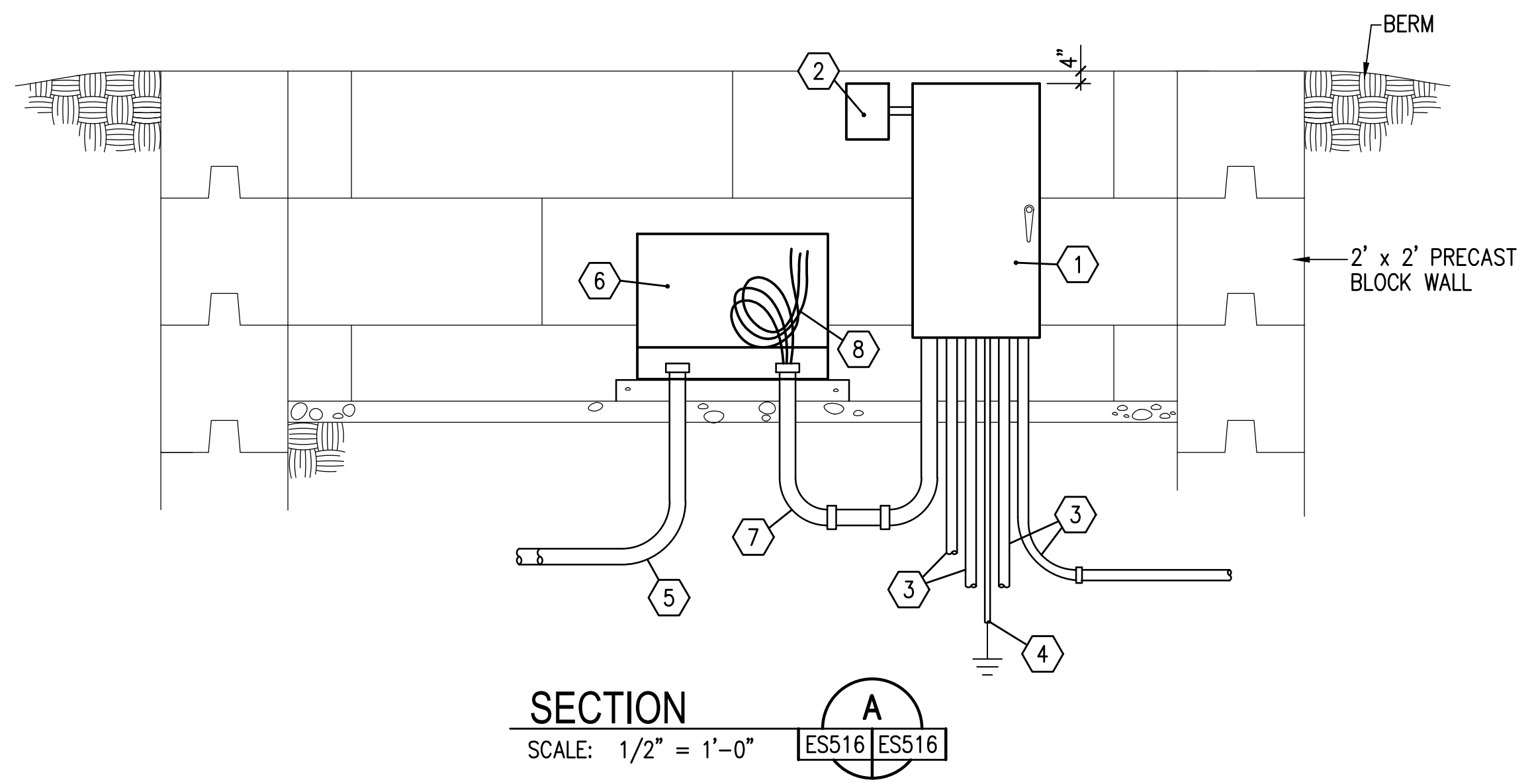
SHEET ID
ES516



NOTES
ALL UNDERGROUND CABLES SHALL ENTER POWERCENTER FROM THE BACK (OPEN SIDE) OR FROM THE SIDE OF THE POWERCENTER. DO NOT RUN CABLE THROUGH FRONT OR IN PROTECTIVE BERM.

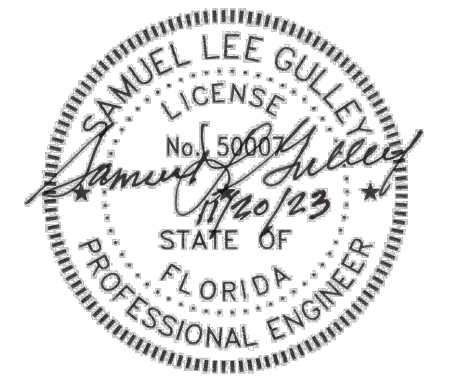
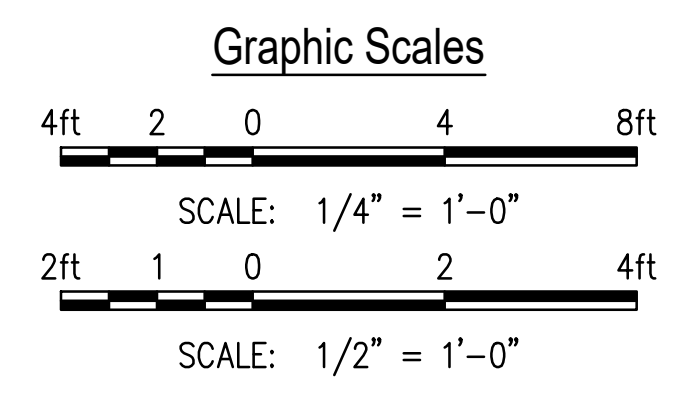
SEAL OPENINGS IN CONDUITS AROUND CABLES WHERE DIRECT BURIAL CABLES ENTER STUBBED OUT CONDUITS, TYPICAL.

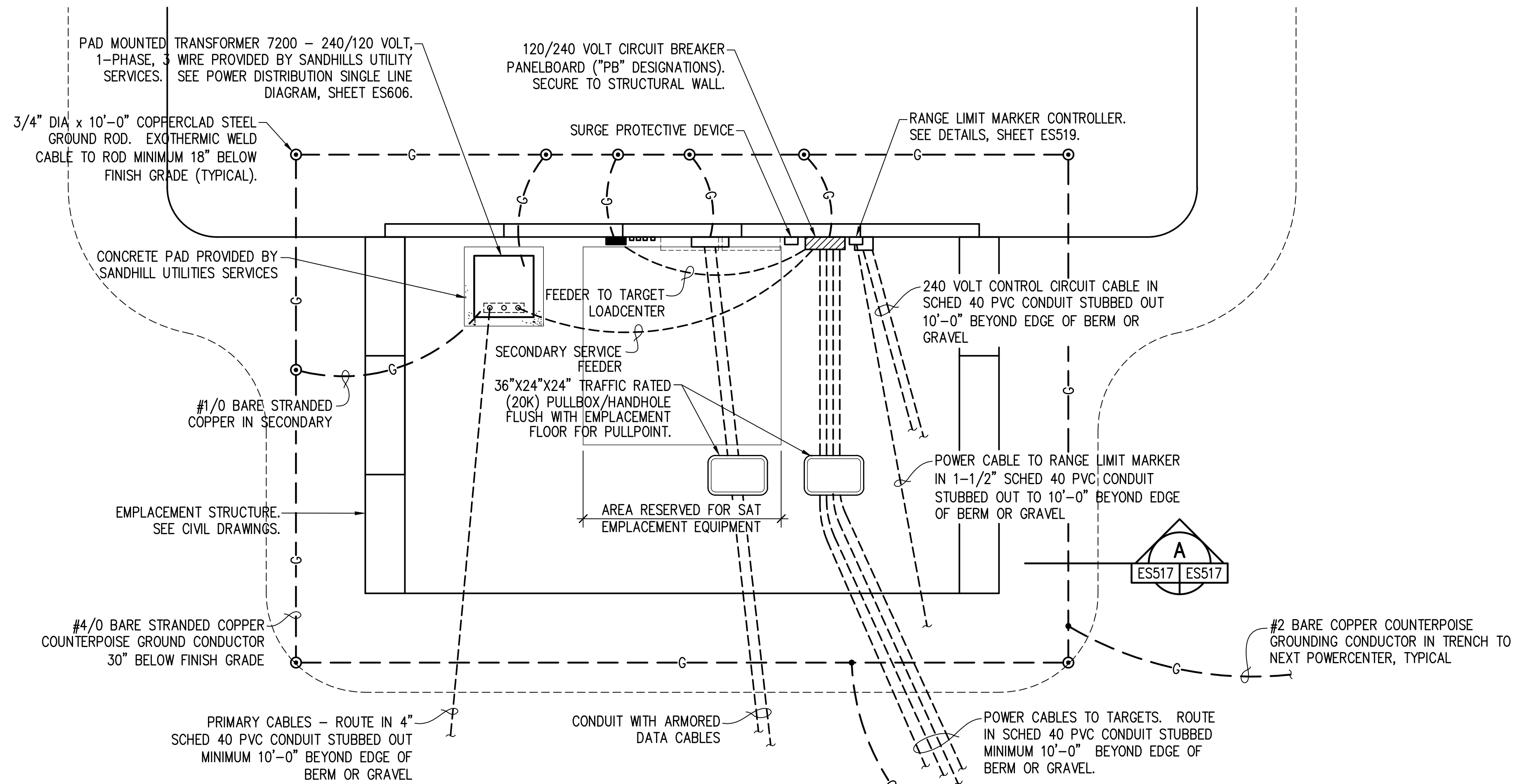
DOWNRANGE POWERCENTER PLAN - PC-14
SCALE: 1/4" = 1'-0"



Key Notes

- 1 120/240 VOLT, 1-PHASE, 3 WIRE CIRCUIT BREAKER PANELBOARD. SECURE TO STEEL CHANNELS.
- 2 SURGE PROTECTIVE DEVICE IN NEMA 4 ENCLOSURE. CONNECT TO PANELBOARD WITH SHORT CONDUIT NIPPLE (4 #10 IN 3/4" CONDUIT).
- 3 120/240 VOLT BRANCH CIRCUIT POWER CABLES TO TARGETS IN MINIMUM 2" SCHED 40 PVC CONDUIT. PROVIDE NUMBER OF CONDUITS REQUIRED FOR CIRCUITS INDICATED ON SITE PLANS. STUB OUT 10'-0" BEYOND EDGE OF BERM OR GRAVEL.
- 4 MAIN SERVICE GROUNDING ELECTRODE CONDUCTOR IN CONDUIT TO COUNTERPOISE
- 5 INCOMING AND OUTGOING PRIMARY CABLES ROUTED IN 4" SCHED 40 PVC CONDUITS TO 10'-0" BEYOND EDGE OF BERM OR GRAVEL
- 6 LOW PROFILE PAD MOUNTED TRANSFORMER AND CONCRETE PAD PROVIDED BY SANDHILLS UTILITY SERVICES
- 7 120/240 VOLT, 1-PHASE, 3 WIRE UNDERGROUND SECONDARY SERVICE FEEDER CONDUCTORS IN PVC COATED GALVANIZED RIGID STEEL CONDUIT
- 8 LEAVE 10'-0" SLACK WIRE IN SECONDARY SERVICE FEEDER FOR CONNECTION TO PAD MOUNTED TRANSFORMER SECONDARY LUGS BY SANDHILLS UTILITY SERVICES



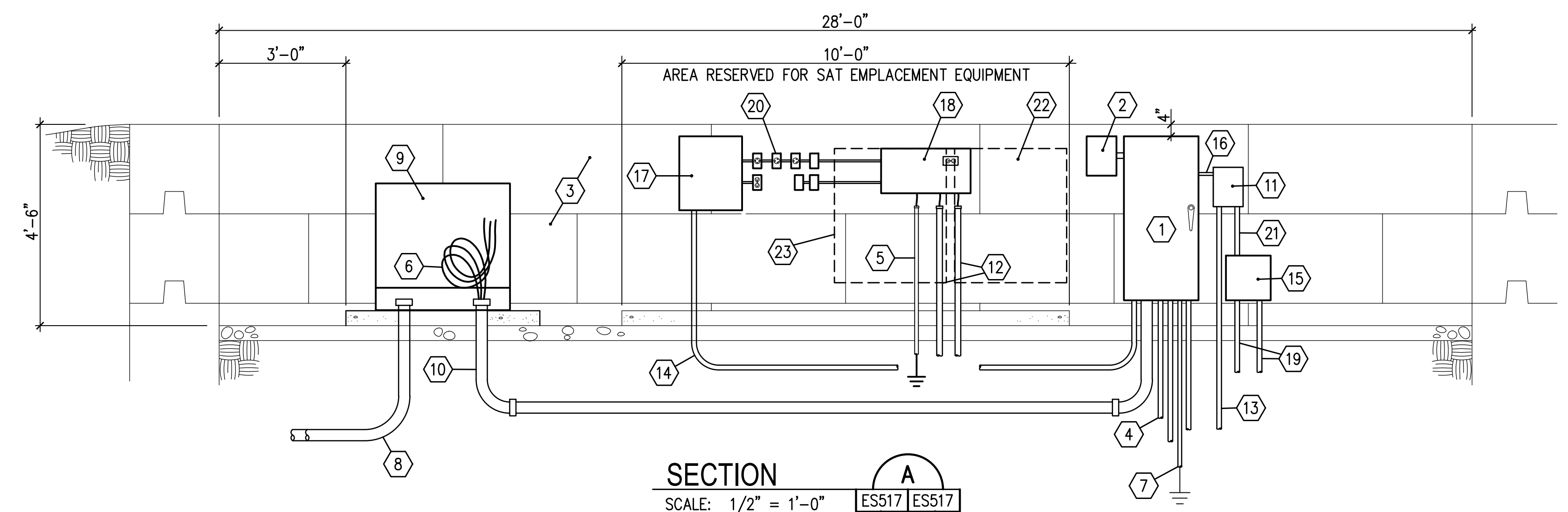


**TYPICAL DOWNRANGE POWERCENTER PLAN
WITH STATIONARY ARMOR TARGET**

SCALE: 1/4" = 1'-0"

NOTES
ALL UNDERGROUND CABLES SHALL ENTER POWER CENTER FROM THE BACK (OPEN SIDE) OR FROM THE SIDE OF THE POWER CENTER. DO NOT RUN CABLE THROUGH FRONT OR IN PROTECTIVE BERM.

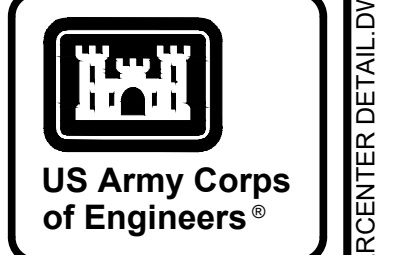
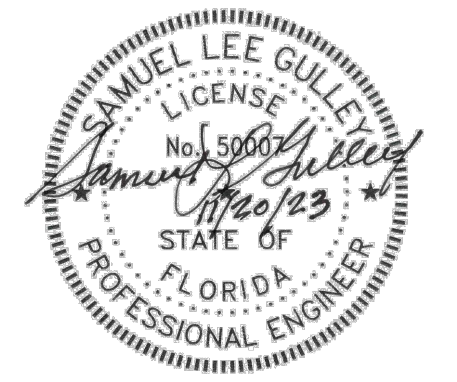
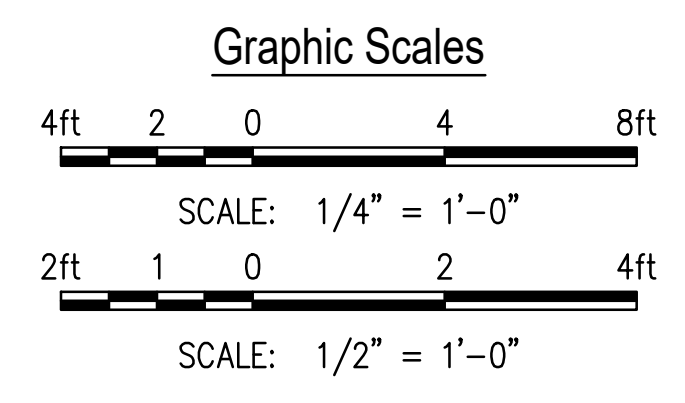
SEAL OPENINGS IN CONDUITS AROUND CABLES WHERE DIRECT BURIAL CABLES ENTER STUBBED OUT CONDUITS, TYPICAL.



SECTION A
SCALE: 1/2" = 1'-0"

Key Notes

- ① 120/240 VOLT, 1-PHASE, 3 WIRE CIRCUIT BREAKER PANELBOARD. SECURE TO STEEL CHANNELS.
- ② SURGE PROTECTIVE DEVICE IN NEMA 4 ENCLOSURE. CONNECT TO PANELBOARD WITH SHORT CONDUIT NIPPLE.
- ③ CONCRETE BLOCK EMPLACEMENT WALL - SEE CIVIL DRAWINGS FOR DETAILS
- ④ 120/240 VOLT BRANCH CIRCUIT POWER CABLES TO TARGETS IN MINIMUM 2" SCHED 40 PVC CONDUIT. PROVIDE NUMBER OF CONDUITS REQUIRED FOR CIRCUITS INDICATED ON SITE PLANS. STUB CONDUIT 10'-0" BEYOND EDGE OF BERM OR GRAVEL.
- ⑤ GROUNDING CONDUCTOR TO COUNTERPOISE
- ⑥ LEAVE 15'-0" SLACK WIRE IN SECONDARY SERVICE FEEDER FOR CONNECTION TO PAD MOUNTED TRANSFORMER SECONDARY LUGS BY SANDHILLS UTILITY SERVICE
- ⑦ MAIN SERVICE GROUNDING ELECTRODE IN CONDUIT TO COUNTERPOISE
- ⑧ INCOMING AND OUTGOING PRIMARY CABLES ROUTED IN 4" SCHED 40 PVC CONDUIT
- ⑨ PAD MOUNTED TRANSFORMER AND CONCRETE PAD
- ⑩ 120/240 VOLT, 1-PHASE, 3 WIRE UNDERGROUND SECONDARY SERVICE FEEDER CONDUCTORS IN SCHED 40 PVC CONDUIT. SEE POWER DISTRIBUTION SINGLE LINE DIAGRAM, SHEET ES606.
- ⑪ RANGE LIMIT MARKER CONTROLLER - SECURE TO EMPLACEMENT WALL WITH MOUNTING TABS ON OUTSIDE OF ENCLOSURE
- ⑫ ARMORED DATA CABLE IN 2" SCHED 40 PVC CONDUIT STUBBED OUT MINIMUM 10'-0" BEYOND EDGE OF BERM OR GRAVEL
- ⑬ POWER CABLE TO RANGE LIMIT MARKER IN 1-1/2" SCHED 40 PVC CONDUIT STUBBED OUT MINIMUM 10'-0" BEYOND EDGE OF BERM OR GRAVEL
- ⑭ 3 #8, 1 #10 GND IN 1" SCHED 40 PVC CONDUIT SERVICE FEEDER TO TARGET LOADCENTER
- ⑮ 12"x12"x4" WEATHERPROOF JUNCTION BOX WITH BLANK SCREW COVER FOR RANGE LIMIT MARKER CONTROL CABLE
- ⑯ BRANCH CIRCUIT CONDUIT AND CONDUCTORS FROM POWER PANEL FOR 120 VOLT, 1-PHASE SERVICE TO LIMIT MARKER
- ⑰ NEMA 3R LOADCENTER
- ⑱ NEMA 4 MTD/TDP - SEE STATIONARY ARMOR TARGET DETAILS, SHEET ES509
- ⑲ 240 VOLT CONTROL CIRCUIT CABLE IN 1-1/4" SCHED 40 PVC CONDUIT STUBBED OUT MINIMUM 10'-0" BEYOND EDGE OF BERM OR GRAVEL
- ⑳ TARGET EMPLACEMENT RECEPTACLES - SEE DETAILS, SHEET ES510
- ㉑ 2 #6, 1 #10 GND IN 1" GALVANIZED RIGID STEEL CONDUIT FOR CONTROL
- ㉒ FIBER DATA BREAKOUT BOX (DBB-F) AT POWER CENTERS PC-01, PC-04, PC-07, PC-12 & PC13. SEE DATA SINGLE LINE TN604 FOR LOCATIONS. PROVIDE 2" CONDUIT BETWEEN DBB-F AND DBB-C. PROVIDE POWER IN ENCLOSURE, SEE DETAIL ON SHEET TN504.
- ㉓ COPPER DATA BREAKOUT BOX (DBB-C) AT POWER CENTERS PC-01, PC-04, PC-07, PC-12 & PC13. SEE DATA SINGLE LINE TN604 FOR LOCATIONS. PROVIDE 2" CONDUIT BETWEEN DBB-C AND DBB-F. PROVIDE POWER IN ENCLOSURE, SEE DETAIL ON SHEET TN503. AT LOCATIONS WHERE DBB-C IS REQUIRED, MTD/TDP IS NOT UTILIZED. TARGET OUTLET AND BES OUTLET TO BE SERVED FROM DBB-C WHEN MTD/TDP IS NOT REQUIRED.



MARK	DESCRIPTION	DATE

DESIGNED BY: S. GULLEY	ISSUE DATE: NOVEMBER 2003
DRAWN BY: T. BOLTON	NO. OF SHEETS: 14
CHECKED BY: C. BROWN	CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-85-01
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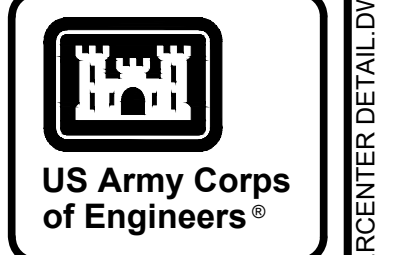
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1985 HEADLAND AVENUE DOTY, AL 36502 WWW.POLY-INC.COM/3347-99-4700
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FORT LIBERTY, NORTH CAROLINA AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTR) FY23, PN 86182 VOLUMES 3 & 4 - DOWNRANGE	TYPICAL DOWNRANGE POWERCENTER PLAN WITH STATIONARY ARMOR TARGET (SAT)
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SHEET ID
ES517

READY TO ADVERTISE (RTA)

N:\2021\JOB521014 FORT LIBERTY MPTR - POLY\DWG\BEE517 SAT POWERCENTER DETAIL.DWG



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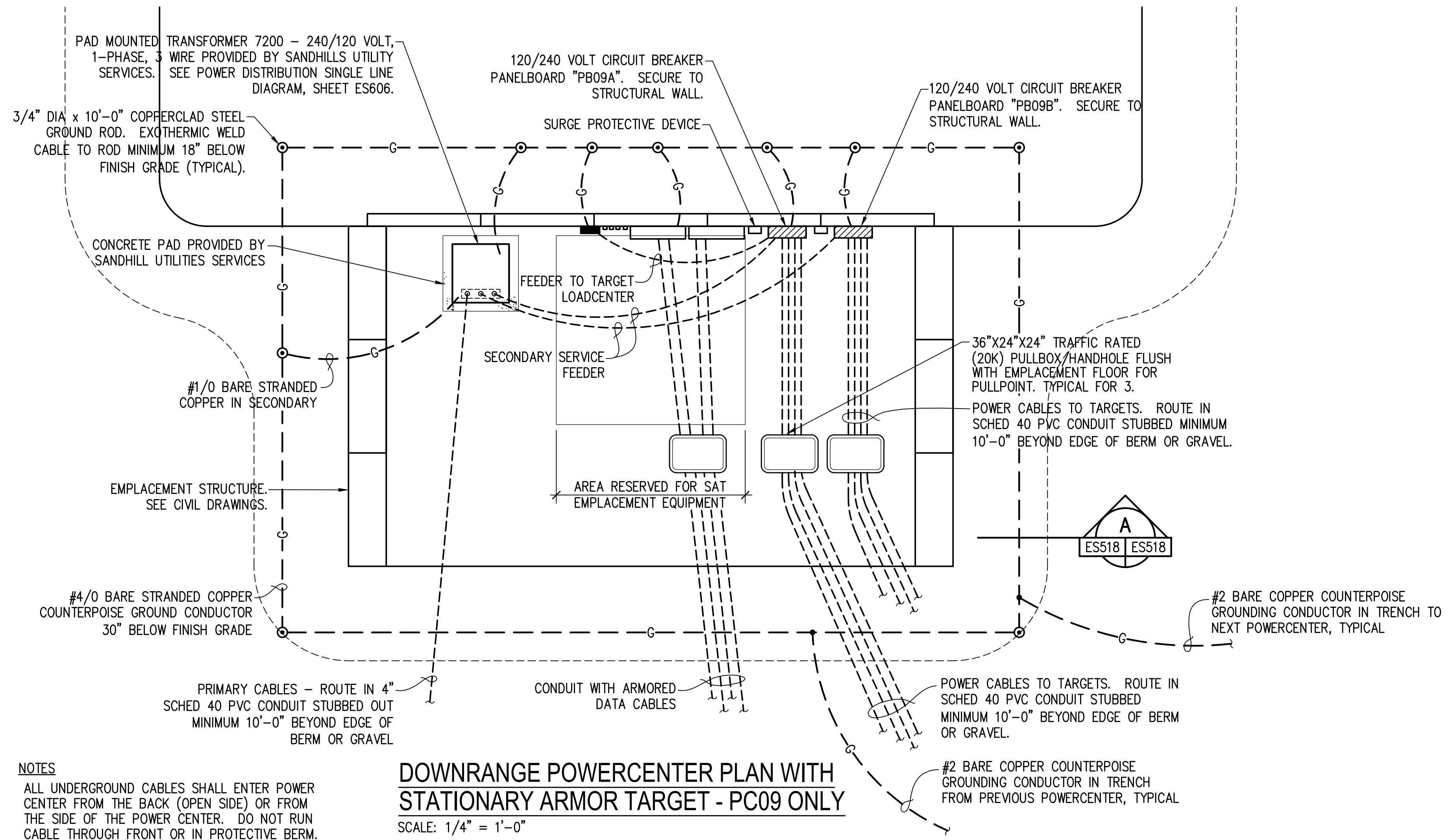
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CHECKED BY: C. BROWN	CATEGORY CODE: 178-85-01	SIZE:
SUBMITTED BY: B. BRADLEY		

U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT
100 W. OGLETHORPE AVE
SAVANNAH, GA 31401

POLY, INC.
1985 HEADLAND AVENUE
DOTHAN, AL 36803
WWW.POLY-INC.COM/3347-99-4700

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTR)
FY23, PN 86182
VOLUMES 3 & 4 - DOWNRANGE
DOWNRANGE POWERCENTER
PLAN WITH STATIONARY ARMOR
TARGET (SAT) PC09

SHEET ID
ES518

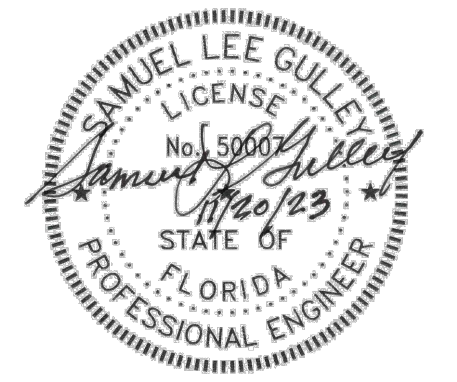
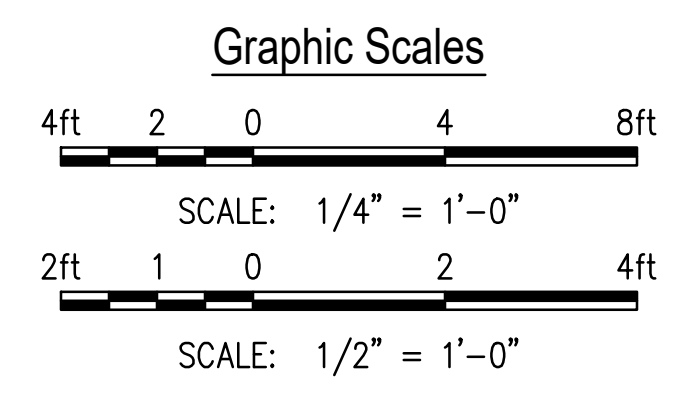
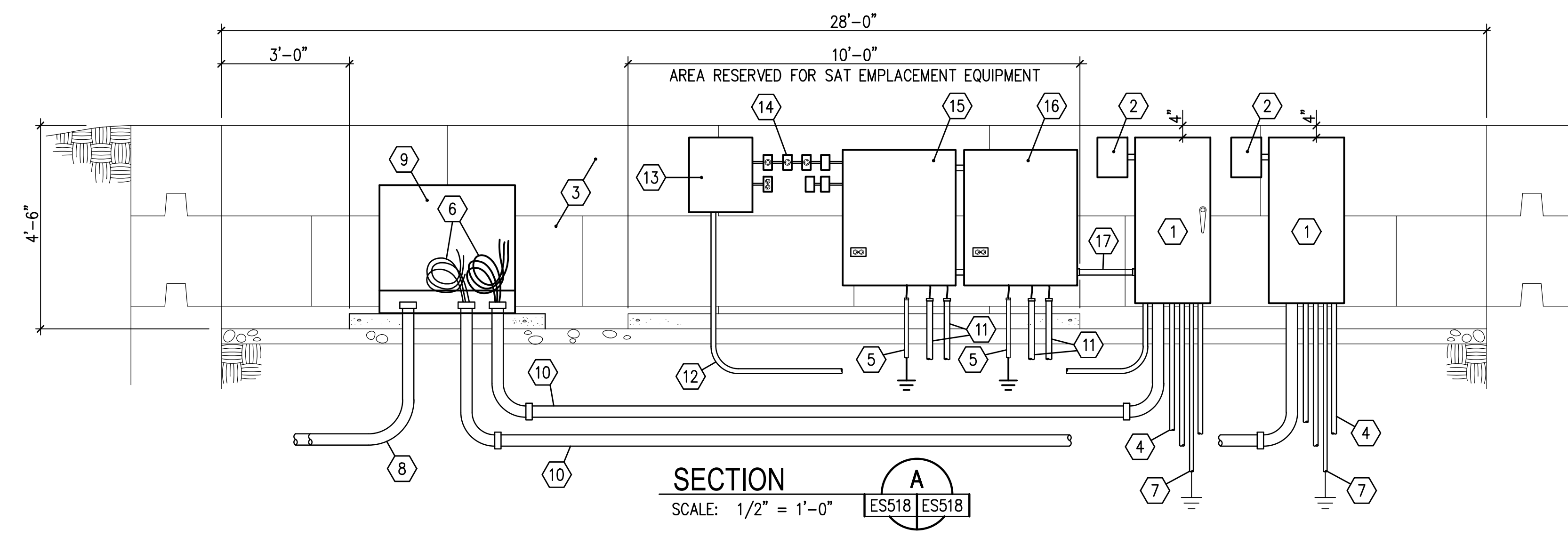


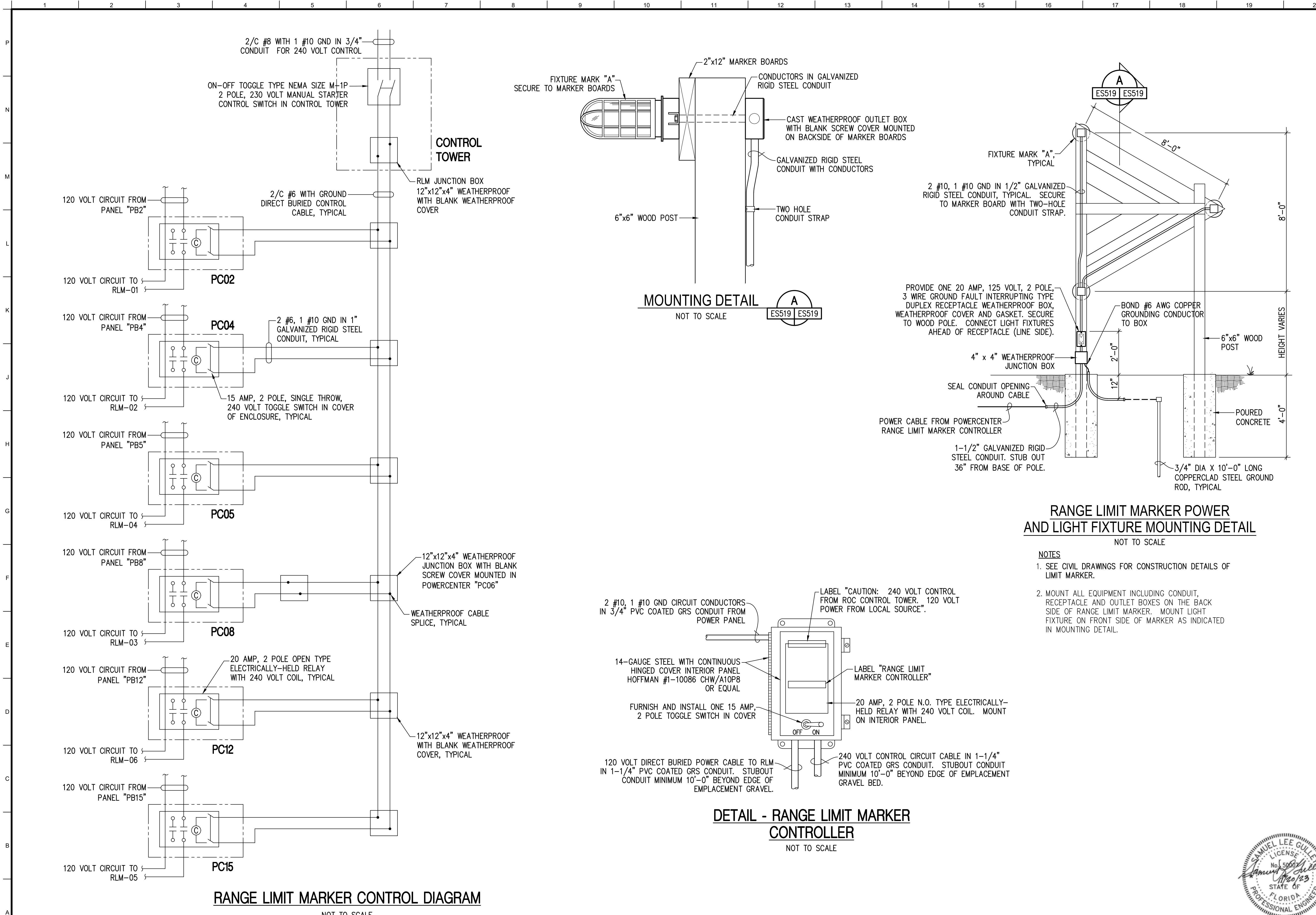
Key Notes

- 1 120/240 VOLT, 1-PHASE, 3 WIRE CIRCUIT BREAKER PANELBOARD. SECURE TO STEEL CHANNELS.
- 2 SURGE PROTECTIVE DEVICE IN NEMA 4 ENCLOSURE. CONNECT TO PANELBOARD WITH SHORT CONDUIT NIPPLE.
- 3 CONCRETE BLOCK EMPLACEMENT WALL - SEE CIVIL DRAWINGS FOR DETAILS
- 4 120/240 VOLT BRANCH CIRCUIT POWER CABLES TO TARGETS IN MINIMUM 2" SCHED 40 PVC CONDUIT. PROVIDE NUMBER OF CONDUITS REQUIRED FOR CIRCUITS INDICATED ON SITE PLANS. STUB CONDUIT 10'-0" BEYOND EDGE OF BERM OR GRAVEL.
- 5 GROUNDING CONDUCTOR TO COUNTERPOISE
- 6 LEAVE 15'-0" SLACK WIRE IN SECONDARY SERVICE FEEDER FOR CONNECTION TO PAD MOUNTED TRANSFORMER SECONDARY LUGS BY SANDHILLS UTILITY SERVICE
- 7 MAIN SERVICE GROUNDING ELECTRODE IN CONDUIT TO COUNTERPOISE
- 8 INCOMING AND OUTGOING PRIMARY CABLES ROUTED IN 4" SCHED 40 PVC CONDUIT
- 9 PAD MOUNTED TRANSFORMER AND CONCRETE PAD
- 10 120/240 VOLT, 1-PHASE, 3 WIRE UNDERGROUND SECONDARY SERVICE FEEDER CONDUCTORS IN SCHED 40 PVC CONDUIT. SEE POWER DISTRIBUTION SINGLE LINE DIAGRAM, SHEET ES606.
- 11 ARMORED DATA CABLE IN 2" SCHED 40 PVC CONDUIT STUBBED OUT MINIMUM 10'-0" BEYOND EDGE OF BERM OR GRAVEL
- 12 3 #8, 1 #10 GND IN 1" SCHED 40 PVC CONDUIT SERVICE FEEDER TO TARGET LOADCENTER
- 13 NEMA 3R LOADCENTER
- 14 TARGET EMPLACEMENT RECEPTACLES - SEE DETAILS, SHEET ES510
- 15 COPPER DATA BREAKOUT BOX (DBB-C). SEE DATA SINGLE LINE TN604 FOR LOCATIONS. PROVIDE 2" CONDUIT BETWEEN DBB-C AND DBB-F. PROVIDE POWER IN ENCLOSURE, SEE DETAIL ON SHEET TN503. AN MTDIP IS NOT UTILIZED. TARGET OUTLET AND BES OUTLET TO BE SERVED FROM DBB-C.
- 16 FIBER DATA BREAKOUT BOX (DBB-F). SEE DATA SINGLE LINE TN604 FOR LOCATIONS. PROVIDE 2" CONDUIT BETWEEN DBB-F AND DBB-C. PROVIDE POWER IN ENCLOSURE, SEE DETAIL ON SHEET TN504.
- 17 2 #12, 1 #12 GND IN 3/4" CONDUIT FROM 20 AMP, 1 POLE BREAKER IN POWER PANEL TO 125 VOLT DUPLEX RECEPTACLES IN DATA BREAKOUT BOXES.

NOTES
ALL UNDERGROUND CABLES SHALL ENTER POWER CENTER FROM THE BACK (OPEN SIDE) OR FROM THE SIDE OF THE POWER CENTER. DO NOT RUN CABLE THROUGH FRONT OR IN PROTECTIVE BERM.
SEAL OPENINGS IN CONDUITS AROUND CABLES WHERE DIRECT BURIAL CABLES ENTER STUBBED OUT CONDUITS, TYPICAL.

DOWNRANGE POWERCENTER PLAN WITH STATIONARY ARMOR TARGET - PC09 ONLY
SCALE: 1/4" = 1'-0"





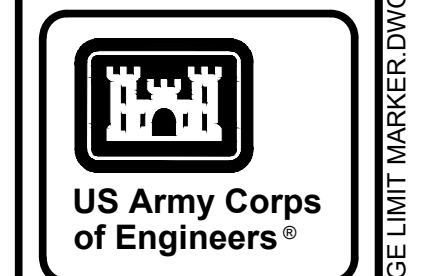
RANGE LIMIT MARKER CONTROL DIAGRAM
NOT TO SCALE

MOUNTING DETAIL
NOT TO SCALE

RANGE LIMIT MARKER POWER AND LIGHT FIXTURE MOUNTING DETAIL
NOT TO SCALE

- NOTES**
- SEE CIVIL DRAWINGS FOR CONSTRUCTION DETAILS OF LIMIT MARKER.
 - MOUNT ALL EQUIPMENT INCLUDING CONDUIT, RECEPTACLE AND OUTLET BOXES ON THE BACK SIDE OF RANGE LIMIT MARKER. MOUNT LIGHT FIXTURE ON FRONT SIDE OF MARKER AS INDICATED IN MOUNTING DETAIL.

DETAIL - RANGE LIMIT MARKER CONTROLLER
NOT TO SCALE



MARK	DESCRIPTION	DATE

DESIGNED BY: S. GUILLEY	ISSUE DATE: NOVEMBER 2023
DRAWN BY: T. BOLTON	NO. OF SHEETS: 1 OF 4
CHECKED BY: C. BROWN	CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-85-01
FILE NAME:	ANSID:

U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36803 WWW.POLY-INC.COM/3347-99-4700
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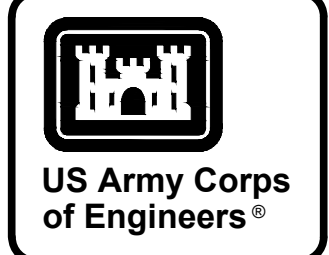
FORT LIBERTY, NORTH CAROLINA AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR) FY23, PN 96182 VOLUMES 3 & 4 - DOWNRANGE	ELECTRICAL DETAILS RANGE LIMIT MARKER
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SHEET ID	ES519
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DESIGNED BY: S. GULLEY	ISSUE DATE: NOVEMBER 2023
DRAWN BY: T. BOLTON	NO.: 104744-24-002
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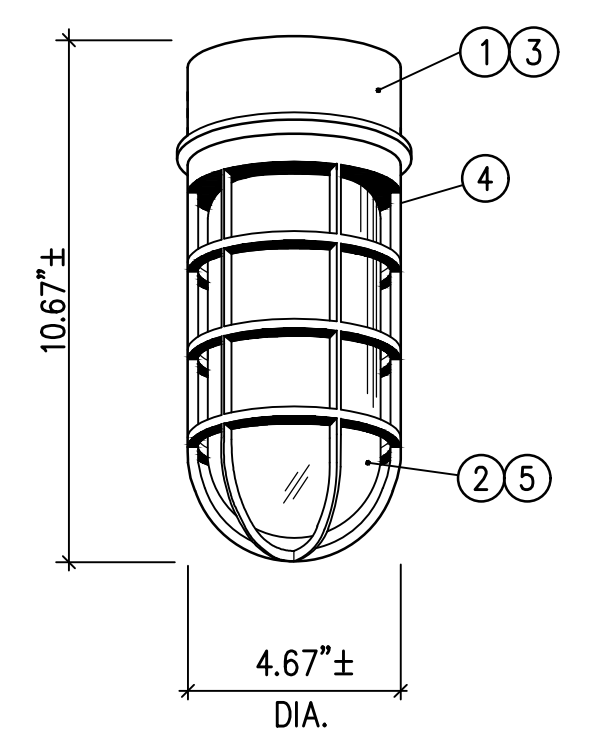
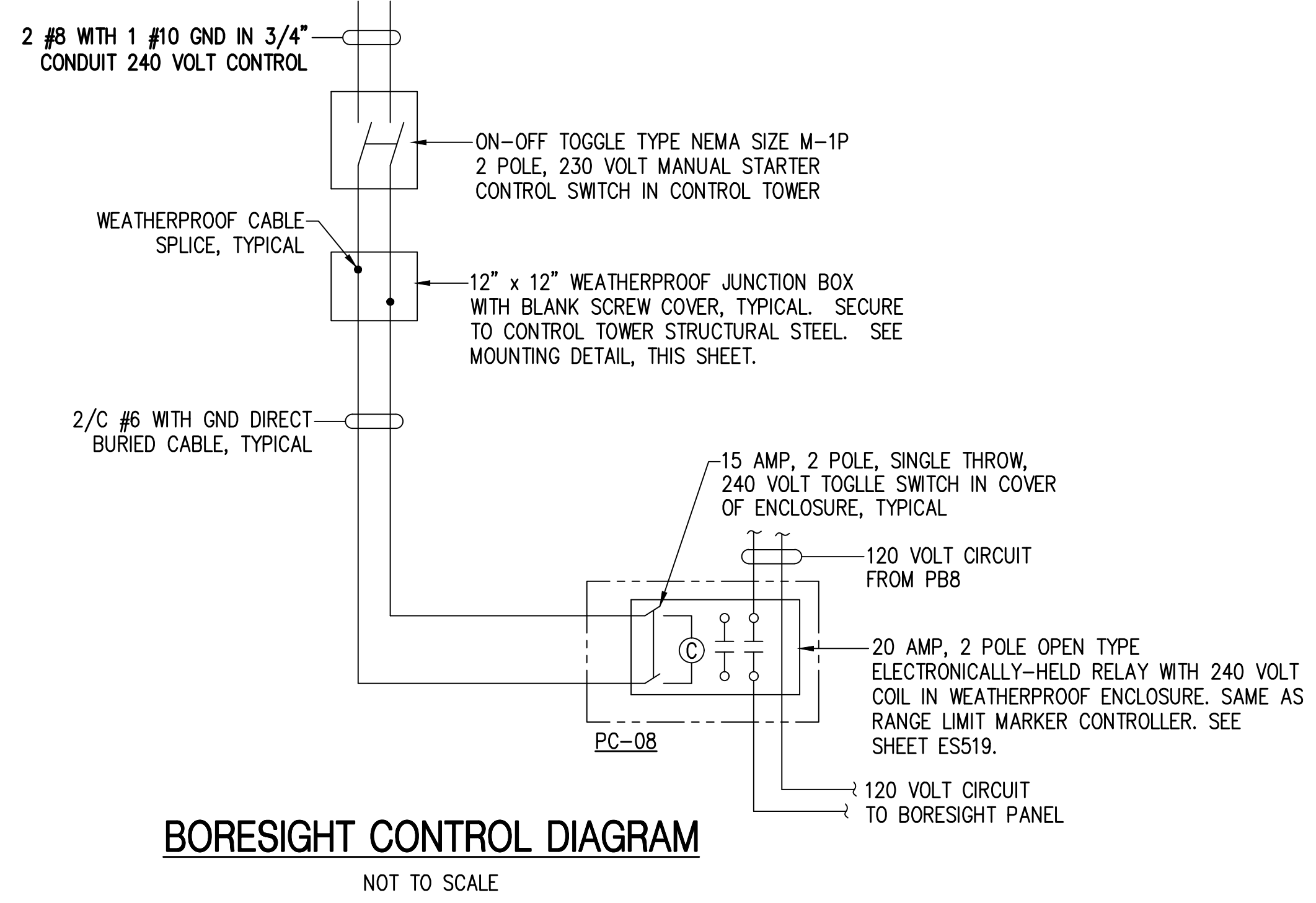
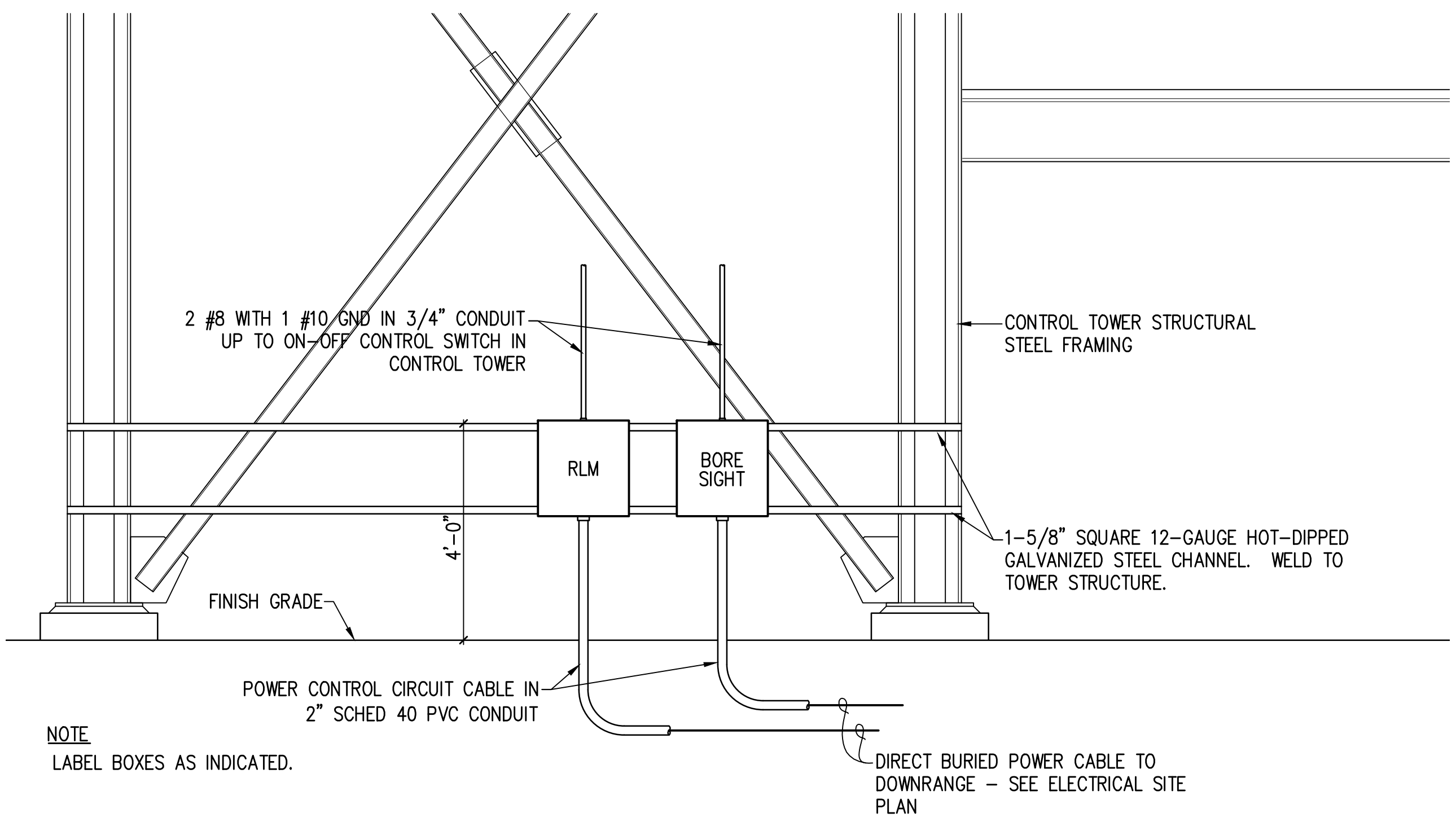
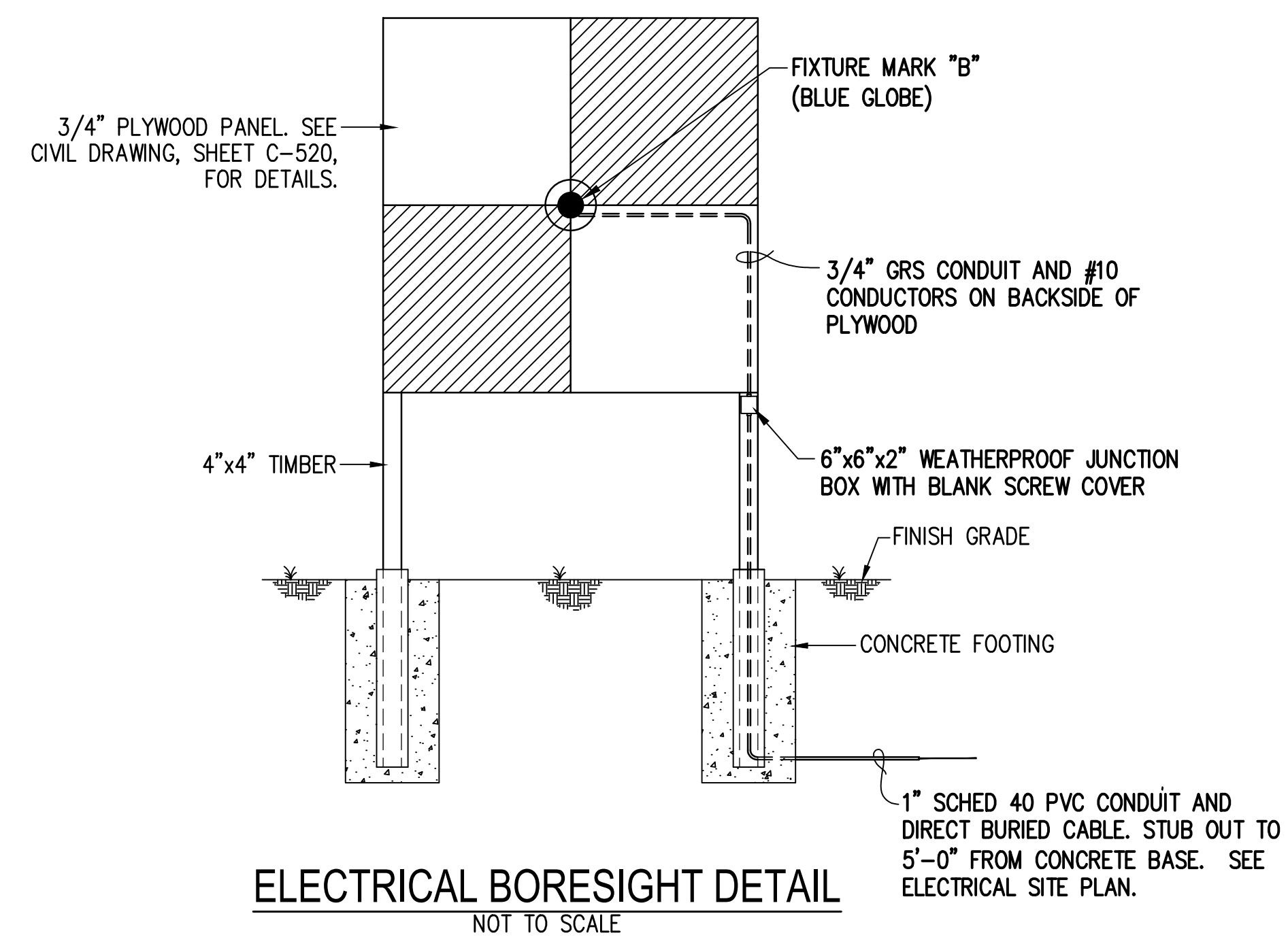
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401
POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36803 WWW.POLY-INC.COM/3347-99-4700

FORT LIBERTY, NORTH CAROLINA AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR) FY23, PN 96182 VOLUMES 3 & 4 - DOWNRANGE
ELECTRICAL DETAILS BORESIGHT

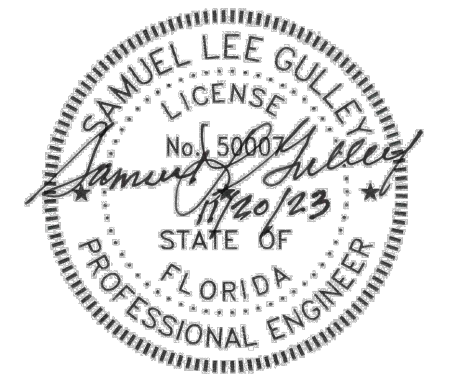
SHEET ID
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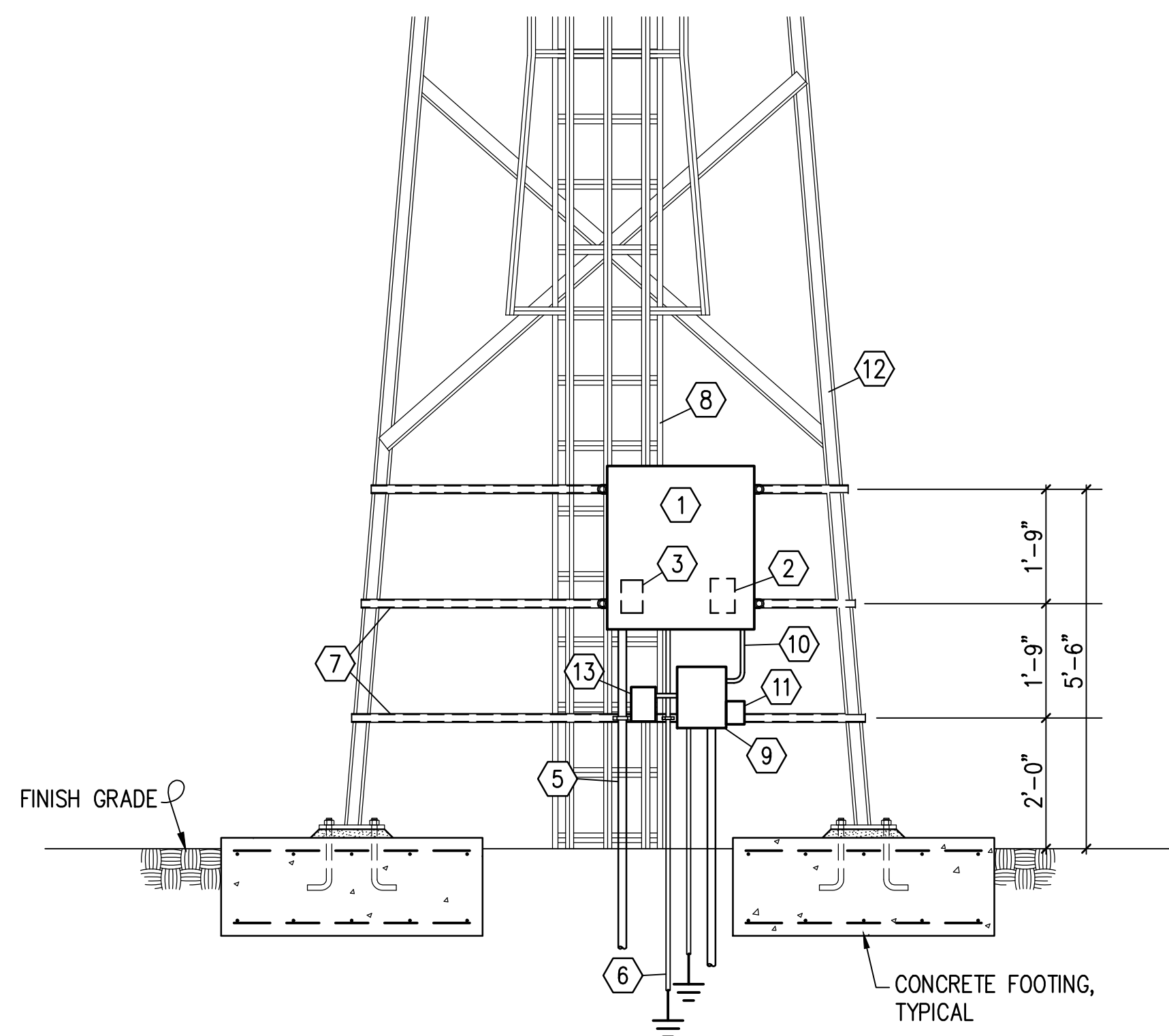
N:\2021\JOBS\210114 FORT LIBERTY MPTTR - POLY\DWG\B2EESS20 BORE SIGHT.DWG

READY TO ADVERTISE (RTA)



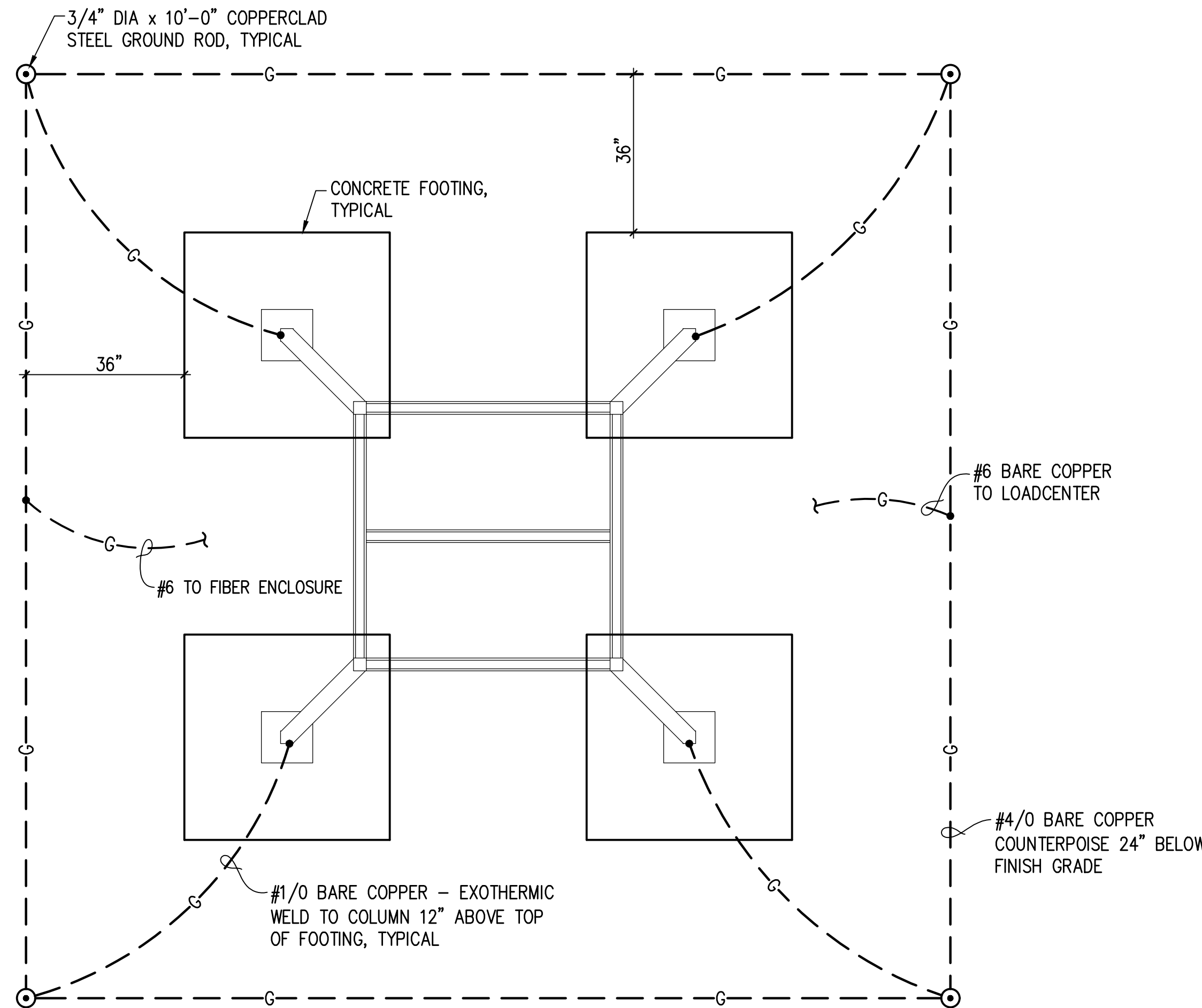
- ① COPPER-FREE CAST ALUMINUM FIXTURE BODY CONSTRUCTION FOR ATTACHMENT OF GLOBE AND GUARD.
 - ② CLEAR TEMPERED GLASS GLOBE WITH GASKETED SEAL TO BODY U.L. LISTED WET LOCATION LABEL
 - ③ MULTIVOLT DRIVER FOR OPERATION ON ANY LINE VOLTAGE WITH 4KV SURGE PROTECTION.
 - ④ COPPER-FREE CAST ALUMINUM GUARD TO PROTECT GLOBE AND LAMP
 - ⑤ 4000K CCT LED WITH 600 LUMEN OUTPUT OPERATING AT INPUT OF 15W.
- PROVIDE FIXTURE MARK "A" WITH A RED GLOBE
PROVIDE FIXTURE MARK "B" WITH A BLUE GLOBE





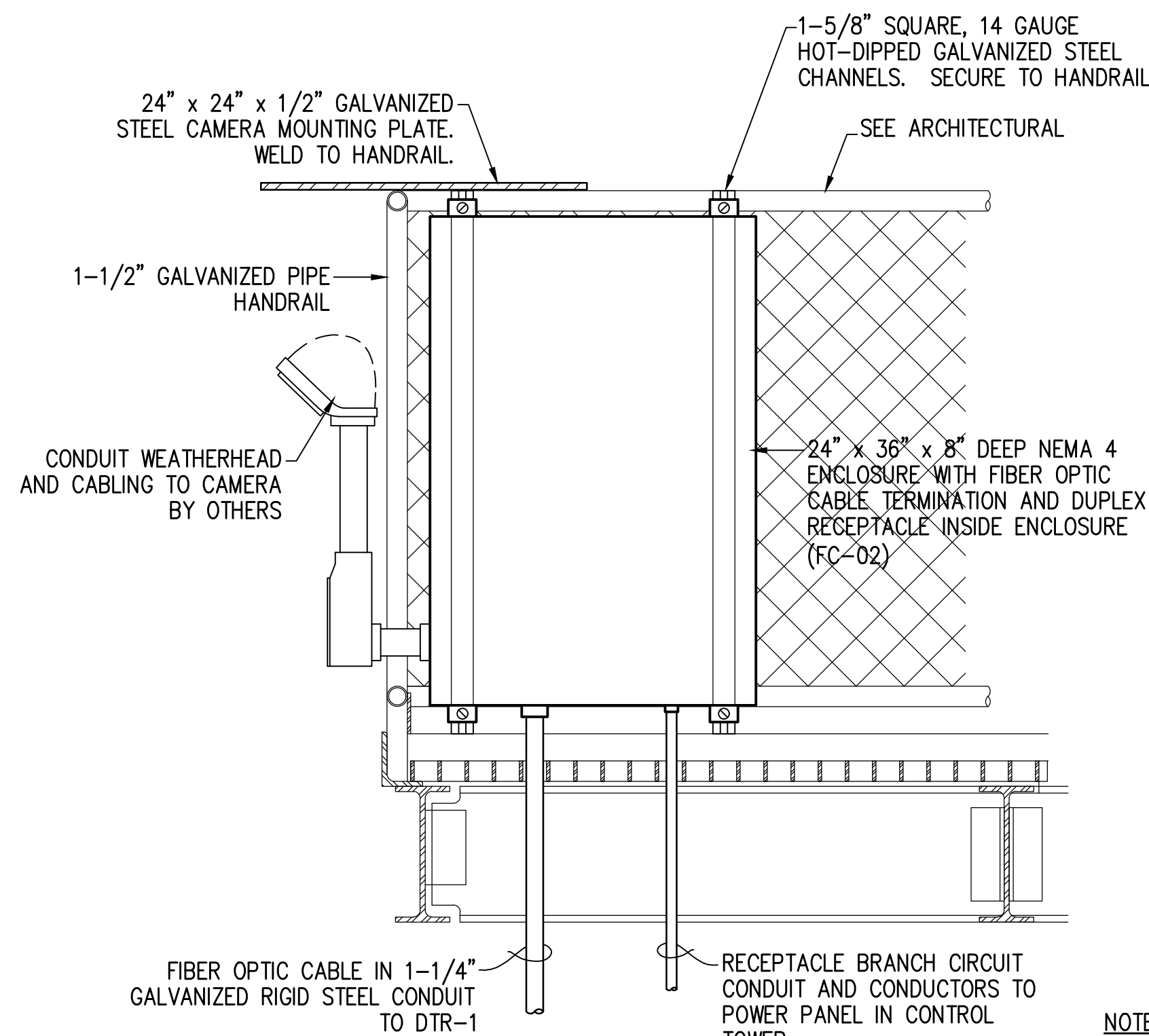
**FLIR CAMERA DETAIL
POWER AND FIBER INSTALLATION**

NOT TO SCALE



FLIR CAMERA GROUNDING PLAN

NOT TO SCALE



**CONTROL TOWER
CAMERA PLATE MOUNTING DETAIL**

NOT TO SCALE

NOTE
ENCLOSURE SHALL BE IDENTICAL TO THE REQUIREMENTS SHOWN IN THE FLIR CAMERA POWER AND FIBER INSTALLATION SHOWN, THIS SHEET.

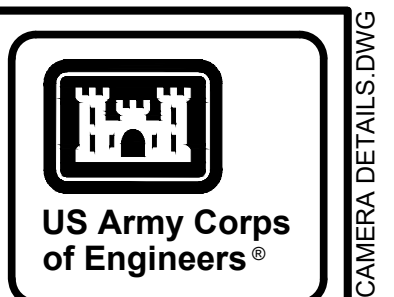
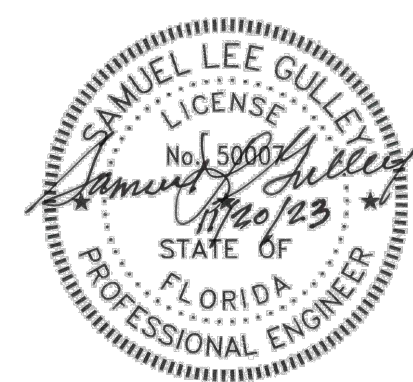
Key Notes - FLIR Camera Detail

- 1 24" W x 36" H x 8" D NEMA 4 ENCLOSURE FOR FIBER AND INSTRUMENTATION AT CAMERA TOWER. PROVIDE ENCLOSURE WITH FULL METALLIC BACKPLATE. SECURE TO STEEL CHANNEL SUPPORTS UTILIZING ENCLOSURE MOUNTING TABS.
- 2 20 AMP, 125 VOLT, 2 POLE, 3 WIRE GROUNDING TYPE DUPLEX RECEPTACLE IN STANDARD OUTLET BOX AND DEVICE COVER. MOUNT INSIDE NEMA 4 ENCLOSURE. INSTALL IN ENCLOSURE AS LOW AS POSSIBLE TO PROVIDE MAXIMUM AMOUNT OF SPACE FOR EQUIPMENT PROVIDED BY OTHERS.
- 3 6-PORT PATCH PANEL WITH SC TYPE CONNECTORS FOR FIBER OPTIC CABLE TERMINATION. INSTALL IN ENCLOSURE AS LOW AS POSSIBLE TO PROVIDE MAXIMUM AMOUNT OF SPACE FOR EQUIPMENT PROVIDED BY OTHERS.
- 4 BRANCH CIRCUIT CONDUIT AND CONDUCTORS FOR LOADCENTER PANEL SECURE CONDUIT TO STEEL CHANNEL SUPPORTS WITH TWO-HOLE PIPE CLAMPS.
- 5 6-STRAND SINGLE-MODE FIBER OPTIC CABLE IN 1-1/2" CONDUIT. STUB CONDUIT OUT 5'-0" FROM TOWER FOUNDATION AND SEAL OPENING IN CONDUIT AROUND CABLE.
- 6 1 #6 GROUND IN 3/4" GALVANIZED RIGID STEEL CONDUIT. CONNECT TO COUNTERPOISE. TERMINATE ON GROUND BAR IN ENCLOSURE.
- 7 1-5/8" SQUARE 12-GAUGE HOT-DIPPED GALVANIZED STEEL CHANNEL. WELD TO TOWER COLUMNS.
- 8 FLIR CAMERA STEEL COLUMN OF CAMERA TOWER. SEE STRUCTURAL DETAILS.
- 9 CIRCUIT BREAKER LOADCENTER - SECURE TO TOWER MOUNTING CHANNELS. SEE PANEL SCHEDULE, THIS SHEET.
- 10 2 #12, 1 #12 GND IN 1/2" GALVANIZED RIGID STEEL CONDUIT FROM 20 AMP, 2 POLE BREAKER IN LOADCENTER TO DUPLEX RECEPTACLE.
- 11 SURGE PROTECTIVE DEVICE - SEE SPECIFICATIONS. CONNECTION TO 30 AMP, 2 POLE CIRCUIT BREAKER IN PANEL WITH 4 #10 IN 3/4" CONDUIT NIPPLE.
- 12 CAMERA TOWER - SEE CIVIL DRAWING SHEET CS520 FOR DETAILS.
- 13 MAINTENANCE RECEPTACLE - 20 AMP, 125 VOLT, 2 POLE, 3 WIRE GROUNDING TYPE DUPLEX RECEPTACLE WITH WET LOCATION COVER IN WEATHERPROOF ENCLOSURE.

Typical FLIR Camera Tower Panel

BREAKER INTERRUPTING CAPACITY 10,000 AMPS SYM.		NEMA 3R ENCLOSURE		BRACED FOR MINIMUM 10,000 AMPS SYM.	
PANEL "FC" 240/120 VOLT AC, 1-PHASE, 3 WIRE, 50 AMP, 2 POLE MAIN BREAKER - SURFACE MOUNTED					
EQUIPMENT SERVED	CKT. TRIP	BKR. POLE	VA/PHASE		EQUIPMENT SERVED
			A	B	
FLIR CAMERA RECEPTACLE	20	1	1500		SURGE PROTECTIVE DEVICE
MAINTENANCE RECEPTACLE	20	1		50	
SPACE ONLY				50	SPACE ONLY
SPACE ONLY				50	SPACE ONLY

TOTAL CONNECTED VOLT - AMPS $\begin{matrix} A & B \\ 1,500 & 50 \end{matrix} = 1,550 \text{ VA}$
 TOTAL DEMAND VOLT - AMPS = 1,500 VA / 12.5 AMPS



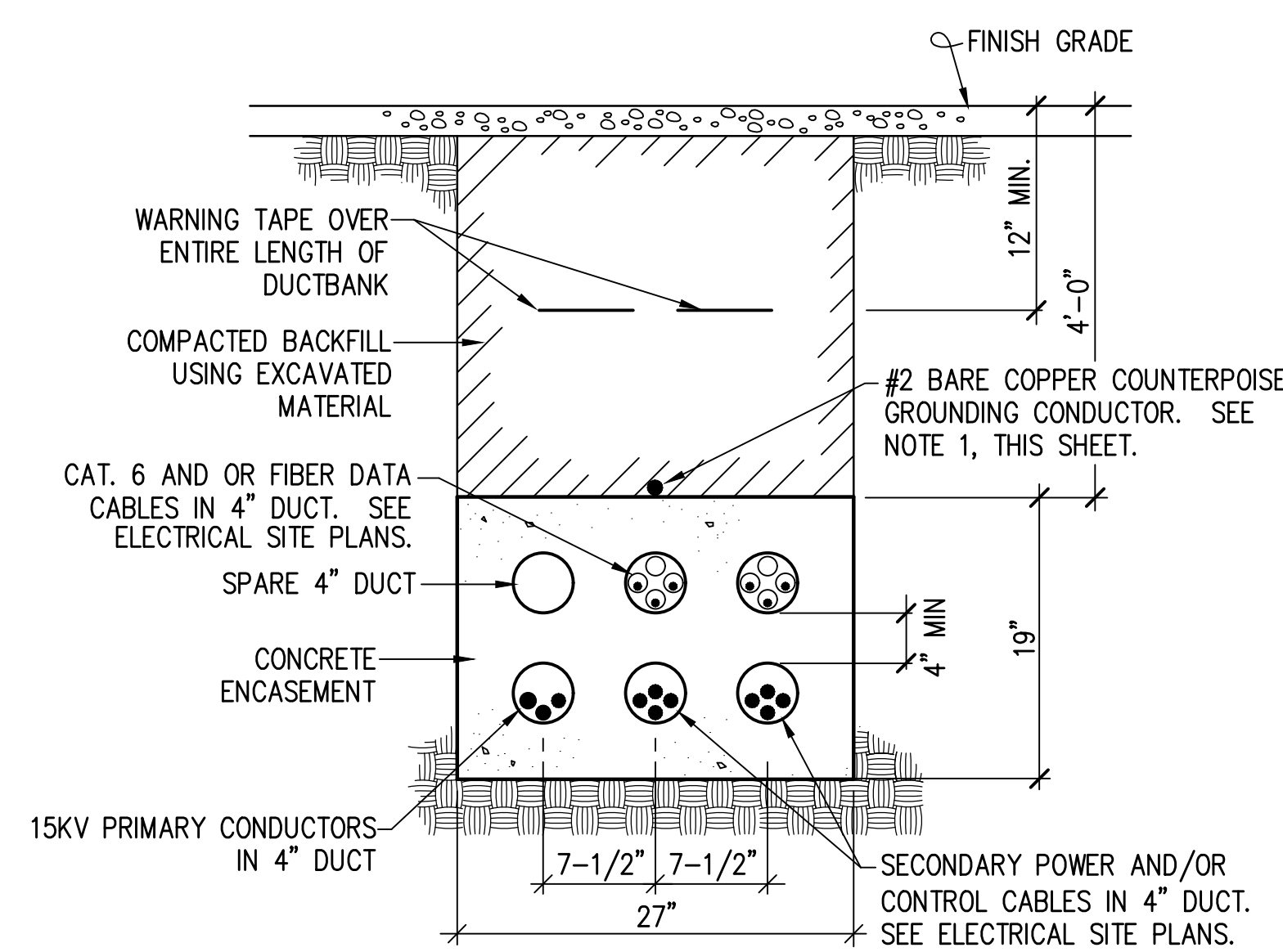
MARK	DESCRIPTION	DATE

DESIGNED BY: S. GULLEY
 DRAWN BY: T. BOLTON
 CHECKED BY: C. BROWN
 SUBMITTED BY: B. BRADLEY
 ISSUE DATE: NOVEMBER 2023
 SAVANNAH DISTRICT: 100 W. OGLETHORPE AVE SAVANNAH, GA 31401
 CONTRACT NO.:
 CATEGORY CODE: 178-65-01
 FILE NAME:
 ANSID

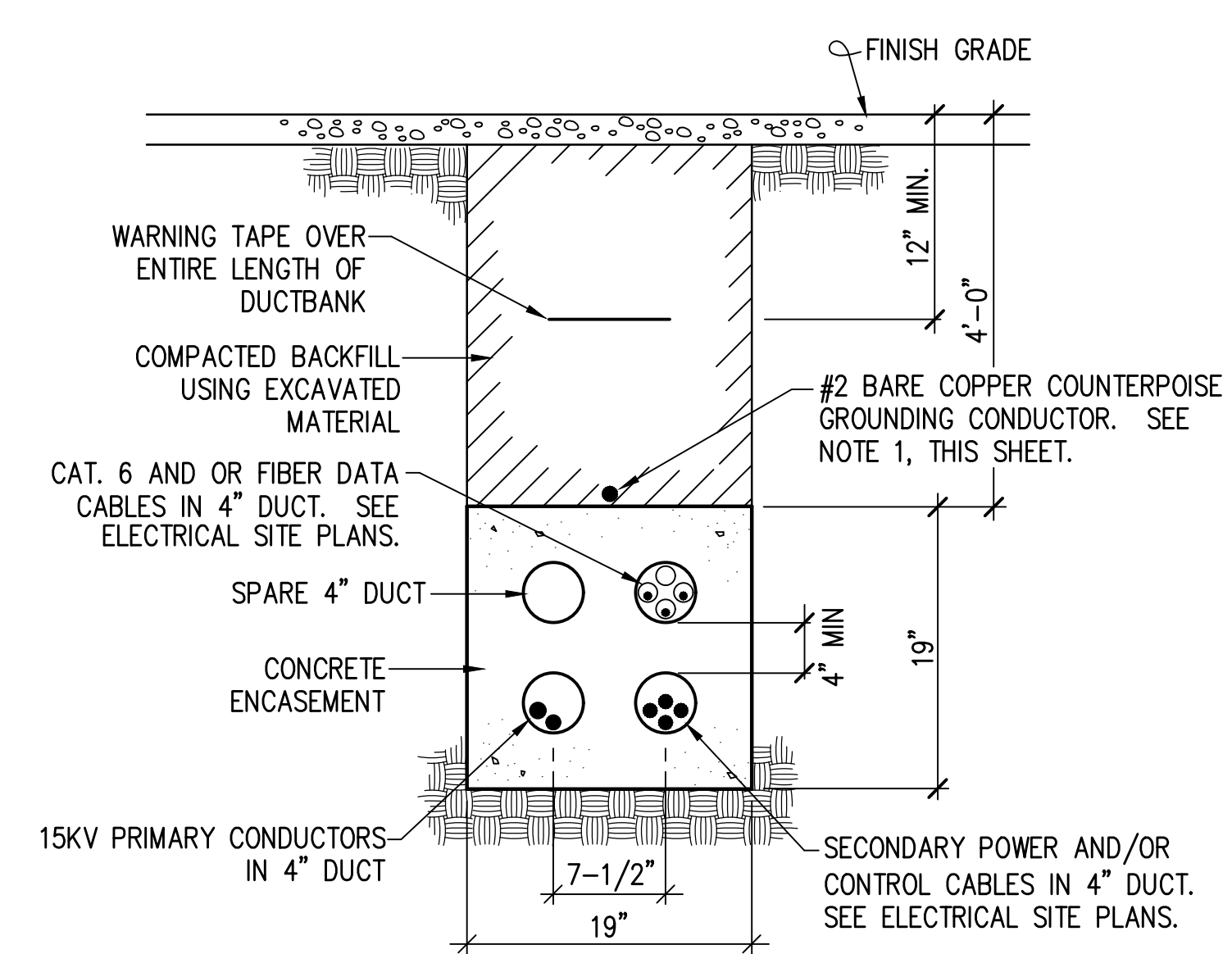
U.S. ARMY CORPS OF ENGINEERS
 SAVANNAH DISTRICT
 100 W. OGLETHORPE AVE
 SAVANNAH, GA 31401
 POLY, INC.
 1935 HEADLAND AVENUE
 DOTHAN, AL 36503
 WWW.POLY-INC.COM/3347-99-4700

FORT LIBERTY, NORTH CAROLINA
 AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTR)
 FY23, PN 96182
 VOLUMES 3 & 4 - DOWNRANGE
 ELECTRICAL DETAILS
 FLIR CAMERA TOWER

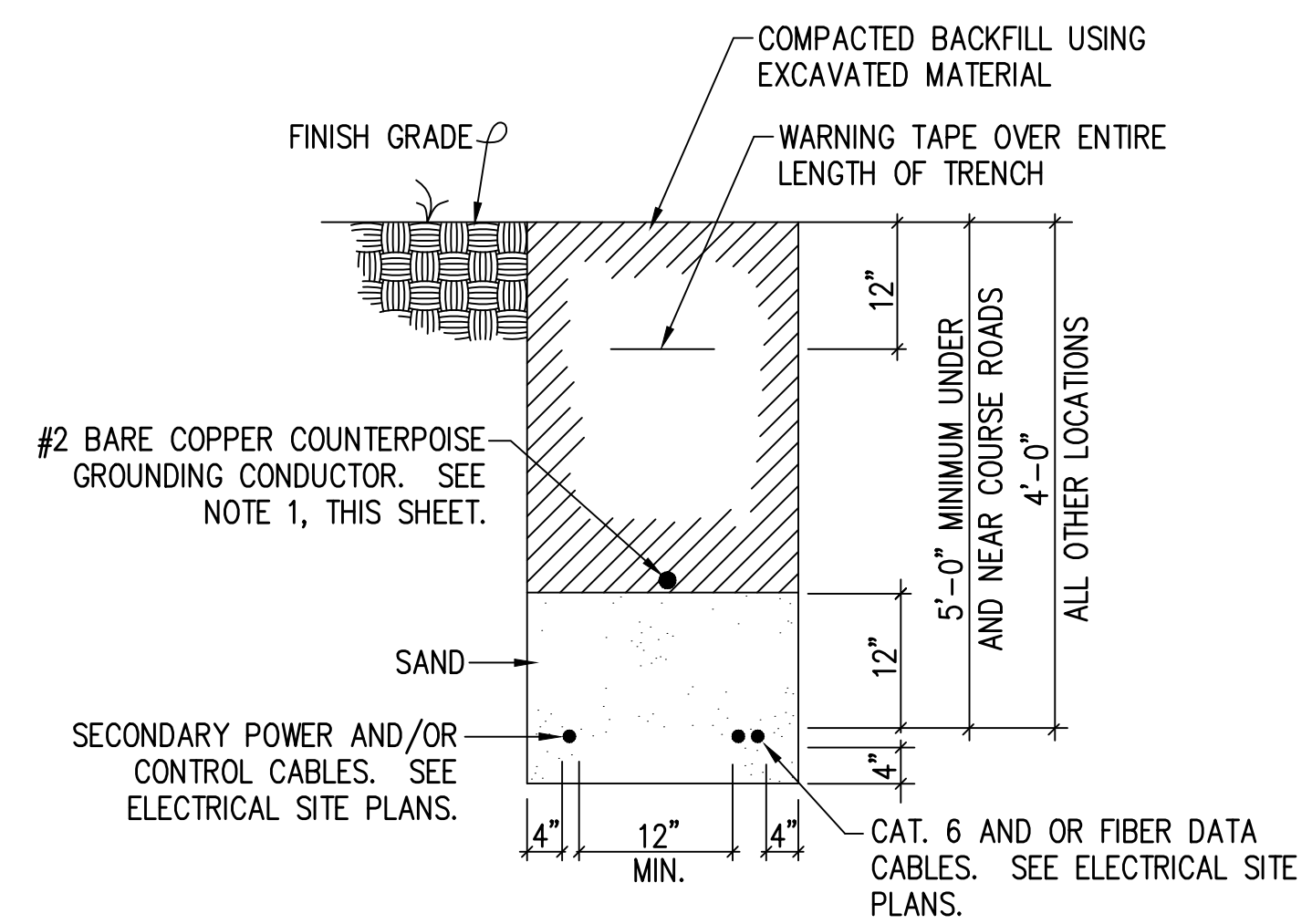
SHEET ID
ES521



**6-WAY CONCRETE ENCASED
DUCTBANK DETAIL - ROAD CROSSING**
NOT TO SCALE



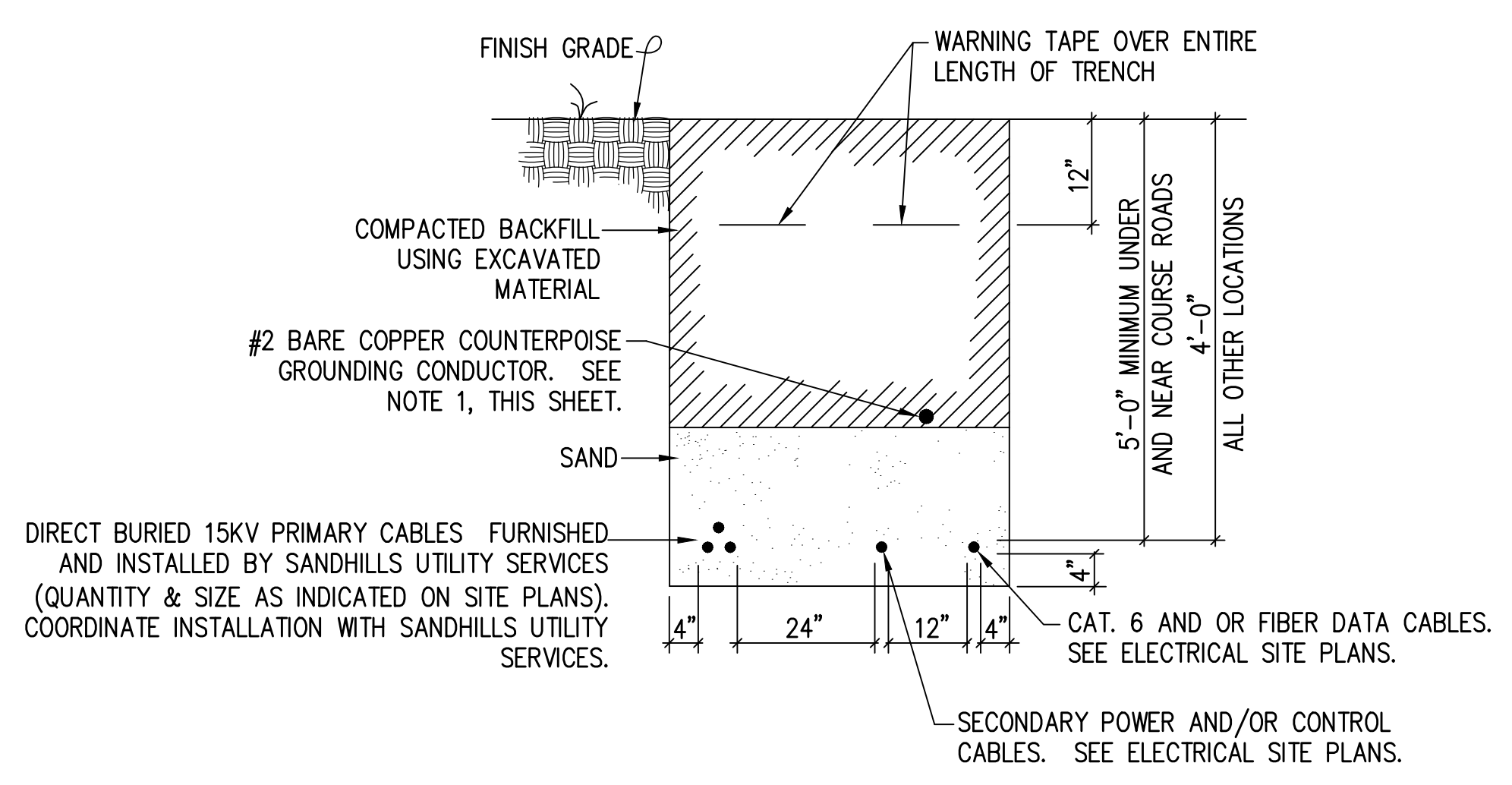
**4-WAY CONCRETE ENCASED
DUCTBANK DETAIL - ROAD CROSSING**
NOT TO SCALE



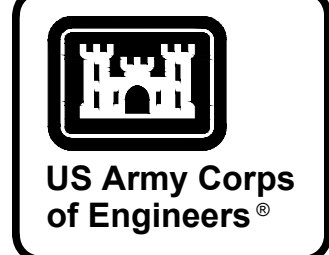
**TYPICAL TRENCH DETAIL
SECONDARY POWER & DATA**
NOT TO SCALE

NOTES

1. RUN CONTINUOUS FROM POWERCENTER TO TARGET EMPLACEMENT. BOND TO TARGET GROUND RODS AND POWERCENTER COUNTERPOISE GROUND CONDUCTOR, TYPICAL.
2. COUNTERPOISE GROUNDING CONDUCTOR SHALL BE PROVIDED IN TRENCH AND CONNECTED POWERCENTER-TO-POWERCENTER.



**TRENCH DETAIL
15KV PRIMARY/SECONDARY POWER/DATA/RLM CABLE**
NOT TO SCALE



MARK	DESCRIPTION	DATE

DESIGNED BY: S. GUILLEY	ISSUE DATE: NOVEMBER 2023
DRAWN BY: T. BOLTON	SOLICITATION NO.: W91ZHQZ45-002
CHECKED BY: C. BROWN	CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-85-01
ANSI/D	FILE NAME:

U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT
100 W. OGLETHORPE AVE
SAVANNAH, GA 31401

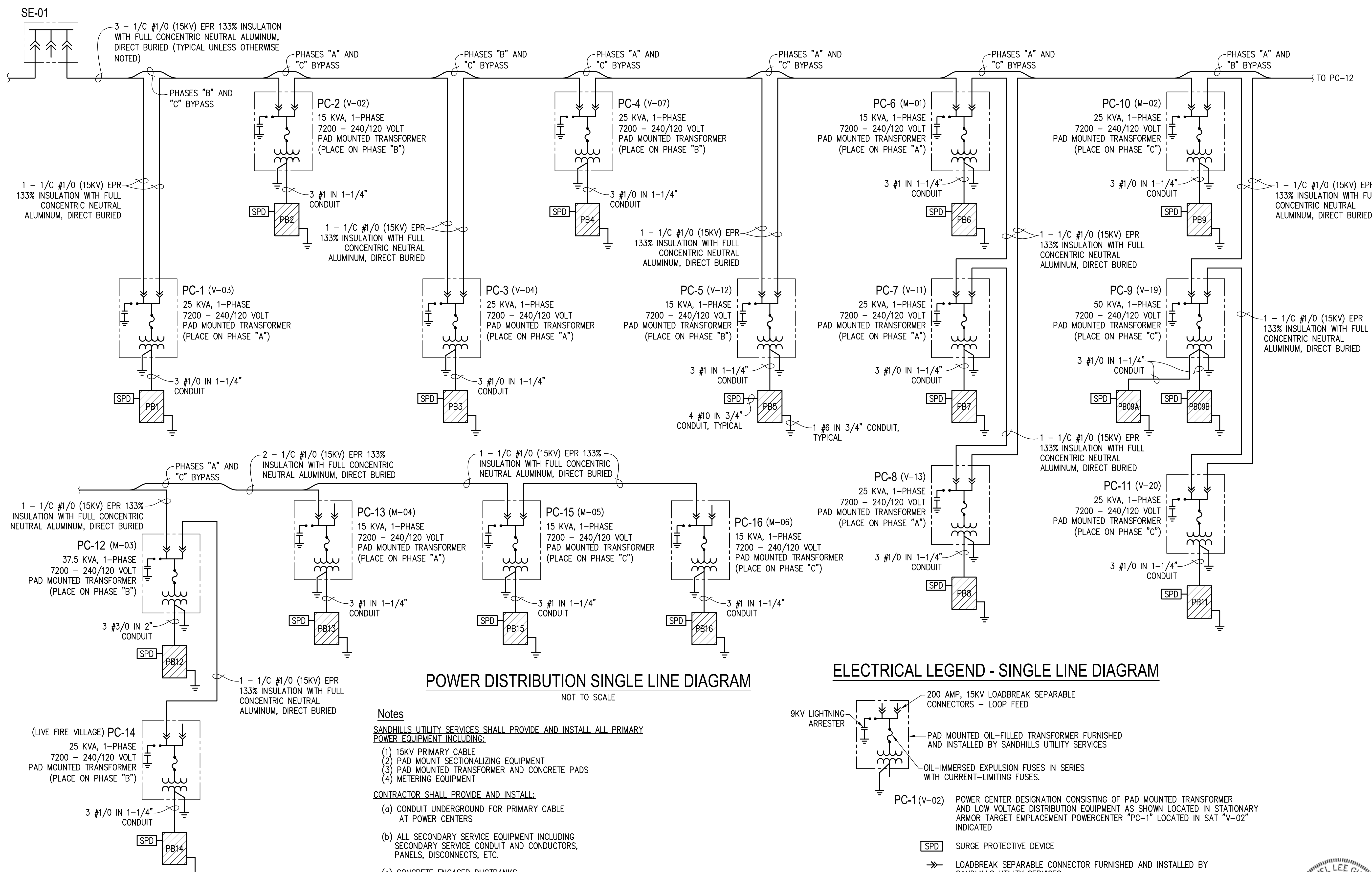
POLY, INC.
1935 HEADLAND AVENUE
DOTHAN, AL 36503
WWW.POLY-INC.COM / 334-793-4700

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 95182
VOLUMES 3 & 4 - DOWNRANGE

ELECTRICAL TRENCHING DETAILS



SHEET ID
ES522

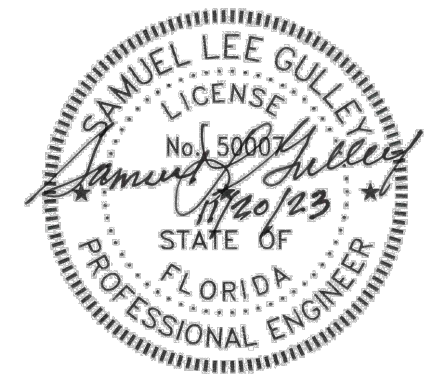


POWER DISTRIBUTION SINGLE LINE DIAGRAM
NOT TO SCALE

ELECTRICAL LEGEND - SINGLE LINE DIAGRAM

	9KV LIGHTNING ARRESTER
	200 AMP, 15KV LOADBREAK SEPARABLE CONNECTORS - LOOP FEED
	PAD MOUNTED OIL-FILLED TRANSFORMER FURNISHED AND INSTALLED BY SANDHILLS UTILITY SERVICES
	OIL-IMMERSED EXPULSION FUSES IN SERIES WITH CURRENT-LIMITING FUSES.
	PC-1(v-02) POWER CENTER DESIGNATION CONSISTING OF PAD MOUNTED TRANSFORMER AND LOW VOLTAGE DISTRIBUTION EQUIPMENT AS SHOWN LOCATED IN STATIONARY ARMOR TARGET EMPLACEMENT POWERCENTER "PC-1" LOCATED IN SAT "V-02" INDICATED
	SPD SURGE PROTECTIVE DEVICE
	LOADBREAK SEPARABLE CONNECTOR FURNISHED AND INSTALLED BY SANDHILLS UTILITY SERVICES
	PANELBOARD WITH MAIN BREAKER - 120/240 VOLT, 1-PHASE WITH NEMA 3R ENCLOSURE UNLESS OTHERWISE NOTED
	SE-01 PRIMARY CABLE TERMINATING/SECTIONALIZING ENCLOSURE 3-PHASE, 3-WAY OR 4-WAY AS NOTED, PAD MOUNTED DEAD-FRONT, 200 AMP, 15KV JUNCTIONS FURNISHED AND INSTALLED BY SANDHILLS UTILITY SERVICES

- Notes**
SANDHILLS UTILITY SERVICES SHALL PROVIDE AND INSTALL ALL PRIMARY POWER EQUIPMENT INCLUDING:
- (1) 15KV PRIMARY CABLE
 - (2) PAD MOUNT SECTIONALIZING EQUIPMENT
 - (3) PAD MOUNTED TRANSFORMER AND CONCRETE PADS
 - (4) METERING EQUIPMENT
- CONTRACTOR SHALL PROVIDE AND INSTALL:**
- (a) CONDUIT UNDERGROUND FOR PRIMARY CABLE AT POWER CENTERS
 - (b) ALL SECONDARY SERVICE EQUIPMENT INCLUDING SECONDARY SERVICE CONDUIT AND CONDUCTORS, PANELS, DISCONNECTS, ETC.
 - (c) CONCRETE ENCASED DUCTBANKS
 - (d) TRENCHING AND BACKFILLING
 - (e) LEAVE 15'-0" OF SLACK CABLE IN SECONDARY SERVICE FEEDERS FOR CONNECTION TO PAD MOUNTED TRANSFORMER BY SANDHILL UTILITY SERVICE, TYPICAL

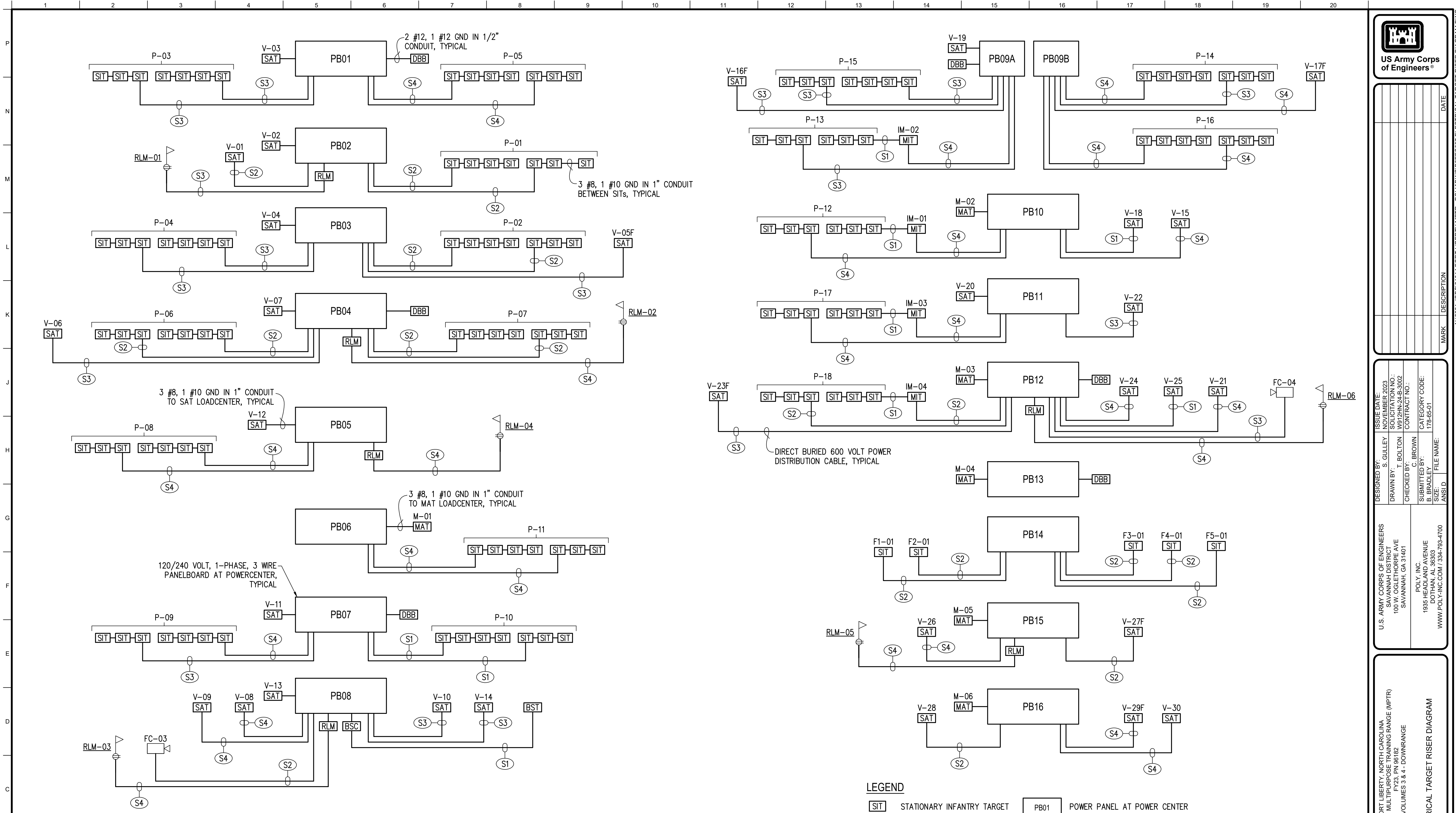


US Army Corps of Engineers

DESIGNED BY: S. GULLEY	ISSUE DATE: NOVEMBER 2023	DRAWN BY: T. BOLTON	CHECKED BY: C. BROWN	SUBMITTED BY: B. BRADLEY	FILE NAME: 178-65-01
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401			POLY, INC. 1985 HEADLAND AVENUE DOTHAN, AL 36503 WWW.POLY-INC.COM/3347-99-4700		
ELECTRICAL SINGLE LINE DIAGRAM					
SHEET ID ES606					

N22021 JOBS21014 FORT LIBERTY MPTF - POLYDWG2E606 ELECTRICAL SINGLE LINE DIAGRAM.DWG

READY TO ADVERTISE (RTA)



Underground Cable Identification Label

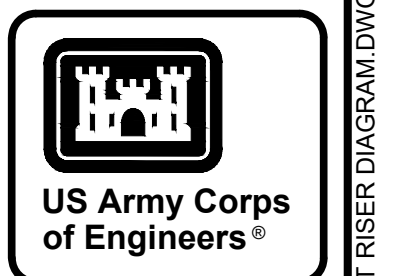
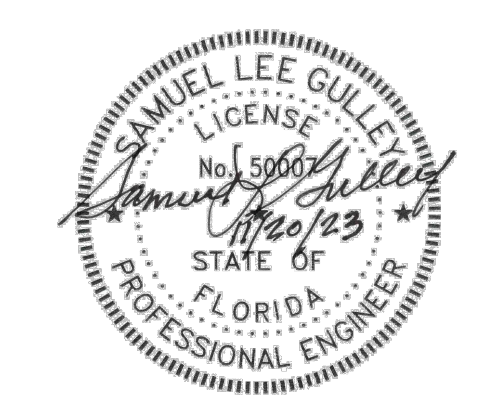
- (S1) 3/C - #8 WITH GROUND DIRECT BURY 600 VOLT POWER CABLE
- (S2) 3/C - #6 WITH GROUND DIRECT BURY 600 VOLT POWER CABLE
- (S3) 3/C - #4 WITH GROUND DIRECT BURY 600 VOLT POWER CABLE
- (S4) 3/C - #2 WITH GROUND DIRECT BURY 600 VOLT POWER CABLE

ELECTRICAL TARGET POWER RISER DIAGRAM

NOTE: NOT TO SCALE
 PROVIDE PERMANENT TAGS ATTACHED TO EACH CABLE INSIDE BOX DIRECTLY ABOVE CONDUIT OPENING TO IDENTIFY THE CABLE DESTINATION.

LEGEND

- [SIT] STATIONARY INFANTRY TARGET
- [SAT] STATIONARY ARMOR TARGET
- [MAT] MOVING ARMOR TARGET
- [MIT] MOVING INFANTRY TARGET
- [BST] BORESIGHT
- [BSC] BORESIGHT CONTROLLER
- [RLM] RANGE LIMIT MARKER CONTROLLER
- [DBB] DATA BREAKOUT BOX
- [PB01] POWER PANEL AT POWER CENTER
- [RLM-05] RANGE LIMIT MARKER



MARK	DESCRIPTION	DATE

DESIGNED BY: S. GULLEY	ISSUE DATE: NOVEMBER 2023
DRAWN BY: T. BOLTON	NO. OF SHEETS: 4 OF 4
CHECKED BY: C. BROWN	CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-85-01
SIZE: ANSI D	FILE NAME:

FORT LIBERTY, NORTH CAROLINA
 AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
 FY23, PN 86182
 VOLUMES 3 & 4 - DOWNRANGE
 ELECTRICAL TARGET RISER DIAGRAM

SHEET ID
ES607

BREAKER INTERRUPTING CAPACITY 10,000 AMPS SYM.		PANEL SCHEDULE				NEMA 3R ENCLOSURE		BRACED FOR MINIMUM 10,000 AMPS SYM.	
PANEL PB01 120/240 VOLT AC, 1-PHASE, 3 WIRE, 125 AMP, 2 POLE MAIN BREAKER - SURFACE MOUNTED									
EQUIPMENT SERVED	CKT. NO.	BKR. TRIP	VA/PHASE A	VA/PHASE B	CKT. NO.	BKR. TRIP	VA/PHASE A	VA/PHASE B	EQUIPMENT SERVED
V-03	35	2	1450		1	2	2120		P-05
				1400	3	4		1920	
P-03	35	2	2120		5	6	1590		P-05
				1920	7	8		1440	
P-03	35	2	1590		9	10	100		DATA BREAKOUT BOX
				1440	11	12			SPARE BREAKER
SURGE PROTECTIVE DEVICE	30	2			13	14			SPARE BREAKER
					15	16			
SPARE BREAKER	35	2			17	18			SPACE ONLY
					19	20			
SPACE ONLY		2			21	22			SPACE ONLY
					23	24			

TOTAL CONNECTED VOLT - AMPS $\frac{8,970}{8,120} = 17,090 \text{ VA} / 71.21 \text{ AMPS}$
TOTAL DEMAND VOLT - AMPS = 16,240 VA / 67.67 AMPS

BREAKER INTERRUPTING CAPACITY 10,000 AMPS SYM.		PANEL SCHEDULE				NEMA 3R ENCLOSURE		BRACED FOR MINIMUM 10,000 AMPS SYM.	
PANEL PB04 120/240 VOLT AC, 1-PHASE, 3 WIRE, 125 AMP, 2 POLE MAIN BREAKER - SURFACE MOUNTED									
EQUIPMENT SERVED	CKT. NO.	BKR. TRIP	VA/PHASE A	VA/PHASE B	CKT. NO.	BKR. TRIP	VA/PHASE A	VA/PHASE B	EQUIPMENT SERVED
V-07	35	2	1450		1	2	2120		P-07
				1400	3	4		1920	
P-06	35	2	2120		5	6	1590		P-07
				1920	7	8		1440	
P-06	35	2	1590		9	10	1800		RLM-02
				1440	11	12		100	DATA BREAKOUT BOX
V-06	35	2	1450		13	14			SPARE BREAKER
				1400	15	16			
SURGE PROTECTIVE DEVICE	30	2			17	18			SPARE BREAKER
					19	20			
SPACE ONLY		2			21	22			SPACE ONLY
					23	24			

TOTAL CONNECTED VOLT - AMPS $\frac{12,120}{9,620} = 21,740 \text{ VA} / 90.17 \text{ AMPS}$
TOTAL DEMAND VOLT - AMPS = 20,840 VA / X AMPS

BREAKER INTERRUPTING CAPACITY 10,000 AMPS SYM.		PANEL SCHEDULE				NEMA 3R ENCLOSURE		BRACED FOR MINIMUM 10,000 AMPS SYM.	
PANEL PB02 120/240 VOLT AC, 1-PHASE, 3 WIRE, 100 AMP, 2 POLE MAIN BREAKER - SURFACE MOUNTED									
EQUIPMENT SERVED	CKT. NO.	BKR. TRIP	VA/PHASE A	VA/PHASE B	CKT. NO.	BKR. TRIP	VA/PHASE A	VA/PHASE B	EQUIPMENT SERVED
V-02	35	2	1450		1	2	2120		P-01
				1400	3	4		1920	
V-01	35	2	1450		5	6	1590		P-01
				1400	7	8		1440	
SURGE PROTECTIVE DEVICE	30	2			9	10	1800		RLM-01
					11	12			SPARE BREAKER
SPARE BREAKER	35	2			13	14			SPARE BREAKER
					15	16			
SPACE ONLY		2			17	18			SPACE ONLY
					19	20			
SPACE ONLY		2			21	22			SPACE ONLY
					23	24			

TOTAL CONNECTED VOLT - AMPS $\frac{8,410}{6,160} = 14,570 \text{ VA} / 60.71 \text{ AMPS}$
TOTAL DEMAND VOLT - AMPS = 12,320 VA / 51.33 AMPS

BREAKER INTERRUPTING CAPACITY 10,000 AMPS SYM.		PANEL SCHEDULE				NEMA 3R ENCLOSURE		BRACED FOR MINIMUM 10,000 AMPS SYM.	
PANEL PB05 120/240 VOLT AC, 1-PHASE, 3 WIRE, 100 AMP, 2 POLE MAIN BREAKER - SURFACE MOUNTED									
EQUIPMENT SERVED	CKT. NO.	BKR. TRIP	VA/PHASE A	VA/PHASE B	CKT. NO.	BKR. TRIP	VA/PHASE A	VA/PHASE B	EQUIPMENT SERVED
V-12	35	2	1450		1	2	1800		RLM-04
				1400	3	4			SPARE BREAKER
P-08	35	2	2120		5	6			SPARE BREAKER
				1920	7	8			
P-08	35	2	1590		9	10			SPARE BREAKER
				1440	11	12			
SURGE PROTECTIVE DEVICE	30	2			13	14			SPARE BREAKER
					15	16			
SPACE ONLY		2			17	18			SPACE ONLY
					19	20			
SPACE ONLY		2			21	22			SPACE ONLY
					23	24			

TOTAL CONNECTED VOLT - AMPS $\frac{6,960}{4,760} = 11,720 \text{ VA} / 48.83 \text{ AMPS}$
TOTAL DEMAND VOLT - AMPS = 11,320 VA / 47.17 AMPS

BREAKER INTERRUPTING CAPACITY 10,000 AMPS SYM.		PANEL SCHEDULE				NEMA 3R ENCLOSURE		BRACED FOR MINIMUM 10,000 AMPS SYM.	
PANEL PB03 120/240 VOLT AC, 1-PHASE, 3 WIRE, 125 AMP, 2 POLE MAIN BREAKER - SURFACE MOUNTED									
EQUIPMENT SERVED	CKT. NO.	BKR. TRIP	VA/PHASE A	VA/PHASE B	CKT. NO.	BKR. TRIP	VA/PHASE A	VA/PHASE B	EQUIPMENT SERVED
V-04	35	2	1450		1	2	2120		P-02
				1400	3	4		1920	
P-04	35	2	2120		5	6	1590		P-02
				1920	7	8		1440	
P-04	35	2	1590		9	10	1450		V-05F
				1440	11	12		1400	
SURGE PROTECTIVE DEVICE	30	2			13	14			SPARE BREAKER
					15	16			
SPACE ONLY		2			17	18			SPACE ONLY
					19	20			
SPACE ONLY		2			21	22			SPACE ONLY
					23	24			

TOTAL CONNECTED VOLT - AMPS $\frac{10,320}{9,520} = 19,840 \text{ VA} / 82.67 \text{ AMPS}$
TOTAL DEMAND VOLT - AMPS = 19,040 VA / 79.33 AMPS

BREAKER INTERRUPTING CAPACITY 10,000 AMPS SYM.		PANEL SCHEDULE				NEMA 3R ENCLOSURE		BRACED FOR MINIMUM 10,000 AMPS SYM.	
PANEL PB06 120/240 VOLT AC, 1-PHASE, 3 WIRE, 100 AMP, 2 POLE MAIN BREAKER - SURFACE MOUNTED									
EQUIPMENT SERVED	CKT. NO.	BKR. TRIP	VA/PHASE A	VA/PHASE B	CKT. NO.	BKR. TRIP	VA/PHASE A	VA/PHASE B	EQUIPMENT SERVED
M-01 (NEMA L14-20R, 2-NEMA L5-20R, DPR)	35	2	1950		1	2	2120		P-11
				1900	3	4		1920	
SURGE PROTECTIVE DEVICE	30	2			5	6	1590		P-11
					7	8		1440	
SPARE BREAKER	35	2			9	10			SPARE BREAKER
					11	12			
SPARE BREAKER	35	2			13	14			SPACE ONLY
					15	16			
SPACE ONLY		2			17	18			SPACE ONLY
					19	20			
SPACE ONLY		2			21	22			SPACE ONLY
					23	24			

TOTAL CONNECTED VOLT - AMPS $\frac{5,660}{5,260} = 10,920 \text{ VA} / 45.50 \text{ AMPS}$
TOTAL DEMAND VOLT - AMPS = 10,520 VA / 43.83 AMPS

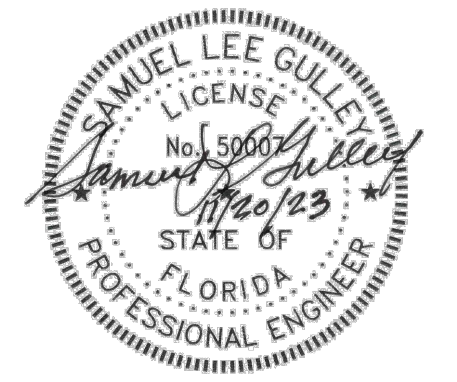


US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. GUILLEY
DRAWN BY: T. BOLTON
CHECKED BY: C. BROWN
SUBMITTED BY: B. BRADLEY
ISSUE DATE: NOVEMBER 2023
DRAWING NO.: W91PHZ44-302
CONTRACT NO.:
CATEGORY CODE: 178-85-01
FILE NAME:
ANSID:
U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT
100 W. OGLETHORPE AVE
SAVANNAH, GA 31401
POLY, INC.
1935 HEADLAND AVENUE
DOTHAN, AL 36503
WWW.POLY-INC.COM/3347-98-4700

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 96182
VOLUMES 3 & 4 - DOWNRANGE
ELECTRICAL TARGET
PANEL SCHEDULES



SHEET ID
ES608

BREAKER INTERRUPTING CAPACITY 10,000 AMPS SYM.		PANEL SCHEDULE										NEMA 3R ENCLOSURE		BRACED FOR MINIMUM 10,000 AMPS SYM.	
PANEL_PB07 120/240 VOLT AC, 1-PHASE, 3 WIRE, 125 AMP, 2 POLE MAIN BREAKER - SURFACE MOUNTED															
EQUIPMENT SERVED	CKT. TRIP	BKR. POLE	VA/PHASE		CKT. No.	CKT. No.	VA/PHASE		CKT. POLE	BKR. TRIP	EQUIPMENT SERVED				
V-11	35	2	1450		1	2	2120		2	35	P-10				
				1400	3	4		1920							
P-09	35	2	2120		5	6	1590		2	35	P-10				
				1920	7	8		1440							
P-09	35	2	1590		9	10	100		1	20	DATA BREAKOUT BOX				
				1440	11	12			1	20	SPARE BREAKER				
SURGE PROTECTIVE DEVICE	30	2			13	14			2	35	SPARE BREAKER				
					15	16									
SPACE ONLY		2			17	18			2		SPACE ONLY				
					19	20									
SPACE ONLY		2			21	22			2		SPACE ONLY				
					23	24									

TOTAL CONNECTED VOLT - AMPS $\frac{8,970}{8,120} = 17,090 \text{ VA} / 71.21 \text{ AMPS}$
TOTAL DEMAND VOLT - AMPS = 16,240 VA / 67.67 AMPS

BREAKER INTERRUPTING CAPACITY 10,000 AMPS SYM.		PANEL SCHEDULE										NEMA 3R ENCLOSURE		BRACED FOR MINIMUM 10,000 AMPS SYM.	
PANEL_PB10 120/240 VOLT AC, 1-PHASE, 3 WIRE, 125 AMP, 2 POLE MAIN BREAKER - SURFACE MOUNTED															
EQUIPMENT SERVED	CKT. TRIP	BKR. POLE	VA/PHASE		CKT. No.	CKT. No.	VA/PHASE		CKT. POLE	BKR. TRIP	EQUIPMENT SERVED				
M-02 (NEMA L14-20R, 2-NEMA L5-20R, DPR)	35	2	1950		1	2	1450		2	35	V-18				
					3	4	1900								
IM-01 & P-12	35	2	2640		5	6	1450		2	35	V-15				
					7	8	2440								
P-12	35	2	1590		9	10			2	30	SURGE PROTECTIVE DEVICE				
					11	12	1440								
SPARE BREAKER	35	2			13	14			2	35	SPARE BREAKER				
					15	16									
SPARE BREAKER	35	2			17	18			2		SPACE ONLY				
					19	20									
SPACE ONLY		2			21	22			2		SPACE ONLY				
					23	24									

TOTAL CONNECTED VOLT - AMPS $\frac{9,080}{8,580} = 17,660 \text{ VA} / 73.58 \text{ AMPS}$
TOTAL DEMAND VOLT - AMPS = 15,160 VA / 63.17 AMPS

BREAKER INTERRUPTING CAPACITY 10,000 AMPS SYM.		PANEL SCHEDULE										NEMA 3R ENCLOSURE		BRACED FOR MINIMUM 10,000 AMPS SYM.	
PANEL_PB08 120/240 VOLT AC, 1-PHASE, 3 WIRE, 125 AMP, 2 POLE MAIN BREAKER - SURFACE MOUNTED															
EQUIPMENT SERVED	CKT. TRIP	BKR. POLE	VA/PHASE		CKT. No.	CKT. No.	VA/PHASE		CKT. POLE	BKR. TRIP	EQUIPMENT SERVED				
V-13	35	2	1450		1	2	1450		2	35	V-10				
				1400	3	4		1400							
V-08	35	2	1450		5	6	1450		2	35	V-14				
				1400	7	8		1400							
FC-03	35	2	1500		9	10	1450		2	35	V-09				
				50	11	12		1400							
RLM-03	20	1	1800		13	14			2	35	SPARE BREAKER				
BORESIGHT	20	1		100	15	16									
SURGE PROTECTIVE DEVICE	30	2			17	18			2	35	SPARE BREAKER				
					19	20									
SPACE ONLY		2			21	22			2		SPACE ONLY				
					23	24									

TOTAL CONNECTED VOLT - AMPS $\frac{10,550}{7,150} = 17,700 \text{ VA} / 73.75 \text{ AMPS}$
TOTAL DEMAND VOLT - AMPS = 17,350 VA / 72.29 AMPS

BREAKER INTERRUPTING CAPACITY 10,000 AMPS SYM.		PANEL SCHEDULE										NEMA 3R ENCLOSURE		BRACED FOR MINIMUM 10,000 AMPS SYM.	
PANEL_PB11 120/240 VOLT AC, 1-PHASE, 3 WIRE, 125 AMP, 2 POLE MAIN BREAKER - SURFACE MOUNTED															
EQUIPMENT SERVED	CKT. TRIP	BKR. POLE	VA/PHASE		CKT. No.	CKT. No.	VA/PHASE		CKT. POLE	BKR. TRIP	EQUIPMENT SERVED				
V-20	35	2	1450		1	2	1450		2	35	V-22				
				1400	3	4		1400							
IM-03 & P-17	35	2	2640		5	6	1590		2	35	P-17				
				2440	7	8		1440							
SURGE PROTECTIVE DEVICE	30	2			9	10			2	35	SPARE BREAKER				
					11	12									
SPARE BREAKER	35	2			13	14			2	35	SPARE BREAKER				
					15	16									
SPACE ONLY		2			17	18			2		SPACE ONLY				
					19	20									
SPACE ONLY		2			21	22			2		SPACE ONLY				
					23	24									

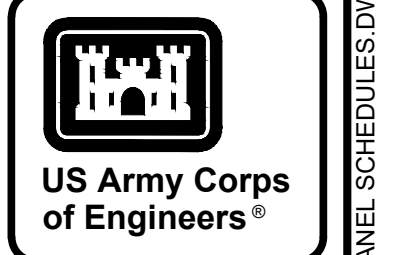
TOTAL CONNECTED VOLT - AMPS $\frac{7,130}{6,680} = 13,810 \text{ VA} / 57.54 \text{ AMPS}$
TOTAL DEMAND VOLT - AMPS = 13,360 VA / 55.67 AMPS

BREAKER INTERRUPTING CAPACITY 10,000 AMPS SYM.		PANEL SCHEDULE										NEMA 3R ENCLOSURE		BRACED FOR MINIMUM 10,000 AMPS SYM.	
PANEL_PB09A 120/240 VOLT AC, 1-PHASE, 3 WIRE, 125 AMP, 2 POLE MAIN BREAKER - SURFACE MOUNTED															
EQUIPMENT SERVED	CKT. TRIP	BKR. POLE	VA/PHASE		CKT. No.	CKT. No.	VA/PHASE		CKT. POLE	BKR. TRIP	EQUIPMENT SERVED				
V-19	35	2	1450		1	2	1590		2	35	IM-02 & P-13				
				1400	3	4		1440							
P-15	35	2	2120		5	6	1590		2	35	P-13				
				1920	7	8		1440							
P-15	35	2	1590		9	10	100		1	20	DATA BREAKOUT BOX				
				1440	11	12			1	20	SPARE BREAKER				
V-16F	35	2	1450		13	14			2	35	SPARE BREAKER				
				1400	15	16									
SURGE PROTECTIVE DEVICE	30	2			17	18			2		SPACE ONLY				
					19	20									
SPACE ONLY		2			21	22			2		SPACE ONLY				
					23	24									

TOTAL CONNECTED VOLT - AMPS $\frac{9,890}{9,040} = 18,930 \text{ VA} / 78.88 \text{ AMPS}$
TOTAL DEMAND VOLT - AMPS = 17,889 VA / 74.54 AMPS

BREAKER INTERRUPTING CAPACITY 10,000 AMPS SYM.		PANEL SCHEDULE										NEMA 3R ENCLOSURE		BRACED FOR MINIMUM 10,000 AMPS SYM.	
PANEL_P09B 120/240 VOLT AC, 1-PHASE, 3 WIRE, 125 AMP, 2 POLE MAIN BREAKER - SURFACE MOUNTED															
EQUIPMENT SERVED	CKT. TRIP	BKR. POLE	VA/PHASE		CKT. No.	CKT. No.	VA/PHASE		CKT. POLE	BKR. TRIP	EQUIPMENT SERVED				
P-14	35	2	2120		1	2	2120		2	35	P-16				
				1920	3	4		1920							
P-14	35	2	1590		5	6	1590		2	35	P-16				
				1440	7	8		1440							
V-17F	35	2	1450		9	10			2	35	SPARE BREAKER				
				1400	11	12									
SPARE BREAKER	20	1			13	14			2	35	SPARE BREAKER				
					15	16									
SURGE PROTECTIVE DEVICE	30	2			17	18			2		SPACE ONLY				
					19	20									
SPACE ONLY		2			21	22			2		SPACE ONLY				
					23	24									

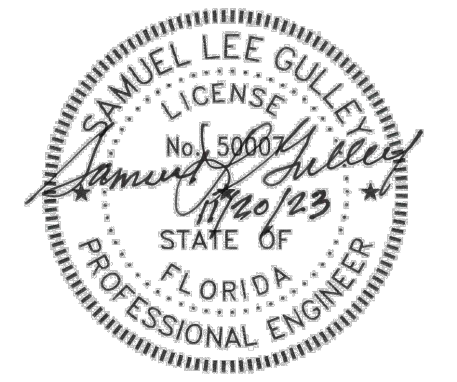
TOTAL CONNECTED VOLT - AMPS $\frac{8,870}{8,120} = 16,990 \text{ VA} / 70.79 \text{ AMPS}$
TOTAL DEMAND VOLT - AMPS = 16,140 VA / 67.25 AMPS



DATE	DESCRIPTION	MARK

ISSUE DATE: NOVEMBER 2023
DESIGNED BY: S. GUILLEY
DRAWN BY: T. BOLTON
CHECKED BY: C. BROWN
SUBMITTED BY: B. BRADLEY
FILE NAME:
U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT
100 W. OGLETHORPE AVE
SAVANNAH, GA 31401
POLY, INC.
1935 HEADLAND AVENUE
DOTHAN, AL 36803
WWW.POLY-INC.COM/3547-99-4700

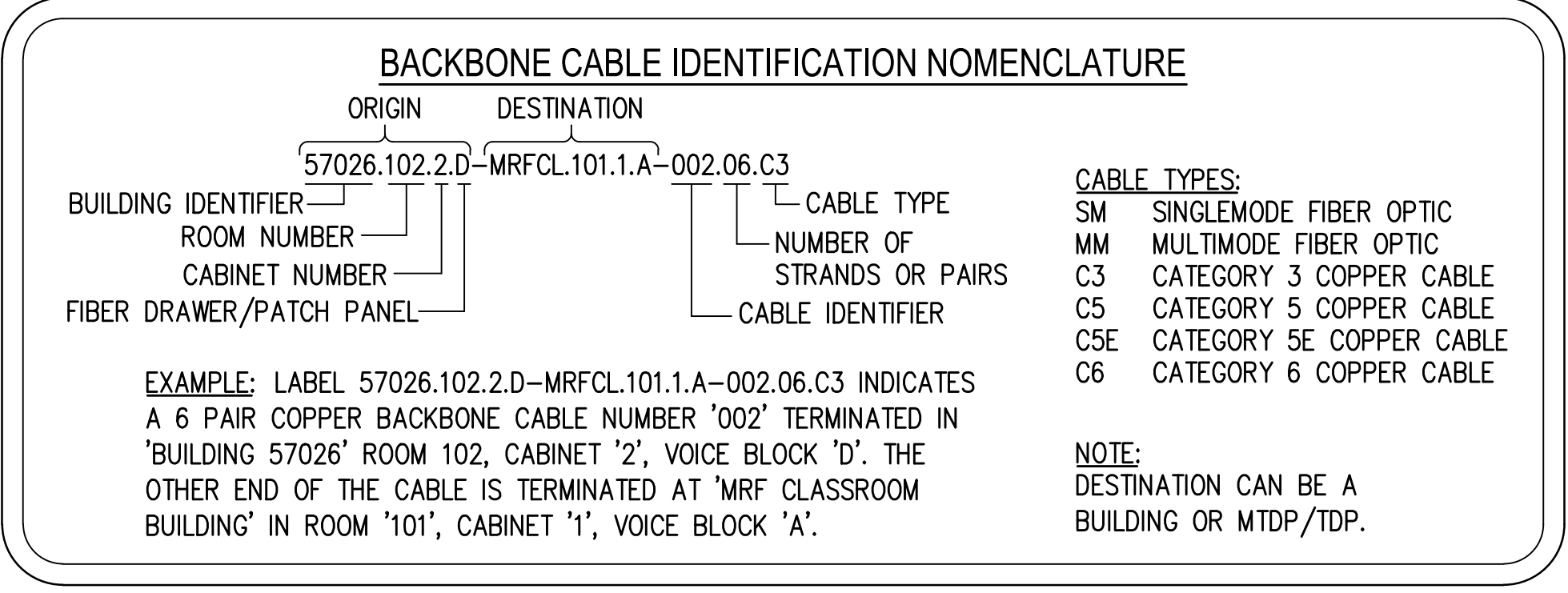
FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTR)
FY23, PN 96182
VOLUMES 3 & 4 - DOWNRANGE
ELECTRICAL TARGET
PANEL SCHEDULES



READY TO ADVERTISE (RTA)

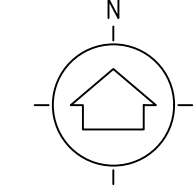
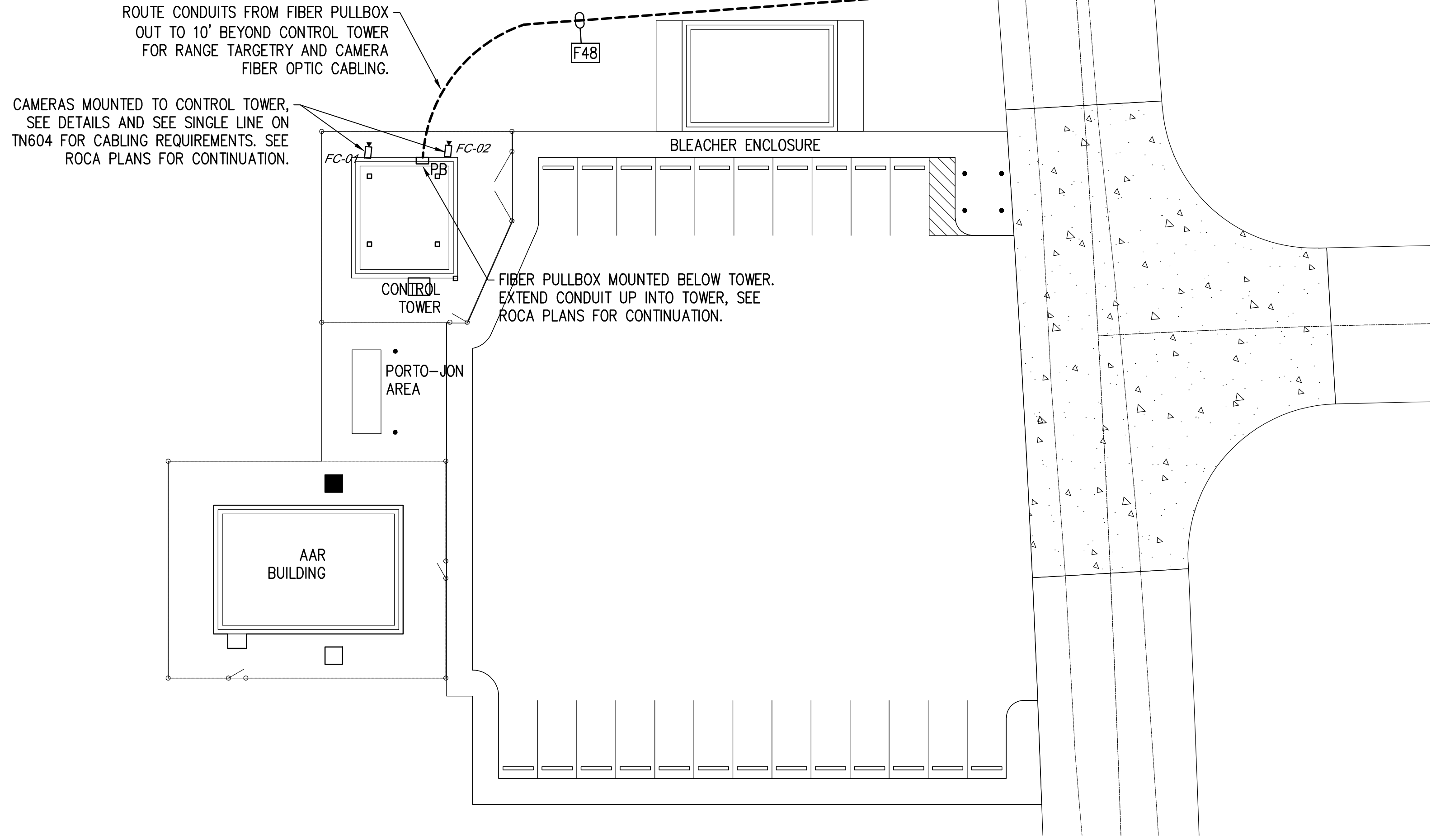
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SEE SHEET ES136 FOR CONTINUATION



GENERAL UNDERGROUND CONDUIT AND CABLING NOTES:

- LOCATION AND ROUTING OF NEW UNDERGROUND CONDUIT IS APPROXIMATE. THE CONTRACTOR SHALL COORDINATE THE FINAL LOCATION AND ROUTING OF CONDUIT TO AVOID CONFLICTS WITH EXISTING BURIED UTILITIES AND OTHER OBSTRUCTIONS. CHANGES TO CONDUIT ROUTING SHALL REQUIRE THE APPROVAL OF THE ENGINEER.
- BURIED WARNING AND IDENTIFICATION TAPE: ALL WARNING TAPE SHALL BE POLYETHYLENE (PE) PLASTIC TAPE, A MINIMUM WIDTH OF 6 INCHES, IAW APWA UNIFORM COLOR CODE, AND IMPRINTED WITH THE WORDS "WARNING - TELECOMMUNICATION CABLE BELOW" AT NOT MORE THAN 48 INCH INTERVALS. MINIMUM THICKNESS OF THE TAPE SHALL BE 0.004". TAPE SHALL HAVE A MINIMUM STRENGTH OF 1750 POUNDS PER SQUARE INCH (PSI) LENGTHWISE AND 1500 PSI. TAPE SHALL BE MANUFACTURED WITH INTEGRAL WIRES, FOIL BACKING, OR OTHER MEANS OF ENABLING DETECTION BY A METAL DETECTOR OR UNDERGROUND CABLE DETECTOR TYPICALLY USED IN THE OSP INDUSTRY WHEN TAPE IS BURIED UP TO 3 FEET DEEP. THE MATERIALS IN THE WARNING TAPE SHALL BE CHEMICALLY INERT AND WILL NOT DEGRADE WHEN EXPOSED TO ACIDS, ALKALIS, AND OTHER DESTRUCTIVE SUBSTANCES FOUND IN SOIL. DETECTABLE WARNING TAPE SHALL BE INSTALLED A MINIMUM OF 12 INCHES TO 18 INCHES ABOVE ALL NEW NON METALLIC CONDUIT FORMATIONS AND DB CABLE INSTALLATIONS AND SHALL NOT EXCEED THE MANUFACTURER'S RECOMMENDED DEPTH BELOW GRADE. TAPE SHALL BE PLACED AT A DEPTH OF NO LESS THAN 12 INCHES BELOW SURFACE GRADE. BURIED CABLES INCLUDE CABLES PLACED IN OPEN TRENCHES AND CABLES PLACED BY PLOWING.
- PERMANENT TRACER WIRE: PERMANENT TRACER WIRE SHALL BE INSTALLED IN ALL NEW DUCT BANKS (THE CONDUITS MAY CONTAIN A TONEABLE CABLE TODAY, BUT IT MIGHT BE REMOVED IN THE NEAR FUTURE). ONE TRACER WIRE SHALL BE INSTALLED PER DUCT BANK. THE TRACER WIRE SHALL BE PLACED CENTRICALLY AS POSSIBLE IN THE TOP CONDUIT FORMATION. WHEN DIELECTRIC CABLE IS INSTALLED IN EXISTING CONDUIT FORMATIONS THAT DO NOT CONTAIN TONEABLE CABLES, A TRACER WIRE SHALL BE INSTALLED ALONG WITH THE DIELECTRIC CABLE. SPLICES IN THE TRACER WIRE SHALL BE CONNECTED BY MEANS OF A COMPRESSION TYPE CONNECTOR TO ENSURE CONTINUITY. WIRE NUTS SHALL NOT BE USED. AFTER INSTALLATION, TRACER WIRE SHALL BE TESTED TO VERIFY CONTINUITY OF THE TRACER WIRE SYSTEM AND A REPORT INDICATING CONTINUITY SHALL BE SUBMITTED TO THE PERMITTING AUTHORITY AS PART OF THE AS-BUILT CONSTRUCTION RECORDS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATION OF ALL EXISTING BURIED UTILITIES PRIOR TO COMMENCING ANY EXCAVATION REQUIRED FOR WORK UNDER THE PROJECT. THE CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITIES THAT OCCURS AS A RESULT OF OPERATIONS PERFORMED UNDER THIS CONTRACT AT NO ADDITIONAL COST TO THE OWNER. REPAIRS SHALL BE MADE USING MATERIALS & METHODS TO MATCH EXISTING CONSTRUCTION AND SHALL BE APPROVED BY THE ENGINEER PRIOR TO RE-COVERING.
- LOCATION OF HANDHOLES SHOWN IS INTENDED TO PLACE HANDHOLES IN ACCESSIBLE SODDED, PLANTED OR PAVED AREAS. COORDINATE LOCATIONS WITH SIDEWALKS, OTHER OUTSIDE STRUCTURES, AND LANDSCAPING TO AVOID CONFLICTS.
- PROVIDE HANDHOLES IN UNDERGROUND CONDUIT AS INDICATED AND ADDITIONAL HANDHOLES AS REQUIRED DUE TO CHANGES IN CONDUIT DIRECTION. INSTALL A HANDHOLE IN EACH CONDUIT RUN OF LONGER THAN 500 FEET OR CONTAINING THE EQUIVALENT OF MORE THAN TWO 90° BENDS. INSTALL HANDHOLES AFTER BENDS AS INDICATED. DO NOT USE HANDHOLES TO MAKE A CHANGE IN DIRECTION.
- RESTORE TO THEIR ORIGINAL ELEVATION AND CONDITION UNPAVED SURFACES DISTURBED DURING INSTALLATION OF UNDERGROUND CONDUIT. PRESERVE AND REPLACE SOD OR TOPSOIL AFTER INSTALLATION IS COMPLETED. REPLACE SOD THAT IS DAMAGED WITH SOD OF TYPE AND QUALITY EQUAL TO THAT REMOVED.
- WHERE TRENCHES OR OTHER EXCAVATIONS ARE MADE IN AREAS OF EXISTING ROADWAYS OR WALKWAYS WHERE SURFACE TREATMENT OF ANY KIND EXISTS, RESTORE SUCH SURFACE TREATMENT TO THE SAME THICKNESS AND IN THE SAME KIND AS PREVIOUSLY EXISTED (EXCEPT AS OTHERWISE INDICATED) AND TO MATCH AND TIE INTO THE ADJACENT AND SURROUNDING SURFACES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXTENT OF EXISTING SURFACE TREATMENT SUCH AS CONCRETE OR ASPHALTIC PAVING. THE DRAWINGS SHALL NOT BE CONSTRUED AS PROVIDING ACCURATE REPRESENTATION OF THE TYPE, LOCATION OR EXTENT OF SURFACE TREATMENT OF ANY KIND.
- THE MINIMUM BEND RADIUS FOR ALL UNDERGROUND CONDUITS SHALL BE 10 TIMES THE INTERNAL CONDUIT DIAMETER.
- RUN ALL CABLES CONTINUOUS BETWEEN TERMINATION POINTS INDICATED WITH NO INTERMEDIATE SLICES OR TERMINATIONS EXCEPT AT POWER CENTER CROSS-CONNECTS (AS INDICATED) OR MTD/PTDP.
- UNLESS OTHERWISE INDICATED, ALL TARGETRY CABLES ARE TO BE INSTALLED IN THE SAME TRENCH AS ELECTRICAL, SEE ELECTRICAL SITE PLANS FOR TARGET AND TRENCHING LAYOUT.
- DIRECT BURIED CABLE: WARNING SIGNS OR ROUTE MARKERS SHALL BE PROVIDED AT INTERVALS NO GREATER THAN EVERY 250FT OR AT EACH CHANGE IN ROUTE DIRECTION, ON BOTH SIDES OF STREET CROSSINGS, ON PIPELINES AND ON BURIED POWER CABLES. COLOR-CODED WARNING SIGNS OR MARKERS SHALL BE ORANGE IN COLOR AND SHALL BE INSTALLED IN ACCORDANCE TO 13A (FEB 2010).



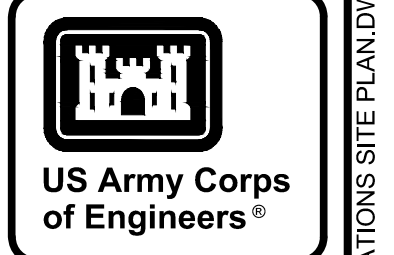
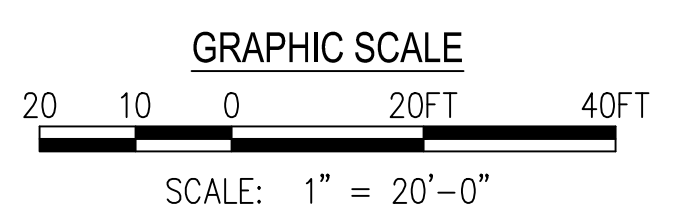
COMMUNICATIONS SITE PLAN - DOWNRAGE OUTSIDE PLANT - ENLARGED ROCA AREA
 SCALE: 1" = 20'-0"

GENERAL NOTES:

THOROUGHLY REVIEW ALL DESIGN DOCUMENTS TO ENSURE THAT COMMUNICATIONS INSTALLATION CONFORMS TO ALL REQUIREMENTS OF THE BASE STANDARDS, TECHNICAL GUIDE FOR INSTALLATION INFORMATION INFRASTRUCTURE ARCHITECTURE (13A), THE UNIFIED FACILITIES CRITERIA, NFPA, EIA/TIA STANDARDS AND OTHER LOCAL CODES AS THEY APPLY.

COMMUNICATIONS TIE-IN LOCATIONS AND ROUTES ARE APPROXIMATE BASED ON THE LATEST INFORMATION AVAILABLE. CONTRACTOR TO COORDINATE EXACT LOCATION, ROUTES AND PAIR/STRAND CONNECTIONS IN THE FIELD WITH CONTRACTING OFFICER'S REPRESENTATIVE PRIOR TO CONSTRUCTION. NO CONNECTIONS ARE TO BE MADE TO EXISTING CABLES WITHOUT WRITTEN APPROVAL FROM THE CONTRACTING OFFICER'S REPRESENTATIVE.

CONFIRM ALL TIE-IN CABLE TYPES AND PAIR/FIBER COUNTS PRIOR TO ORDERING OR INSTALLING RELATED CABLES/EQUIPMENT.



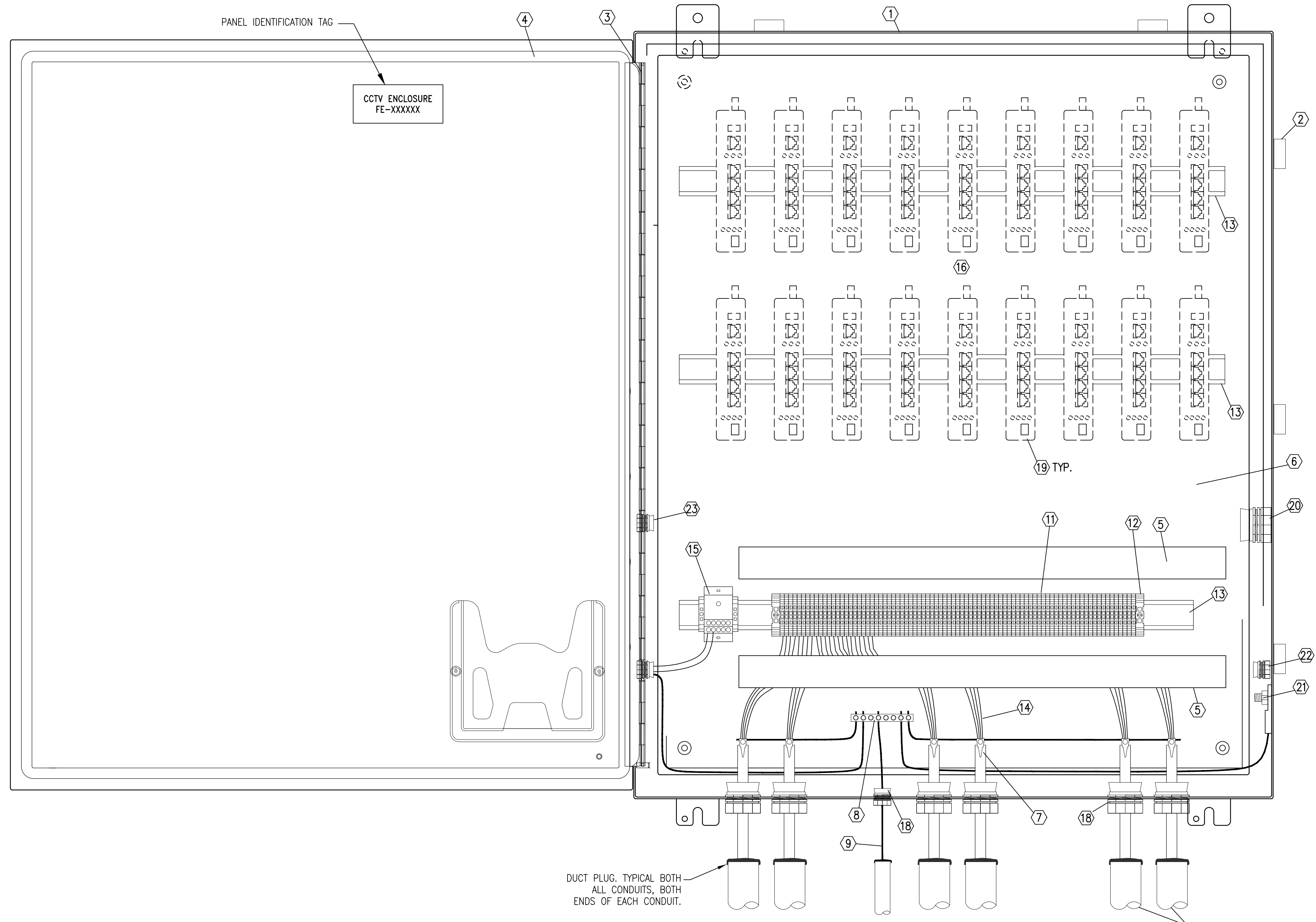
MARK	DESCRIPTION	DATE

DESIGNED BY: J. OKSANEN DRAWN BY: T. BOLTON CHECKED BY: C. BROWN SUBMITTED BY: B. BRADLEY SIZE: ANS/D	ISSUE DATE: NOVEMBER 2023 PROJECT NO.: 1901P4448.2022 CONTRACT NO.: CATEGORY CODE: 178-65-01 FILE NAME:
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36503 WWW.POLY-INC.COM/3347-93-4700

FORT LIBERTY, NORTH CAROLINA
 AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTR)
 FY23, PN 96182
 VOLUMES 3 & 4 - DOWNRANGE
 ENLARGED DOWNRANGE
 COMMUNICATIONS SITE PLAN

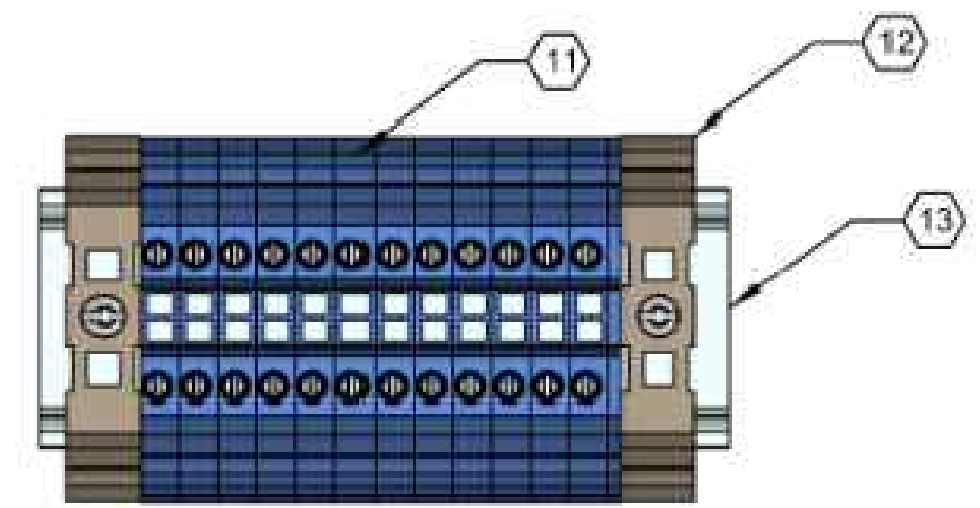
SHEET ID
TN400

LOCAL_FILESERVER\21014\FORT LIBERTY (BRAGG)\MPTR - POLY\DWG\BETN600 ENLARGED COMMUNICATIONS SITE PLAN.DWG
 READY TO ADVERTISE (RTA)



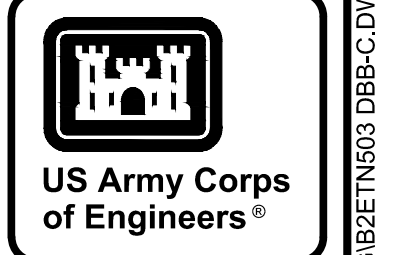
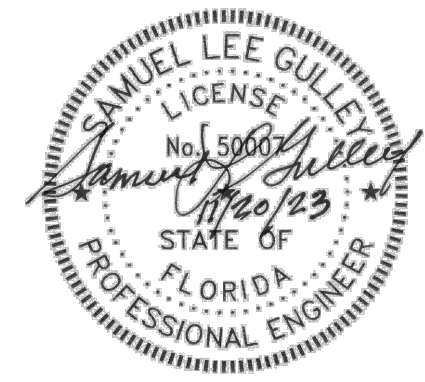
- KEYED NOTES REPRESENTED WITH (#):
- ENCLOSURE SHALL BE 16 GAUGE MINIMUM GALVANIZED STEEL SHEET METAL WITH WALL MOUNT BRACKETS. ENCLOSURE SHALL CARRY A NEMA 4 RATING AND BE TESTED BY UL OR OTHER APPROVED TESTING AGENCY.
 - PROVIDE ENCLOSURE WITH CLAMPS ON THREE SIDES OF THE DOOR. NUMBER OF CLAMPS AS REQUIRED BY MANUFACTURER TO MEET NEMA 4 REQUIREMENTS.
 - PROVIDE ENCLOSURE WITH REMOVABLE HEAVY GAUGE STAINLESS STEEL CONTINUOUS HINGE PIN. HINGES SHALL ALLOW THE DOOR TO BE REMOVED FROM THE ENCLOSURE.
 - PROVIDE ENCLOSURE DOOR WITH A SEAMLESS FOAM-IN-PLACE GASKET. ADHESIVE BACK FOAM STYLE GASKETS ARE NOT ACCEPTABLE.
 - CABLE MANAGEMENT WIRE WAY FOR TWISTED PAIRS.
 - METAL BACK PLATE TO SECURE COMPONENTS INSIDE ENCLOSURE.
 - METALLIC CABLE SHEATH GROUNDING CLAMP AND GROUNDING CONNECTOR, BOND CABLE ARMOR/SHIELD TO DBB BACK PLATE GROUNDING BAR. ALL GROUND CABLES NOT SHOWN FOR CLARITY.
 - GROUND BAR - SECURE TO METAL BACK PLATE.
 - #6 AWG BARE COPPER GROUNDING CONDUCTOR.
 - CONDUITS WITH DIRECT BURIAL GRADE CATEGORY 6 TWISTED PAIR ARMORED CABLE. NOT ALL WIRES AND CONDUIT ARE SHOWN. PROVIDE NUMBER AND SIZE OF CONDUITS AS DEFINED IN THE DOWNRANGE DATA 1-LINE DIAGRAM. FOR DBB-C WITH LARGE AMOUNTS OF INCOMING CONDUITS, PROVIDE SEVERAL LARGER CONDUITS FROM EMPLACEMENT HANDHOLE AND FEED MULTIPLE CATEGORY 6 CABLES IN EACH CONDUIT.
 - DIN RAIL MOUNTED FEED-THROUGH TERMINAL BLOCK SECTIONS WITH 2 SCREW TYPE CONNECTIONS. LENGTH OF DIN RAIL SHALL BE AS REQUIRED TO ACCOMMODATE TERMINAL BLOCK SECTIONS AND SUPPORT BRACKETS. TERMINAL BLOCK SECTION SHALL ACCEPT WIRE SIZES OF #24 AWG. PROVIDE NUMBER OF SECTIONS TO ACCOMMODATE ALL TWISTED WIRE PAIRS. SEE DOWNRANGE DATA 1-LINE DIAGRAM FOR NUMBER OF TWISTED PAIRS.
 - SUPPORT BRACKET FOR DATA CABLE TERMINAL BLOCK. PROVIDE ONE SUPPORT BRACKET ON EACH END OF TERMINAL BLOCKS.
 - STANDARD PROFILE DIN RAIL. LENGTH SHALL BE AS REQUIRED TO ACCOMMODATE TERMINAL BLOCK SECTIONS AND SUPPORT BRACKETS OR DSL MODEMS.
 - TWISTED WIRE PAIRS FROM DOWNRANGE BURIAL GRADE CATEGORY 6 ARMORED DATA CABLE. NOT ALL WIRES ARE SHOWN. SEE DOWNRANGE DATA 1-LINE DIAGRAM FOR NUMBER OF WIRE PAIRS REQUIRED IN DBB-C.
 - 20 AMP, 600 VOLT, DIN RAIL MOUNT TERMINAL BLOCK FOR 120 VOLT POWER TO DBB COMPONENTS.
 - MAXIMIZE AVAILABLE SPACE AT THE TOP OF THE DBB BACK PLATE FOR THE MOUNTING OF DBB COMPONENTS BY THE TARGET VENDOR.
 - PROVIDE WEATHERPROOF CONDUIT CONNECTIONS FOR ALL CONDUIT PENETRATIONS INTO THE DBB. CONNECTION TO BE A MYERS HUB TYPE OR EQUIVALENT.
 - PROVIDE A CABLE SEAL FITTING FOR ALL CABLES ENTERING INTO THE DBB. SEE "TYPICAL CABLE SEAL FITTING DETAIL". SHEET ES513.
 - TARGET SUPPLIER PROVIDED DSL MODEMS AND/OR SWITCHES. RESERVE AS MUCH SPACE AS POSSIBLE FOR TARGET SUPPLIER EQUIPMENT.
 - 2" CONDUIT BETWEEN THIS ENCSLOURE (DBB-C) AND FIBER ENCLOSURE (DBB-F) FOR DATA. PROVIDE MYERS TYPE HUBS ON CONDUIT PENETRATION.
 - ENCLOSURE GROUNDING LUG, BOND TO GROUND BAR.
 - 3/4" CONDUIT BETWEEN THIS ENCSLOURE (DBB-C) AND FIBER ENCLOSURE (DBB-F) FOR POWER. PROVIDE MYERS TYPE HUBS ON CONDUIT PENETRATION.
 - CONDUIT FOR TARGET OUTLET AND BES OUTLET, SEE POWER CENTER DETAILS ES517 AND ES518 AND SITE SINGLE LINE DIAGRAM SHEET TN604.

COPPER DATA CABLE BREAKOUT BOX (DBB-C) DETAIL
NOT TO SCALE



TYPICAL TERMINAL BLOCK SECTION DETAIL
NOT TO SCALE

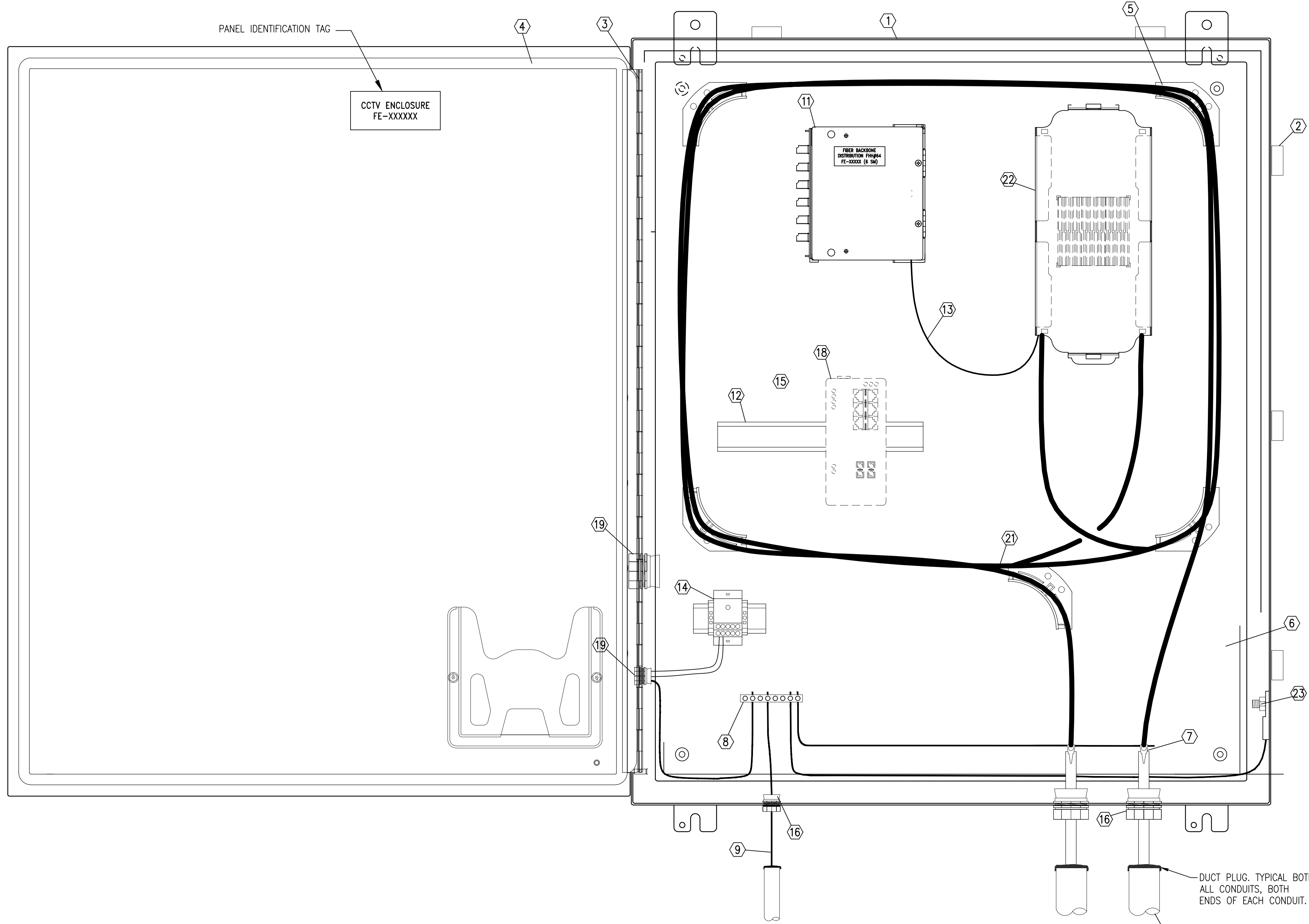
- GENERAL NOTES:
- DBB SHALL BE 36"H X 30"H X 8"D MINIMUM.
 - NOT ALL WIRE AND CABLE CONTAINED IN THE DBB ARE SHOWN IN THIS DETAIL. SEE THE DOWNRANGE 1-LINE DIAGRAM FOR THE NUMBER OF DATA CABLES RUNNING FROM THE DBB TO DOWNRANGE TARGETS.
 - PROVIDE CABLE IDENTIFICATION DIRECTORY ON INSIDE OF COVER.
 - LABEL ALL CABLES WITH ADHESIVE POLYETHYLENE WRAP AROUND LASER PRINTED LABELS INDICATING CABLE DESTINATION AND CABLE TYPE.
 - ALL COMPONENTS INSTALLED INSIDE DBB ENCLOSURES SHALL BE SECURED BY MECHANICAL MEANS. ADHESIVES ARE NOT ALLOWED FOR SECURING COMPONENTS INSIDE DBB ENCLOSURES.



MARK	DESCRIPTION	DATE

DESIGNED BY: J. OKSANEN NOVEMBER 2023	ISSUE DATE: NOVEMBER 2023
DRAWN BY: T. OKSANEN NOVEMBER 2023	SCALE: AS SHOWN
CHECKED BY: C. BROWN NOVEMBER 2023	CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-85-01
FILE NAME: ANSID	SIZE:
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	
POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36503 WWW.POLY-INC.COM/334799-4700	

FORT LIBERTY, NORTH CAROLINA AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR) FY23, PN 96182 VOLUMES 3 & 4 - DOWNRANGE	EMPLACEMENT DETAILS COPPER DATA CABLE BREAKOUT BOX (DBB-C)
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KEYED NOTES REPRESENTED WITH (#):

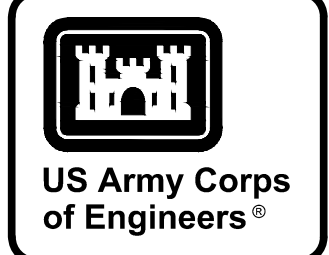
1. ENCLOSURE SHALL BE 16 GAUGE MINIMUM GALVANIZED STEEL SHEET METAL WITH WALL MOUNT BRACKETS. ENCLOSURE SHALL CARRY A NEMA 4 RATING AND BE TESTED BY UL OR OTHER APPROVED TESTING AGENCY.
2. PROVIDE ENCLOSURE WITH CLAMPS ON THREE SIDES OF THE DOOR. NUMBER OF CLAMPS AS REQUIRED BY MANUFACTURER TO MEET NEMA 4 REQUIREMENTS.
3. PROVIDE ENCLOSURE WITH REMOVABLE HEAVY GAUGE STAINLESS STEEL CONTINUOUS HINGE PIN. HINGES SHALL ALLOW THE DOOR TO BE REMOVED FROM THE ENCLOSURE.
4. PROVIDE ENCLOSURE DOOR WITH A SEAMLESS FOAM-IN-PLACE GASKET. ADHESIVE BACK FOAM STYLE GASKETS ARE NOT ACCEPTABLE.
5. CABLE MANAGEMENT RADIUS CONTROL GUIDES FOR FIBER OPTIC CABLES.
6. METAL BACK PLATE TO SECURE COMPONENTS INSIDE ENCLOSURE.
7. METALLIC CABLE SHEATH GROUNDING CLAMP AND GROUNDING CONNECTOR, BOND CABLE ARMOR/SHIELD TO DBB BACK PLATE GROUNDING BAR. ALL GROUND CABLES NOT SHOWN FOR CLARITY.
8. GROUND BAR - SECURE TO METAL BACK PLATE.
9. #6 AWG BARE COPPER GROUNDING CONDUCTOR.
10. CONDUITS WITH DIRECT BURIAL GRADE ARMORED SINGLE MODE FIBER OPTIC CABLE. NOT ALL WIRES AND CONDUITS ARE SHOWN. PROVIDE NUMBER AND SIZE OF CONDUITS AS DEFINED IN THE DOWNRANGE DATA 1-LINE DIAGRAM.
11. FIBER CASSETTE WITH PRETERMINATED PIGTAILS ON FIBER PATCH PANEL WITH SC CONNECTORS, FUSION SPLICE ALL REQUIRED FIBER STRANDS TO PIGTAILS. PROVIDE ENGRAVED TAG WITH NUMBER OF FIBERS AND TERMINATION LOCATION. PROVIDE QUANTITY OF FIBER CASSETTES AS NEEDED FOR FIBERS TERMINATED. SEE SITE SINGLE LINE DIAGRAM, SHEET TN604.
12. STANDARD PROFILE DIN RAIL. LENGTH SHALL BE AS REQUIRED TO ACCOMMODATE TARGET SUPPLIER SWITCHES.
13. BREAK OUT 6 STRANDS FROM FIBER OPTIC BACKBONE CABLE FOR DBB-C AND 6 STRANDS FOR EACH CAMERA TOWER SERVED FROM THIS DBB-F. NOT ALL CABLES OR STRANDS ARE SHOWN. SEE DOWNRANGE DATA SINGLE DIAGRAM FOR NUMBER OF 6-STRAND TERMINATIONS ARE REQUIRED IN DBB-F. PROVIDE 2' BUFFER TUBE SLACK EACH END.
14. 20 AMP, 600 VOLT, DIN RAIL MOUNT TERMINAL BLOCK FOR 120 VOLT POWER TO DBB COMPONENTS.
15. MAXIMIZE AVAILABLE SPACE ON THE DBB BACK PLATE FOR THE MOUNTING OF DBB COMPONENTS BY THE TARGET VENDOR.
16. PROVIDE WEATHERPROOF CONDUIT CONNECTIONS FOR ALL CONDUIT PENETRATIONS INTO THE DBB. CONNECT TO BE A MYERS HUB TYPE OR EQUIVALENT.
17. PROVIDE A CABLE SEAL FITTING FOR ALL CABLES ENTERING INTO THE DBB. SEE "TYPICAL CABLE SEAL FITTING DETAIL". SHEET ES513.
18. TARGET SUPPLIER PROVIDED FIBER SWITCH(ES). RESERVE AS MUCH SPACE AS POSSIBLE FOR TARGET SUPPLIER EQUIPMENT.
19. 2" CONDUIT BETWEEN THIS ENCLOSURE (DBB-F) AND COPPER ENCLOSURE (DBB-C) FOR DATA. PROVIDE MYERS TYPE HUBS ON CONDUIT PENETRATION
20. ENCLOSURE GROUNDING LUG, BOND TO GROUND BAR.
21. FIBER SERVICE LOOP, MINIMUM 15'. WRAP AROUND RADIUS CONTROL GUIDES POSITIONED TO KEEP CLEAR OF PANEL EQUIPMENT.
22. FIBER OPTIC SPLICE TRAY. SPLICE ALL FIBERS BETWEEN INCOMING AND OUTGOING CABLES.
23. 3/4" CONDUIT BETWEEN THIS ENCLOSURE (DBB-F) AND FIBER ENCLOSURE (DBB-C) FOR POWER. PROVIDE MYERS TYPE HUBS ON CONDUIT PENETRATION.

FIBER DATA CABLE BREAKOUT BOX (DBB-F) DETAIL

NOT TO SCALE

DUCT PLUG. TYPICAL BOTH ALL CONDUITS, BOTH ENDS OF EACH CONDUIT.

TYPICAL ALL CONDUITS BOTTOM OF BOX



MARK	DESCRIPTION	DATE

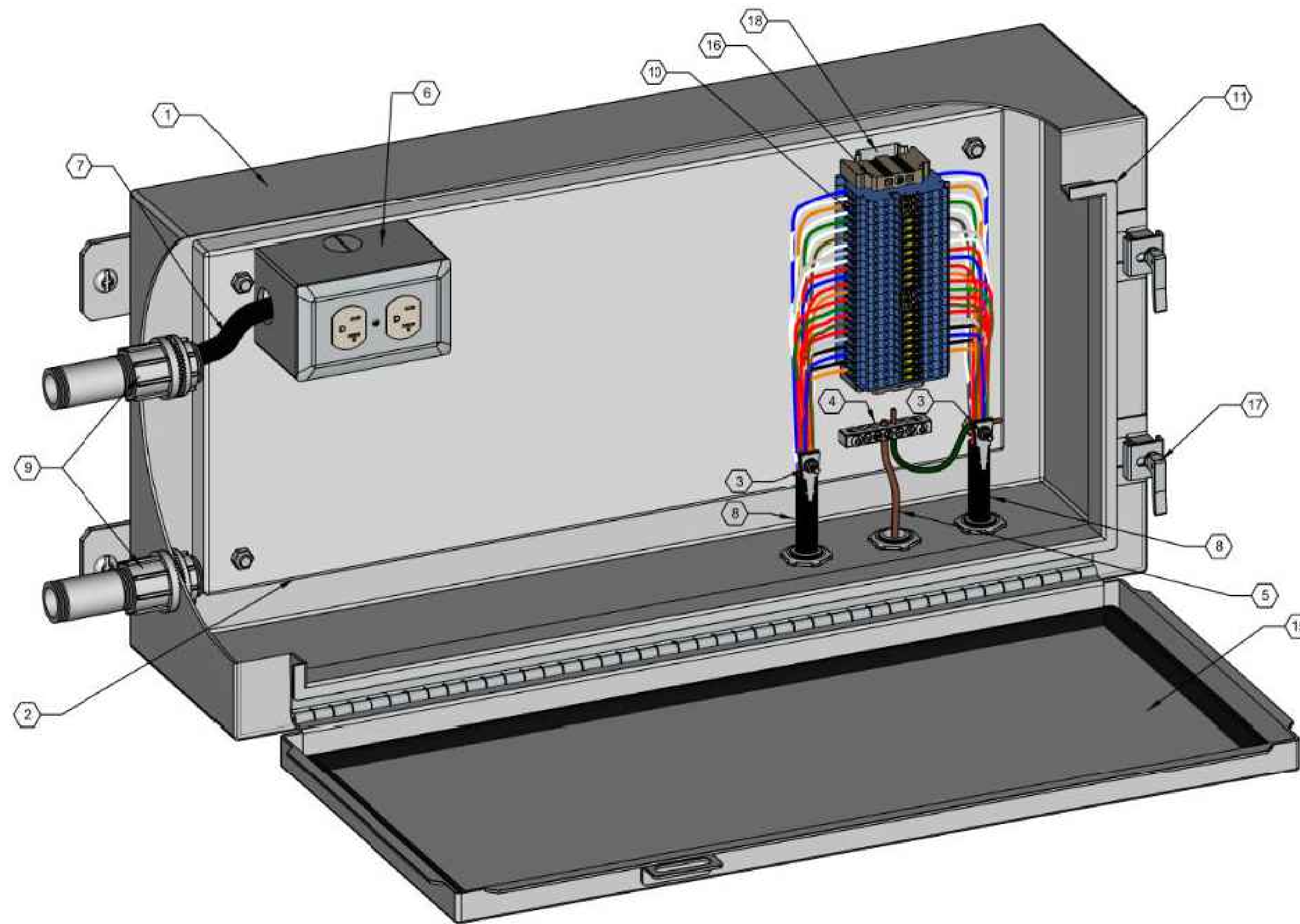
DESIGNED BY: J. OKSANEN	ISSUE DATE: NOVEMBER 2023
DRAWN BY: T. OKSANEN	SCALE: AS SHOWN
CHECKED BY: C. BROWN	CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-85-01
FILE NAME:	ANSID:

U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36503 WWW.POLY-INC.COM/3347-99-4700
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FORT LIBERTY, NORTH CAROLINA AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR) FY23, PN 96182 VOLUMES 3 & 4 - DOWNRANGE	EMPLACEMENT DETAILS FIBER DATA CABLE BREAKOUT BOX (DBB-F)
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SHEET ID
TN504

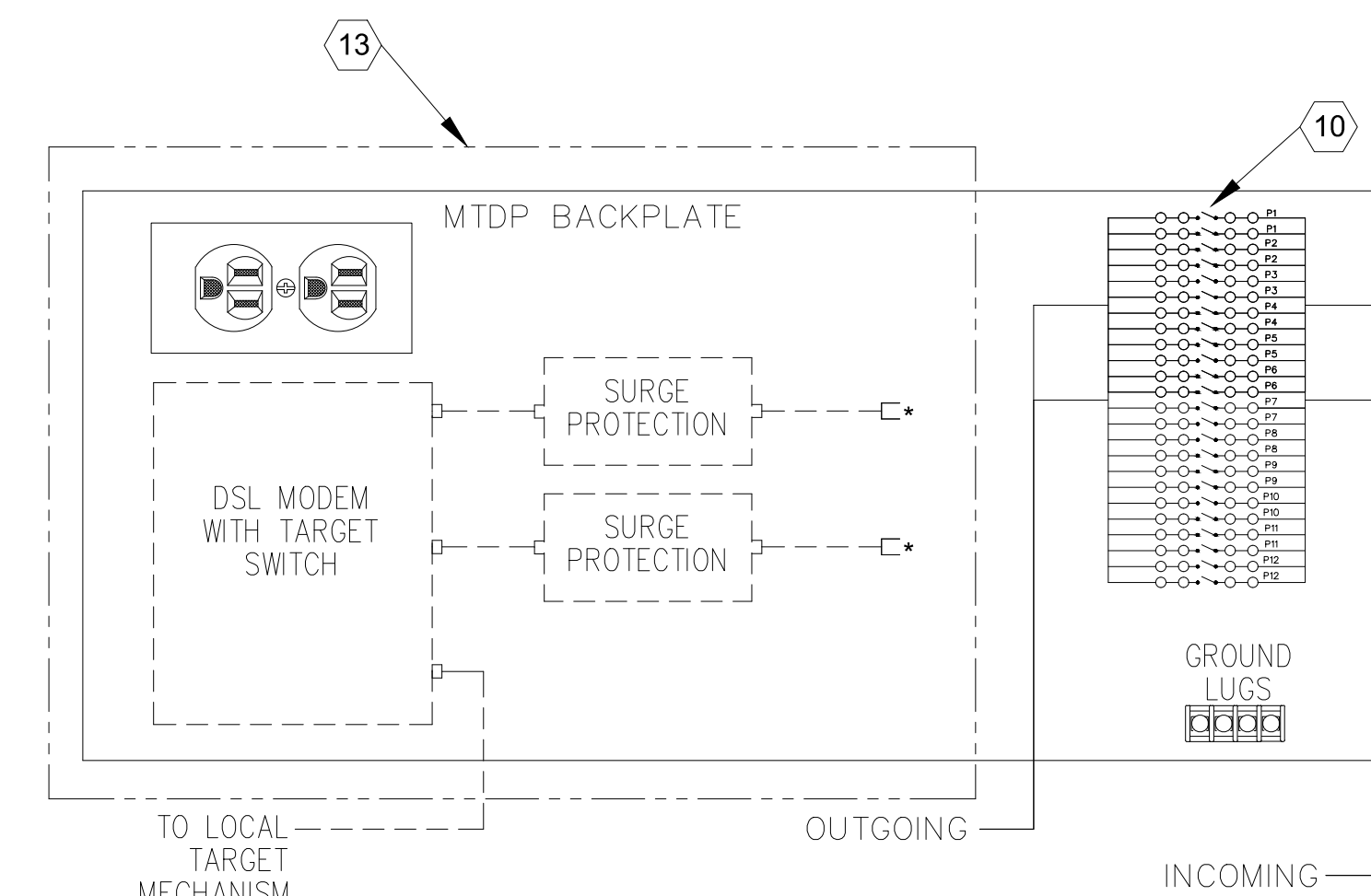
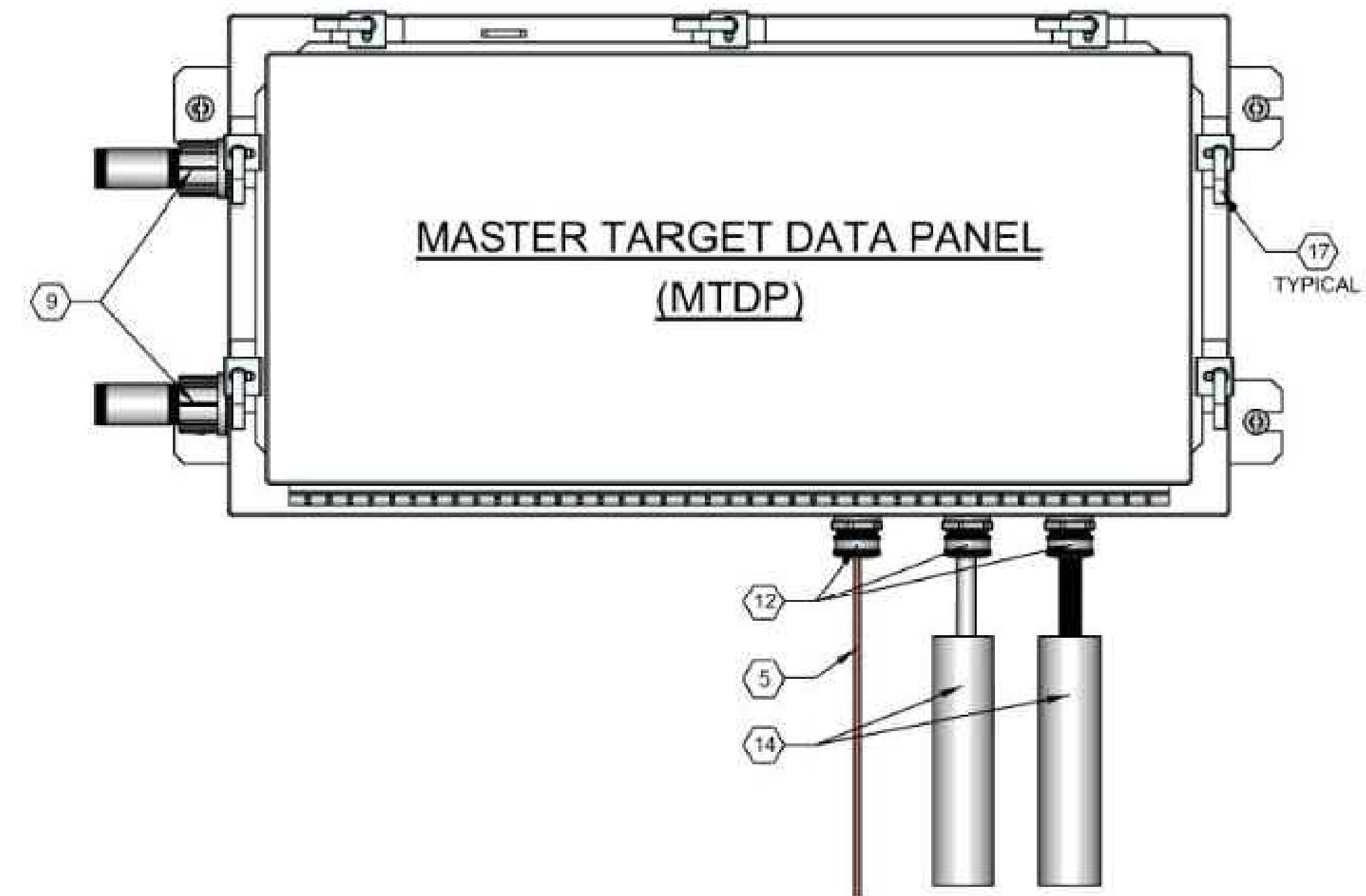


TYPICAL MASTER TARGET DATA PANEL (MTDP) DETAIL AT TARGET EMPLACEMENT

NOT TO SCALE

KEYED NOTES REPRESENTED WITH (#):

- ENCLOSURE SHALL BE 16 GAUGE MINIMUM GALVANIZED STEEL SHEET METAL WITH WALL MOUNT BRACKETS. ENCLOSURE SHALL CARRY A NEMA 4 RATING AND BE TESTED BY UL OR OTHER APPROVED TESTING AGENCY. (SEE GENERAL NOTE 3.)
- METAL BACK PLATE TO SECURE COMPONENTS INSIDE ENCLOSURE.
- METALLIC CABLE SHEATH GROUNDING CLAMP AND GROUNDING CONNECTOR, BOND CABLE ARMOR/SHIELD TO BACK PLATE GROUND BAR. ALL CABLES IN ENCLOSURE MUST BE BONDED TO GROUND. ALL CABLE GROUNDS MAY NOT BE SHOWN IN THIS DETAIL.
- GROUND BAR - SECURE TO METAL BACK PLATE.
- #6 AWG BARE COPPER GROUNDING CONDUCTOR.
- DATA PANEL RECEPTACLE (DPR) - 20 AMP, 125 VOLT, 2 POLE, 3 WIRE GROUNDING TYPE IN A STANDARD SINGLE-GANG METAL BOX AND GALVANIZED STEEL DEVICE PLATE. DPR SHALL NOT BE GFCI PROTECTED.
- 2/C #12 WITH GROUND CORD IN CONDUIT FROM SINGLE POLE SINGLE THROW SWITCH FOR 120 VOLT, 1-PHASE SERVICE TO DUPLEX RECEPTACLE. SEE TARGET EMPLACEMENT ELECTRICAL DETAIL FOR SWITCH LOCATIONS.
- DIRECT BURIAL GRADE CATEGORY 6 ARMORED CABLES. BOND CABLE SHIELD TO TDP BACK PLATE GROUNDING. ALL CABLES NOT SHOWN FOR CLARITY.
- PROVIDE MYERS HUB TYPE FITTING AT CONDUIT PENETRATION.
- KNIFE DISCONNECT TERMINAL BLOCK SECTIONS WITH 4 SCREW TYPE CONNECTIONS. NUMBER OF TERMINALS AS REQUIRED BY DATA CABLES, ONE TERMINAL BLOCK FOR EACH WIRE. SEE DETAIL SHEET TN503.
- MTDP SHALL HAVE A ROLLED FLANGE AROUND PERIMETER OF OPENING.
- PROVIDE ONE CABLE SEAL FITTING FOR EACH CABLE. SEE "TYPICAL CABLE SEAL FITTING DETAIL." SHEET ES513.
- 14" X 10" SPACE FOR INSTALLATION OF TARGET COMMUNICATIONS EQUIPMENT. POWER OUTLET AND GROUND LUG ARE ONLY COMPONENTS INSTALLED IN THIS SPACE THAT IS NOT BY THE TARGET VENDOR. AREA MEASURED FROM SIDE OF ENCLOSURE NOT EDGE OF BACKPLATE.
- CONDUIT WITH DIRECT BURIAL CATEGORY 6 ARMORED CABLES, SEE TARGET EMPLACEMENT PLAN AND ELEVATION. STUB CONDUIT UP ABOVE SLAB AND SEAL WATERTIGHT WITH DUCT SEALANT - FOAM IS NOT ACCEPTABLE.
- HINGED COVER WITH CORROSION-RESISTANT STAINLESS STEEL CAPTIVE CLAMPS. HINGE MUST HAVE REMOVABLE PIN. PROVIDE A SEAMLESS FOAM-IN-PLACE GASKET FOR A WATERTIGHT AND DUST TIGHT SEAL.
- SUPPORT BRACKET FOR BUSBAR TERMINAL BLOCK. PROVIDE ONE SUPPORT BRACKET ON EACH END OF TERMINAL BLOCKS.
- PROVIDE ENCLOSURE WITH FAST OPERATING CLAMP ASSEMBLY. BOLT TYPE CLAMPS ARE NOT ACCEPTABLE.
- STANDARD PROFILE DIN RAIL. LENGTH SHALL BE AS REQUIRED TO ACCOMMODATE TERMINAL BLOCK SECTIONS AND SUPPORT BRACKETS.



WIRING SCHEMATIC

- PROVIDED BY CONSTRUCTION CONTRACTOR
- PROVIDED BY TARGET VENDOR
- * CONNECTION TO DATA CABLE BY TARGET VENDOR

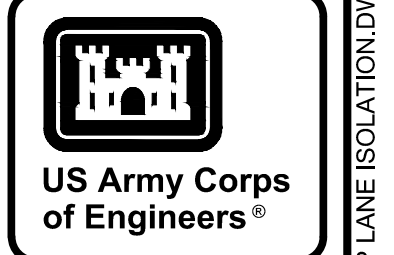
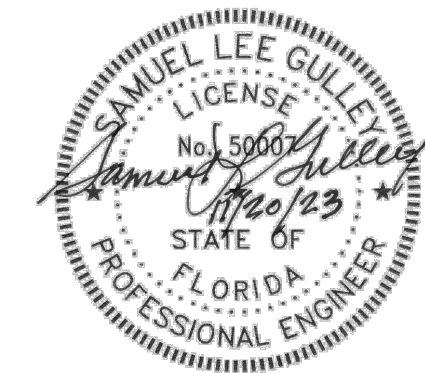
GENERAL NOTES:

- PROVIDE CABLE IDENTIFICATION DIRECTORY ON INSIDE OF COVER.
- LABEL ALL CABLES WITH ADHESIVE POLYETHYLENE WRAP AROUND LASER PRINTED LABELS INDICATING CABLE DESTINATION AND CABLE TYPE.
- MTDP SHALL BE 24"W X 12"H X 6"D.
- ALL COMPONENTS INSTALLED INSIDE MTDP ENCLOSURES SHALL BE SECURED BY MECHANICAL MEANS. ADHESIVES ARE NOT ALLOWED FOR SECURING COMPONENTS INSIDE MTDP ENCLOSURES.

WIRING PAIRS

PAIR	PAIR	COLORS
P1	PAIR ONE	WHITE/BLUE
P2	PAIR TWO	WHITE/ORANGE
P3	PAIR THREE	WHITE/GREEN
P4	PAIR FOUR	WHITE/BROWN
P5	PAIR FIVE	WHITE/SLATE
P6	PAIR SIX	RED/BLUE
P7	PAIR SEVEN	RED/ORANGE
P8	PAIR EIGHT	RED/GREEN
P9	PAIR NINE	RED/BROWN
P10	PAIR TEN	RED/SLATE
P11	PAIR ELEVEN	BLACK/BLUE
P12	PAIR TWELVE	BLACK/ORANGE

UN-TERMINATED WIRE PAIRS SHALL BE CONNECTED TO GROUND



MARK	DESCRIPTION	DATE

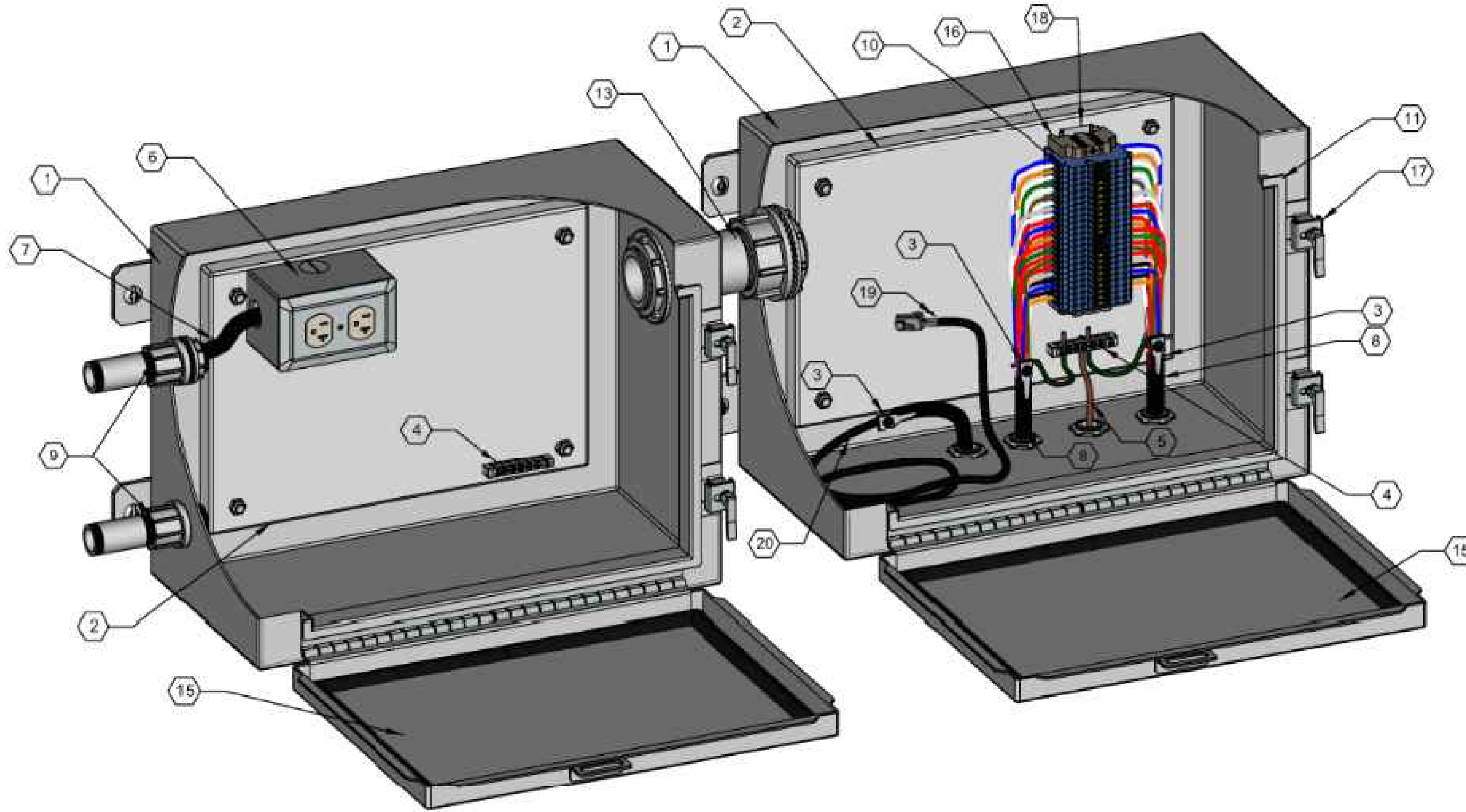
DESIGNED BY: J. OKSANEN	ISSUE DATE: NOVEMBER 2023
DRAWN BY: T. OKSANEN	SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401
CHECKED BY: C. BROWN	CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-85-01
FILE NAME:	ANSID
U.S. ARMY CORPS OF ENGINEERS	POLY, INC.
SAVANNAH DISTRICT	1935 HEADLAND AVENUE
100 W. OGLETHORPE AVE	DOHA, AL 36303
SAVANNAH, GA 31401	WWW.POLY-INC.COM/3547-95-4700

FORT LIBERTY, NORTH CAROLINA	EMPLACEMENT DETAILS
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTR)	MASTER TARGET DATA PANEL
VOLUMES 3 & 4 - DOWNRANGE	TWISTED PAIR CABLES

SHEET ID
TN505

READY TO ADVERTISE (RTA)

C:\LOCAL_FILES\SERVER\21014_FORT LIBERTY (BRAGG)\MPTR - POLY\DWG\B2E\TN505 MTDTP LANE ISOLATION.DWG

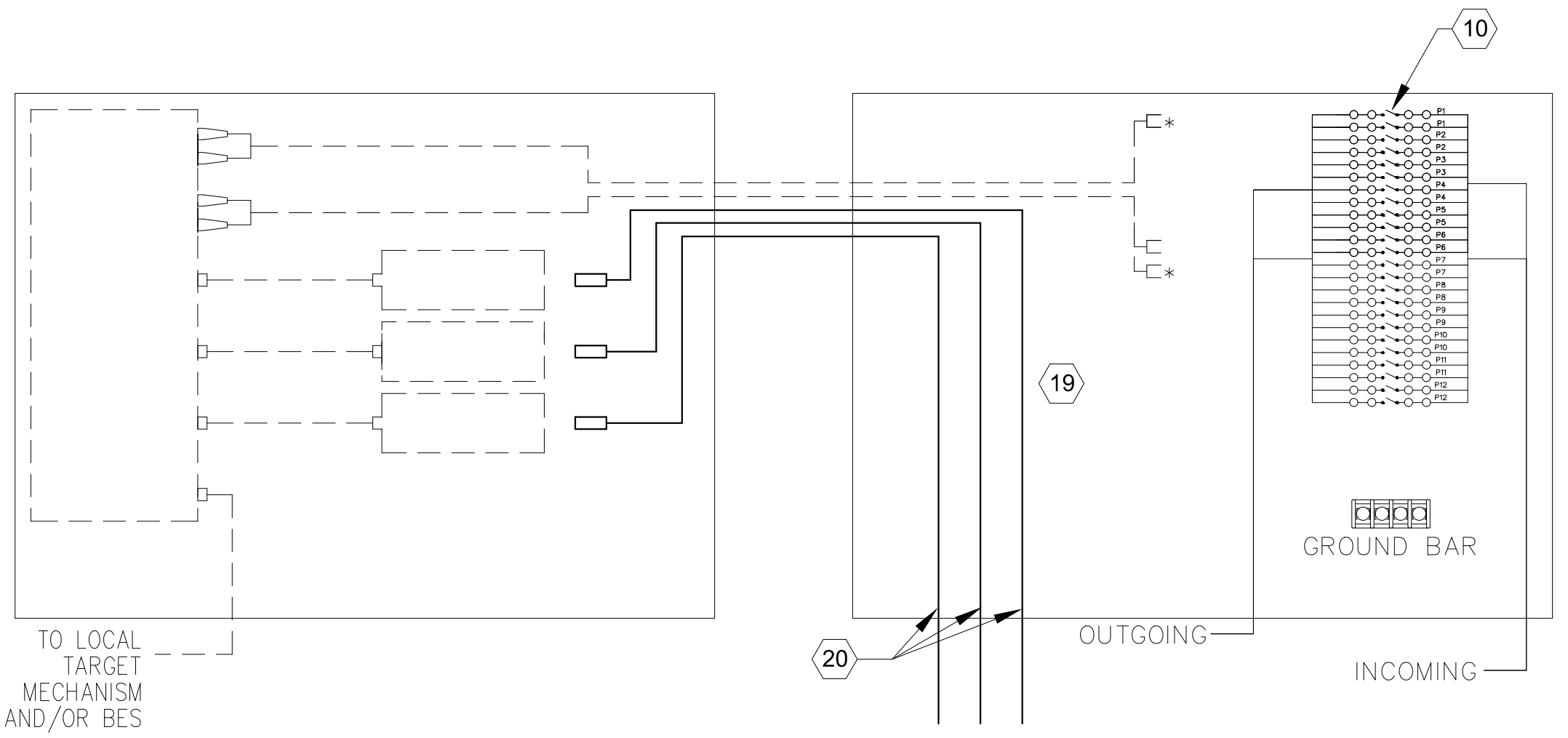
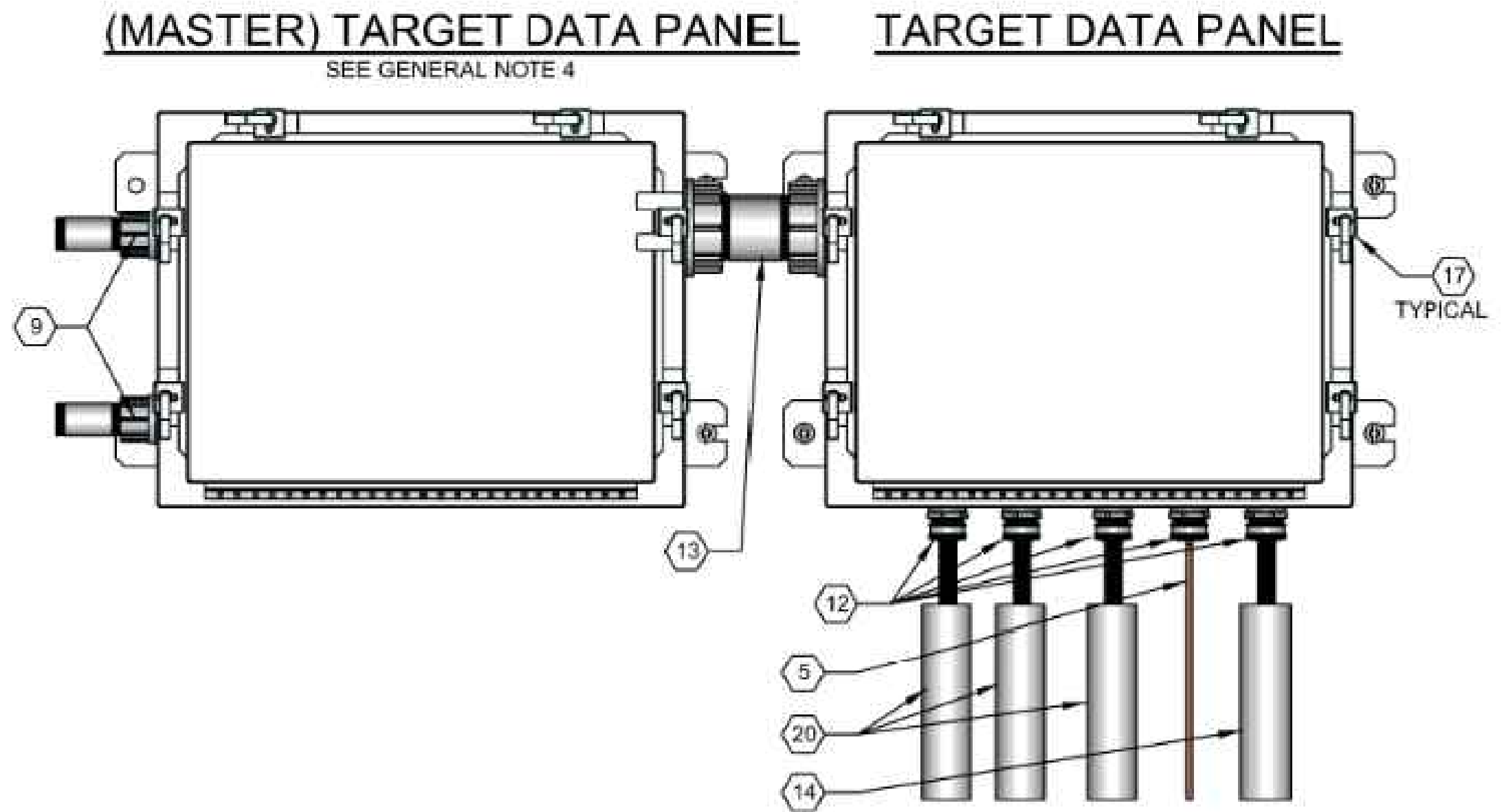


TYPICAL FACADE/CLUSTER MASTER TARGET DATA PANEL (MTDP) DETAIL AT TARGET EMPLACEMENT

NOT TO SCALE

KEYED NOTES REPRESENTED WITH (#):

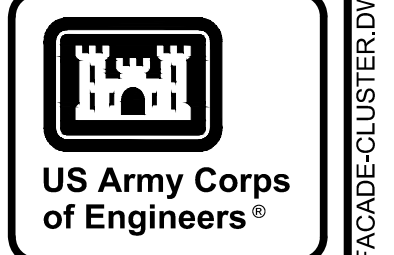
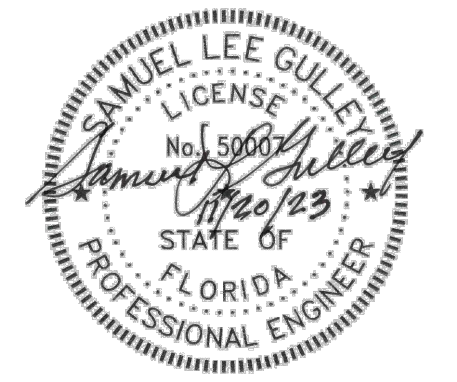
- ENCLOSURE SHALL BE 16 GAUGE MINIMUM GALVANIZED STEEL SHEET METAL WITH WALL MOUNT BRACKETS. ENCLOSURE SHALL CARRY A NEMA 4 RATING AND BE TESTED BY UL OR OTHER APPROVED TESTING AGENCY. (SEE GENERAL NOTE 3.)
- METAL BACK PLATE TO SECURE COMPONENTS INSIDE ENCLOSURE.
- METALLIC CABLE SHEATH GROUNDING CLAMP AND GROUNDING CONNECTOR. BOND CABLE ARMOR/SHIELD TO BACK PLATE GROUND BAR. ALL CABLES IN ENCLOSURE MUST BE BONDED TO GROUND. ALL CABLE GROUNDS MAY NOT BE SHOWN IN THIS DETAIL.
- GROUND BAR - SECURE TO METAL BACK PLATE. BOND ALL GROUND BARS TOGETHER WITH A #6 AWG GROUND CONDUCTOR. GROUND CABLE NOT SHOWN ON THIS DETAIL.
- #6 AWG BARE COPPER GROUNDING CONDUCTOR.
- DATA PANEL RECEPTACLE (DPR) - 20 AMP, 125 VOLT, 2 POLE, 3 WIRE GROUNDING TYPE IN A STANDARD SINGLE-GANG METAL BOX AND GALVANIZED STEEL DEVICE PLATE. DPR SHALL NOT BE GFCI PROTECTED.
- 2/C #12 WITH GROUND CORD IN CONDUIT FROM SINGLE POLE SINGLE THROW SWITCH FOR 120 VOLT, 1-PHASE SERVICE TO DUPLEX RECEPTACLE. SEE TARGET EMPLACEMENT ELECTRICAL DETAIL FOR SWITCH LOCATIONS.
- DIRECT BURIAL GRADE CATEGORY 6 ARMORED CABLES. BOND CABLE SHIELD TO TDP BACK PLATE GROUNDING. ALL CABLES NOT SHOWN FOR CLARITY.
- PROVIDE MYERS HUB TYPE FITTING AT CONDUIT PENETRATION.
- KNIFE DISCONNECT TERMINAL BLOCK SECTIONS WITH 4 SCREW TYPE CONNECTIONS. NUMBER OF TERMINALS AS REQUIRED BY DATA CABLES. ONE TERMINAL BLOCK FOR EACH WIRE. SEE DETAIL SHEET TN503.
- MTDP SHALL HAVE A ROLLED FLANGE AROUND PERIMETER OF OPENING.
- PROVIDE ONE CABLE SEAL FITTING FOR EACH CABLE. SEE "TYPICAL CABLE SEAL FITTING DETAIL." SHEET ES513.
- 2" CONDUIT WITH MYERS TYPE HUBS WHERE CONDUIT PENETRATES EACH ENCLOSURE. CONDUIT USE BY TARGET INSTALLER.
- CONDUIT WITH DIRECT BURIAL GRADE CATEGORY 6 ARMORED CABLES, SEE TARGET EMPLACEMENT PLAN AND ELEVATION. STUB CONDUIT UP ABOVE SLAB AND SEAL WATERTIGHT WITH DUCT SEALANT - FOAM IS NOT ACCEPTABLE.
- HINGED COVER WITH CORROSION-RESISTANT STAINLESS STEEL CAPTIVE CLAMPS. HINGE MUST HAVE REMOVABLE PIN. PROVIDE A SEAMLESS FOAM-IN-PLACE GASKET FOR A WATERTIGHT AND DUST TIGHT SEAL.
- SUPPORT BRACKET FOR BUSBAR TERMINAL BLOCK. PROVIDE ONE SUPPORT BRACKET ON EACH END OF TERMINAL BLOCKS.
- PROVIDE ENCLOSURE WITH FAST OPERATING CLAMP ASSEMBLY. BOLT TYPE CLAMPS ARE NOT ACCEPTABLE.
- STANDARD PROFILE DIN RAIL. LENGTH SHALL BE AS REQUIRED TO ACCOMMODATE TERMINAL BLOCK SECTIONS AND SUPPORT BRACKETS.
- CATEGORY 6 CABLE TERMINATED WITH SHIELDED RJ-45 CONNECTOR. PROVIDE ENOUGH CABLE (APPROXIMATELY 3") TO ROUTE EACH CABLE THROUGH 2" CONDUIT AND CONNECT TO TARGET VENDOR EQUIPMENT (DSL MODEM OR ETHERNET SWITCH PORT). SEE SIT CLUSTER DETAILS ON SHEETS ES507 AND ES508 FOR MORE INFORMATION.
- DIRECT BURIAL GRADE CATEGORY 6 SHIELDED CABLES. COIL 3' SLACK AND PROVIDE STRAIN RELIEF. BOND CABLE SHIELD TO BACK PLATE GROUNDING LUGS.



MTDP DATA WIRING SCHEMATIC

- PROVIDED BY MCA CONTRACTOR
- PROVIDED BY CPA VENDOR
- CONNECTION TO DATA CABLE PAIRS BY CPA CONTRACTOR

- GENERAL NOTES:
- PROVIDE CABLE IDENTIFICATION DIRECTORY ON INSIDE OF COVER.
 - LABEL ALL CABLES WITH ADHESIVE POLYETHYLENE WRAP AROUND LASER PRINTED LABELS INDICATING CABLE DESTINATION AND CABLE TYPE.
 - ENCLOSURES SHALL BOTH BE 16"W X 12"H X 6"D FOR SIT CLUSTER CONFIGURATION. FOR FACADE EMPLACEMENT ENCLOSURES SHALL BE 24"W X 12"H X 6"D AND 16"W X 12"H X 6"D RESPECTIVELY.
 - ALL COMPONENTS INSTALLED INSIDE MTDP ENCLOSURES SHALL BE SECURED BY MECHANICAL MEANS. ADHESIVES ARE NOT ALLOWED FOR SECURING COMPONENTS INSIDE MTDP ENCLOSURES.
 - CAT 6 DATA CABLES PROVIDE THE MINIMUM PERFORMANCE REQUIREMENTS FOR COPPER DATA CABLES. DATA CABLES THAT EXCEED CAT 6 PERFORMANCE REQUIREMENTS MAY BE USED AS LONG AS ALL PHYSICAL REQUIREMENTS SPECIFIED HEREIN ARE MAINTAINED.



MARK	DESCRIPTION	DATE

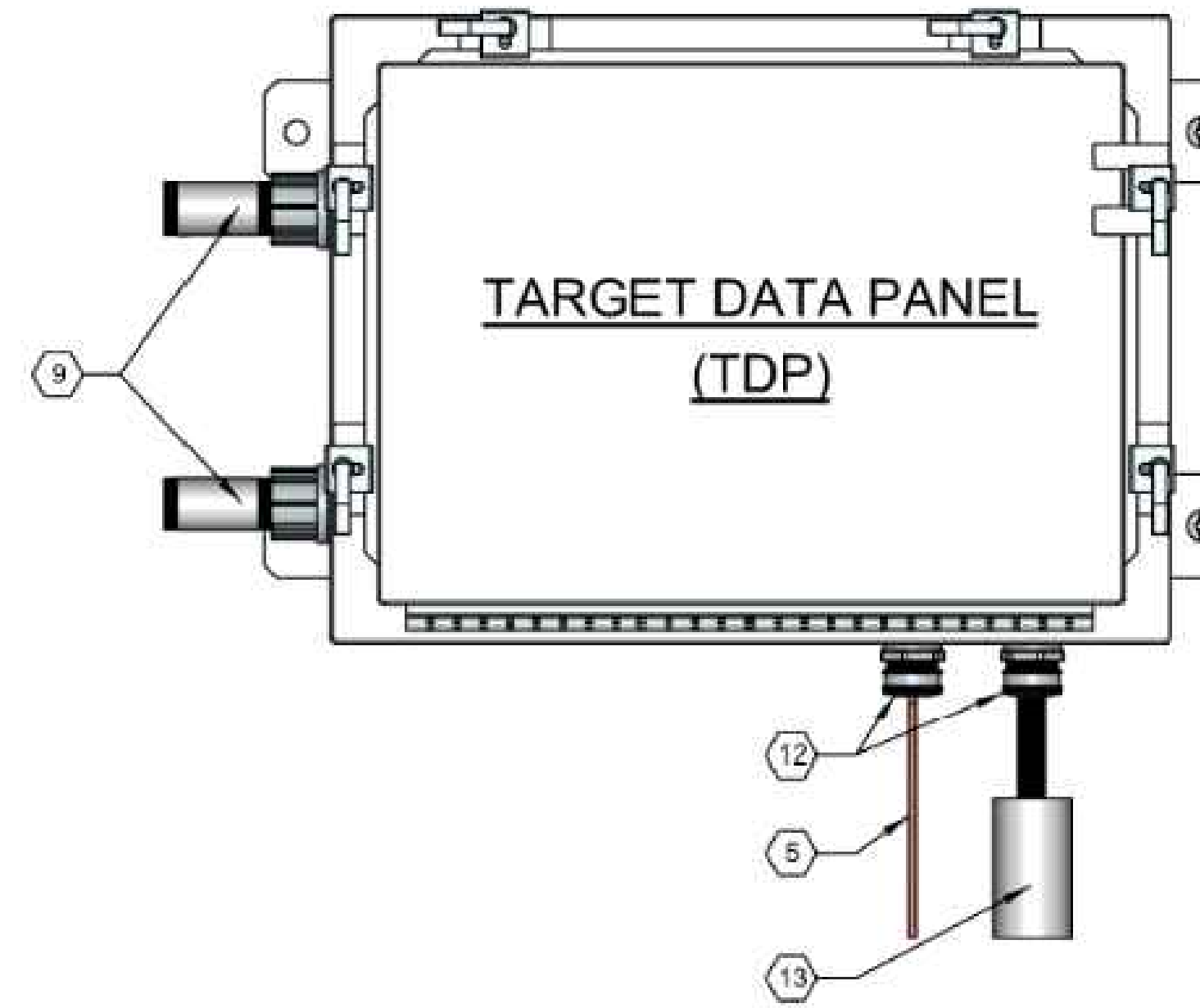
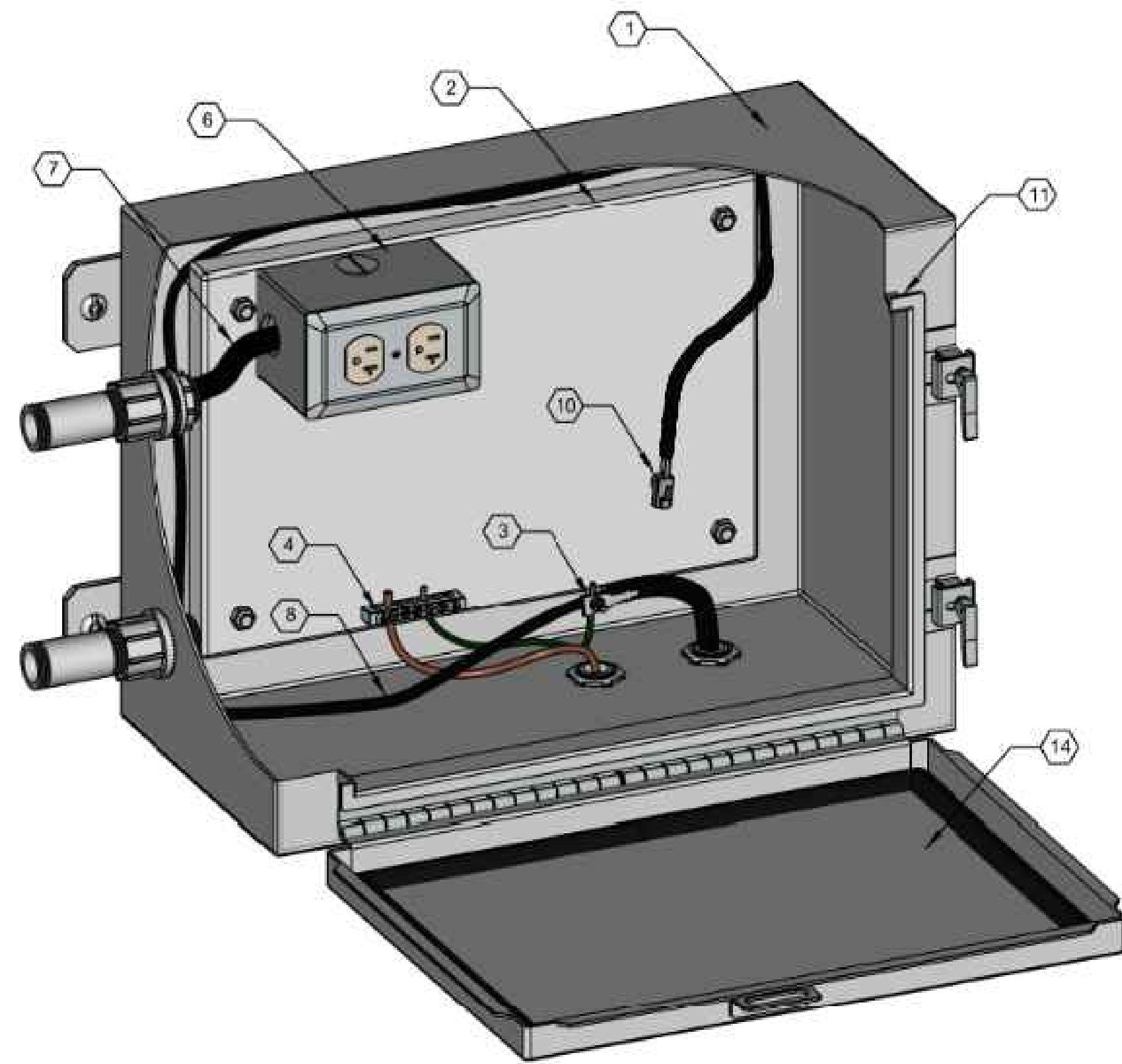
DESIGNED BY: J. OKSANEN	ISSUE DATE: NOVEMBER 2023
DRAWN BY: T. OKSANEN	PROJECT NO.:
CHECKED BY: C. BROWN	CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-85-01
FILE NAME:	SIZE:
ANSID:	
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36503 WWW.POLY-INC.COM/3347-93-4700

FORT LIBERTY, NORTH CAROLINA AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR) FY23, PN 96182 VOLUMES 3 & 4 - DOWNRANGE	EMPLACEMENT DETAILS FACADE MASTER TARGET DATA PANEL TWISTED PAIR CABLES
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SHEET ID
TN506

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READY TO ADVERTISE (RTA)

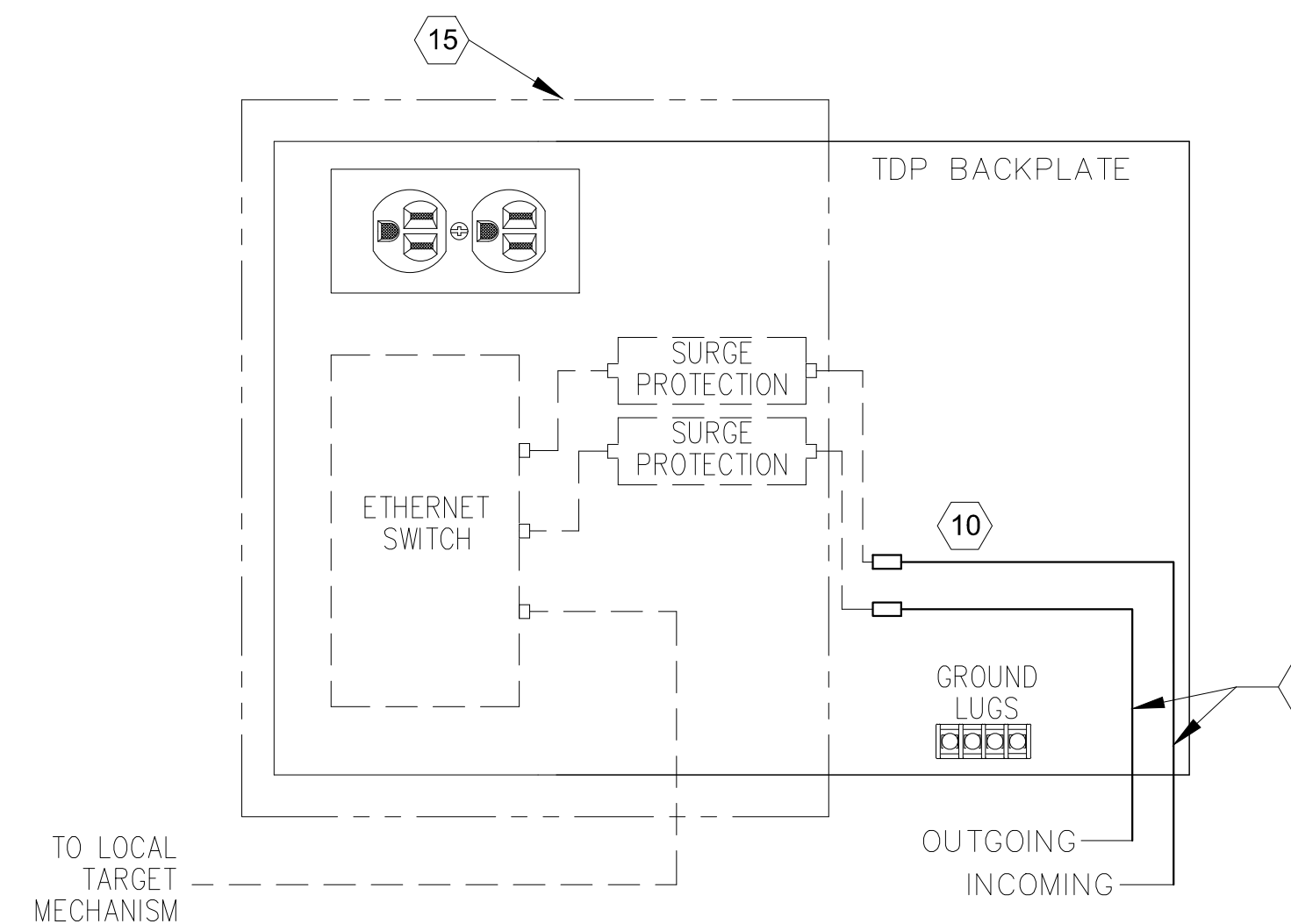


TYPICAL TARGET DATA PANEL (TDP) DETAIL AT TARGET EMPLACEMENT

NOT TO SCALE

KEYED NOTES REPRESENTED WITH (#):

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. ENCLOSURE SHALL BE 16 GAUGE MINIMUM GALVANIZED STEEL SHEET METAL WITH WALL MOUNT BRACKETS. ENCLOSURE SHALL CARRY A NEMA 4 RATING AND BE TESTED BY UL OR OTHER APPROVED TESTING AGENCY. PROVIDE ENCLOSURE WITH FAST OPERATING CLAMP ASSEMBLY. BOLT TYPE CLAMPS ARE NOT ACCEPTABLE. (SEE GENERAL NOTE 3.) 2. METAL BACK PLATE TO SECURE COMPONENTS INSIDE ENCLOSURE. 3. METALLIC CABLE SHEATH GROUNDING CLAMP AND GROUNDING CONNECTOR, BOND CABLE ARMOR/SHIELD TO TDP BACK PLATE GROUNDING BAR. ALL GROUND CABLES NOT SHOWN FOR CLARITY. 4. GROUND BAR – SECURE TO METAL BACK PLATE. 5. #6 AWG BARE COPPER GROUNDING CONDUCTOR. 6. DATA PANEL RECEPTACLE (DPR) – 20 AMP, 125 VOLT, 2 POLE, 3 WIRE GROUNDING TYPE IN A STANDARD SINGLE-GANG METAL BOX AND GALVANIZED STEEL DEVICE PLATE. CONNECT DPR AHEAD OF GFCI MAINTENANCE RECEPTACLE TO AVOID NUISANCE TRIPPING. 7. 2/C #12 WITH GROUND CORD IN CONDUIT FROM CIRCUIT BREAKER LOADCENTER FOR 120 VOLT, 1-PHASE SERVICE TO DUPLEX RECEPTACLE. RECEPTACLE SHALL NOT BE FED FROM ANY GROUND FAULT INTERRUPTING DEVICE. 8. DIRECT BURIAL GRADE CATEGORY 6 SHIELDED CABLES. COIL 3' SLACK IN TDP AT EACH END AND PROVIDE STRAIN RELIEF. BOND CABLE SHIELD TO TDP BACK PLATE GROUNDING. ALL CABLES NOT SHOWN FOR CLARITY. 9. PROVIDE MYERS HUB TYPE FITTING AT CONDUIT PENETRATION. 10. CATEGORY 6 CABLE TERMINATED WITH SHIELDED RJ-45 CONNECTOR. PROVIDE ENOUGH CABLE TO CONNECT TO TARGET VENDOR EQUIPMENT (DSL MODEM OR ETHERNET SWITCH PORT). SEE SIT CLUSTER DETAILS ON SHEETS ES507 AND ES508 FOR MORE INFORMATION. AT SECONDARY CLUSTER EMPLACEMENTS, PROVIDE ENOUGH CATEGORY 6 CABLE TO ROUTE THROUGH THE CONDUIT TO THE TARGET OUTLET BOX PLUS 6" TO ALLOW CONNECTION TO TARGET VENDOR INSTALLED AMPHENOL OUTLET. TYPICAL FOR EACH TARGET OUTLET. 11. TDP SHALL HAVE A ROLLED FLANGE AROUND PERIMETER OF OPENING. | <ol style="list-style-type: none"> 12. PROVIDE ONE CABLE SEAL FITTING FOR EACH CABLE. SEE "TYPICAL CABLE SEAL FITTING DETAIL" SHEET ES513. 13. CONDUIT WITH DIRECT BURIAL GRADE CAT 6 CABLES, SEE TARGET EMPLACEMENT PLAN AND ELEVATION. STUB CONDUIT UP ABOVE SLAB AND SEAL WATERTIGHT WITH DUCT SEALANT – FOAM IS NOT ACCEPTABLE. 14. HINGED COVER WITH CORROSION-RESISTANT STAINLESS STEEL CAPTIVE CLAMPS. HINGE MUST HAVE REMOVABLE PIN. PROVIDE A SEAMLESS FOAM-IN-PLACE GASKET FOR A WATERTIGHT AND DUST TIGHT SEAL. 15. 10" X 10" SPACE FOR INSTALLATION OF TARGET COMMUNICATIONS EQUIPMENT. POWER OUTLET AND GROUND LUG ARE ONLY COMPONENTS INSTALLED IN THIS SPACE THAT IS NOT BY THE TARGET VENDOR. AREA MEASURED FROM SIDE OF ENCLOSURE NOT EDGE OF BACKPLATE. |
|---|---|

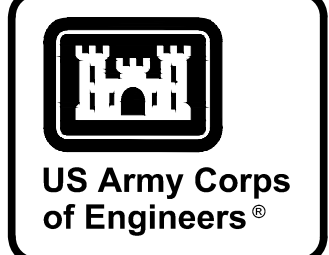
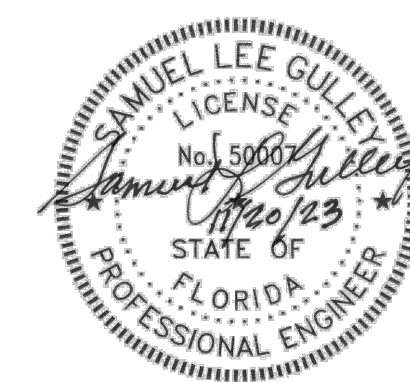


MTDP DATA WIRING SCHEMATIC

- PROVIDED BY MCA CONTRACTOR
- - - - - PROVIDED BY CPA VENDOR

GENERAL NOTES:

1. PROVIDE CABLE IDENTIFICATION DIRECTORY ON INSIDE OF COVER.
2. LABEL ALL CABLES WITH ADHESIVE POLYETHYLENE WRAP AROUND LASER PRINTED LABELS INDICATING CABLE DESTINATION AND CABLE TYPE.
3. TDP SHALL BE 16"W X 12"H X 6"D.
4. ALL COMPONENTS INSTALLED INSIDE TDP ENCLOSURES SHALL BE SECURED BY MECHANICAL MEANS. ADHESIVES ARE NOT ALLOWED FOR SECURING COMPONENTS INSIDE TDP ENCLOSURES.
5. CAT 6 DATA CALBES PROVIDE THE MINIMUM PERFORMANCE REQUIREMENTS FOR COPPER DATA CABLES. DATA CABLES THAT EXCEED CAT 6 PERFORMANCE REQUIREMENTS MAY BE USED AS LONG AS ALL PHYSICAL REQUIREMENTS SPECIFIED HEREIN ARE MAINTAINED.



MARK	DESCRIPTION	DATE

DESIGNED BY: J. OKSANEN	ISSUE DATE: NOVEMBER 2023
DRAWN BY: T. OKSANEN	PROJECT NO.:W91P4L2448-2002
CHECKED BY: C. BROWN	CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-85-01
SIZE: ANSI D	FILE NAME:

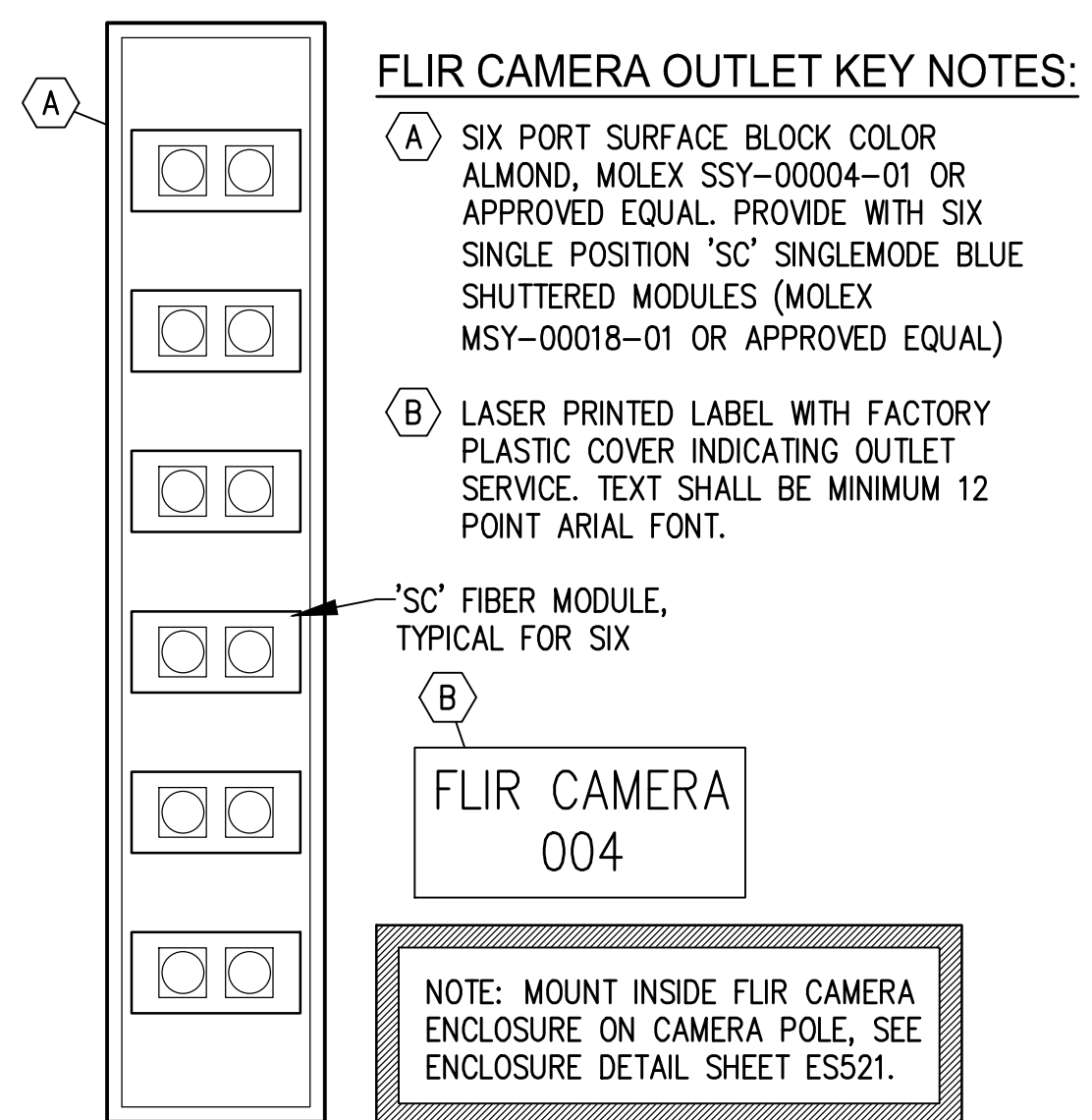
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1935 HEADLAND AVENUE DOTHAN, AL 36803 WWW.POLY-INC.COM/3347-99-4700
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FORT LIBERTY, NORTH CAROLINA FY23, PN 96182 VOLUMES 3 & 4 - DOWNRANGE	EMPLACEMENT DETAILS TARGET DATA PANEL CAT. CAT.6 CABLES
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SHEET ID TN507

READY TO ADVERTISE (RTA)

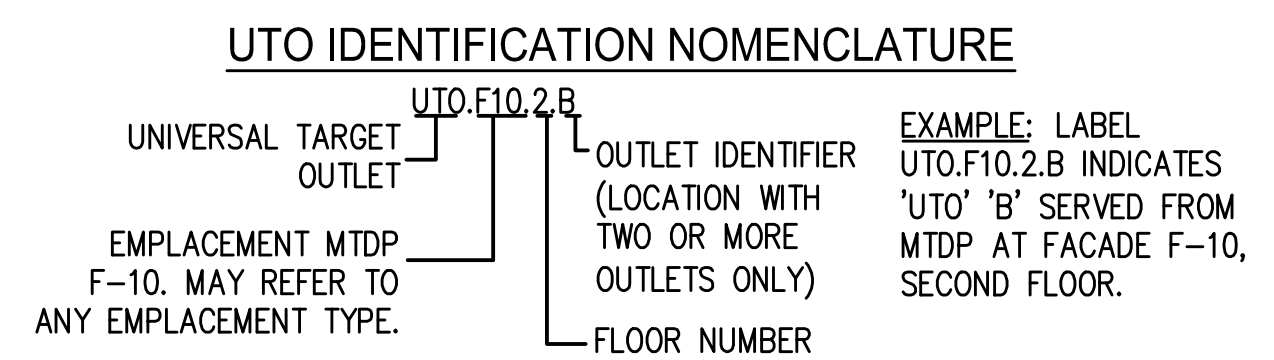
C:\LOCAL_FILES\SERVER\2014\FORT LIBERTY (BRAGG)\MPTTR - POLY\DWG\BZETNS07.TDP.DWG



TYPICAL FLIR CAMERA OUTLET DETAIL
NOT TO SCALE

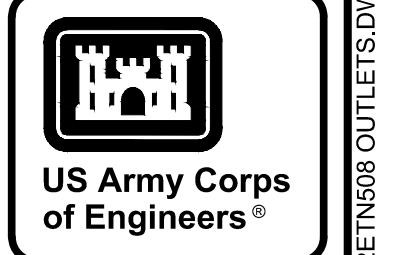
- LABELING NOTES:**
- CONTRACTOR PROVIDE ANNOTATED ADOBE .PDF FILES OF AS-BUILT DRAWINGS, ALL 'TEL' SHEETS. PROVIDE 3 BOUND 1/2 SIZE HARD COPY PLOTS AND 3 CD'S WITH .PDF FILES. STORE IN DOCUMENTATION SHELF IN CER.
 - SEE FLOOR PLANS AND RACK ELEVATIONS FOR LABELING OF HORIZONTAL PATCH PANELS.

LABELING NOTE:
ALL COMMUNICATIONS OUTLETS, EQUIPMENT AND CABLING SHALL BE LABELED IN ACCORDANCE WITH UFC 3-580-01 TELECOMMUNICATIONS INTERIOR INFRASTRUCTURE DATED 01 JUNE 2016, CHANGE 1, TIA/EIA-606 AND EXISTING BASE STANDARDS. ALL LABELING SHALL BE APPROVED BY BASE NEC.



INSTALLATION NOTES:
COMMUNICATIONS CABLING, CONDUITS AND EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH ANSI/TIA/EIA STANDARDS AS WELL AS UFC 3-580-01 TELECOMMUNICATIONS INTERIOR INFRASTRUCTURE DATED 01 JUNE 2016, CHANGE 1.

IN ADDITION TO ALL LABELING REQUIREMENTS STATED IN THESE DOCUMENTS, LABEL ALL CABINETS, CONDUITS AND CABLES AS "COMMON USER" OR "TRAINING" BASED ON DESIGNATED USAGE.



MARK	DESCRIPTION	DATE

DESIGNED BY: J. OKSANEN	ISSUE DATE: NOVEMBER 2023
DRAWN BY: I. OKSANEN	PROJECT NO.:
CHECKED BY: C. BROWN	CONTRACT NO.:
SUBMITTED BY: B. BRADLEY	CATEGORY CODE: 178-65-01
ANSID	FILE NAME:
U.S. ARMY CORPS OF ENGINEERS SAVANNAH DISTRICT 100 W. OGLETHORPE AVE SAVANNAH, GA 31401	POLY, INC. 1985 HEADLAND AVENUE DOTHAN, AL 36803 WWW.POLY-INC.COM/334799-4700

FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTR)
FY23, PN 86182
VOLUMES 3 & 4 - DOWNRANGE
COMMUNICATIONS OUTLET DETAILS

SHEET ID
TN508

LABELING NOTE:

LABEL ALL CABLES WITH ADHESIVE POLYETHYLENE WRAP-AROUND LASER PRINTED LABELS INDICATING CABLE DESTINATION AND CABLE TYPE. LABEL ALL MTDP AND TDP PANELS ENGRAVED 3" WIDE x 1" TALL STAINLESS STEEL TAG WITH 3/4" HIGH LETTERS, FASTEN TO PANEL WITH INDUSTRIAL ADHESIVE, DO NOT PENETRATE PANEL WITH FASTENERS. SEE TARGET DATA PANEL IDENTIFICATION NOMENCLATURE, THIS SHEET FOR CABLE AND PANEL LABELING NOMENCLATURE.

GENERAL NOTES:

TARGETRY CATEGORY 6 CABLES SHALL BE TERMINATED USING TIA/EIA 568B PINOUT. COORDINATE WITH TARGET VENDOR PRIOR TO CATEGORY 6 CABLE TERMINATION.

RUN ALL CABLES CONTINUOUS BETWEEN TERMINATION POINTS INDICATED WITH NO INTERMEDIATE SLICES OR TERMINATIONS.

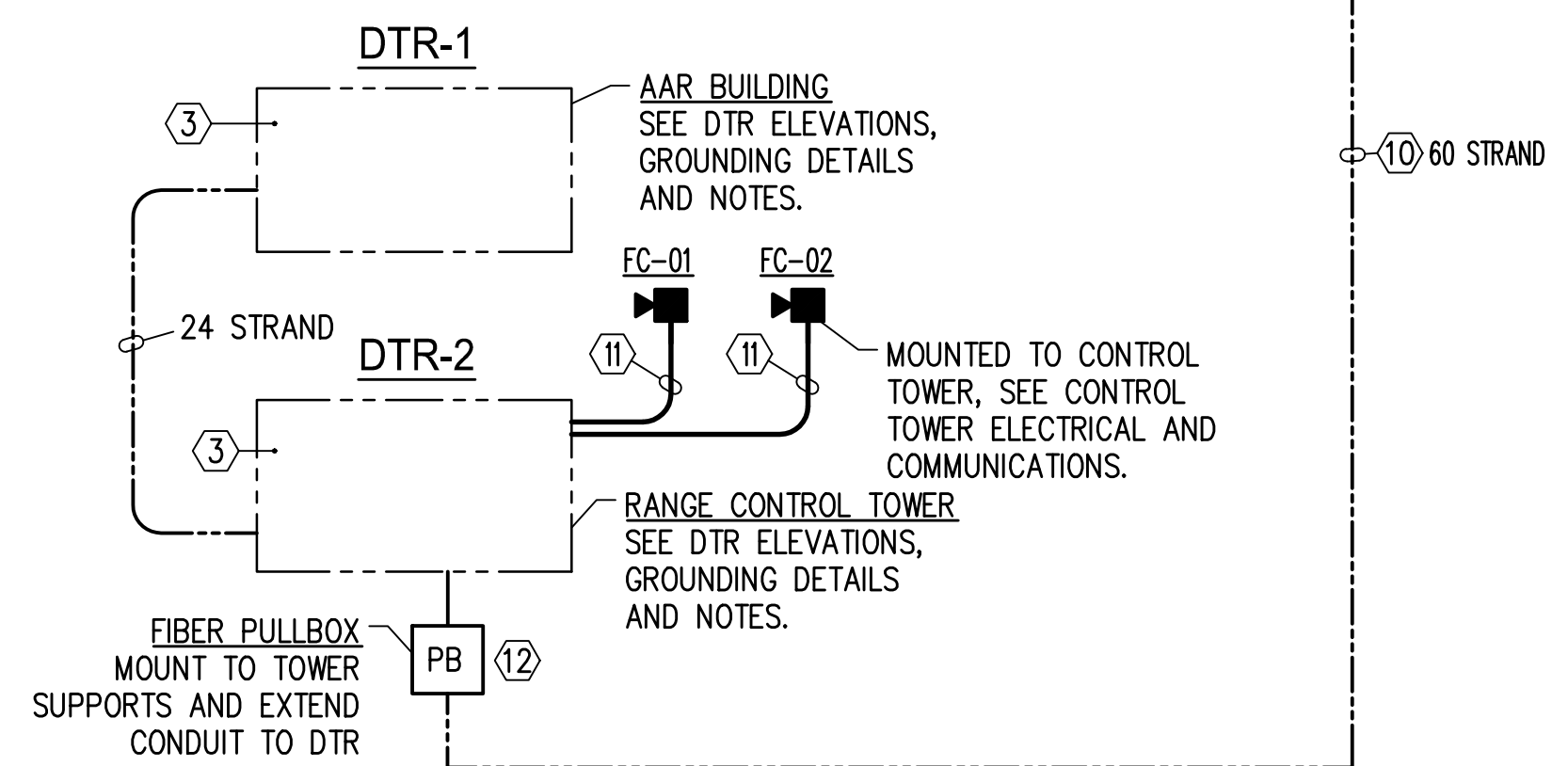
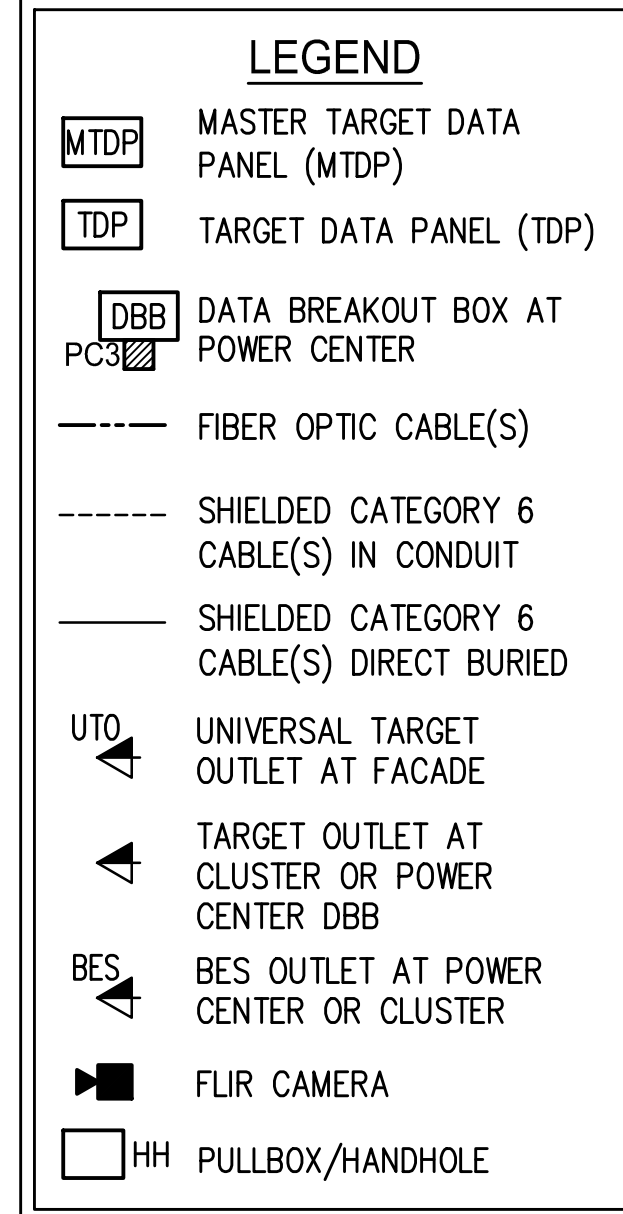
ALL CABLES ARE TO BE INSTALLED IN THE SAME TRENCH AS ELECTRICAL, SEE ELECTRICAL SITE PLANS FOR TARGET AND TRENCHING LAYOUT.

SINGLE LINE LAYOUT IS DIAGRAMMATIC TO SHOW DISTRIBUTION. PANEL LAYOUTS, POSITIONING, CONDUIT ENTRY AND CABLE ENTRY ARE TO FOLLOW INSTALLATION AND EMPLACEMENT DETAILS. SEE SHEETS ES501 THRU ES513 AND TN501 THRU TN505.

RANGE DATA SINGLE LINE KEY NOTES

- ① MASTER TARGET DATA PANEL (MTDP) NEMA 4 ENCLOSURE. SEE DETAILS, SHEET TN505.
- ①A FACADE/CLUSTER MASTER TARGET DATA PANEL (MTDP) NEMA 4 ENCLOSURES. SEE DETAILS, SHEET TN506.
- ② TARGET DATA PANEL (TDP) NEMA 4 ENCLOSURE. SEE DETAILS, SHEET TN507.
- ③ FLOOR MOUNT COMMUNICATIONS EQUIPMENT CABINET FOR FIBER DRAWERS AND TARGET INSTRUMENTATION EQUIPMENT, SEE ROCA DETAILS AND DRAWINGS FOR TERMINATION AND GROUNDING REQUIREMENTS.
- ④ 4-PAIR DIRECT BURIAL GRADE ARMORED SHIELDED TWISTED PAIR CATEGORY 6 CABLES, SUPERIOR ESSEX ENDURAGAIN OSP SHIELDED (WITH ALUMINUM INTERLOCK ARMOR AND POLYETHYLENE OUTER JACKET) OR APPROVED EQUAL, TERMINATE ON TERMINAL BLOCKS. SURGE PROTECTION BY TARGET INSTALLER. SEE MTDP/TDP NOTES AND DETAILS, SHEET TN505 THRU TN507. TYPICAL BETWEEN DBB, MTDP AND TDP, ALL LOCATIONS.
- ⑤ 1" CONDUIT WITH NYLON PULL CORD AND 4-PAIR DIRECT BURIAL GRADE SHIELDED CATEGORY 6 DATA CABLES, SUPERIOR ESSEX BBDGE OR APPROVED EQUAL. GROUND SHIELD. SURGE PROTECTION BY TARGET INSTALLER. SEE MTDP/TDP NOTES.
- ⑥ 24" x 36" x 8" DEEP NEMA 4 ENCLOSURE AT BASE OF CAMERA TOWER. SEE DETAIL, SHEET ES521.
- ⑦ FIBER SPLICE ENCLOSURE AT CAMERA TOWER PROVIDE NEMA 4 ENCLOSURE SIMILAR TO MTDP, MINIMUM 24"x24"x8", SIZED FOR TYPE AND QUANTITY OF CABLE. FUSION SPLICE ALL CABLES IN PANEL MOUNTED SPLICE TRAY SIZED FOR TOTAL STRANDS ENTERING AND LEAVING ENCLOSURE.
- ⑧ FACADE WITH MTDP AND UNIVERSAL TARGET OUTLETS (UTO), SEE SHEET ES514 FOR UTO AND CABLE LOCATIONS.
- ⑨ 4-PAIR DIRECT BURIAL GRADE SHIELDED TWISTED PAIR CATEGORY 6 DATA CABLES, SUPERIOR ESSEX ENDURAGAIN OSP SHIELDED (WITH ALUMINUM INTERLOCK ARMOR AND POLYETHYLENE OUTER JACKET) OR APPROVED EQUAL IN 1" CONDUIT, ONE CABLE TO EACH UTO, SEE SHEET ES514 FOR UTO AND CABLE LOCATIONS. GROUND SHIELD. SURGE PROTECTION BY TARGET SUPPLIER. SEE MTDP/TDP NOTES AND DETAILS, SHEET TN506. TYPICAL BETWEEN MTDP AND TDP, ALL LOCATIONS.

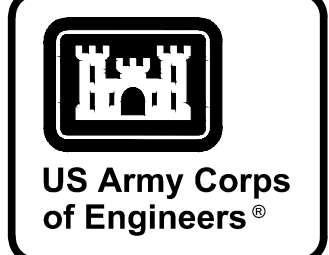
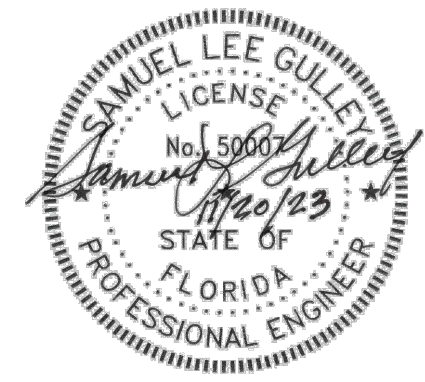
- ⑩ FIBER OPTIC BACKBONE CABLE, LOOSE TUBE DIRECT BURIAL GRADE DOUBLE JACKET SINGLE ARMORED GEL FILLED CONSTRUCTION, MDPE JACKET, FIBER COUNT AS INDICATED, 8.3/125 SINGLEMODE, DUAL WINDOW (1310 AND 1550 NM) GENERAL CABLE AQ0064H1F-DWB (MAXIMUM ATTENUATION 0.5 DB/KM @ 1310 NM AND 0.4 DB/KM @ 1550 NM) OR APPROVED EQUAL BY SIECOR, COMMSCOPE OR HITACHI. DOUBLE SECURE CABLE OUTER JACKET TO DRAWER USING FACTORY HARDWARE. TERMINATE ALL FIBERS WITH 'SC' CONNECTORS. AT CONTROL TOWER END GROUND CABLE SHIELD TO BULLET BOND AND FIBER DRAWER GROUNDING STUD WITH NO. 6 AWG GREEN INSULATED CONDUCTOR TERMINATED WITH HEAVY DUTY CRIMP-ON LUGS SECURED WITH STAINLESS STEEL LOCKING NUTS AND WASHERS. COIL 3' SLACK BUFFERED FIBER IN DRAWER USING FACTORY HARDWARE. TERMINATE ALL FIBERS AT DBB-F END IN FIBER ENCLOSURE IN SPLICE TRAYS. SPLICE FIBERS NOT USED IN ENCLOSURE TO OTHER INCOMING/OUTGOING MULTI-STRAND CABLE. RUN ALL FIBER OPTIC CABLES CONTINUOUS FROM SOURCE TO DESTINATION WITH NO INTERMEDIATE SPLICES OR TERMINATIONS EXCEPT WITHIN DBB-F ENCLOSURES.
- ⑪ FIBER OPTIC BACKBONE CABLE, LOOSE TUBE DIRECT BURIAL GRADE DOUBLE JACKET SINGLE ARMORED GEL FILLED CONSTRUCTION, MDPE JACKET, 6 FIBER COUNT, 8.3/125 SINGLEMODE, DUAL WINDOW (1310 AND 1550 NM) GENERAL CABLE AQ0064H1F-DWB (MAXIMUM ATTENUATION 0.5 DB/KM @ 1310 NM AND 0.4 DB/KM @ 1550 NM) OR APPROVED EQUAL BY SIECOR, COMMSCOPE OR HITACHI. AT DBB-F END, TERMINATE FIBERS WITH 'SC' CONNECTORS AND CROSS-CONNECT TO FIBER CASSETTE PATCH PANEL. GROUND CABLE SHIELDS AT BOTH ENDS. TERMINATE CAMERA TOWER END IN FIBER ENCLOSURE. RUN ALL FIBER OPTIC CABLES CONTINUOUS FROM SOURCE TO DESTINATION WITH NO INTERMEDIATE SPLICES OR TERMINATIONS.
- ⑫ FIBER PULLBOX, NEMA 4 ENCLOSURE FOR SERVICE LOOP, SAME ENCLOSURE AS FIBER DATA CABLE BREAKOUT BOX (DBB-F) SEE DETAIL ON SHEET TN504. PROVIDE ENCLOSURE, RADIUS GUIDES AND BACKPANEL. POWER, GROUNDING OR SPACE FOR OTHER EQUIPMENT NOT REQUIRED.
- ⑬ DATA CABLE BREAKOUT BOX (DBB-C) NEMA 4 ENCLOSURE FOR CAT 6 TERMINATIONS. SEE DETAILS, SHEET TN503. PROVIDE ADDITIONAL DATA OUTLET AT THIS LOCATION FOR BES OUTLET.
- ⑭ DATA CABLE BREAKOUT BOX (DBB-F) NEMA 4 ENCLOSURE FOR FIBER BACKBONE TERMINATIONS. SEE DETAILS, SHEET TN504.
- ⑮ PROVIDE ADDITIONAL DATA OUTLET AT EACH PRIMARY WIDENED EMPLACEMENT FOR BES OUTLET.
- ⑯ 36"x24"x24" TRAFFIC RATED (20K) PULLBOX/HANDHOLE IN POWER CENTER EMPLACEMENT, FLUSH WITH EMPLACEMENT FLOOR FOR PULLPOINT. FOR POWER CENTERS WITH MANY CONDUITS AND CABLES, ENLARGE CONDUITS FROM HANDHOLE TO DBB PANELS TO PULL MULTIPLE CABLES IN EACH CONDUIT.



RANGE DATA/ SINGLE LINE DIAGRAM
NOT TO SCALE

TARGET DATA PANEL IDENTIFICATION NOMENCLATURE

MTDP.V-23
PANEL TYPE (MTDP OR TDP) TARGET IDENTIFICATION NUMBER (FROM CIVIL PLANS).
EXAMPLE: LABEL MTDP.V-23 INDICATES PANEL 'MTDP' LOCATED AT TARGET "V-23."



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FILE NAME: ANSID	SIZE:

U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT
100 W. OGLETHORPE AVE
SAVANNAH, GA 31410

POLY, INC.
1935 HEADLAND AVENUE
DOTHAN, AL 36503
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FORT LIBERTY, NORTH CAROLINA
AUTOMATED MULTIPURPOSE TRAINING RANGE (MPTTR)
FY23, PN 96182
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RANGE DATA SINGLE LINE DIAGRAM

READY TO ADVERTISE (RTA)

C:\LOCAL_FILES\SERVER\2014\FORT LIBERTY (BRAGG)\MPTTR - POLY\DWG\B2E\TN604 SITE SINGLE LINE.DWG