

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

Match ellis project name:
CLE/WAR SR 48 6.65 Sidewalk

FEDERAL PROJECT NO.
E240842

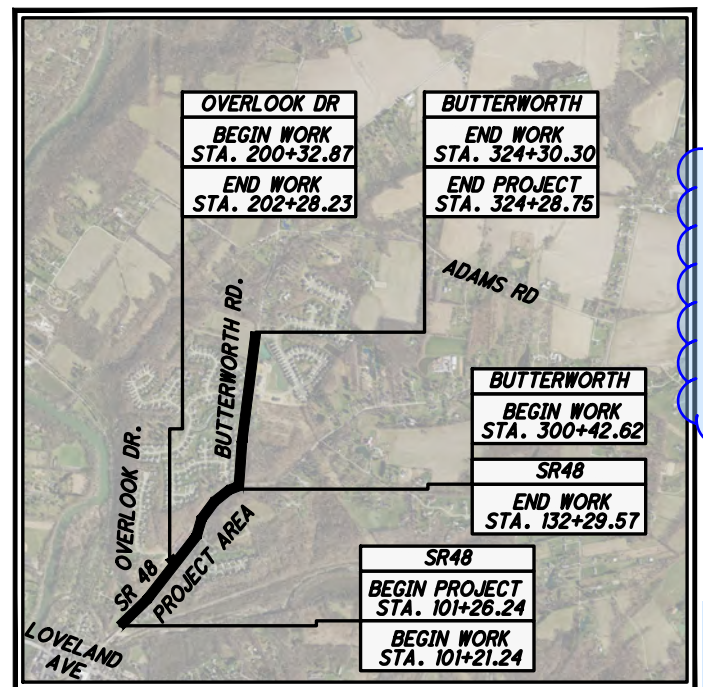
RAILROAD INVOLVEMENT
NONE

CLE/WAR SR48 6.65 & BUTTERWORTH SIDEWALK

PROJECT DESCRIPTION
THE PROJECT SCOPE INVOLVES THE CONSTRUCTION OF NEW SIDEWALK ON SR-48, BUTTERWORTH ROAD, AND OVERLOOK DRIVE FROM NORTH OF O'BANNON CREEK BRIDGE ON SR-48 TO DORSEY LANE LOCATED IN THE CITY OF LOVELAND, CLERMONT COUNTY AND WARREN COUNTY, OHIO. THE PROJECT LENGTH IS APPROXIMATELY 1.04 MILES.

CITY OF LOVELAND CLERMONT/WARREN COUNTY

EARTH DISTURBED AREAS
PROJECT EARTH DISTURBED AREA: 2.06 ACRES
ESTIMATED CONTRACTOR E.D.A.: 0.10 ACRES
NOTICE OF INTENT E.D.A.: 2.16 ACRES



Note: The estimate/GENSUM need to be broken down by plan split. The work on SR-48 and Butterworth Rd are separate plan splits.

INDEX OF SHEETS:

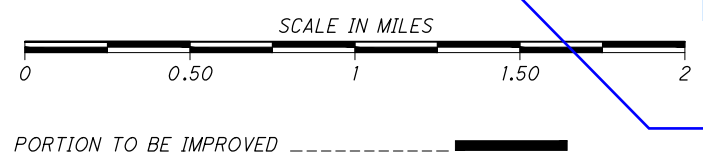
- TITLE SHEET
- SCHEMATIC PLAN - SR 48 & OVERLOOK DRIVE
- SCHEMATIC PLAN - BUTTERWORTH ROAD
- TYPICAL SECTIONS
- GENERAL NOTES
- MAINTENANCE OF TRAFFIC NOTES
- GENERAL SUMMARY
- SUBSUMMARY
- PROJECT SITE PLAN
- PLAN AND PROFILE - SR-48
- CROSS SECTIONS - SR-48
- PLAN AND PROFILE - BUTTERWORTH ROAD
- CROSS SECTIONS - BUTTERWORTH ROAD
- PLAN AND PROFILE - OVERLOOK DRIVE
- CROSS SECTIONS - OVERLOOK DRIVE
- INTERSECTION AND CURB RAMP DETAILS
- TRAFFIC CONTROL
- RIGHT OF WAY
- RETAINING WALL PLAN

REVIEW COMPLETE	
PM	Katherine S. DeStefano, P.E. 09/19/2025
BRIDGES	
CONSTRUCT	Sophia Barry 10/20/2025
DRAINAGE	Tami Brehm, P.E. 10/08/2025
ENVIRON	
GEO TECH	Casey Carriere, P.E. 9/25/2025
ITS	
MOT	Scott Kraus, P.E., 11/11/2025
PAVEMENT	Jennifer Elston, 10/19/2025
ROADWAY	Katherine S. DeStefano, P.E. 09/19/2025
R/W	James Zeller 09/22/2025
SURVEY	
TRAFFIC	Teri C. Scanlon, P.E. 10/16/2025
UTILITIES	Lucas W. Braun, P.E. 10/28/2025
OTHER	Alex Genbauffe, P.E. 10/23/2025
OTHER	

2023 SPECIFICATIONS
THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND CHANGES LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

A maintenance agreement will be needed between ODOT & Loveland before the project sells.



DESIGN DESIGNATION	SR48	BUTTERWORTH RD.
CURRENT ADT (2025)	9,200	3,800
DESIGN YEAR ADT (2048)	10,500	4,300
DESIGN HOURLY VOLUME (2045)	1,050	430
DIRECTIONAL DISTRIBUTION	60%	60%
TRUCKS (24 HOUR B&C)	160	61
DESIGN SPEED	35 & 45 MPH	35 MPH
LEGAL SPEED	35 & 45 MPH	35 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	MINOR ARTERIAL	LOCAL
NHS PROJECT	NO	NO

comments were made on the following drainage attachments:
CDSS Storm Sewer/Inlet Spacing

STAGE 1 SUBMITTAL - AUGUST 29, 2025

Add (Urban) to the Functional Classifications

UNDERGROUND UTILITIES
Contact Two Working Days Before You Dig

OHIO 811. 8-1-1. or 1-800-362-2764
(Non-members must be called directly)

PLAN PREPARED BY:

440 E. HOEWISHER ROAD | SIDNEY, OHIO 45365 | 937.497.0200
6279 TRI-RIDGE BOULEVARD, SUITE 100 | LOVELAND, OHIO 45140 | 513.239.8554
www.CHOICEONEENGINEERING.com

ENGINEERS SEAL

SIGNED: _____
DATE: _____

OHIO DEPARTMENT OF TRANSPORTATION STANDARD CONSTRUCTION DRAWINGS				SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
BP-4.1	XX-XX-XX	TC-42.20	XX-XX-XX	800	XX-XX-XX
BP-5.1	XX-XX-XX	TC-74.10	XX-XX-XX	832	XX-XX-XX
BP-7.1	XX-XX-XX	TC-83.10	XX-XX-XX		
		TC-87.10	XX-XX-XX		
DM-1.1	XX-XX-XX				
CB-2-2A,2B,2C	XX-XX-XX	MT-97.10	XX-XX-XX		
CB-3	XX-XX-XX	MT-101.90	XX-XX-XX		
CB-3A	XX-XX-XX	MT-105.10	XX-XX-XX		
MH-3	XX-XX-XX	MT-110.10	XX-XX-XX		

Geotechnical comments on Draft retaining wall design package. Calculations didn't account for slope behind wall.

Douglas A. Gruver, P.E.
DISTRICT 08 DEPUTY DIRECTOR

Pamela Boratyn
Director, Department of Transportation

DESIGN AGENCY	CHOICE ONE ENGINEERING
DESIGNER	NSS
REVIEWER	Pamela Boratyn
TAN08-29-2025	
PROJECT ID	121899
SHEET	TOTAL
P.1	66

121899 Z:\project\Warren\Loveland\WAR-2401SR48SidewalkConstructionPlans\121899_GT001.dwg_29-Aug-25 2:41 PM

TITLE SHEET

VERTICAL CONTROL:

BENCHMARK #3 ELEV. 604.49
PT # 90002
BOLT AT TIP ARROW TOP FLANGE
OF FIRE HYDRANT SOUTHWEST OF
INTERSECTION OF S.R. 48 AND
OVERLOOK DR.

BENCHMARK #4 ELEV. 664.21
PT # 104
CURB CUT ON SOUTH SIDE OF
S.R. 48 APPROXIMATELY 270'
SOUTHWEST OF INTERSECTION OF
S.R. 48 AND BUTTERWORTH.

HORIZONTAL CONTROL:

TRAVERSE POINT #108
N=280483.9820
E=134263.5430
STA. 101+43.22, 42.94' RT

TRAVERSE POINT #107
N=280970.9380
E=134644.6440
STA. 107+60.55, 16.42' LT



Include names and bearings of intersecting side streets. Show existing structures and waterways/direction of flow.

BEGIN WORK:
STA. 101+21.24

FAN: E240842

BEGIN PROJECT:
STA. 101+26.24

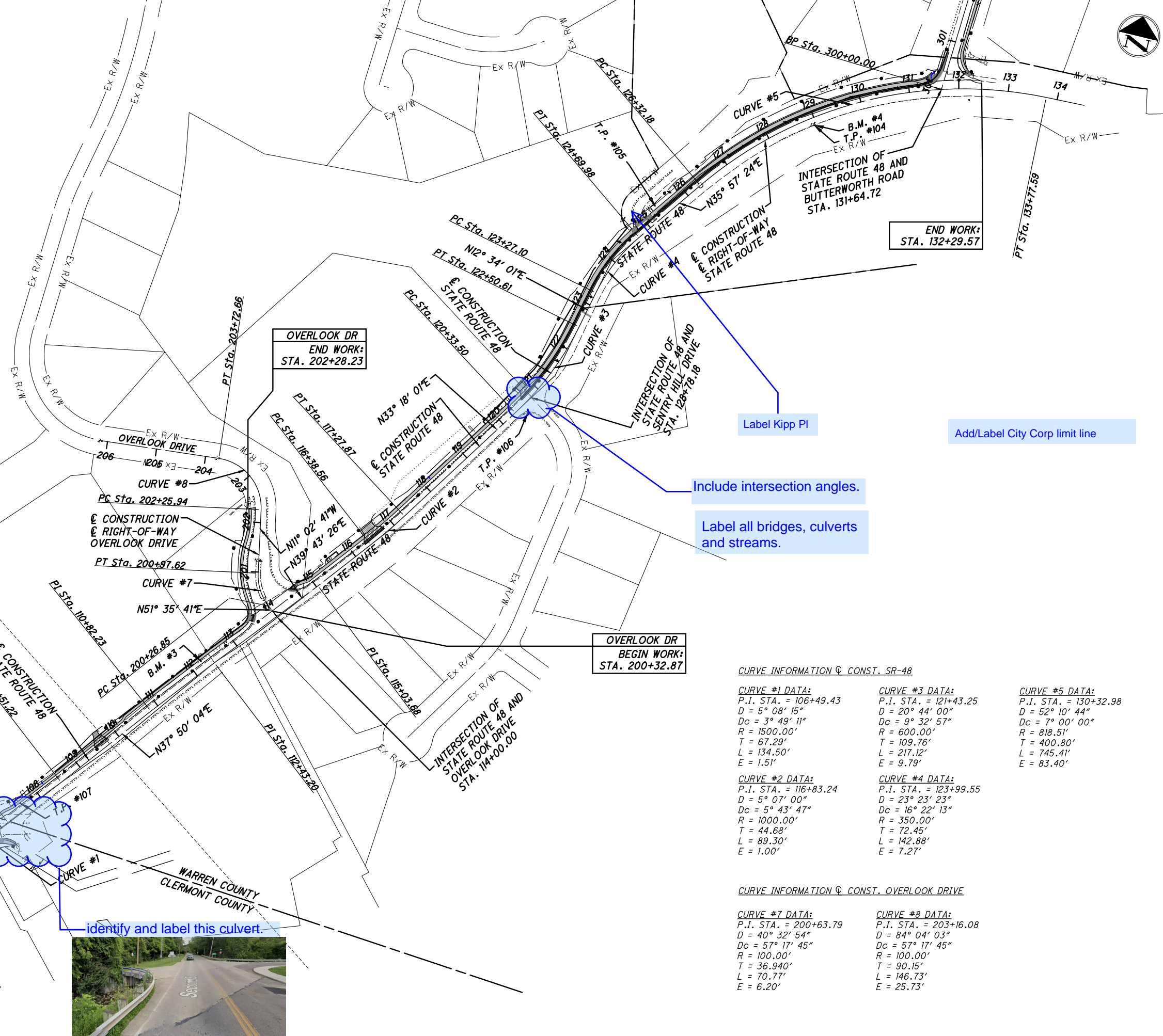
identify and label this culvert.

Label Kipp PI

Add/Label City Corp limit line

Include intersection angles.

Label all bridges, culverts and streams.



CURVE INFORMATION & CONST. SR-48

CURVE #1 DATA:	CURVE #3 DATA:	CURVE #5 DATA:
P.I. STA. = 106+49.43	P.I. STA. = 121+43.25	P.I. STA. = 130+32.98
D = 5° 08' 15"	D = 20° 44' 00"	D = 52° 10' 44"
Dc = 3° 49' 11"	Dc = 9° 32' 57"	Dc = 7° 00' 00"
R = 1500.00'	R = 600.00'	R = 818.51'
T = 67.29'	T = 109.76'	T = 400.80'
L = 134.50'	L = 217.12'	L = 745.41'
E = 1.51'	E = 9.79'	E = 83.40'

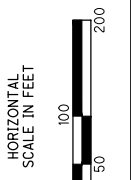
CURVE #2 DATA:	CURVE #4 DATA:
P.I. STA. = 116+83.24	P.I. STA. = 123+99.55
D = 5° 07' 00"	D = 23° 23' 23"
Dc = 5° 43' 47"	Dc = 16° 22' 13"
R = 1000.00'	R = 350.00'
T = 44.68'	T = 72.45'
L = 89.30'	L = 142.88'
E = 1.00'	E = 7.27'

CURVE INFORMATION & CONST. OVERLOOK DRIVE

CURVE #7 DATA:	CURVE #8 DATA:
P.I. STA. = 200+63.79	P.I. STA. = 203+16.08
D = 40° 32' 54"	D = 84° 04' 03"
Dc = 57° 17' 45"	Dc = 57° 17' 45"
R = 100.00'	R = 100.00'
T = 36.940'	T = 90.15'
L = 70.77'	L = 146.73'
E = 6.20'	E = 25.73'

121899

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STATE ROUTE 48 & OVERLOOK DRIVE
SCHEMATIC PLAN

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER
NSS

REVIEWER
TAN08-29-2025

PROJECT ID
121899

SHEET TOTAL
P.2 66

VERTICAL CONTROL:

BENCHMARK #1 ELEV. 726.38
MAG NAIL IN TELEPHONE POLE
W4392.

BENCHMARK #2 ELEV. 725.59
MAG NAIL IN POWER POLE
W94-27E.

HORIZONTAL CONTROL:

TRAVERSE POINT #103
N=282842.9530
E=136092.8900
STA. 300+32.03, 17.09' LT

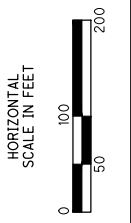
TRAVERSE POINT #102
N=283393.8520
E=136169.0040
STA. 305+86.02, 30.56' RT

TRAVERSE POINT #101
N=285202.1800
E=136355.3650
STA. 324+05.85, 26.26' RT

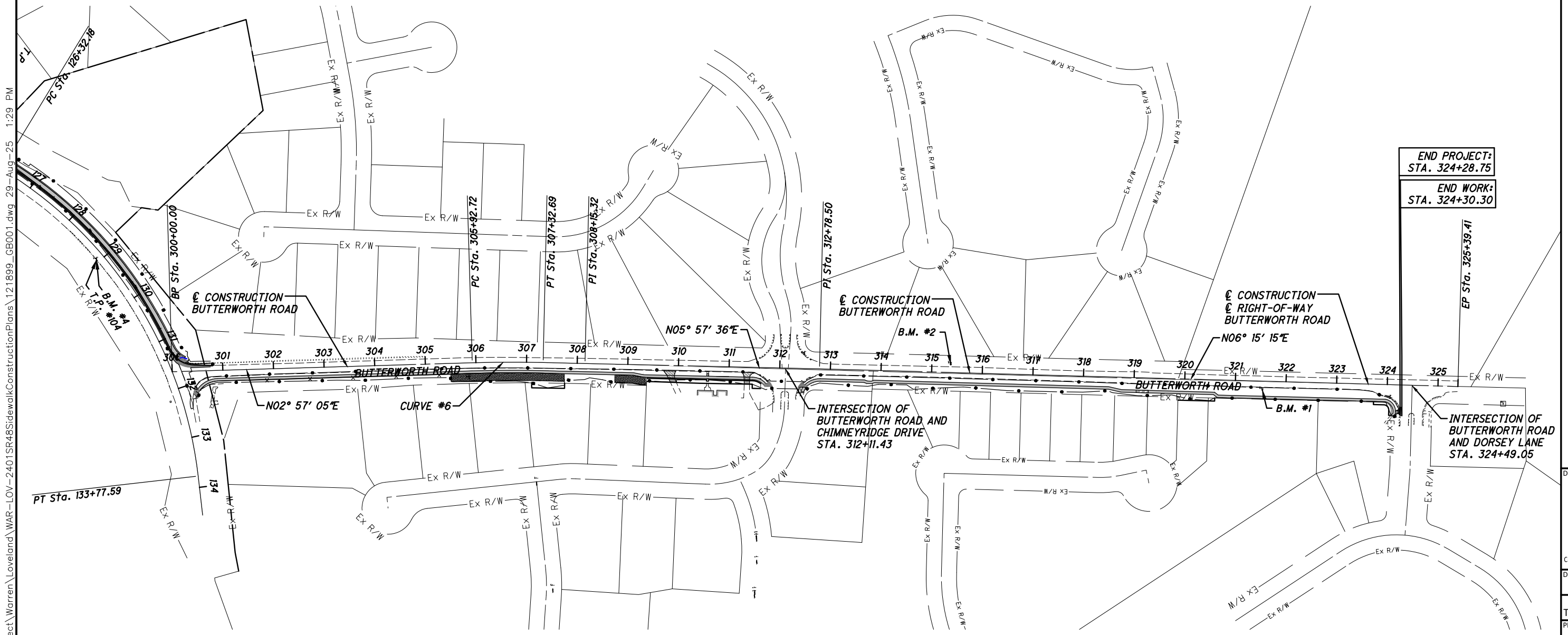
TRAVERSE POINT #100
N=284057.2140
E=136175.1290
STA. 312+48.21, 28.33' LT

CURVE INFORMATION @ CONST. BUTTERWORTH ROAD

CURVE #6 DATA:
P.I. STA. = 130+32.98
D = 3° 02' 19"
Dc = 2° 10' 15"
R = 2639.32'
T = 70.00'
L = 139.97'
E = 0.93'



Add/Label City Corp limit line



**BUTTERWORTH ROAD
SCHEMATIC PLAN**

END PROJECT:
STA. 324+28.75

END WORK:
STA. 324+30.30

DESIGN AGENCY



CHOICE ONE ENGINEERING

DESIGNER

NSS

REVIEWER

TAN08-29-2025

PROJECT ID

121899

SHEET TOTAL

P.3 66

121899

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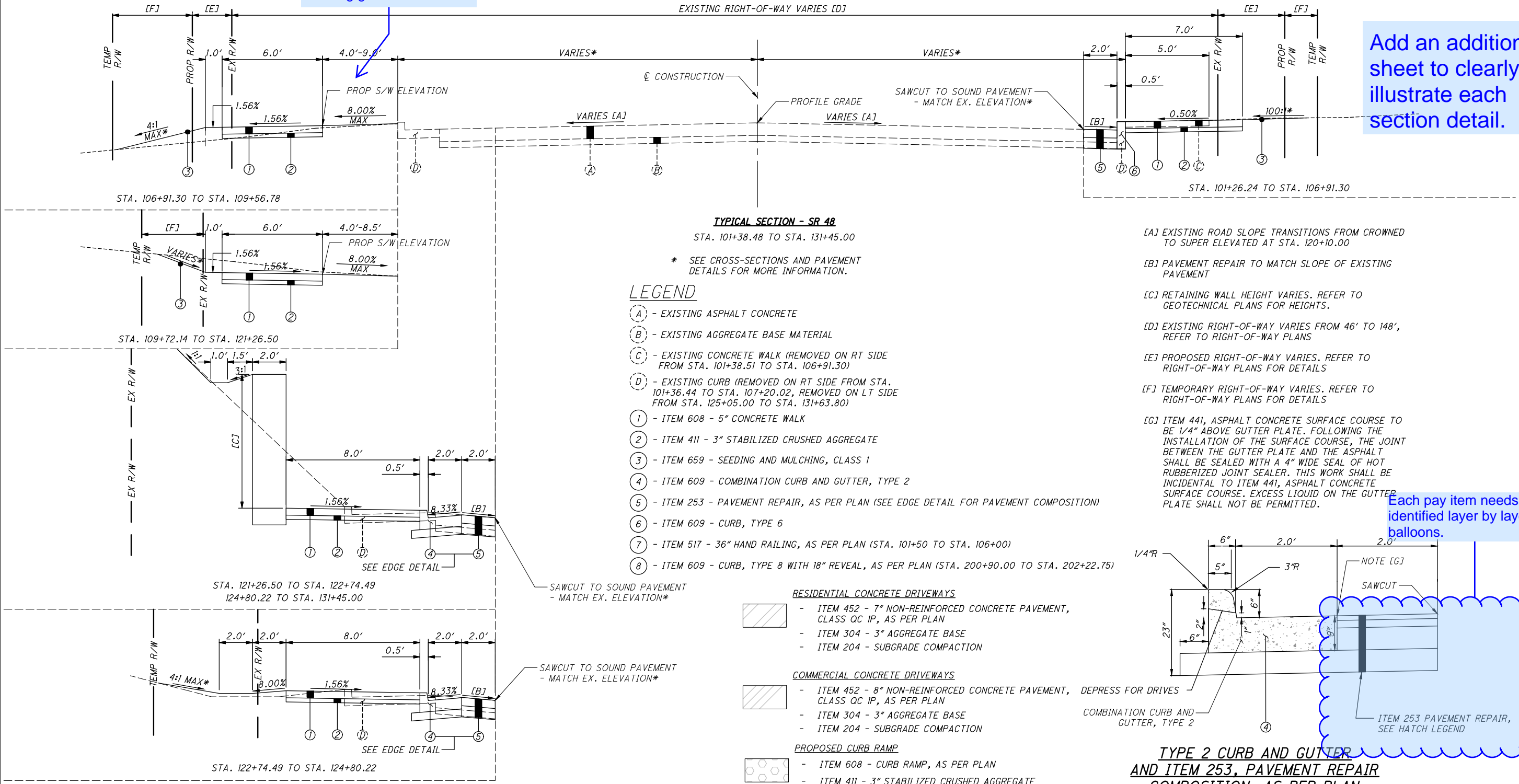
Show/Add balloon for existing guardrail.

Add an additional sheet to clearly illustrate each section detail.

TYPICAL SECTIONS

Each pay item needs to be identified layer by layer with balloons.

These Legends add clutter to this sheet. Can they be moved to a different sheet?



LEGEND

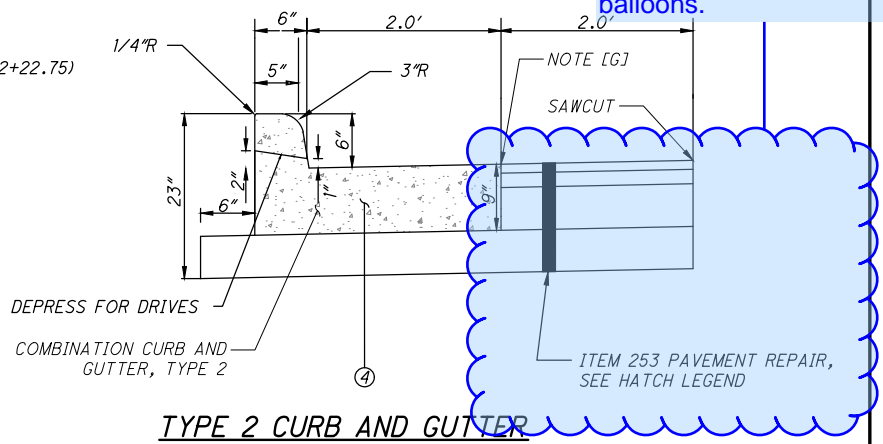
- (A) - EXISTING ASPHALT CONCRETE
- (B) - EXISTING AGGREGATE BASE MATERIAL
- (C) - EXISTING CONCRETE WALK (REMOVED ON RT SIDE FROM STA. 101+38.51 TO STA. 106+91.30)
- (D) - EXISTING CURB (REMOVED ON RT SIDE FROM STA. 101+36.44 TO STA. 107+20.02, REMOVED ON LT SIDE FROM STA. 125+05.00 TO STA. 131+63.80)
- (1) - ITEM 608 - 5" CONCRETE WALK
- (2) - ITEM 411 - 3" STABILIZED CRUSHED AGGREGATE
- (3) - ITEM 659 - SEEDING AND MULCHING, CLASS 1
- (4) - ITEM 609 - COMBINATION CURB AND GUTTER, TYPE 2
- (5) - ITEM 253 - PAVEMENT REPAIR, AS PER PLAN (SEE EDGE DETAIL FOR PAVEMENT COMPOSITION)
- (6) - ITEM 609 - CURB, TYPE 6
- (7) - ITEM 517 - 36" HAND RAILING, AS PER PLAN (STA. 101+50 TO STA. 106+00)
- (8) - ITEM 609 - CURB, TYPE 8 WITH 18" REVEAL, AS PER PLAN (STA. 200+90.00 TO STA. 202+22.75)

- RESIDENTIAL CONCRETE DRIVEWAYS**
- ITEM 452 - 7" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P, AS PER PLAN
 - ITEM 304 - 3" AGGREGATE BASE
 - ITEM 204 - SUBGRADE COMPACTION
- COMMERCIAL CONCRETE DRIVEWAYS**
- ITEM 452 - 8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P, AS PER PLAN
 - ITEM 304 - 3" AGGREGATE BASE
 - ITEM 204 - SUBGRADE COMPACTION
- PROPOSED CURB RAMP**
- ITEM 608 - CURB RAMP, AS PER PLAN
 - ITEM 411 - 3" STABILIZED CRUSHED AGGREGATE
- SIDEWALK**
- ITEM 608 - 5" CONCRETE WALK, AS PER PLAN
 - ITEM 411 - 3" STABILIZED CRUSHED AGGREGATE
- GRAVEL DRIVE**
- ITEM 304 - 12" AGGREGATE BASE (3 EQUAL LIFTS)
 - ITEM 204 - SUBGRADE COMPACTION
- VEGETATED FILTER STRIP (BMP REQUIREMENT)**
- ITEM 659 - TOPSOIL (4" MIN. THICKNESS)
 - ITEM 659 - SEEDING AND MULCHING, CLASS 1
 - ITEM 670 - SLOPE EROSION PROTECTION

HATCH LEGEND FOR PLANS

- ITEM 253 - PAVEMENT REPAIR, AS PER PLAN**
- ITEM 441 - 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG64-22
 - ITEM 407 - NON-TRACKING TACK COAT (APPLIED @ 0.060 GAL/SY)
 - ITEM 441 - 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449)
 - ITEM 407 - NON-TRACKING TACK COAT (APPLIED @ 0.060 GAL/SY)
 - ITEM 301 - 6" ASPHALT CONCRETE BASE, PG64-22 (449) (TWO EQUAL LIFTS)
 - ITEM 304 - 8" AGGREGATE BASE
 - ITEM 204 - SUBGRADE COMPACTION
- RESIDENTIAL ASPHALT DRIVEWAYS**
- ITEM 441 - 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG64-22
 - ITEM 407 - NON-TRACKING TACK COAT (0.06 GAL/SY)
 - ITEM 441 - 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449)
 - ITEM 304 - 8" AGGREGATE BASE
 - ITEM 204 - SUBGRADE COMPACTION

- COMMERCIAL ASPHALT DRIVEWAYS**
- ITEM 441 - 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG64-22
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 - ITEM 301 - 6" ASPHALT CONCRETE BASE, PG64-22 (449) (TWO EQUAL LIFTS)
 - ITEM 204 - SUBGRADE COMPACTION



TYPE 2 CURB AND GUTTER AND ITEM 253, PAVEMENT REPAIR COMPOSITION, AS PER PLAN

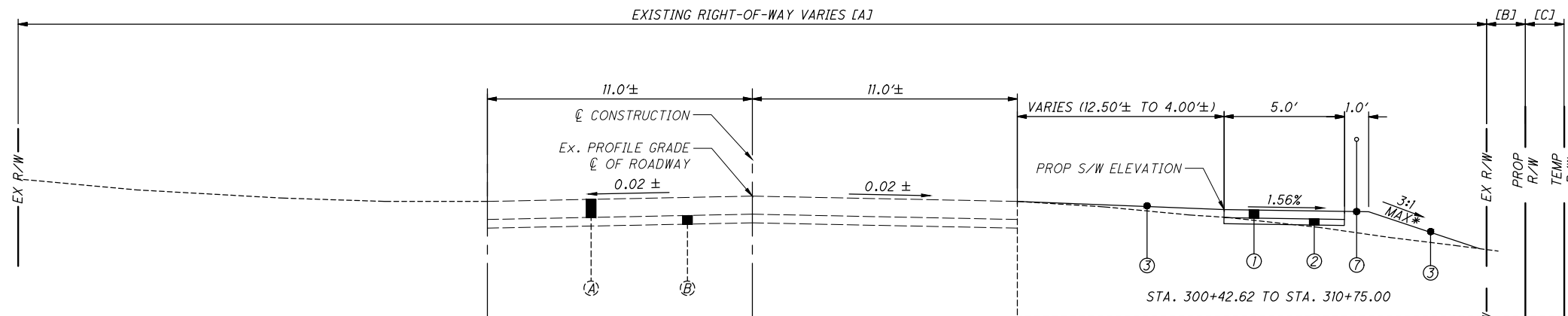
ABBREVIATION LEGEND (ALL PLAN SHEETS)

- (ATG) - ADJUST TO GRADE
- (DND) - DO NOT DISTURB
- (RTG) - RECONSTRUCT TO GRADE
- (R&R) REMOVE AND RELOCATE
- (TBR) - TO BE REMOVED
- (TBR/LBO) - TO BE RELOCATED BY OTHERS

SYMBOLS LEGEND (ALL PLAN SHEETS)

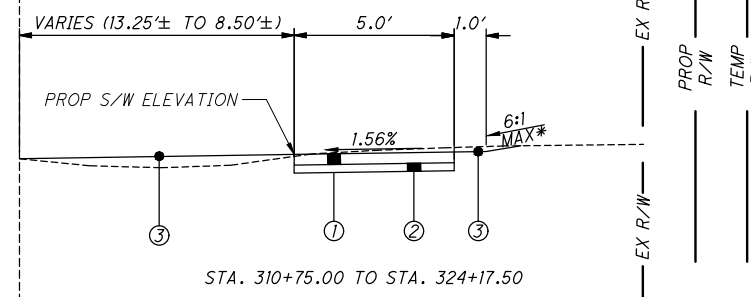
- (Green circle with 'M') SAN MH (ATG)
- (Red circle with 'M') STM MH (ATG)
- (Green circle with 'R') SAN MH (RTG)
- (Red circle with 'R') STM MH (RTG)
- (Blue circle with 'F') PROP. FIRE HYDRANT
- (Blue circle with 'V') WATER VALVE OR WATER MH (ATG)
- (Red X) TREE REMOVAL
- (Dashed line) CONST. LIMITS

These legends are shown are duplicated on sheet 5. Can remove from this sheet to reduce clutter.



DETACHED WALK TYPICAL SECTION - BUTTERWORTH ROAD
 STA. 300+42.62 TO STA. 324+17.50

* SEE CROSS-SECTIONS FOR MORE DETAILS



[A] EXISTING RIGHT-OF-WAY VARIES FROM 118' TO 55'
 [B] PROPOSED RIGHT-OF-WAY VARIES. REFER TO RIGHT-OF-WAY PLANS FOR DETAILS
 [C] TEMPORARY RIGHT-OF-WAY INCLUDED IN SOME SECTIONS AND WIDTH VARIES. REFER TO TO R/W PLANS FOR STATIONS AND WIDTHS

HATCH LEGEND FOR PLANS

- ITEM 253 - PAVEMENT REPAIR, AS PER PLAN**
 - ITEM 441 - 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG64-22
 - ITEM 407 - NON-TRACKING TACK COAT (APPLIED @ 0.060 GAL/SY)
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 - ITEM 204 - SUBGRADE COMPACTION
- RESIDENTIAL CONCRETE DRIVEWAYS**
 - ITEM 452 - 7" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC IP, AS PER PLAN
 - ITEM 304 - 3" AGGREGATE BASE
 - ITEM 204 - SUBGRADE COMPACTION
- COMMERCIAL CONCRETE DRIVEWAYS**
 - ITEM 452 - 8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC IP, AS PER PLAN
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- GRAVEL DRIVE**
 - ITEM 304 - 12" AGGREGATE BASE, 3 EQUAL LIFTS
 - ITEM 204 - SUBGRADE COMPACTION
- VEGETATED FILTER STRIP (BMP REQUIREMENT)**
 - ITEM 659 - TOPSOIL (4" MIN. THICKNESS)
 - ITEM 659 - SEEDING AND MULCHING, CLASS 1
 - ITEM 670 - SLOPE EROSION PROTECTION

LEGEND

- (A) - EXISTING ASPHALT CONCRETE
- (B) - EXISTING AGGREGATE BASE MATERIAL
- (C) - EXISTING CONCRETE WALK
- (D) - EXISTING CURB
- (1) - ITEM 608 - 5" CONCRETE WALK
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- (7) - ITEM 517 - 36" HAND RAILING, AS PER PLAN (STA. 101+50 TO STA. 106+00)
- (8) - ITEM 609 - CURB, TYPE 8 WITH 18" REVEAL, AS PER PLAN (STA. 200+90.00 TO STA. 202+22.75)

ABBREVIATION LEGEND (ALL PLAN SHEETS)

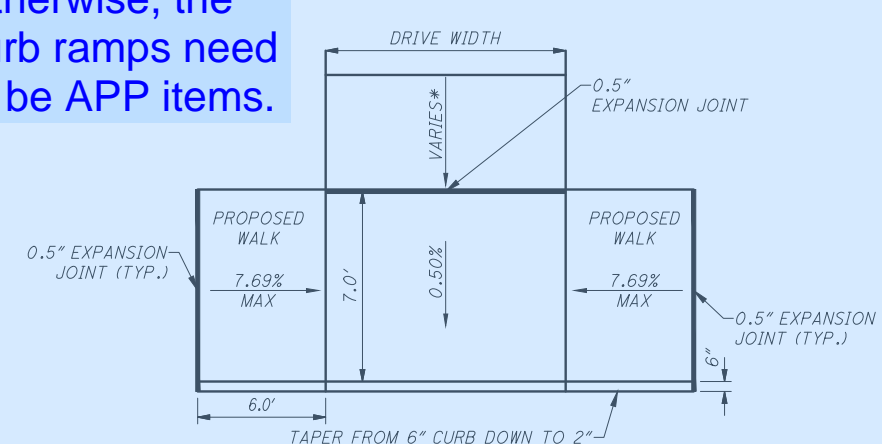
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- (DND) - DO NOT DISTURB
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- (TBR) - TO BE REMOVED
- (TBR/BO) - TO BE RELOCATED BY OTHERS

SYMBOLS LEGEND (ALL PLAN SHEETS)

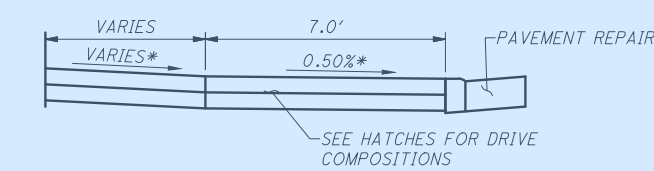
- (Green circle) SAN MH (ATG)
- (Red circle) STM MH (ATG)
- (Green circle with X) SAN MH (RTG)
- (Red circle with X) STM MH (RTG)
- (Blue circle with star) PROP. FIRE HYDRANT
- (Blue circle) WATER VALVE OR WATER MH (ATG)
- (Red X) TREE REMOVAL

If defined by the SCDs no need to duplicate here. Otherwise, the curb ramps need to be APP items.

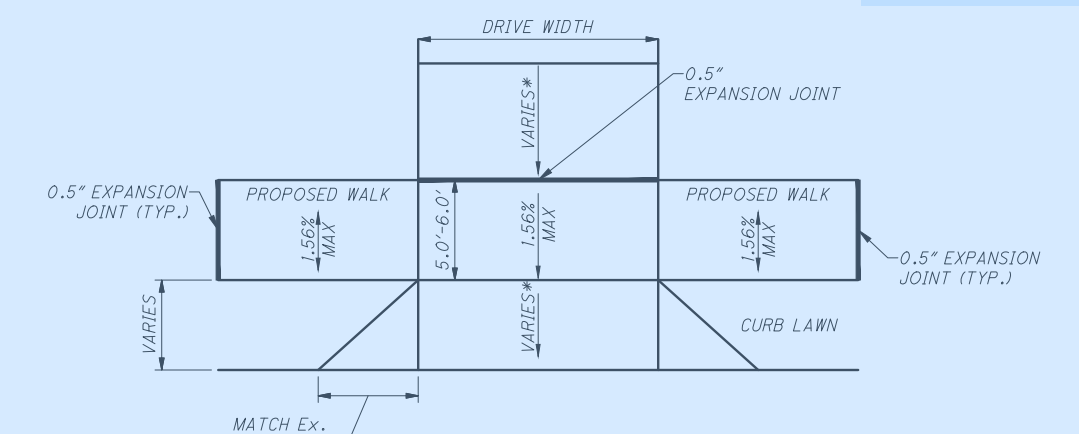
These Legends add clutter to this sheet. Can they be moved to a different sheet?



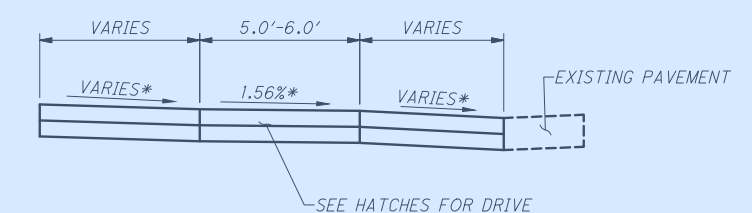
TYPICAL DRIVE PLAN - NO CURB LAWN



TYPICAL DRIVE PROFILE WITHOUT CURB LAWN

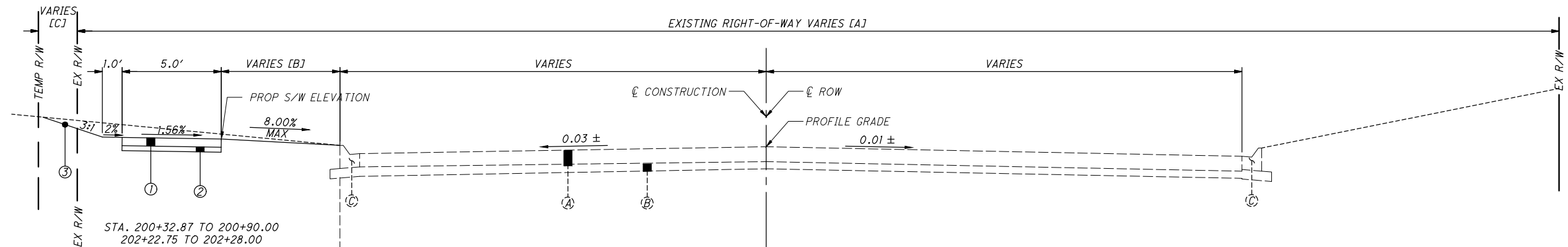


TYPICAL DRIVE PLAN - WITH CURB LAWN



TYPICAL DRIVE PROFILE WITH CURB LAWN

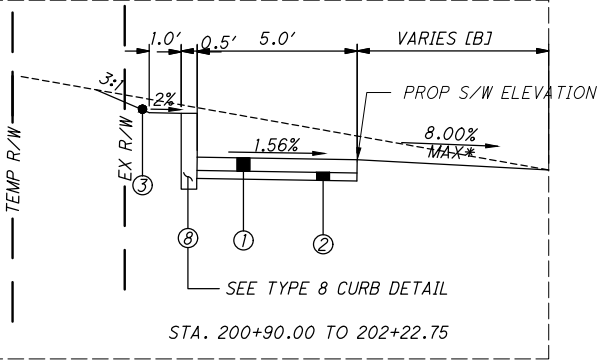
Internal ODOT comment
 Residential + Commercial driveways composition are better than L+D Vol 1, section 805



TYPICAL SECTION - OVERLOOK DRIVE
STA. 200+32.87 TO STA. 202+28.23

* SEE CROSS-SECTIONS AND PAVEMENT DETAILS FOR MORE INFORMATION.

[AJ] EXISTING RIGHT-OF-WAY VARIES FROM 82' TO 60'
[BJ] CURB LAWN WIDTH VARIES FROM 4.0'-6.5' ± AND VARIES TO TIE INTO EXISTING WIDTH AT STA 202+28.00
[CJ] TEMPORARY R/W WIDTH VARIES. REFER TO TO R/W PLANS FOR STATIONS AND WIDTHS



LEGEND

- (A) - EXISTING ASPHALT CONCRETE
- (B) - EXISTING AGGREGATE BASE MATERIAL
- (C) - EXISTING ROLL CURB
- (1) - ITEM 608 - 5" CONCRETE WALK
- (2) - ITEM 411 - 3" STABILIZED CRUSHED AGGREGATE
- (3) - ITEM 659 - SEEDING AND MULCHING, CLASS 1
- (4) - ITEM 609 - BARRIER CURB, TYPE 6
- (5) - ITEM 253 - PAVEMENT REPAIR, AS PER PLAN (SEE EDGE DETAIL FOR PAVEMENT COMPOSITION)
- (6) - ITEM 609 - CURB, TYPE 6
- (7) - ITEM 517 - 36" HAND RAILING, AS PER PLAN (STA. 101+50 TO STA. 106+00)
- (8) - ITEM 609 - CURB, TYPE 8 WITH 18" REVEAL, AS PER PLAN (STA. 200+90.00 TO STA. 202+22.75)

HATCH LEGEND FOR PLANS

ITEM 253 - PAVEMENT REPAIR, AS PER PLAN

- ITEM 441 - 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG64-22
- ITEM 407 - NON-TRACKING TACK COAT (APPLIED @ 0.060 GAL/SY)
- ITEM 441 - 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449)
- ITEM 407 - NON-TRACKING TACK COAT (APPLIED @ 0.060 GAL/SY)
- ITEM 301 - 6" ASPHALT CONCRETE BASE, PG64-22 (449) (TWO EQUAL LIFTS)
- ITEM 304 - 8" AGGREGATE BASE
- ITEM 204 - SUBGRADE COMPACTION

RESIDENTIAL ASPHALT DRIVEWAYS

- ITEM 441 - 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG64-22
- ITEM 407 - NON-TRACKING TACK COAT (0.06 GAL/SY)
- ITEM 441 - 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449)
- ITEM 304 - 8" AGGREGATE BASE
- ITEM 204 - SUBGRADE COMPACTION

COMMERCIAL ASPHALT DRIVEWAYS

- ITEM 441 - 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG64-22
- ITEM 407 - NON-TRACKING TACK COAT (0.06 GAL/SY)
- ITEM 441 - 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449)
- ITEM 407 - NON-TRACKING TACK COAT (0.06 GAL/SY)
- ITEM 301 - 6" ASPHALT CONCRETE BASE, PG64-22 (449) (TWO EQUAL LIFTS)
- ITEM 204 - SUBGRADE COMPACTION

RESIDENTIAL CONCRETE DRIVEWAYS

- ITEM 452 - 7" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P, AS PER PLAN
- ITEM 304 - 3" AGGREGATE BASE
- ITEM 204 - SUBGRADE COMPACTION

COMMERCIAL CONCRETE DRIVEWAYS

- ITEM 452 - 8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P, AS PER PLAN
- ITEM 304 - 3" AGGREGATE BASE
- ITEM 204 - SUBGRADE COMPACTION

PROPOSED CURB RAMP

- ITEM 608 - CURB RAMP, AS PER PLAN
- ITEM 411 - 3" STABILIZED CRUSHED AGGREGATE

SIDEWALK

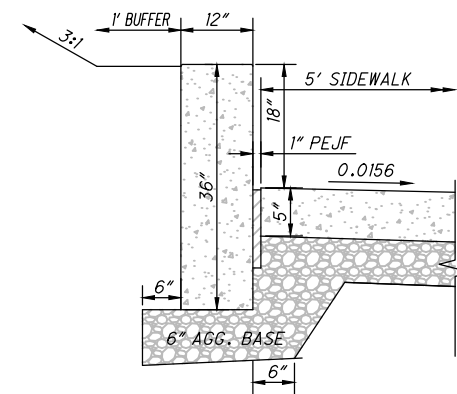
- ITEM 608 - 5" CONCRETE WALK, AS PER PLAN
- ITEM 411 - 3" STABILIZED CRUSHED AGGREGATE

GRAVEL DRIVE

- ITEM 304 - 12" AGGREGATE BASE, 3 EQUAL LIFTS
- ITEM 204 - SUBGRADE COMPACTION

VEGETATED FILTER STRIP (BMP REQUIREMENT)

- ITEM 659 - TOPSOIL (4" MIN. THICKNESS)
- ITEM 659 - SEEDING AND MULCHING, CLASS 1
- ITEM 670 - SLOPE EROSION PROTECTION



ITEM 609 - CURB, TYPE 8, AS PER PLAN
18" REVEAL
NOT TO SCALE

ABBREVIATION LEGEND (ALL PLAN SHEETS)

- (ATG) - ADJUST TO GRADE
- (DND) - DO NOT DISTURB
- (RTG) - RECONSTRUCT TO GRADE
- (R&R) REMOVE AND RELOCATE
- (TBR) - TO BE REMOVED
- (TBRLBO) - TO BE RELOCATED BY OTHERS

SYMBOLS LEGEND (ALL PLAN SHEETS)

- SAN MH (ATG)
- STM MH (ATG)
- SAN MH (RTG)
- STM MH (RTG)
- PROP. FIRE HYDRANT
- WATER VALVE OR WATER MH (ATG)
- ✗ TREE REMOVAL
- CONST. LIMITS

These Legends add clutter to this sheet. Can they be moved to a different sheet?



DESIGNER	NSS
REVIEWER	
PROJECT ID	TAN08-29-2025
	121899
SHEET	TOTAL
P.6	66

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON NAVD 88 (ODOT VRS GEOID 18).

GENERAL NOTES AND DETAILS

ALL CONSTRUCTION METHODS, MATERIALS, AND SPECIFICATIONS SHALL COMPLY WITH THE CITY OF LOVELAND ENGINEERING STANDARDS AND SPECIFICATIONS OR OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION STANDARDS AND SPECIFICATIONS, WHICHEVER IS MORE RESTRICTIVE AS DETERMINED BY THE CITY.

MODIFICATIONS

ANY MODIFICATIONS TO THE SPECIFICATIONS OR CHANGES TO THE WORK AS SHOWN ON THE DRAWINGS MUST HAVE PRIOR WRITTEN APPROVAL BY THE CITY.

FUNDING

DUE TO FUNDING, THE OWNER RESERVES THE RIGHT TO INCREASE, DECREASE, OR OMIT ANY ITEMS LISTED IN THE BID SCHEDULE.

NO FINAL UNIT PRICE ADJUSTMENTS PER ODOT 104.02 WILL BE MADE AT CONTRACT FINALIZATION.

MISCELLANEOUS

COMPENSATION FOR THE WORK AS SHOWN ON THE PLANS SHALL BE AT THE UNIT PRICES INCLUDED ON THE BID PROPOSAL. NO SEPARATE PAYMENT WILL BE MADE FOR TASKS (NOT ALL INCLUSIVE) INCLUDING ITEMS SUCH AS MOBILIZATION, RECORD DRAWINGS AND CONNECTIONS TO EXISTING FACILITIES.

CONTRACTOR IS RESPONSIBLE TO FILL OUT ALL NECESSARY CO-PERMITTEE PERMITS FOR THE OEPA STORMWATER NOISE

UNDERGROUND UTILITIES

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITY AS REQUIRED BY SECTION 153.64 ORC. EXISTING UTILITIES ARE SHOWN IN THEIR APPROXIMATE LOCATION ACCORDING TO THE BEST AVAILABLE DATA. THE CONTRACTOR WILL BE RESPONSIBLE FOR LOCATING THEM IN THE FIELD PRIOR TO CONSTRUCTION AND WILL BE RESPONSIBLE FOR ANY DAMAGE DONE TO THEM. CONTRACTOR TO CONTACT OHIO UTILITIES PROTECTION SERVICE (1-800-362-2764) 48 HOURS PRIOR TO CONSTRUCTION.

NON-MEMBERS MUST BE CALLED DIRECTLY.

UTILITY STATEMENT

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. CHOICE ONE ENGINEERING CORPORATION MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN-SERVICE OR ABANDONED. FURTHER, CHOICE ONE ENGINEERING CORPORATION DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED, ALTHOUGH CHOICE ONE ENGINEERING CORPORATION DID LOCATE AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. CHOICE ONE ENGINEERING CORPORATION HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND BEFORE FINAL ACCEPTANCE BY THE CITY, REPRESENTATIVES OF THE CITY AND THE CONTRACTOR SHALL MAKE AN INSPECTION OF ALL EXISTING SEWER THAT MAY BE AFFECTED BY THE WORK AND ARE TO REMAIN IN SERVICE. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCES SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE CITY.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE CITY.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE-MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE CITY.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEMS.

UTILITY OWNERSHIP

STORM, WATER, STREETS, AND TRAFFIC SIGNALS
CITY OF LOVELAND
120 W. LOVELAND AVENUE
LOVELAND, OHIO 45140
ATTN: KELSEY RICHARDS
(513) 707-6114

GAS TRANSMISSION

DUKE ENERGY - TRANSMISSION
139 E. 4TH STREET
CINCINNATI, OHIO 45202
ATTN: TIM MEYER
(513) 287-1266

GAS

DUKE ENERGY - GAS
139 E. 4TH STREET
P.O. BOX 960, ROOM 460
CINCINNATI, OHIO 45202
ATTN: RICHARD HACKER
(513) 287-4653

SEWER

MSD
1600 GEST ST.
CINCINNATI, OHIO 45204
ATTN: ROB FRANKLIN
(513) 557-7188

COMMUNICATION

MCI TELECOMMUNICATIONS
3400 BUFF ROAD
CINCINNATI, OHIO 45219
ATTN: BRUCE TURKIN
(513) 721-8977

ODOT DISTRICT 8
505 S. STATE ROUTE 741
ATTN: TOM MAZZA
(513) 933-6577

UTILITY INTERFERENCE

IF DURING CONSTRUCTION, INTERFERENCE OCCURS WITH EXISTING UTILITIES, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND ALL WORK REQUIRED FOR PUBLIC OR PRIVATE UTILITIES WILL BE DONE BY AND AT THE EXPENSE OF THEIR RESPECTIVE OWNERS, UNLESS OTHERWISE NOTED ON THESE PLANS. THE CONTRACTOR SHALL NOTIFY, AT LEAST 7 DAYS BEFORE BREAKING GROUND, ALL PUBLIC SERVICE COMPANIES HAVING WIRES, POLES, PIPES, CONDUITS, MANHOLES, OR OTHER STRUCTURES THAT MAY BE AFFECTED BY THIS OPERATION, INCLUDING ALL STRUCTURES WHICH ARE AFFECTED AND NOT SHOWN ON THESE PLANS. THERE WILL BE NO DELAYS ALLOWED FOR UTILITY INTERFERENCES.

LOCATION, SUPPORT, PROTECTION, AND RESTORATION OF ALL UTILITIES, AND STRUCTURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE METHOD OF SUPPORT OR PROTECTION MUST BE APPROVED BY THE APPROPRIATE UTILITY COMPANY, AND IF FACILITY IS DAMAGED BY THE CONTRACTOR, ALL REPAIRS SHALL BE MADE BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.

THE CONTRACTOR IS HEREBY ADVISED THAT ALL UTILITY COMPANIES AFFECTED BY THIS PROJECT MAY BE WORKING CONCURRENTLY WITHIN THE PROJECT LIMITS. NO ADDITIONAL COMPENSATION WILL BE MADE TO THE CONTRACTOR FOR COORDINATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE UTILITY COMPANIES.

COMMUNICATION

ALTA FIBER
221 E. 4TH STREET
BUILDING 121-900
CINCINNATI, OHIO 45202
ATTN: JOHN STRAUSS
(513) 566-5120

COMMUNICATION

CHARTER COMMUNICATION
11252 CORNELL PARK DRIVE
CINCINNATI, OHIO 45242
ATTN: JIM O'REILLY
(513) 386-5483

ELECTRIC

DUKE ENERGY - ELECTRIC
2010 DANA AVENUE
ROOM EF 324
CINCINNATI, OHIO 45207
ATTN: CHRIS TEPE
(513) 250-6851

WATER

WESTERN WATER COMPANY
3639 BENNETT ROAD
MORROW, OHIO 45152
(513) 722-1682

COMMUNICATION

LUMBER
20 W. MECHANIC STREET
LEBANON, OHIO 45036
ATTN: JORDAN LANCASTON
(513) 933-3500

OHIO UTILITIES PROTECTION
SERVICE 2 WORKING DAYS BEFORE
YOU DIG CALL TOLL FREE
1-800-362-2764

EXISTING DRAINAGE FACILITIES

ANY DRAINAGE CONDUIT CURRENTLY CONNECTED TO THE EXISTING STORM SEWER SHALL BE CONNECTED TO THE PROPOSED STORM SEWER. ANY DRAINAGE CONDUIT DAMAGED BY THE CONTRACTOR SHALL BE REPLACED BY THE CONTRACTOR TO A CONDITION EQUAL TO OR BETTER THAN ITS ORIGINAL CONDITION. ALL CONDUIT REMOVED, REPLACED AND/OR CONNECTED TO THE STORM SEWER SHALL BE NOTED ON THE RECORD DRAWINGS AND SHALL BE INSPECTED BY THE CITY BEFORE IT IS COVERED.

A CONCRETE COLLAR SHALL BE PROVIDED WHERE PROPOSED STORM SEWER PIPE IS CONNECTED TO AN EXISTING PIPE. THE COST SHALL BE INCLUDED IN THE BID PRICE FOR THE NEW CONDUIT.

ALL FIELD OR STORM DRAINS WHICH ARE ENCOUNTERED DURING CONSTRUCTION SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS OR PLUGGED AS APPROVED AND DIRECTED BY THE CITY. THE CITY WILL ASSIST IN ANY NECESSARY INVESTIGATION OR DYE TESTING PRIOR TO APPROVING THE PLUGGING OF A FIELD OR STORM CONDUIT. COST OF THE ITEMS ABOVE SHALL BE INCLUDED IN THE COST OF ITEM 611 CONDUIT, TYPE B, 707.45, STORM REPAIR.

THE LOCATION, TYPE, SIZE, AND GRADE OF THE NEW CONDUIT REQUIRED TO REPLACE OR EXTEND THE EXISTING DRAIN WILL BE DETERMINED BY THE CITY OR CITY'S REPRESENTATIVE DURING CONSTRUCTION, AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENTS AND INCLUDE ALL MATERIALS NECESSARY SUCH AS GRANULAR BEDDING, PROPER FITTINGS AND CONNECTIONS, AND PIPE.

THE FOLLOWING CONTINGENT ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE PLANS FOR THE WORK NOTED ABOVE:

- ITEM 611 6" CONDUIT, TYPE B, 707.45, STORM REPAIR 100 FEET
- ITEM 611 8" CONDUIT, TYPE B, 707.45, STORM REPAIR 100 FEET
- ITEM 611 8" CONDUIT, TYPE B, 707.45, STORM REPAIR 100 FEET

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL PROTECT EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION, OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE CITY SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT ANY EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE CITY SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEM.

CLEAN WATER CONNECTIONS

ROOF DRAINS, FOUNDATION DRAINS, AND ALL OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SYSTEM ARE PROHIBITED.

SUBCONTRACTOR SUPERVISION

THE CONTRACTOR IS REQUIRED TO HAVE A PROJECT SUPERVISOR ON-SITE TO SUPERVISE THE SUBCONTRACTOR FOR QUALITY CONTROL PURPOSES AND TO PROVIDE ANY NECESSARY ASSISTANCE TO THE SUBCONTRACTOR TO ENSURE QUALITY WORK.

COST OF THIS ITEM SHALL BE INCLUDED IN THE COST OF RELATED PAY ITEMS OF THIS PROJECT.

SAFETY

THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE, AND LOCAL SAFETY REQUIREMENTS, TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT IS ALSO THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO INITIATE, MAINTAIN, AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS, AND PROGRAMS IN CONNECTION WITH THE WORK.

MUD

THE TRACKING OR SPILLING OF MUD, DIRT, OR DEBRIS UPON CITY STREETS IS PROHIBITED, AND ANY SUCH OCCURRENCE SHALL BE CLEANED UP IMMEDIATELY BY THE CONTRACTOR.

PROPERTY POINTS AND SURVEY MONUMENTS

CARE SHALL BE TAKEN BY THE CONTRACTOR TO SAFEGUARD ANY PROPERTY POINTS OR OTHER SURVEY REFERENCE MARKS ENCOUNTERED DURING CONSTRUCTION OF THIS PROJECT. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RESET ANY PROPERTY POINT OR SURVEY MONUMENT WHICH IS DISTURBED AS A RESULT OF CONSTRUCTION OF THIS PROJECT. THE PROPERTY POINTS AND SURVEY MONUMENTS SHALL BE RESET UNDER THE SUPERVISION OF A REGISTERED PROFESSIONAL SURVEYOR.

PAYMENT FOR THIS ITEM SHALL BE INCIDENTAL TO THE OTHER ITEMS PAID FOR IN THIS PROJECT.

DEWATERING, COFFERDAMS, AND BY-PASS PUMPING

ANY DEWATERING, COFFERDAMS, OR PUMPING NECESSARY FOR THE CONSTRUCTION OF ANY ITEMS SHALL BE INCIDENTAL TO THESE PARTICULAR CONSTRUCTION ITEMS. NO ADDITIONAL PAYMENT WILL BE ALLOWED.

NON-RUBBER TIRE VEHICLES

NON-RUBBER TIRE VEHICLES SHALL BE MOVED ON CITY STREETS. EXCEPTIONS MAY BE GRANTED BY THE CITY WHERE SHORT DISTANCES AND SPECIAL CIRCUMSTANCES ARE INVOLVED. GRANTING OF EXCEPTIONS MUST BE IN WRITING AND ANY RESULTING DAMAGE MUST BE REPAIRED TO THE SATISFACTION OF THE CITY. THE CONTRACTOR SHALL USE EXTREME CARE WHEN OPERATING NON-RUBBER TIRE VEHICLES ON STREETS OR DRIVEWAYS TO AVOID MARKING OR DAMAGING THE PAVEMENT. PROTECTION OF THE PAVEMENT FROM DAMAGE RESULTING FROM THE TRACKS OF NON-RUBBER TIRE VEHICLES UTILIZED IN TRENCH EXCAVATION SHALL BE REQUIRED. A WOOD PLANK SYSTEM, USED WITH RUBBER MATS, OR OTHER MEANS AS APPROVED BY THE CITY'S REPRESENTATIVE SHALL BE USED TO PROTECT THE PAVEMENT. THE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE VARIOUS ITEMS OF THE CONTRACT.

CONSTRUCTION NOISE

IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, ANY POWER-OPERATED CONSTRUCTION-TYPE DEVICES SHALL NOT BE OPERATED BETWEEN THE HOURS SPECIFIED IN THE CITY NOISE ORDINANCE. IF THERE IS NO NOISE ORDINANCE IN PLACE, POWER-OPERATED CONSTRUCTION-TYPE DEVICES SHALL NOT BE OPERATED BETWEEN THE HOURS OF 7:00 PM TO 7:00AM.

RIGHT-OF-WAY

RIGHT-OF-WAY LINES AND ADJACENT PROPERTY LINES SHOWN HEREIN ARE BASED ON COUNTY GIS LINES AND OTHER READILY-AVAILABLE INFORMATION FROM THE COUNTY. NO BOUNDARY RESOLUTION WAS COMPLETED FOR THIS PROJECT.

CAD FILE DISCLAIMER

THE CAD FILE ASSOCIATED WITH THESE CONSTRUCTION PLANS IS A NON-CERTIFIED DOCUMENT. ANY USE OF THE INFORMATION OBTAINED OR DERIVED FROM THE ASSOCIATED CAD FILE WILL BE AT THE RECEIVING PARTY/USER'S RISK. CHOICE ONE ENGINEERING CORP. OFFERS NO WARRANTY AS TO THE ACCURACY OF THE INFORMATION IN THE CAD FILE OR THAT REVISIONS HAVE BEEN ISSUED AFTER THE CAD DRAWING WAS RELEASED. RECEIVING PARTIES/USERS SHALL HOLD HARMLESS TO THE MAXIMUM EXTENT ALLOWED BY LAW CHOICE ONE ENGINEERING CORP. FROM ANY USE OF THE CAD FILE BY THE RECEIVING PARTY/USER. IN ALL CIRCUMSTANCES, AND AT ALL TIMES, THE PUBLISHED PAPER AND/OR PDF DRAWINGS FOR THE PROJECT SHALL SUPERSEDE THE CAD FILES. IN THE CASE OF AN INCONSISTENCY BETWEEN THE PUBLISHED PAPER/PDF DRAWINGS AND THE ASSOCIATED CAD FILE, THE PUBLISHED PAPER/PDF DRAWINGS SHALL GOVERN THE PROJECT AND ALL WORK.

FINALIZED AT STAGE 2

HAUL ROADS

WHEN PICKING A DUMP SITE, CONTRACTOR IS TO TAKE INTO CONSIDERATION THE HAUL ROAD ROUTE AND ANY NECESSARY ROADWAY REPAIR CAUSED BY HAULING TO THE DUMP SITE.

PRIOR TO HAULING EQUIPMENT OR MATERIALS, THE CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO THE CITY OF THE SPECIFIC ROADS OR STREETS ON THE HAUL ROUTE. IF THE HAUL ROUTE INCLUDES ROADS AND STREETS THAT ARE NOT UNDER THE JURISDICTION AND CONTROL OF THE CITY OR OF THE STATE, THE CONTRACTOR MUST USE LOCAL ROADS AND STREETS THAT ARE NOT RESTRICTED BY LOCAL AUTHORITIES. IF IT IS DETERMINED BY THE CITY THAT THE HAUL ROADS USED TO HAUL EQUIPMENT AND MATERIALS TO THE DUMP SITE WERE DAMAGED FROM THIS OPERATION, THE CITY WILL ORDER THE CONTRACTOR TO PERFORM IMMEDIATE AND PRACTICAL REPAIRS TO ENSURE REASONABLY NORMAL TRAVELING CONDITIONS AND BRING PAVEMENT CONDITIONS BACK TO CONDITIONS EQUAL OR BETTER THAN PRE-OPERATION CONDITIONS AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL TAKE ALL THIS INTO CONSIDERATION WHEN PICKING A DUMP SITE.

THE CONTRACTOR SHALL NOT FILE A CLAIM FOR DELAYS OR OTHER IMPACTS TO THE WORK CAUSED BY DISPUTE WITH THE LOCAL AUTHORITIES REGARDING THE USE OF LOCAL ROADS OR STREETS AS HAUL ROADS. THE CONTRACTOR SHALL SAVE THE CITY AND THE STATE HARMLESS FOR ANY CLOSURES OR HAULING RESTRICTION OUTSIDE THE PROJECT LIMITS BEYOND THE CONTROL OF THE CITY OR ODOT.

DROP OFF IN WORK ZONES

THE BASE WIDENING SHALL BE COMPLETED TO A DEPTH OF NO MORE THAN 3" BELOW THE EXISTING PAVEMENT BY THE END OF EACH WORK DAY. CONTRACTOR SHALL HAVE ONSITE STEEL PLATES FOR MAINTENANCE OF TRAFFIC AS DEEMED NECESSARY BY THE CITY IF THE 3" TOLERANCE IS NOT MET. CONTRACTOR SHALL ALSO PROVIDE ANY DRIVEWAY RAMPING NEEDED DURING PAVEMENT REMOVAL.

GRAFFITI AND VANDALISM

THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF ANY CONCRETE WORK OR OTHER PAY ITEM UNDER THIS CONTRACT WHICH IS DAMAGED OR DESTROYED BY THE CITY DUE TO GRAFFITI OR VANDALISM DAMAGE.

CONTROL OF SPILLS

BEST CONSTRUCTION PRACTICES ARE TO BE IMPLEMENTED TO MINIMIZE WATER QUALITY IMPACTS. IDLE EQUIPMENT, PETROCHEMICALS, AND TOXIC/HAZARDOUS MATERIALS SHALL NOT BE STORED NEAR DRAINAGE WAYS, DITCHES, OR STREAMS. REFUELING SHALL NOT BE UNDERTAKEN NEAR DRAINAGE WAYS, DITCHES, OR STREAMS. A SPILL CONTAINMENT KIT IS TO BE MAINTAINED ONSITE THROUGHOUT CONSTRUCTION ACTIVITIES. SPILLS OF FUELS, OILS, CHEMICALS, OR OTHER MATERIALS WHICH COULD POSE A THREAT TO GROUNDWATER SHALL BE CLEANED UP IMMEDIATELY. IF THE SPILL IS A REPORTABLE AMOUNT, THE LOCAL FIRE DEPARTMENT IS TO BE CONTACTED.

WORK LIMITS

ALL WORK SHALL BE WITHIN EXISTING OR PROPOSED RIGHT-OF-WAY AND/OR CONSTRUCTION LIMITS UNLESS OTHERWISE INSTRUCTED BY THE CITY.

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL AND TEMPORARY TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

TESTING AND CERTIFICATION

PROVIDE TESTING OF AND CERTIFICATION THAT MATERIAL SUPPLIED FOR THIS PROJECT MEETS THE PROJECT SPECIFICATIONS, IF REQUIRED.

POTENTIAL ITEMS FOR TESTING CONSIST OF TRENCH BACKFILL, EMBANKMENT, AND CONCRETE, WHICH MAY BE PERFORMED BY THE CITY IF THEY SUSPECT DEFECTIVE WORK OR MATERIALS.

PAYMENT FOR CERTIFICATION OF WORK SHALL BE INCIDENTAL TO THE VARIOUS ITEMS IT IS RELATED TO AND SHALL INCLUDE ALL COST RELATED TO PROVIDING THE CERTIFICATION. COST OF ANY TESTING BY A TESTING LAB CONTRACTED BY THE CITY SHALL BE BORNE BY THE CITY, UNLESS THE TEST DOES NOT MEET PROJECT SPECIFICATIONS OR WORK IS FOUND TO BE DEFECTIVE, AT WHICH POINT, THE CONTRACTOR SHALL PAY THE EXPENSES FOR TESTING.

ITEM 201 CLEARING AND GRUBBING, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF THE WORK AS DESCRIBED IN OHIO DEPARTMENT OF TRANSPORTATION ITEM 201 CLEARING AND GRUBBING, EXCEPT AS HEREIN MODIFIED.

THIS WORK SHALL CONSIST OF REMOVING AND TRIMMING TREES, REMOVING STUMPS, TRIMMING AND/OR REMOVING BUSHES, REMOVING LANDSCAPE TIMBERS, ETC., AS NOTED ON THE PLANS. WORK SHALL BE COORDINATED WITH THE INDIVIDUAL PROPERTY OWNERS TO ENHANCE MAXIMUM POSSIBLE SATISFACTION.

ALL TREES REMOVED SHALL BE CUT INTO 2' LENGTHS AND SPLIT IF NECESSARY TO ALLOW THE PIECES TO BE MOVED BY HAND. PIECES SHALL BE STACKED BEYOND THE RIGHT-OF-WAY LINE AND LEFT FOR THE RESPECTIVE PROPERTY OWNERS. IF THE PROPERTY OWNER REFUSES TO ACCEPT THE WOOD, THE CONTRACTOR SHALL DISPOSE OF THE WOOD AS DIRECTED BY THE CITY.

PAYMENT FOR ITEM 201 CLEARING AND GRUBBING, AS PER PLAN, FOR ALL OPERATIONS DESCRIBED ABOVE, SHALL BE AT THE CONTRACT LUMP SUM BID PRICE EXCEPT FOR ITEMS PAID FOR AS EACH, AND SHALL INCLUDE ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

ITEM 202 REMOVED, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF THE WORK AS DESCRIBED IN OHIO DEPARTMENT OF TRANSPORTATION ITEM 202 REMOVAL OF STRUCTURES AND OBSTRUCTIONS, EXCEPT AS HEREIN MODIFIED.

ITEM 202 REMOVED, AS PER PLAN, CONSISTS OF ALL ITEMS THAT DO NOT HAVE AN INDIVIDUAL REMOVAL BID ITEM, AS NECESSARY FOR THE CONSTRUCTION OF THE PROJECT, INCLUDING TRENCH BACKFILL.

THE FOLLOWING ODOT 202 ITEMS (PIPE REMOVED, MANHOLE AND CATCH BASIN, ETC.) REMOVED SHALL REFER TO ANY PIPE OR STRUCTURE THAT IS TO BE REMOVED OUTSIDE THE LIMITS OF ANY PROPOSED CONDUIT AND/OR STRUCTURE TRENCH AND SHALL BE PAID FOR UNDER EACH OF THOSE INDIVIDUAL REMOVED LINE ITEMS. ALL EXISTING PIPE, MANHOLE, CATCH BASIN AND STRUCTURE CONSTRUCTION TO TRENCH LIMITS OF ANY PROPOSED CONDUIT AND/OR STRUCTURE SHALL BE REMOVED FOR THE PROPER INSTALLATION OF THAT ITEM AND ANY ASSOCIATED REMOVAL COSTS SHALL BE INCLUDED IN THE COST OF THAT PROPOSED CONDUIT OR STRUCTURE ITEM. THE TRENCH LIMITS SHALL BE BASED ON THE TRENCH DETAIL SHOWN IN THE CONSTRUCTION PLANS.

ANY ITEM THAT IS REMOVED UNDER OR WITHIN 5' OF PROPOSED CURB, PAVEMENT, SIDEWALK, OR DRIVEWAY SHALL BE BACKFILLED AND COMPACTED USING ONLY ODOT ITEM 703.11 STRUCTURAL BACKFILL TYPE 1 OR 2 STRUCTURAL MATERIAL.

THE CONTRACTOR SHALL SAWCUT ALL EXISTING PAVEMENT, SIDEWALK AND CURB AGAINST WHICH ALL IMPROVEMENTS ARE PROPOSED. PAVEMENT, WALK, AND CURB SHALL BE SAWCUT IN NEAT, STRAIGHT LINES. SAWCUT PAVEMENT JOINTS SHALL BE INCLUDED IN THE PAYMENT OF THIS ITEM. MORE THAN ONE SAWCUT MAY BE NECESSARY TO ENSURE A CLEAN CUT ON THE VERTICAL FACE OF SAWCUT JOINTS PRIOR TO PAVING AS PER 401.06. AFTER THE ASPHALT WORK IS COMPLETED, THE TRANSVERSE JOINTS SHALL BE SEALED WITH LIQUID ASPHALT, PER 401.04, 409.02 AND 409.03.

ANY PRIVATE PROPERTY WITHIN THE ROAD RIGHT-OF-WAY OR PROJECT CONSTRUCTION LIMITS SHALL BE REMOVED CAREFULLY AND STORED FOR THE PROPERTY OWNER AT A PLACE DESIGNATED BY THE PROPERTY OWNER ON THAT PARTICULAR PROPERTY. ANY SALVAGED PUBLIC ITEMS SHALL REMAIN CITY PROPERTY AND SHALL BE CAREFULLY REMOVED BY THE CONTRACTOR AND STORED AT A DESIGNATED LOCATION ON THE PROJECT SITE FOR CITY PICKUP.

PAYMENT FOR ITEM 202 REMOVED, AS PER PLAN, FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE AT THE CONTRACT LUMP SUM BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

ITEM 517 - HANDRAILING, AS PER PLAN, (BLACK ALUMINUM)

THIS ITEM OF WORK SHALL CONSIST OF THE WORK AS DESCRIBED IN OHIO DEPARTMENT OF TRANSPORTATION ITEM 517 RAILINGS, EXCEPT AS HEREIN MODIFIED.

HANDRAIL SHALL BE BLACK NON-WELDED ALUMINUM PIPE MEETING THE REQUIREMENTS OF THE SPECIFICATIONS FOR 2 RAIL ALUMINUM-ALLOY PIPE ASTM B 241, 6063 T6 ASA, SCHEDULE NUMBER 40. HANDRAIL AND ALL HARDWARE NEEDED FOR INSTALLATION AND MOUNTING SHALL BE INCLUDED.

ALL POST AND RAILS SHALL BE FORMED FROM EXTRUDED 6063-T6 ALUMINUM OF 1-1/2 SCHEDULE 40 PIPE SIZE (1.9 IN. OUTSIDE DIAMETER) EXCEPT WHERE THERE ARE FORMED BENDS WHEREBY, 6063-T4 IS USED. ALL FASTENERS USED IN THE SYSTEM SHALL BE STAINLESS STEEL. RAILING TO BE 36" HIGH - 2 LINE. COLOR SHALL BE APPROVED BY VILLAGE PRIOR TO CONSTRUCTION START. ALL POST MUST HAVE A 0-1/4" DIAMETER WEEP HOLE LOCATED JUST ABOVE THE MOUNTING SURFACE AND ALONG THE PLAN OF THE RAIL. WEEP HOLES WILL NEED TO BE DRILLED AFTER RAILS HAVE BEEN INSTALLED.

SPECIAL NOTE THAT THE TOP OR BOTTOM RAIL MAY NEED TO BE ADJUSTED TO COMPENSATE FOR THE DEFLECTION POINTS IN THE RAILING. THIS WILL ELIMINATE A GAP IN THE RAILING AT EACH POST PER THE MANUFACTURER'S RECOMMENDATION. THIS SHOULD BE ADDRESSED AT SHOP DRAWING SUBMITTAL AND WITH NECESSARY FIELD ADJUSTMENTS.

PAYMENT FOR ITEM 517 HAND RAILING, AS PER PLAN, (BLACK ALUMINUM), FOR ALL OPERATIONS DESCRIBED ABOVE, SHALL BE AT THE CONTRACT BID PRICE AND SHALL INCLUDE ALL MATERIAL, LABOR, AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

ITEM 630 SIGNING, S.C.: SOLAR POWERED RECTANGULAR RAPID FLASHING BEACON (RRFB) SIGN ASSEMBLY

THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING A SOLAR POWERED RECTANGULAR RAPID FLASHING BEACON (RRFB) SIGN ASSEMBLY. THE FLASHING UNIT SHALL BE SOLAR POWERED, PEDAL ACTIVATED, AND HAVE TWO LED ARRAY BASED YELLOW INDICATIONS ON EACH SIDE. MULTIPLE UNITS SHALL BE WIRELESSLY CONTROLLED AND SYNCHRONIZED. THE UNIT SHALL BE COMPLIANT WITH THE MOST CURRENT ODOT MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND SHALL BE IAWA INTERIM APPROVAL FOR RRFBs (IAT 21).

GENERAL REQUIREMENTS:

1. EACH RRFB SHALL CONSIST OF TWO RAPIDLY FLASHED RECTANGULAR-SHAPED YELLOW INDICATIONS HAVING LED ARRAY BASED LIGHT SOURCE.
2. EACH RRFB SHALL BE A COMPLETE ASSEMBLY, CONSISTING OF BUT NOT LIMITED TO, SIGNAGE, SIGN MOUNTING HARDWARE, INDICATIONS AND ELECTRICAL COMPONENTS (WIRING, SOLID-STATE CIRCUIT BOARDS, ETC.).
3. EACH RRFB SHALL CONTAIN A PEDESTRIAN INDICATION LIGHT VISIBLE BY THE PEDESTRIAN IN THE DIRECTION OF TRAVEL.

FUNCTIONAL REQUIREMENTS:

1. EACH RRFB SHALL UTILIZE SOLAR POWER.
2. EACH RRFB SHALL BE ACTIVATED BY ADA COMPLIANT PUSHBUTTONS.
3. THE RRFB SHALL BE NORMALLY DARK, SHALL INITIATE OPERATION ONLY UPON PEDESTRIAN ACTUATION, AND SHALL CEASE OPERATION AFTER A PREDETERMINED TIME LIMIT (BASED ON OMUTCD PROCEDURES).
4. EACH REMOTE RRFB SHALL BE WIRELESSLY ACTIVATED.
5. ALL RRFB LIGHT INDICATIONS SHALL BE WIRELESSLY SYNCHRONIZED (ALL LIGHTS WILL TURN ON WITHIN 120 MSEC AND REMAIN SYNCHRONIZED THROUGHOUT THE DURATION OF THE FLASHING CYCLE).
5. THE UNIT SHALL BE CAPABLE OF RUNNING 14 DAYS WITHOUT SUNLIGHT.

MATERIALS:

FURNISH A COMPLETE ASSEMBLY, CONSISTING OF BUT NOT LIMITED TO, SIGNAGE, SIGN MOUNTING HARDWARE, INDICATIONS, AND ELECTRICAL COMPONENTS (WIRING, SOLID-STATE CIRCUIT BOARDS, ETC.). THE RRFB ASSEMBLY INCLUDES THE FOLLOWING ITEMS:

(CONTINUED)

1. RRFB INDICATIONS
 - a. EACH RRFB INDICATION LENS SHALL BE A MINIMUM SIZE OF APPROXIMATELY 5" WIDE X 2" HIGH.
 - b. THE RRFB INDICATIONS SHALL BE ALIGNED HORIZONTALLY, WITH THE LONGER DIMENSION OF THE INDICATION HORIZONTAL. THERE SHALL BE TWO INDICATIONS ON THE FRONT AND TWO INDICATIONS ON THE BACK.
 - c. EACH RRFB SHALL BE SUPPLIED WITH ALL REQUIRED HARDWARE TO INSTALL ASSEMBLY. ALL EXPOSED HARDWARE SHALL BE ANTI-VANDAL.
 - d. EACH RRFB SHALL BE LOCATED BETWEEN THE BOTTOM OF THE CROSSING WARNING SIGN AND THE TOP OF THE SUPPLEMENTAL DOWNWARD DIAGONAL ARROW PLAQUE.
 - e. THE LIGHT INTENSITY OF THE YELLOW INDICATIONS SHALL MEET THE MINIMUM CLASS 1 SPECIFICATIONS OF SOCIETY OF AUTOMOTIVE ENGINEERS (SAE) STANDARD J595 (DIRECTIONAL FLASHING OPTICAL WARNING DEVICES FOR AUTHORIZED EMERGENCY, MAINTENANCE, AND SERVICE VEHICLES) DATED JANUARY, 2005.
 - f. TO MINIMIZE EXCESSIVE GLARE DURING NIGHTTIME CONDITIONS, AN AUTOMATIC SIGNAL DIMMING DEVICE SHALL BE USED TO REDUCE THE BRILLIANCE OF THE RRFB INDICATIONS.
 - g. AN LED PEDESTRIAN CONFIRMATION LIGHT DIRECTED AT AND VISIBLE TO PEDESTRIANS IN THE CROSSWALK SHALL BE INSTALLED INTEGRAL TO THE RRFB OR PUSHBUTTON TO GIVE CONFIRMATION THAT THE RRFB IS IN OPERATION.


THE PEDESTRIAN CONFIRMATION LIGHT SHALL HAVE A MINIMUM AREA OF 0.5 SQUARE INCHES AND BE CONSPICUOUS TO PEDESTRIANS AT ALL DISTANCES FROM THE BEGINNING OF THE CONTROLLED CROSSWALK TO A POINT 10 FEET FROM THE END OF THE CONTROLLED CROSSWALK DURING BOTH DAY AND NIGHT.

2. SIGNS

- a. ALL SIGN ASSEMBLIES SHALL USE ANTI-VANDAL FASTENERS TO MOUNT COMPONENTS TO SIGN AND SIGN TO FIXTURE.
- b. PEDESTRIAN PUSHBUTTONS SIGNS SHALL BE PROVIDED AND THE LEGEND PUSH BUTTON TO TURN ON WARNING LIGHTS. SIGNS SHOULD BE MOUNTED ADJACENT TO OR INTEGRAL WITH EACH PEDESTRIAN PUSHBUTTON.
- c. TWO SETS OF SIGNS SHALL BE REQUIRED PER UNIT FOR EACH APPROACH.
- d. SIGN MEETING REQUIREMENTS OF C&MS 630.

3. CONTROL CIRCUIT

- a. THE CONTROL CIRCUIT SHALL HAVE THE CAPABILITY OF INDEPENDENTLY FLASHING UP TO TWO INDEPENDENT OUTPUTS. THE LED LIGHT OUTPUTS AND FLASH PATTERN SHALL BE COMPLETELY PROGRAMMABLE.
- b. THE CONTROL CIRCUIT SHALL BE SEALED WATERTIGHT TO ELIMINATE DIRT CONTAMINATION AND ALLOW FOR SAFE HANDLING IN ALL WEATHER CONDITIONS.
- c. THE LEDS SHALL BE SEALED AGAINST DUST AND MOISTURE INTRUSION AS PER THE REQUIREMENTS OF NEMA STANDARD 250-1991 FOR TYPE 4 ENCLOSURE AND TO PROTECT ALL INTERNAL LED AND ELECTRICAL COMPONENTS.

DESIGN AGENCY

CHOICE ONE ENGINEERING
DESIGNER
NSS
REVIEWER
TAN 08-29-2025
PROJECT ID
121899
SHEET TOTAL
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ITEM 630 SIGNING, MISC.: SOLAR-POWERED RECTANGULAR RAPID FLASHING BEACON (RRFB) SIGN ASSEMBLY

(CONTINUED)

4. BATTERY AND SOLAR PANELS

- a. BATTERY UNIT SHALL BE A 12VDC, 35 AHR MINIMUM, SEALED GEL OR AGM LEAD ACID BATTERY. BATTERIES SHALL HAVE A WRITTEN TWO YEAR FULL REPLACEMENT WARRANTY.
- b. THE SOLAR PANEL SHALL PROVIDE A MINIMUM OF 40 WATTS PEAK TOTAL OUTPUT.
- c. THE SOLAR PANEL SHALL BE MOUNTED TO AN ALUMINUM PLATE AND BRACKET AT AN ANGLE OF 45 DEGREES- 60 DEGREES TO PROVIDE MAXIMUM OUTPUT.
- d. ALL FASTENERS USED SHALL BE ANTI-VANDAL.

5. WIRELESS RADIO

- a. RADIO CONTROL SHALL OPERATE ON A 900 MHZ FREQUENCY HOPPING SPREAD SPECTRUM NETWORK, WI-FI OR APPROVED EQUAL.
- b. RADIO SHALL INTEGRATE COMMUNICATION OF RRFB CONTROL CIRCUIT TO ACTIVATE SIGN FROM PUSHBUTTON INPUT.
- c. THE RADIO SHALL BE SYNCHRONIZED SO ALL OF THE REMOTE RRFB LIGHT INDICATIONS WILL TURN ON WITHIN 120 MSEC OF EACH OTHER AND REMAIN SYNCHRONIZED THROUGH-OUT THE DURATION OF THE FLASHING CYCLE.

6. PUSHBUTTON

- a. THE PUSHBUTTON SHALL BE CAPABLE OF CONTINUOUS OPERATION OVER A TEMPERATURE RANGE OF -30 DEGREES F TO +165 DEGREES F.
- b. PUSHBUTTON SHALL BE ADA COMPLIANT.

7. PEDESTAL SHAFT AND BASE - MOUNT ON A STANDARD 4.5-INCH OD ALUMINUM PEDESTAL POLE WITH BREAKAWAY BASE. A 14 FOOT POLE SHALL BE PROVIDED AND FIELD ADJUSTED OR CAPPED TO MAINTAIN THE PROPER SIGN MOUNTING HEIGHTS, UNLESS SPECIFIED OTHERWISE IN THE PLANS. POLE AND BASE MANUFACTURER SHALL BE LISTED ON ODOT'S QUALIFIED PRODUCTS LIST.

CONSTRUCTION:

THE RRFB SHALL BE ASSEMBLED AND CONSTRUCTED BY THE CONTRACTOR AS SHOWN AND SPECIFIED ON THE PLANS.

WARRANTY:

WARRANTY SHALL BE TWO YEARS FROM THE DATE OF FINAL ACCEPTANCE.

MEASUREMENT:

THE DEPARTMENT WILL MEASURE THE ITEM COMPLETE IN PLACE, INCLUDING ALL MATERIALS, TESTING, LABOR AND SOFTWARE FOR A FULLY FUNCTIONAL UNIT.

PAYMENT:

PAYMENT WILL BE AT THE CONTRACT UNIT PRICE PER EACH FOR ITEM 630 "SIGNING MISC.: SOLAR POWERED RECTANGULAR RAPID FLASHING BEACON (RRFB) SIGN ASSEMBLY".


GENERAL NOTES

FINALIZED AT STAGE 2

GENERAL NOTES

121899

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DESIGN AGENCY	
	
CHOICE ONE ENGINEERING	
DESIGNER	NSS
REVIEWER	
PROJECT ID	TAN08-29-2025
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SHEET	TOTAL
P.9	66

Remove, items addressed in spec and title sheet

ITEM 614 MAINTAINING TRAFFIC

IT IS THE INTENTION TO PERFORM THE REQUIRED WORK WITHIN THESE PLANS WITH THE LEAST INCONVENIENCE TO, AND THE MAXIMUM SAFETY OF, THE CONTRACTOR, LOCAL MERCHANTS, PEDESTRIAN TRAFFIC, AND THE TRAVELING PUBLIC.

REQUIREMENTS FOR MAINTAINING TRAFFIC AS SPECIFIED IN THE "OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" (CURRENT EDITION, LATEST REVISION, PERTINENT PROVISIONS OF THE "OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS" (INCLUDING SUPPLEMENTAL SPECIFICATIONS) AND APPLICABLE STANDARD CONSTRUCTION DRAWINGS SHALL APPLY TO THIS PROJECT IN ADDITION TO THE FOLLOWING NOTES.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING SAFE AND EFFECTIVE VEHICULAR TRAFFIC CONTROL 24 HOURS A DAY FOR THE DURATION OF THIS PROJECT. THIS WILL INCLUDE PROVIDING, PLACING, MAINTAINING, AND SUBSEQUENTLY REMOVING ALL NECESSARY TRAFFIC CONTROL MEASURES FOR ALL PROPOSED CONSTRUCTION OPERATIONS.

BEFORE THE WORK BEGINS, THE CONTRACTOR SHALL SUBMIT TO THE CITY THE NAME(S) AND TELEPHONE NUMBER(S) OF A PERSON OR PERSONS WHO CAN BE CONTACTED TWENTY-FOUR (24) HOURS A DAY BY THE CITY, OR ANY OTHER INTERESTED POLICE AGENCY.

THIS PERSON OR PERSONS SHALL BE RESPONSIBLE FOR REPAIRING AND/OR REPLACING ALL TRAFFIC CONTROL DEVICES NEEDED TO MAINTAIN THE SAFETY OF THE TRAVELING PAVEMENT FOR THE DURATION OF THIS PROJECT. THIS PERSON SHALL MAKE AVAILABLE ALL MATERIALS, EQUIPMENT, AND INCIDENTS NECESSARY TO PERFORM THE REQUIRED REPAIRS WITHIN A REASONABLE PERIOD OF TIME AS PER C.M.S. 614.14

THE CONTRACTOR SHALL ALSO SUBMIT A CONSTRUCTION SEQUENCING SCHEDULE PRIOR TO WORK BEGINNING FOR APPROVAL BY THE CITY. THE CONSTRUCTION SEQUENCING SCHEDULE SHALL TAKE INTO CONSIDERATION ALL ASPECTS OF THE PROJECT INCLUDING HOW LOCAL TRAFFIC TO THE BUSINESSES WILL BE MAINTAINED. THE CONSTRUCTION SEQUENCE WILL NEED TO BE APPROVED BY THE CITY PRIOR TO ANY COMMENCEMENT OF WORK.

ACCESS FOR PROPERTY OWNERS AND BUSINESS TRAFFIC SHALL BE MAINTAINED IN A UNIFORM PATTERN THROUGHOUT THE ENTIRE LENGTH OF THE PROJECT AND SHALL NOT BE SUBJECT TO CONSTANT LANE SHIFTS.

ACCESS TO AND FROM ALL LOCAL RESIDENTIAL AND BUSINESS DRIVES WITHIN THE LIMITS OF THIS PROJECT SHALL BE MAINTAINED AT ALL TIMES (24 HOURS A DAY) BY USING THE EXISTING PAVEMENT, TEMPORARY PAVEMENT, AND THE PROPOSED PAVEMENT UNLESS OTHERWISE DIRECTED BY THE ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEQUENCE HIS WORK TO HELP MINIMIZE THE NEED FOR TEMPORARY AGGREGATE PAVEMENT. TEMPORARY AGGREGATE PAVEMENT CAN BE ASPHALT GRINDINGS OR OTHER AGGREGATE APPROVED BY THE CITY. THE COST OF INSTALLATION, MATERIAL, AND REMOVAL OF THE TEMPORARY AGGREGATE PAVEMENT IS TO BE PART OF THE LUMP SUM BID FOR ITEM 614 MAINTAINING TRAFFIC.

WHERE MORE THAN ONE ACCESS TO A BUSINESS OR RESIDENCE EXISTS, ONLY ONE ACCESS NEEDS TO BE MAINTAINED AT A TIME DURING CONSTRUCTION. WHEN A BUSINESS OR RESIDENCE ONLY HAS ONE ACCESS DRIVE, ACCESS SHALL BE MAINTAINED AT ALL TIMES. IF THE PROJECT REQUIRES IMPROVEMENTS TO THIS ACCESS DRIVE, THE CONTRACTOR SHALL REPLACE HALF OF THE DRIVE AT ONE TIME TO ALLOW ACCESS AT ALL TIMES. THESE ACCESS OPTIONS ARE SUBJECT TO THE APPROVAL OF THE CITY.

ONCE THE ROADWAY IS CLOSED, IT WILL ONLY BE OPEN TO LOCAL TRAFFIC UNTIL THE PAVEMENT MARKINGS ARE PLACED ON THE NEW ROADWAY.

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN SIGNS AND SIGN SUPPORTS, AND CONSTRUCTION BARRELS AS DETAILED IN THE "OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES," AND TYPE III BARRICADES WITH THE SIGN R11-3-60 ("ROAD CLOSED, LOCAL TRAFFIC ONLY") OF THE TYPE AND LOCATION AS FOLLOWS:

XXXXXX

THE CONTRACTOR SHALL NOTIFY THE CITY 21 DAYS PRIOR TO THE START OF ANY DETOUR OR LANE RESTRICTIONS. THE CITY IS REQUIRED TO PROVIDE A 14 DAY NOTIFICATION PRIOR TO THE START OF DETOUR/LANE RESTRICTIONS TO ODOT, LOCAL SCHOOLS, AND EMERGENCY SERVICES. THIS DETOUR/LANE RESTRICTION COMMUNICATION MUST STATE THE DATE OF CLOSURE AND LENGTH OF CLOSURE.

ANY DAMAGE TO MAINTENANCE OF TRAFFIC EQUIPMENT SUCH AS SIGNS, BARRELS, ETC. SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

THE CONTRACTOR WILL BE REQUIRED TO PROVIDE, ERECT, MAINTAIN (IN PROPER POSITION, CLEAN AND LEGIBLE, AND IN GOOD WORKING CONDITION), AND SUBSEQUENTLY REMOVE ALL LIGHTS, SIGNS, CONES, BARRICADES, EXISTING PAVEMENT MARKINGS, AND ANY OTHER TRAFFIC CONTROL DEVICES NECESSARY FOR THE MAINTENANCE OF TRAFFIC.

THE CONTRACTOR SHALL ADJUST THE LOCATION AND PLACING OF ALL TRAFFIC CONTROL CHANGELING DEVICES AS DICTATED BY THE PROGRESS OF THE REQUIRED WORK AND ALLOW CONSTRUCTION ACCESS TO WORK AREAS WHILE MAINTAINING SAFE AND EFFECTIVE TRAFFIC CONTROL DURING ALL CONSTRUCTION OPERATIONS. THE ORIGINAL LOCATION, PLACEMENT, SPACING AND SUBSEQUENT RELOCATION OR REMOVAL OF ALL TRAFFIC CONTROL DEVICES SHALL BE SUBJECT TO THE CITY'S APPROVAL.

IT IS INTENDED THAT THE LOCAL TRAFFIC TO BE SUBJECTED TO ANY LANE CLOSURES UNLESS ACTIVE WORK IS BEING PERFORMED IN OR IMMEDIATELY ADJACENT TO THE CLOSED LANE. THE ROADWAY SHALL NOT BE RESTRICTED TO ONE LANE CLOSURE DURING PERIODS OF INTERRUPTED OR IRREGULAR WORK, NOR CLOSED SOLELY FOR THE CONVENIENCE OF THE CONTRACTOR. THE CITY SHALL MAKE THE FINAL DETERMINATION AS TO WHAT CONSTITUTES ACTIVE WORK AND WHETHER OR NOT THE LANE CLOSURE IS JUSTIFIED.

IF, IN THE OPINION OF THE CITY, A LANE CLOSURE IS NOT JUSTIFIED, THEY MAY ORDER ALL OR PART OF THE LANE CLOSURE REOPENED TO LOCAL TRAFFIC (UNLESS SUCH A CONDITION IS CORRECTED.)

THE CONTRACTOR SHALL PLACE AND MAINTAIN ADVANCE WARNING "ROAD WORK AHEAD" (W20-1) SIGNS AND "END ROAD WORK" (G20-2) SIGNS, PLACED AT EACH CROSSROAD IN THE PROJECT AREA, AS WELL AS OTHER NECESSARY MAINTENANCE OF TRAFFIC SIGNS.

THE CONTRACTOR SHALL NOTIFY THE CITY OF ANY INTENDED CHANGES TO ANY EXISTING OR TEMPORARY TRAFFIC CONTROL DEVICES AND SHALL OBTAIN THE CITY'S APPROVAL PRIOR TO MAKING THE CHANGES. THE CONTRACTOR SHALL ALSO NOTIFY THE CITY AND LOCAL NEWSPAPER FORTY-EIGHT (48) HOURS IN ADVANCE OF ANY INTENDED LANE CLOSURES.

MAINTENANCE OF TRAFFIC WILL BE PERFORMED IN PHASES DURING CONSTRUCTION OF THE PROPOSED PROJECT. ALL PHASES INVOLVE DETOURS. NOTICES OF THE DETOURS WILL BE POSTED IN THE LOCAL MEDIA PRIOR TO THE ROAD CLOSURES, AND EMERGENCY SERVICES WILL ALSO BE NOTIFIED. ACCESS FOR LOCAL TRAFFIC WILL BE PROVIDED AT ALL TIMES DURING THE ROAD CLOSURES. ACCESS FOR PROPERTY OWNERS AND BUSINESS TRAFFIC WILL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION OF THE PROJECT. AT LEAST ONE DRIVE WILL BE MAINTAINED FOR EACH RESIDENCE AND BUSINESS THROUGHOUT THE PROJECT AREA.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH C&MS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

Add appropriate TEM opening paragraph; see TEM 642-2 through 642-5.

Has the City been coordinated with regarding this proposed MOT scheme?

How long is the closure anticipated? Is directional closure or complete closure being used?

remove, addressed by spec.

remove, odot let

remove, required by scd.

remove, odot let

MAINTENANCE OF TRAFFIC NOTES AT STAGE 2

DESIGN AGENCY



CHOICE ONE ENGINEERING

DESIGNER

NSS

REVIEWER

TAN08-29-2025

PROJECT ID

121899

SHEET TOTAL

P.10 66

PROJECT DESCRIPTION:

THE PROJECT SCOPE INVOLVES THE CONSTRUCTION OF NEW SIDEWALK ON SR-48, BUTTERWORTH ROAD, AND OVERLOOK DRIVE FROM NORTH OF O'BANNON CREEK BRIDGE ON SR-48 TO DORSEY LANE LOCATED IN THE CITY OF LOVELAND, CLERMONT COUNTY AND WARREN COUNTY, OHIO. THE PROJECT LENGTH IS APPROXIMATELY 1.04 MILES.

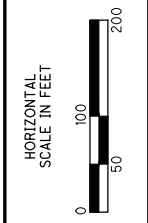
LATITUDE: 39° 16' 32" N LONGITUDE: 84° 14' 55" W

PROJECT DATA:

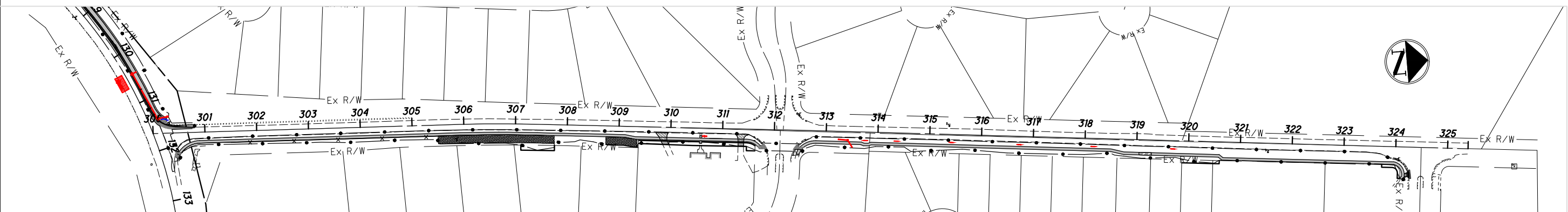
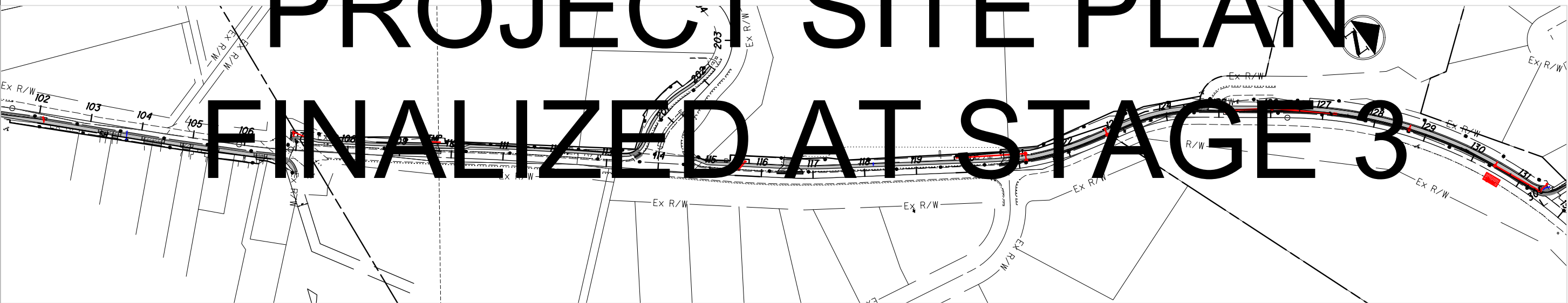
TOTAL PROJECT AREA = 2.94 ACRES
 PROJECT EARTH DISTURBED AREA = 2.06 ACRES
 ESTIMATED CONTRACTOR E.D.A. = 0.10 ACRES
 NOTICE OF INTENT E.D.A. = 2.16 ACRES
 IMPERVIOUS (PAVED) AREA FOR PRE-CONST. SITE = 1.67 ACRES
 IMPERVIOUS (PAVED) AREA FOR POST CONST. SITE = 1.74 ACRES
 RUNOFF COEFFICIENT FOR PRE-CONST. SITE = 0.79
 RUNOFF COEFFICIENT FOR POST CONST. SITE = 0.81
 POST CONSTRUCTION BMPs: ONE TYPE I MANUFACTURED WATER QUALITY STRUCTURE, TWO VEGETATED FILTER STRIP AREAS
 IMMEDIATE RECEIVING WATERS: CITY STORM SEWER
 SUBSEQUENT RECEIVING WATERS: TRIBUTARY TO O'BANNON CREEK

BMP TYPE	LAT. BEGIN	LONG. BEGIN	STA. BEGIN	LAT. END	LONG. END	STA. END	WIDTH	EDA CREDIT
MANUFACTURED SYSTEM #1	XX.XXXXX°	XX.XXXXX°	130+46	XX.XXXXX°	XX.XXXXX°	130+46	N/A	0.25 ACRES
VEGETATED FILTER STRIP #1	XX.XXXXX°	XX.XXXXX°	305+50	XX.XXXXX°	XX.XXXXX°	307+75	15 FEET	0.18 ACRES
VEGETATED FILTER STRIP #2	XX.XXXXX°	XX.XXXXX°	308+75	XX.XXXXX°	XX.XXXXX°	309+35	15 FEET	0.05 ACRES
TREATMENT PROVIDED								0.48 ACRES
TREATMENT REQUIRED*								0.48 ACRES


* CALCULATED PER L&D VOL. 2, SEC. 1115.7



PROJECT SITE PLAN FINALIZED AT STAGE 3



STATE ROUTE 48 AND BUTTERWORTH RD SIDEWALK
PROJECT SITE PLAN

DESIGN AGENCY

 CHOICE ONE ENGINEERING
 DESIGNER
 NSS
 REVIEWER
 TAN 08-29-2025
 PROJECT ID
 121899
 SHEET TOTAL
 P.11 66

121899

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There is a stream that runs along SR48 that needs to be identified and labeled properly on the plans. Show existing GR.



Constructions limits may need to extend to other side of SR48 for MOT purposes.

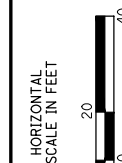
HATCH LEGEND (ALL PLAN SHEETS)

- FULL DEPTH PAVEMENT REPAIR
- RES. ASPHALT DRIVE
- RES. CONCRETE DRIVE
- COMM. CONCRETE DRIVE
- COMM. ASPHALT DRIVE
- PROPOSED CURB RAMP
- PROPOSED SIDEWALK
- PAVEMENT REMOVED AND SEEDED
- GRAVEL DRIVE

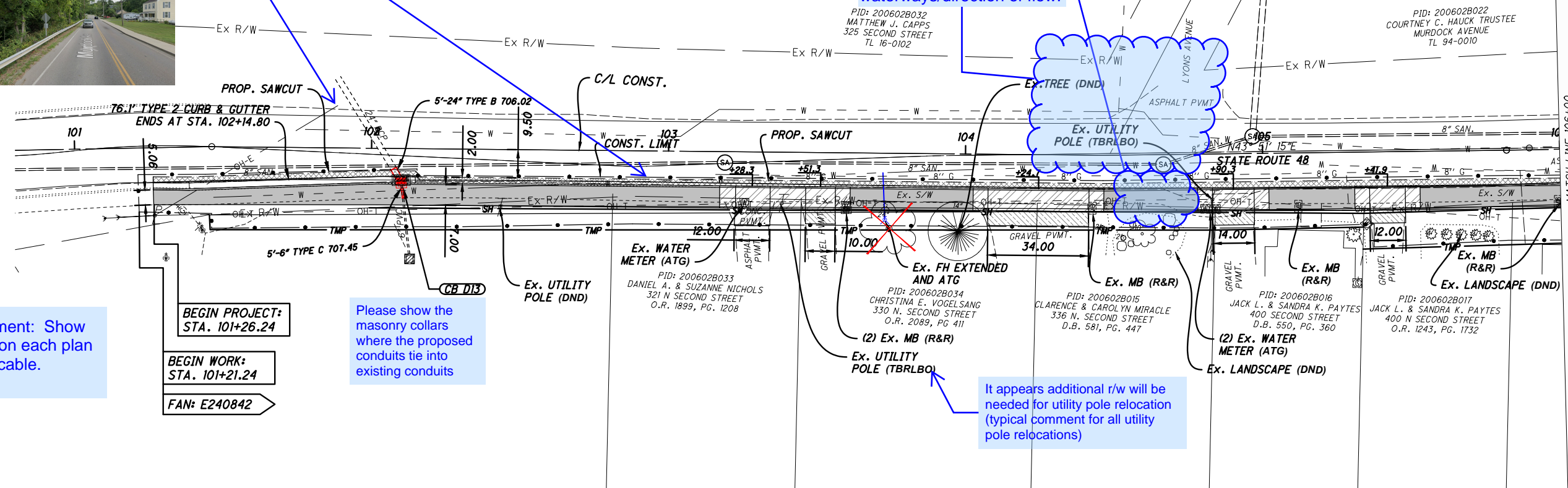
How will the utility pole be addressed?

Check the plans to verify it calls for existing sidewalk to be removed.

Include names and bearings of intersecting side streets. Show existing structures and waterways/direction of flow.



General Comment: Show all curve data on each plan sheet as applicable.



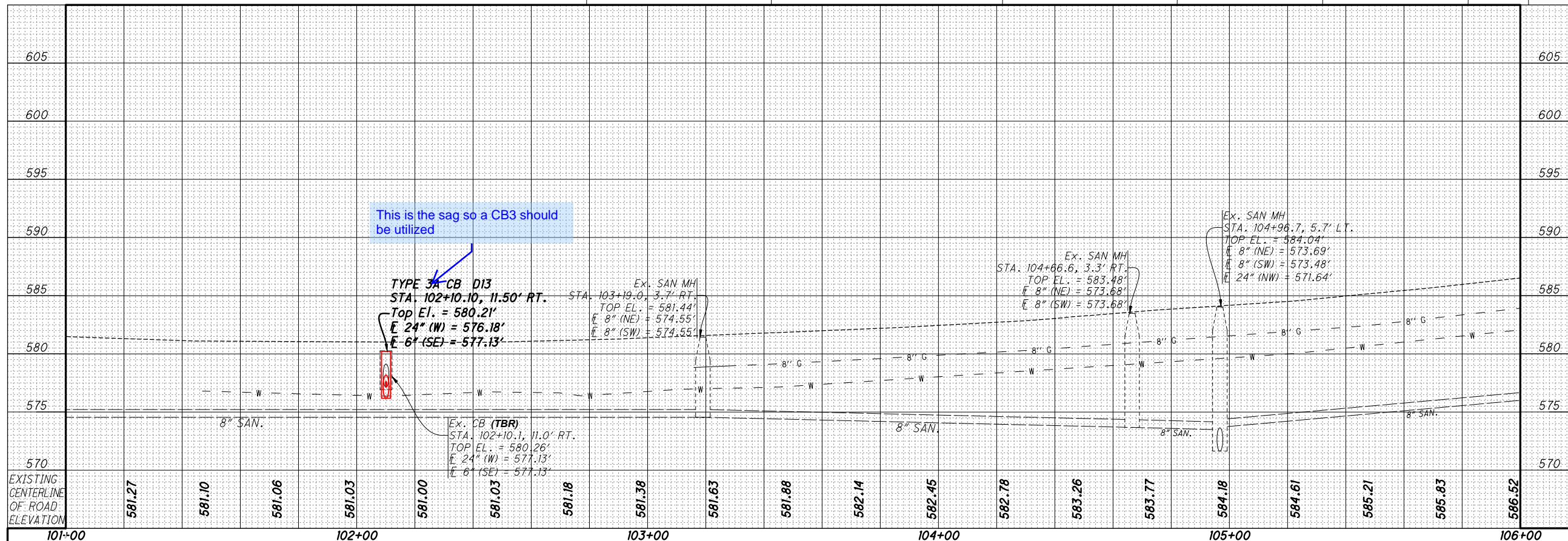
BEGIN PROJECT: STA. 101+26.24

BEGIN WORK: STA. 101+21.24

FAN: E240842

Please show the masonry collars where the proposed conduits tie into existing conduits

It appears additional r/w will be needed for utility pole relocation (typical comment for all utility pole relocations)



This is the sag so a CB3 should be utilized

PLAN AND PROFILE - STATE ROUTE 48
STA. 101+00 TO STA. 106+00

DESIGN AGENCY



CHOICE ONE ENGINEERING

DESIGNER

NSS

REVIEWER

TAN 08-29-2025

PROJECT ID

121899

SHEET TOTAL

P.12 66

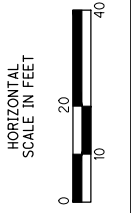
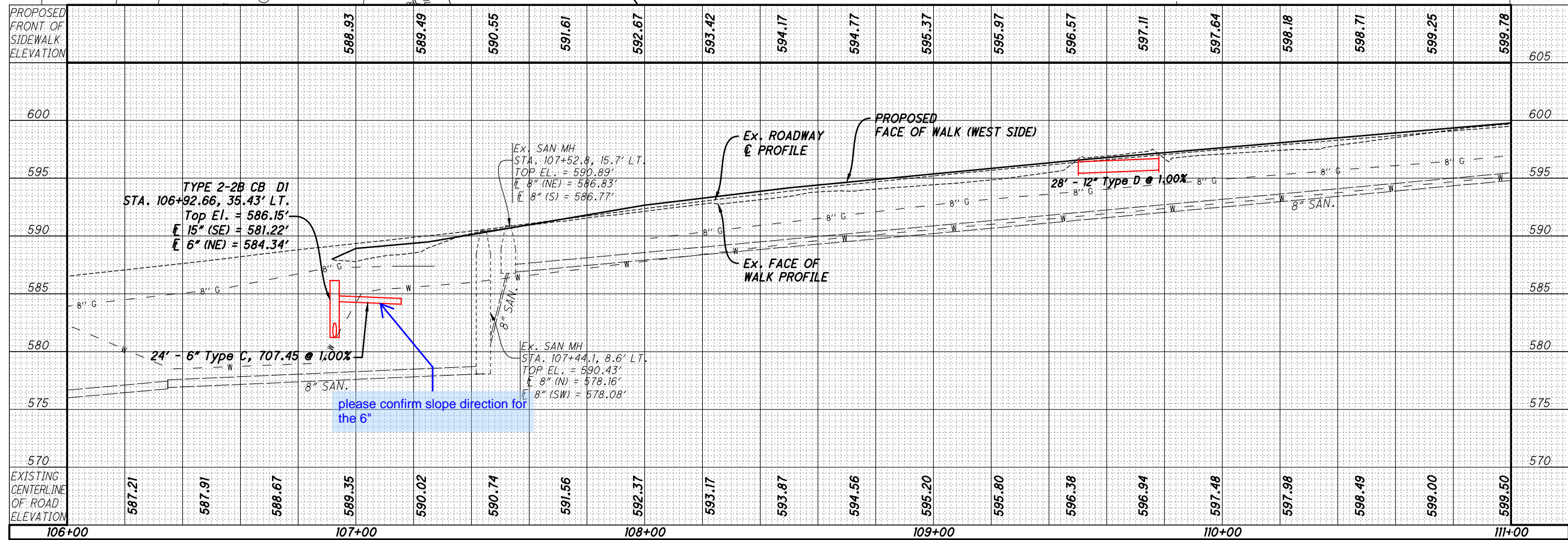
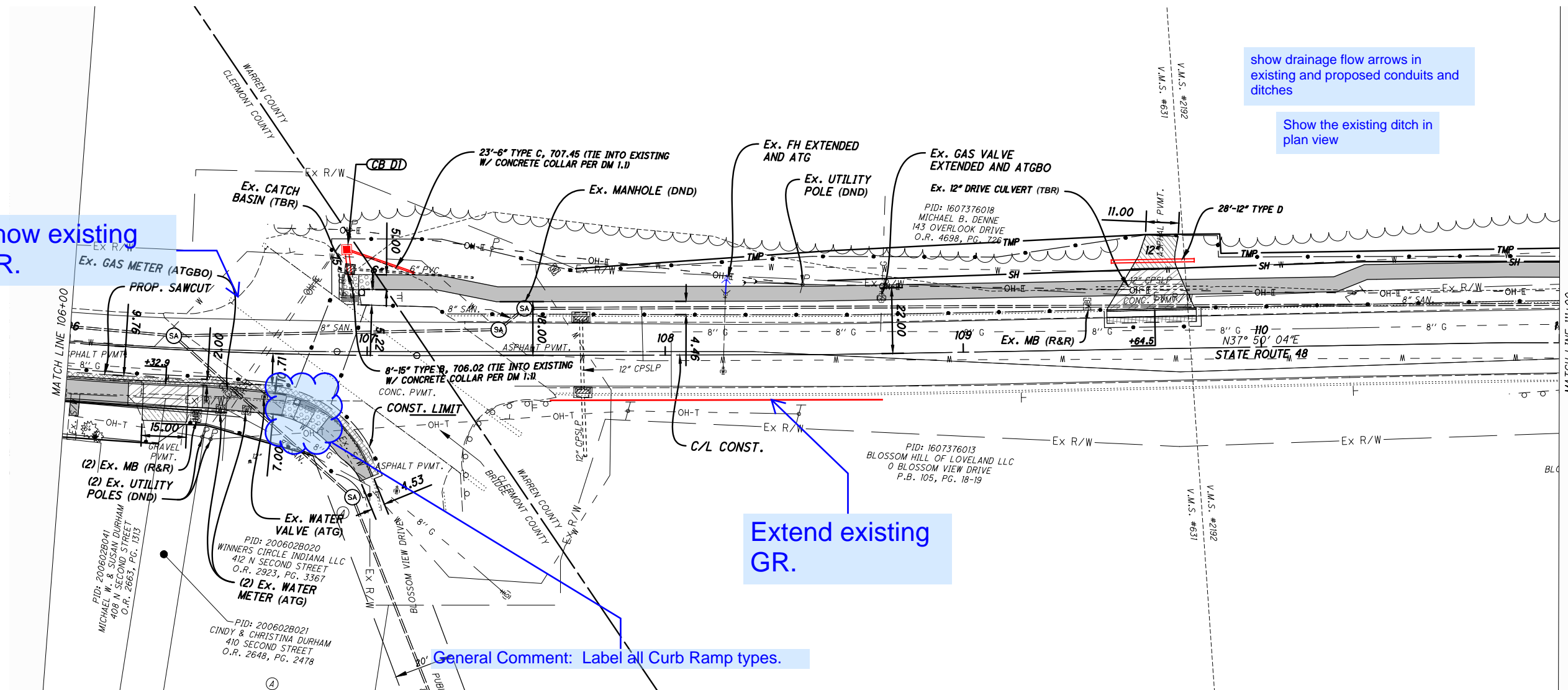
Show existing GR.

show drainage flow arrows in existing and proposed conduits and ditches

Show the existing ditch in plan view

Extend existing GR.

General Comment: Label all Curb Ramp types.



PLAN AND PROFILE - STATE ROUTE 48
STA. 106+00 TO STA. 111+00

DESIGN AGENCY
CHOICE ONE ENGINEERING

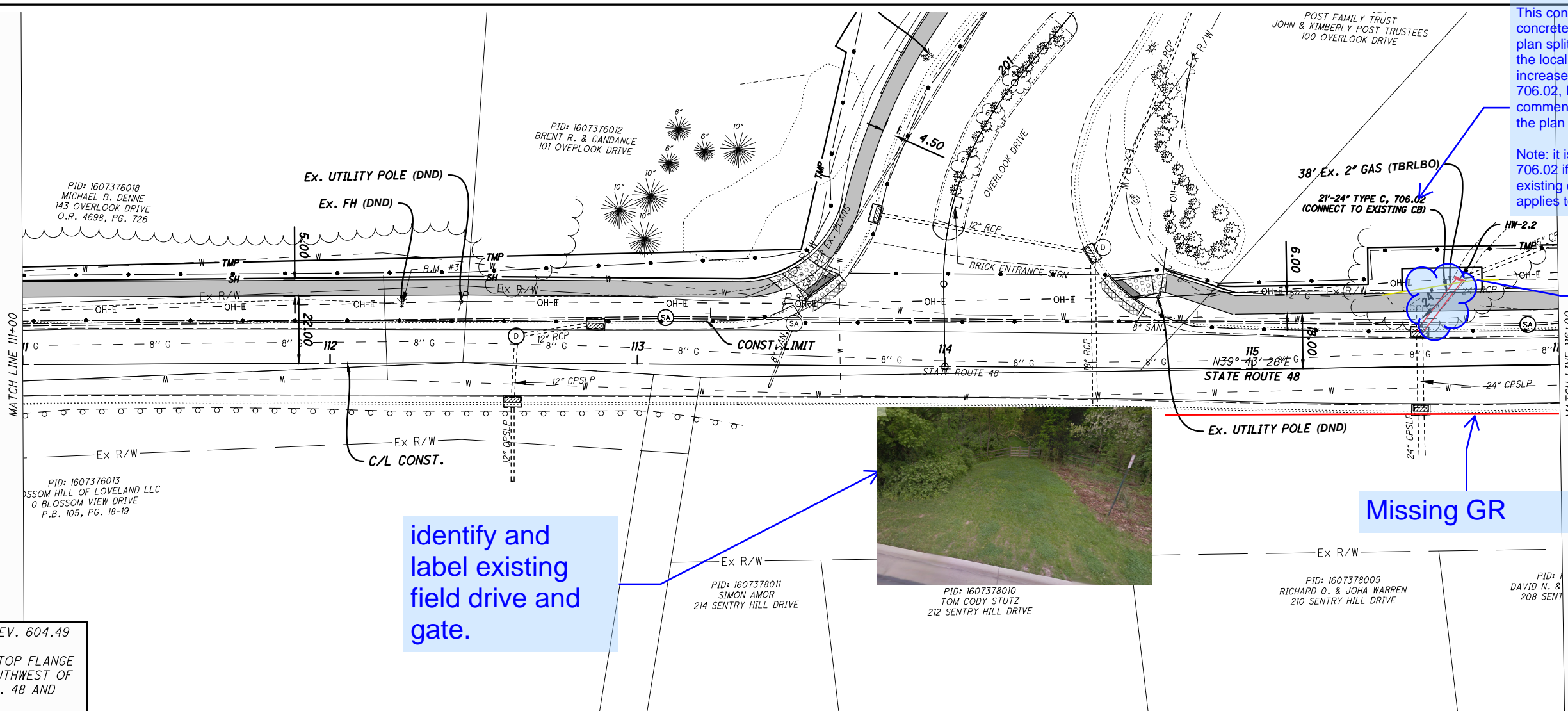
DESIGNER
NSS

REVIEWER
TAN 08-29-2025

PROJECT ID
121899

SHEET TOTAL
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BENCHMARK #3 ELEV. 604.49
PT #90002
BOLT AT TIP ARROW TOP FLANGE
OF FIRE HYDRANT SOUTHWEST OF
INTERSECTION OF S.R. 48 AND
OVERLOOK DR.



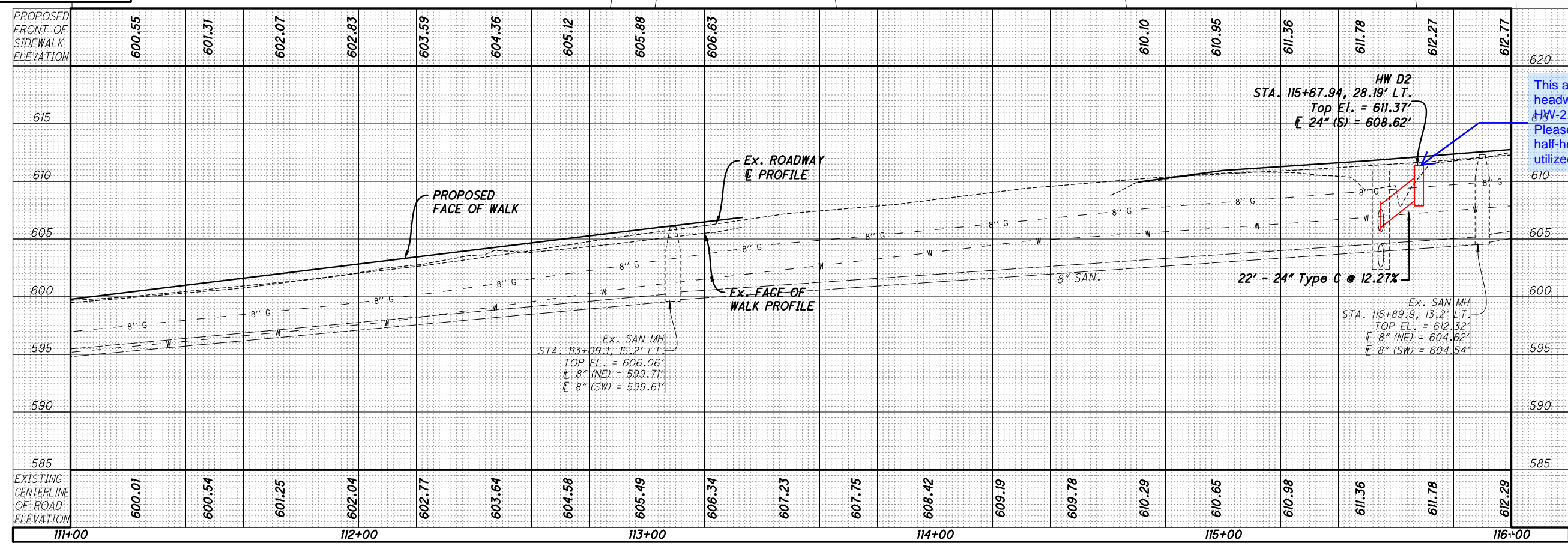
This conduit doesn't need to be concrete. If concrete is desired, plan splits will be required and the local will need to pay for the increase in cost. If you leave as 706.02, I will make additional comments at stage 3 to clarify the plan requirements if needed.

Note: it is acceptable to call out 706.02 if we are extending existing concrete pipes. This only applies to new pipe runs

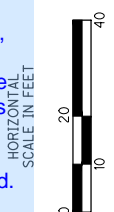
Confirm if waterline and gas line are in conflict with proposed pipe. If they are in conflict, will additional r/w be required?

Missing GR


identify and label existing field drive and gate.

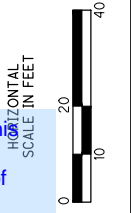
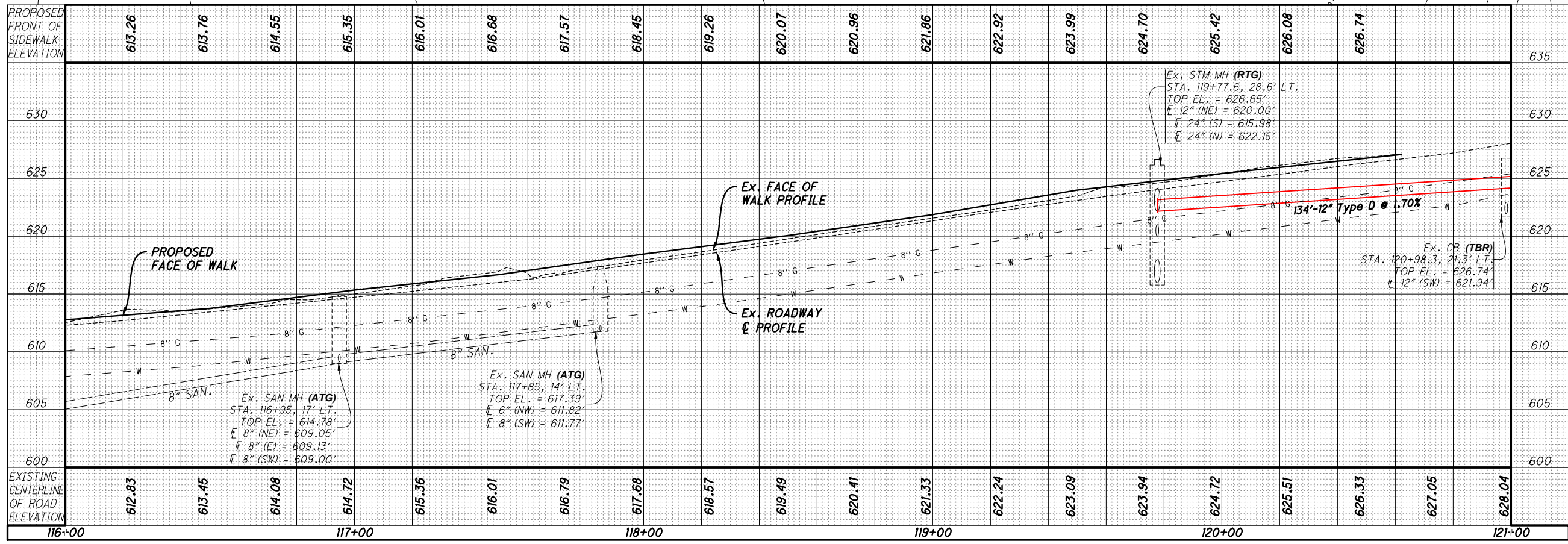
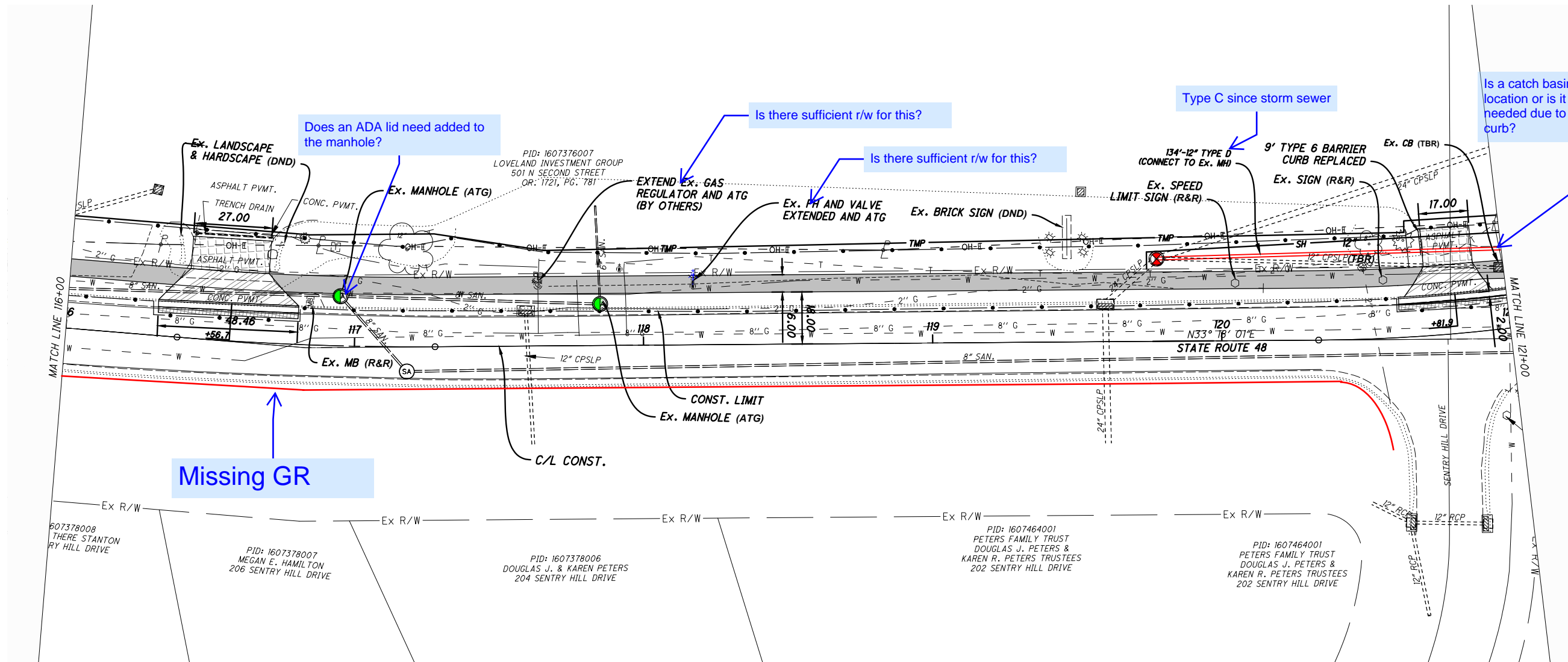


This appears to be a full height headwall, but the label is for HW-2.2 which is half-height. Please confirm. Normally, a half-height headwall would be utilized



PLAN AND PROFILE - STATE ROUTE 48
STA. 111+00 TO STA. 116+00

DESIGN AGENCY

CHOICE ONE ENGINEERING
DESIGNER
NSS
REVIEWER
TAN 08-29-2025
PROJECT ID
121899
SHEET TOTAL
P.14 66



PLAN AND PROFILE - STATE ROUTE 48
STA. 116+00 TO STA. 121+00

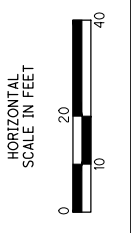
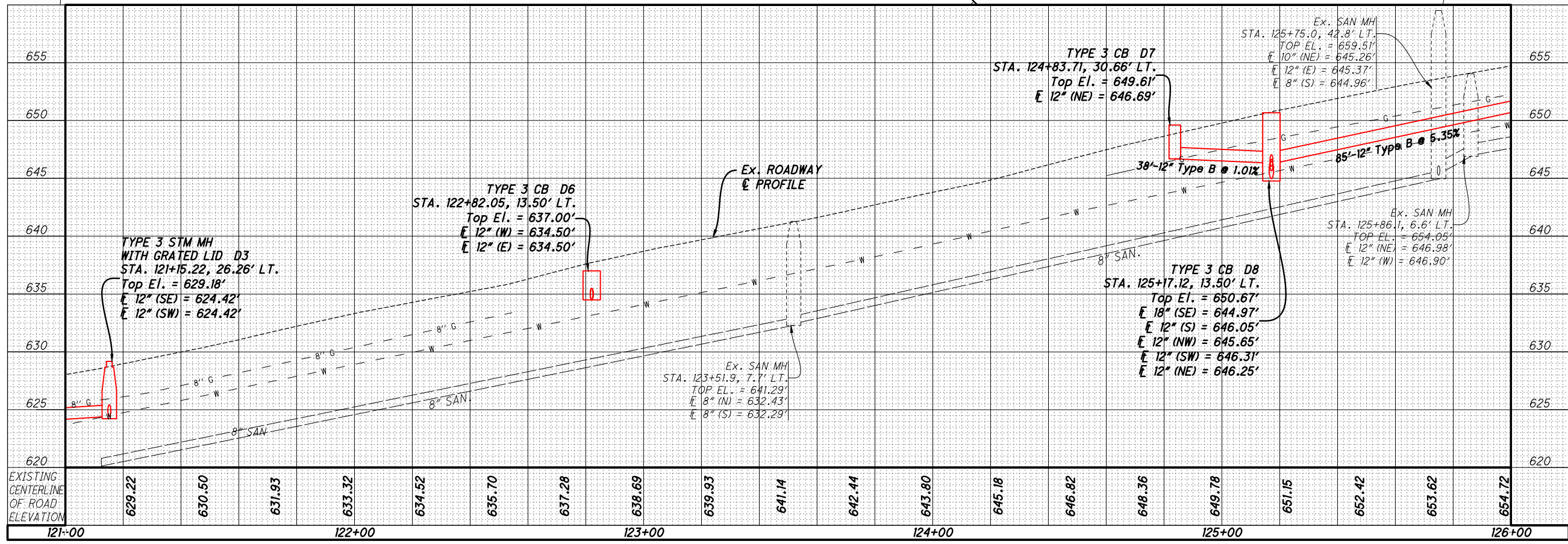
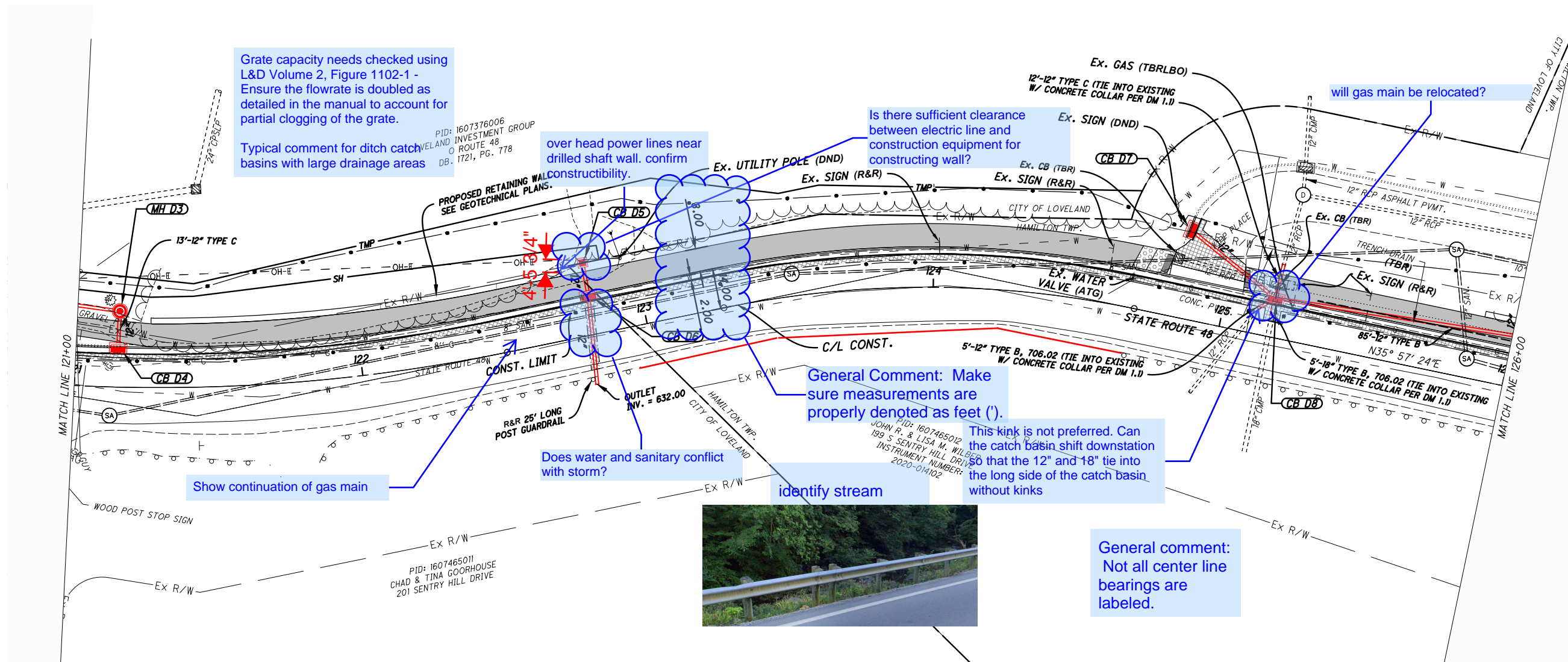
DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER
NSS

REVIEWER
TAN 08-29-2025

PROJECT ID
121899

SHEET TOTAL
P.15 66



PLAN AND PROFILE - STATE ROUTE 48
STA. 121+00 TO STA. 126+00

DESIGN AGENCY



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DESIGNER	NSS
REVIEWER	TAN 08-29-2025
PROJECT ID	121899
SHEET	TOTAL
P.16	66

PID: 160740001
MICHAEL D. & JANE TRACY
10839 ROUTE 48
OR. 161, PG. 504

PID: 1607420003
JAMESON & JACLYN DUNN
112 HOUNDS RUN

PID: 1607410001
JONATHAN SWARTZ
118 HOUNDS RUN

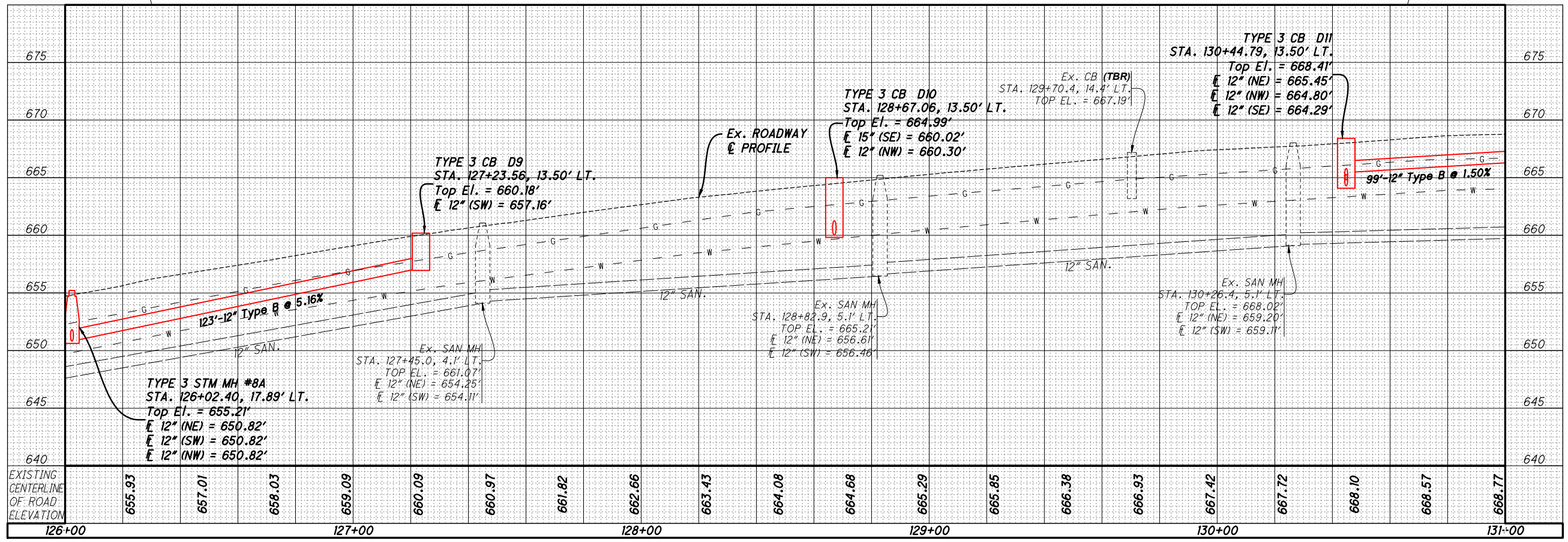
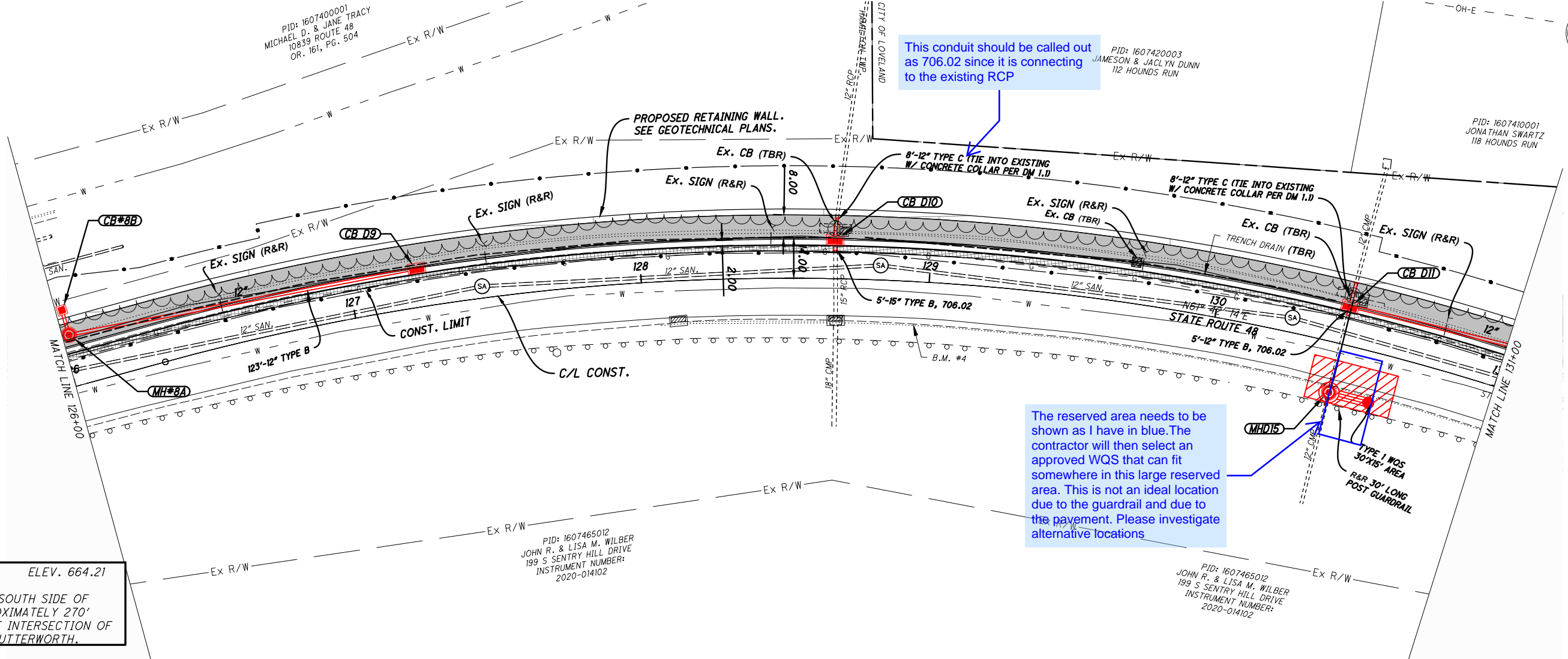
PID: 1607465012
JOHN R. & LISA M. WILBER
199 S SENTRY HILL DRIVE
INSTRUMENT NUMBER:
2020-014102

PID: 1607465012
JOHN R. & LISA M. WILBER
199 S SENTRY HILL DRIVE
INSTRUMENT NUMBER:
2020-014102

BENCHMARK #4 ELEV. 664.21
PT # 104
CURB CUT ON SOUTH SIDE OF
S.R. 48 APPROXIMATELY 270'
SOUTHWEST OF INTERSECTION OF
S.R. 48 AND BUTTERWORTH.

This conduit should be called out
as 706.02 since it is connecting
to the existing RCP

The reserved area needs to be
shown as I have in blue. The
contractor will then select an
approved WQS that can fit
somewhere in this large reserved
area. This is not an ideal location
due to the guardrail and due to
the pavement. Please investigate
alternative locations



PLAN AND PROFILE - STATE ROUTE 48
STA. 126+00 TO STA. 131+00

DESIGN AGENCY



CHOICE ONE ENGINEERING

DESIGNER
NSS

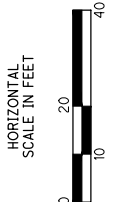
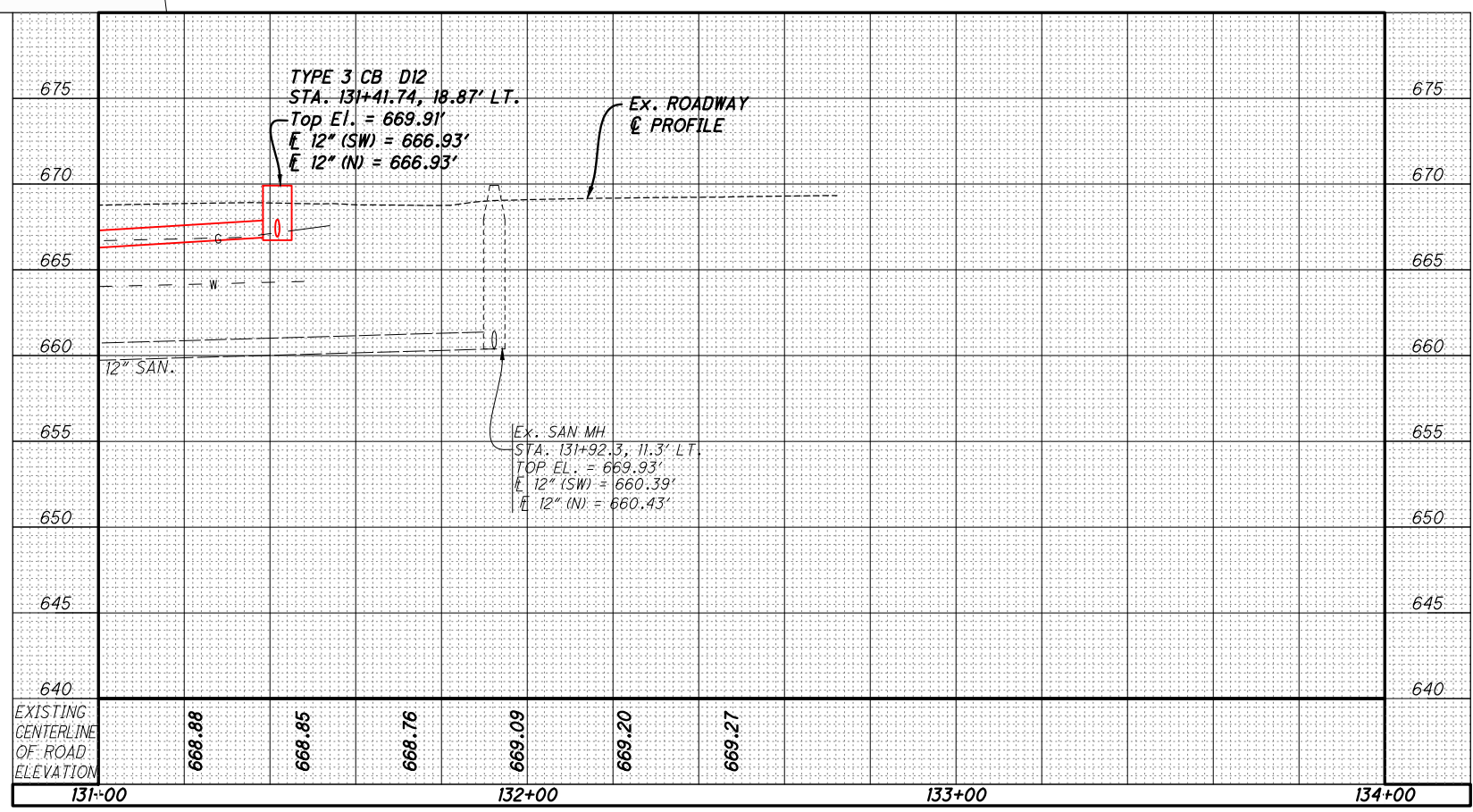
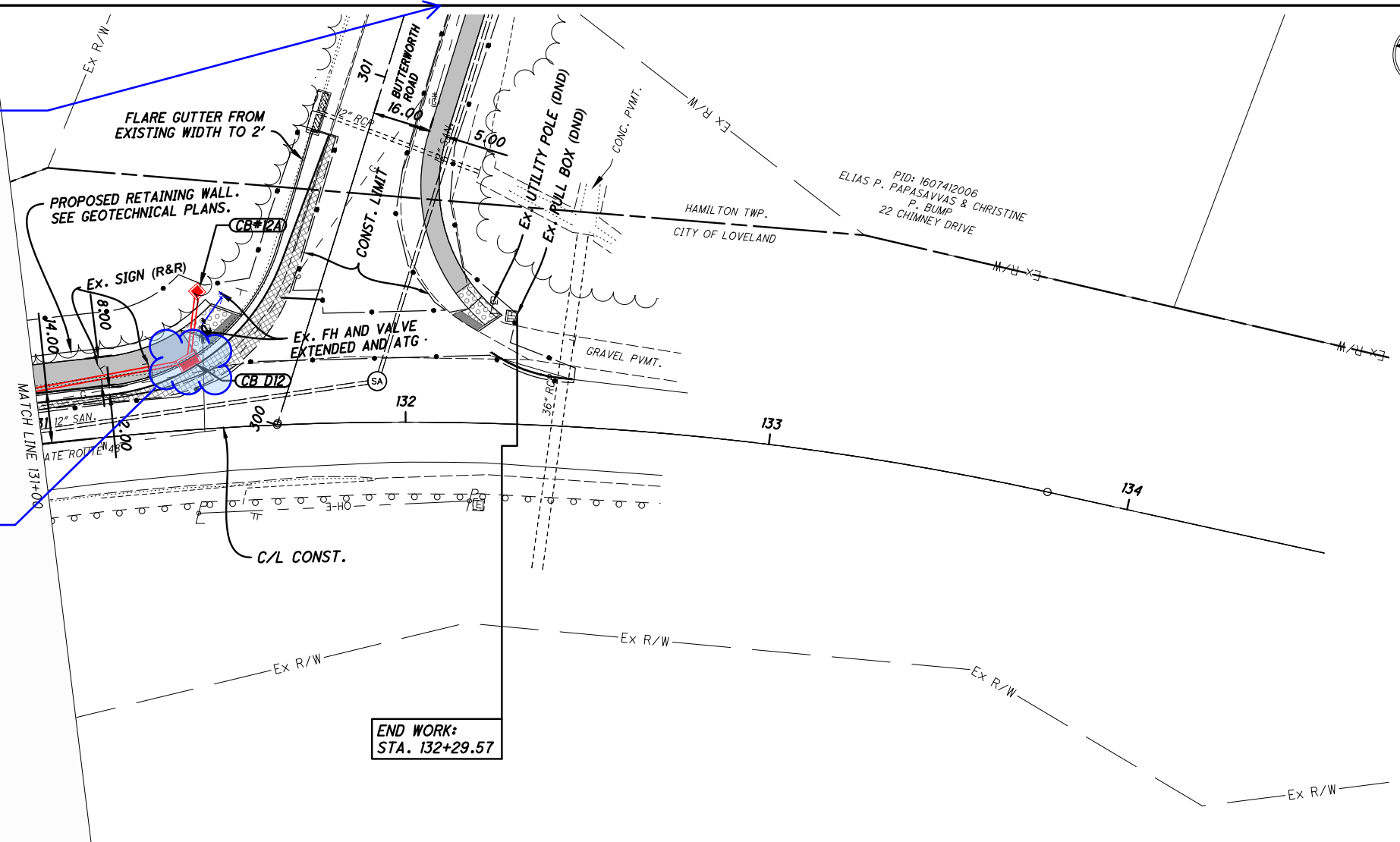
REVIEWER
TAN 08-29-2025

PROJECT ID
121899

SHEET TOTAL
P.17 66

show a match line stationing and sheet number.

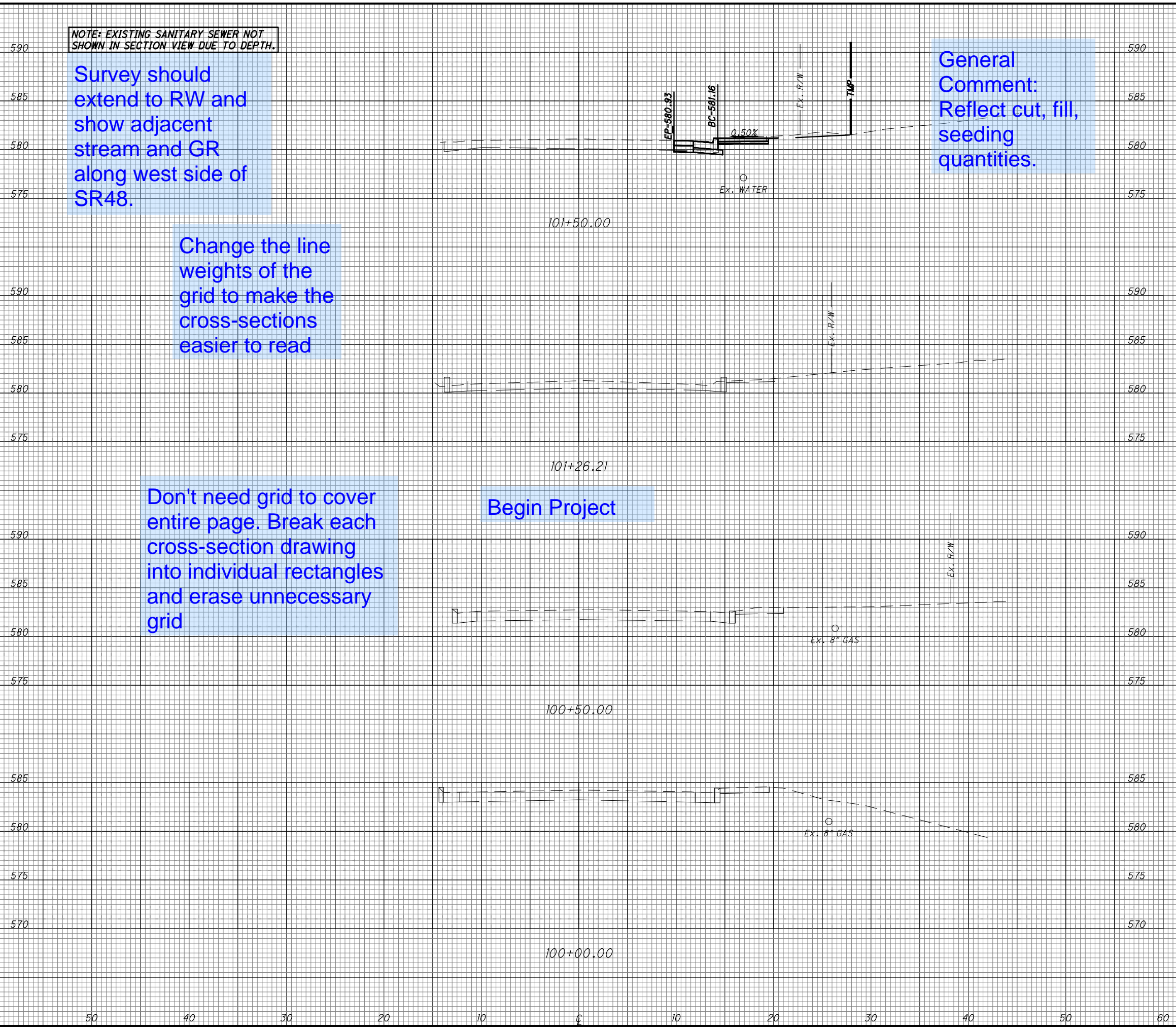
Will gas main be relocated?
Confirm sufficient r/w acquired



PLAN AND PROFILE - STATE ROUTE 48
STA. 131+00 TO STA. 134+00



DESIGN AGENCY
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DESIGNER
REVIEWER
TAN08-29-2025
PROJECT ID
121899
SHEET
P.18
TOTAL
66



NOTE: EXISTING SANITARY SEWER NOT SHOWN IN SECTION VIEW DUE TO DEPTH.

Survey should extend to RW and show adjacent stream and GR along west side of SR48.

Change the line weights of the grid to make the cross-sections easier to read

Don't need grid to cover entire page. Break each cross-section drawing into individual rectangles and erase unnecessary grid

Begin Project

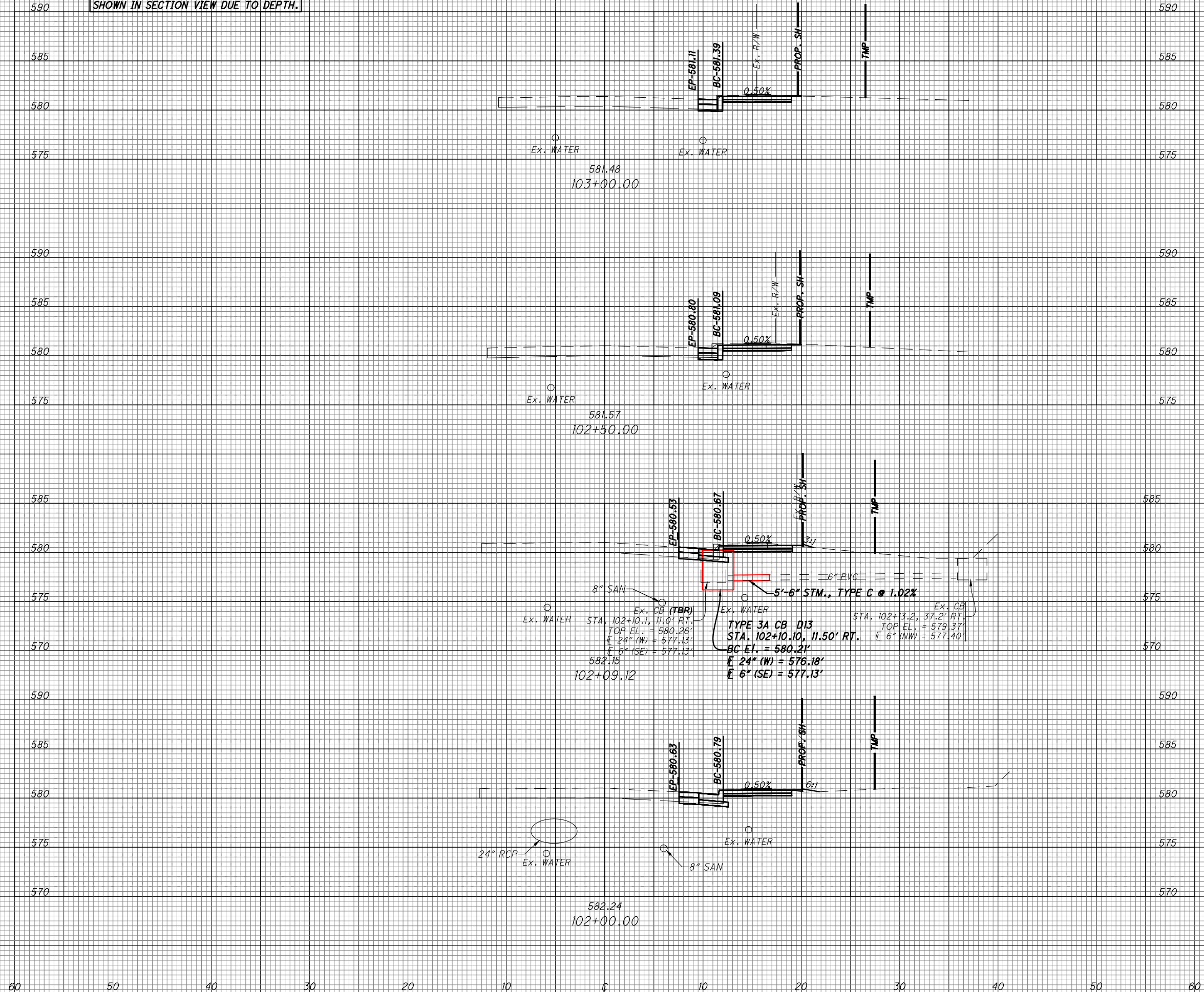
General Comment: Reflect cut, fill, seeding quantities.

END AREA		VOLUME	
CUT	FILL	CUT	FILL



SEEDING
END SO.
WIDTH YDS.

NOTE: EXISTING SANITARY SEWER NOT SHOWN IN SECTION VIEW DUE TO DEPTH.



END AREA
CUT FILL

VOLUME
CUT FILL

CROSS SECTIONS - STATE ROUTE 48
STA. 102+00 TO STA. 103+00

DESIGN AGENCY



CHOICE ONE ENGINEERING

DESIGNER

NSS

REVIEWER

TAN08-29-2025

PROJECT ID

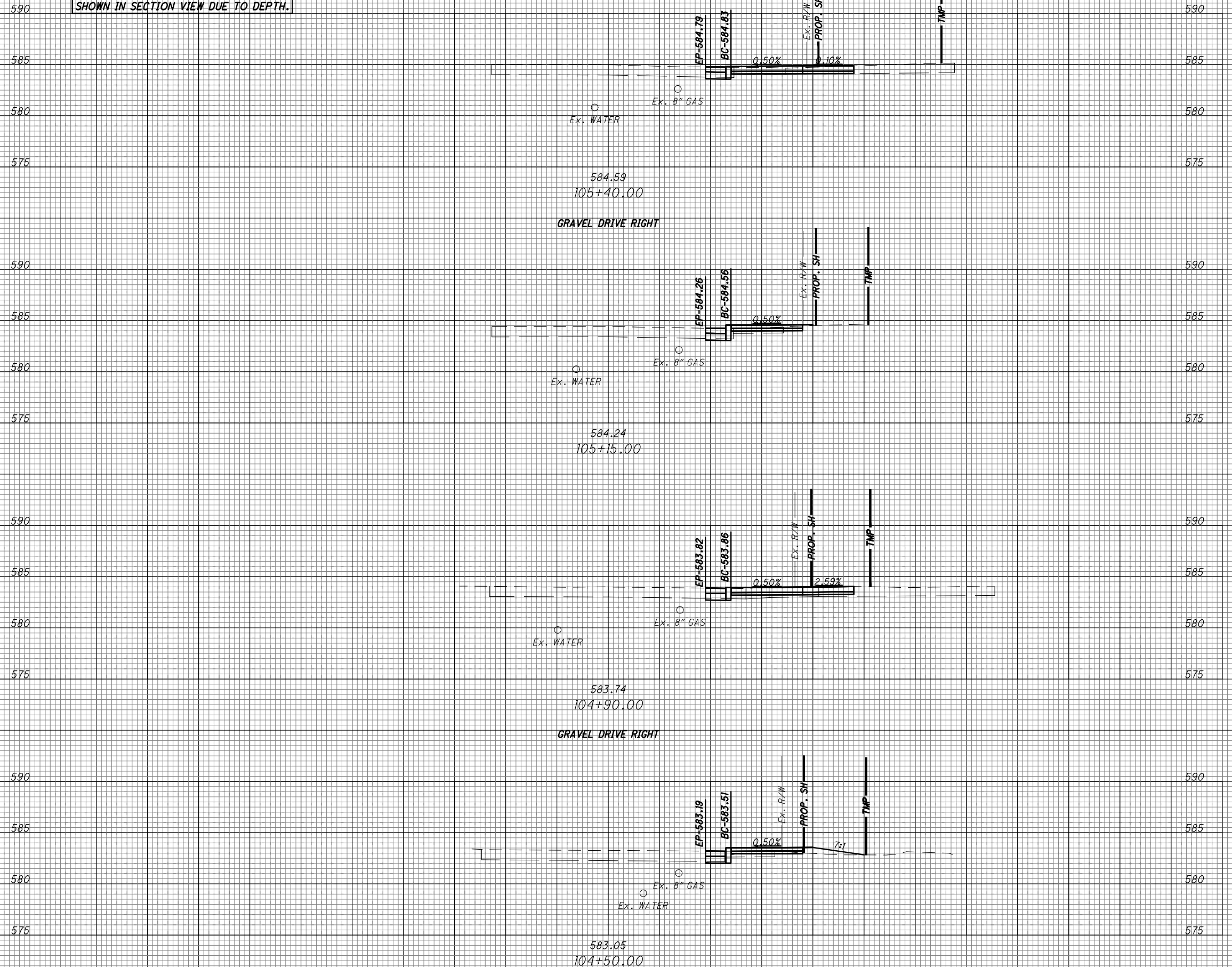
121899

SHEET TOTAL

P.20 66

SEEDING
END SO.
MIDT YDS.

NOTE: EXISTING SANITARY SEWER NOT SHOWN IN SECTION VIEW DUE TO DEPTH.



60 50 40 30 20 10 0 10 20 30 40 50 60

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CROSS SECTIONS - STATE ROUTE 48
STA. 104+50 TO STA. 105+40

DESIGN AGENCY



CHOICE ONE ENGINEERING

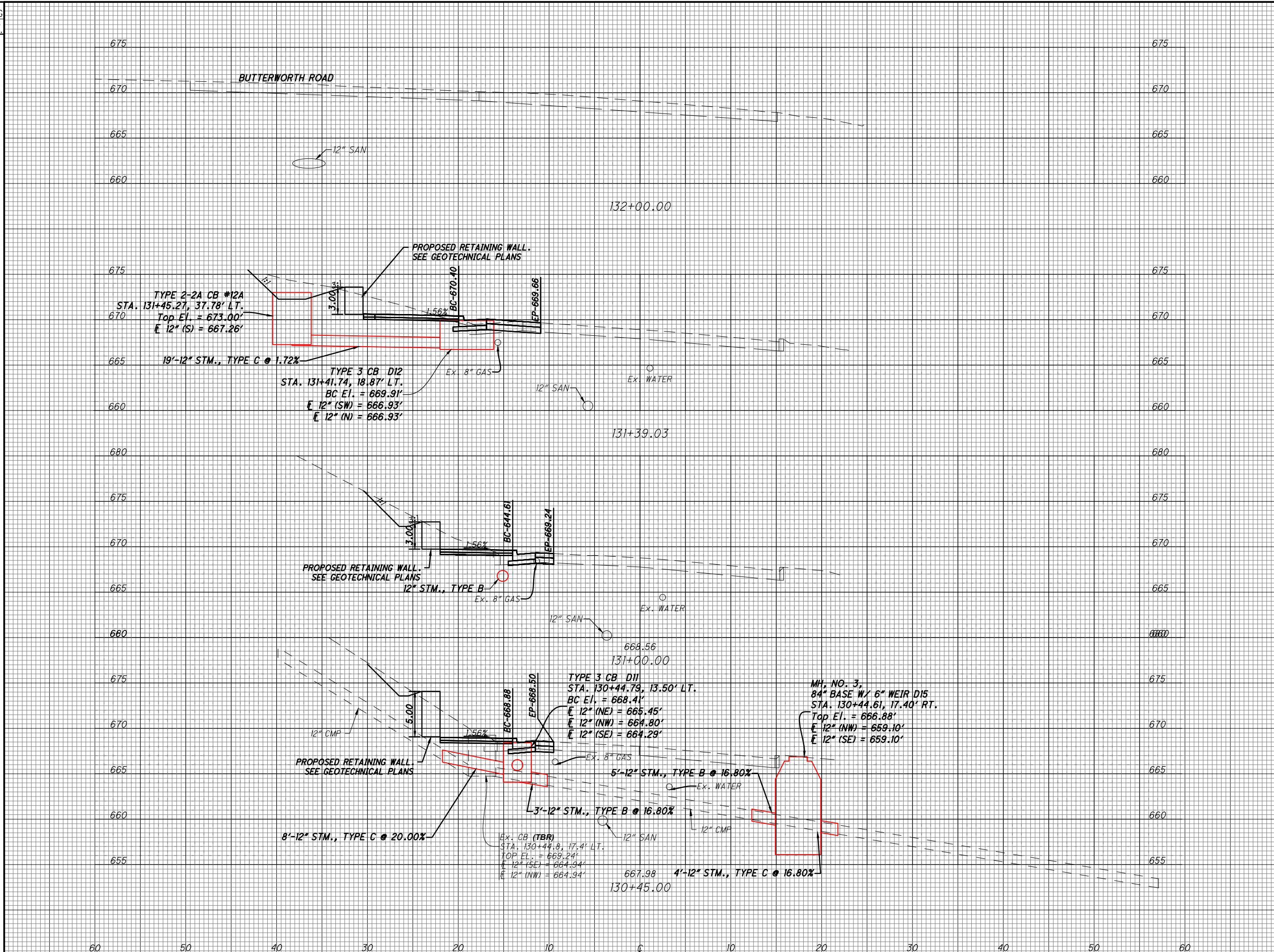
DESIGNER
NSS

REVIEWER
TAN08-29-2025

PROJECT ID
121899

SHEET TOTAL
P.22 66

SEEDING
END SO.
WIDTH YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

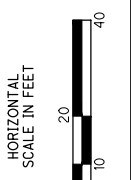
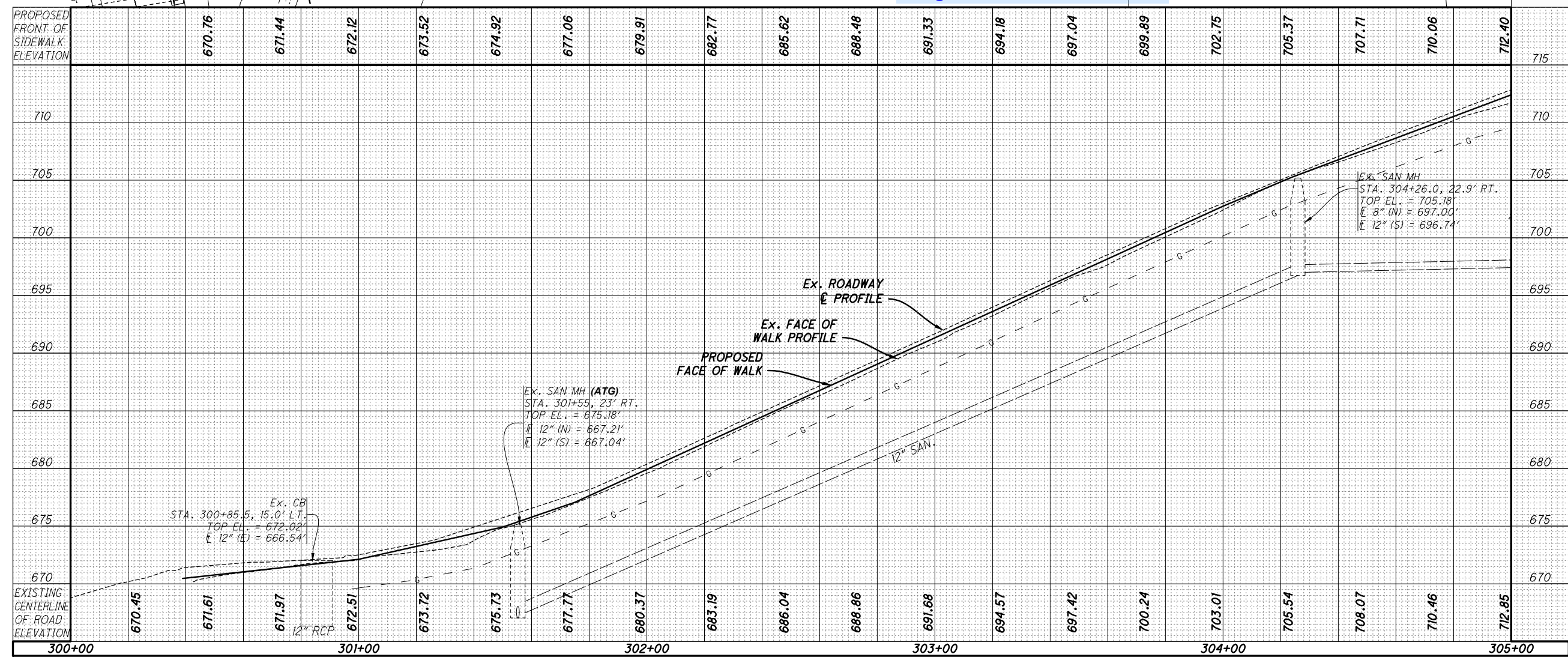
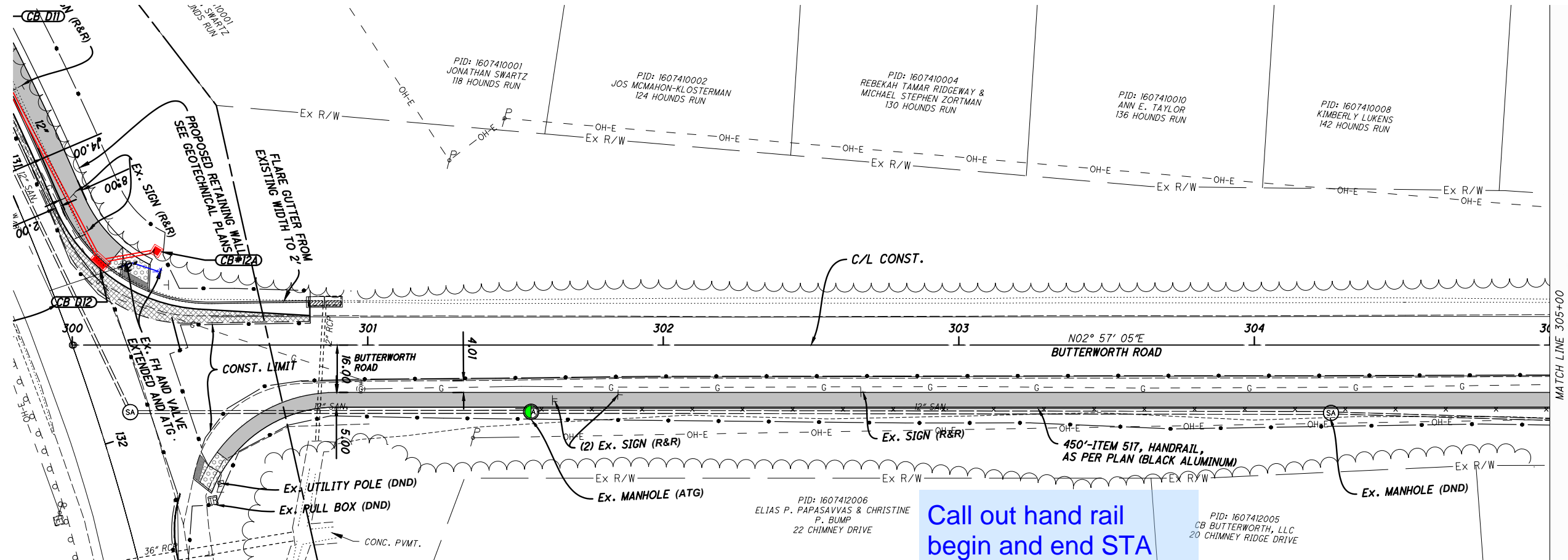
CROSS SECTIONS - STATE ROUTE 48
STA. 130+45 TO STA. 132+00

DESIGN AGENCY



CHOICE ONE ENGINEERING

DESIGNER	NSS
REVIEWER	TAN08-29-2025
PROJECT ID	121899
SHEET	TOTAL
P.38	66



PLAN AND PROFILE - BUTTERWORTH ROAD
STA. 300+00 TO STA. 305+00

DESIGN AGENCY

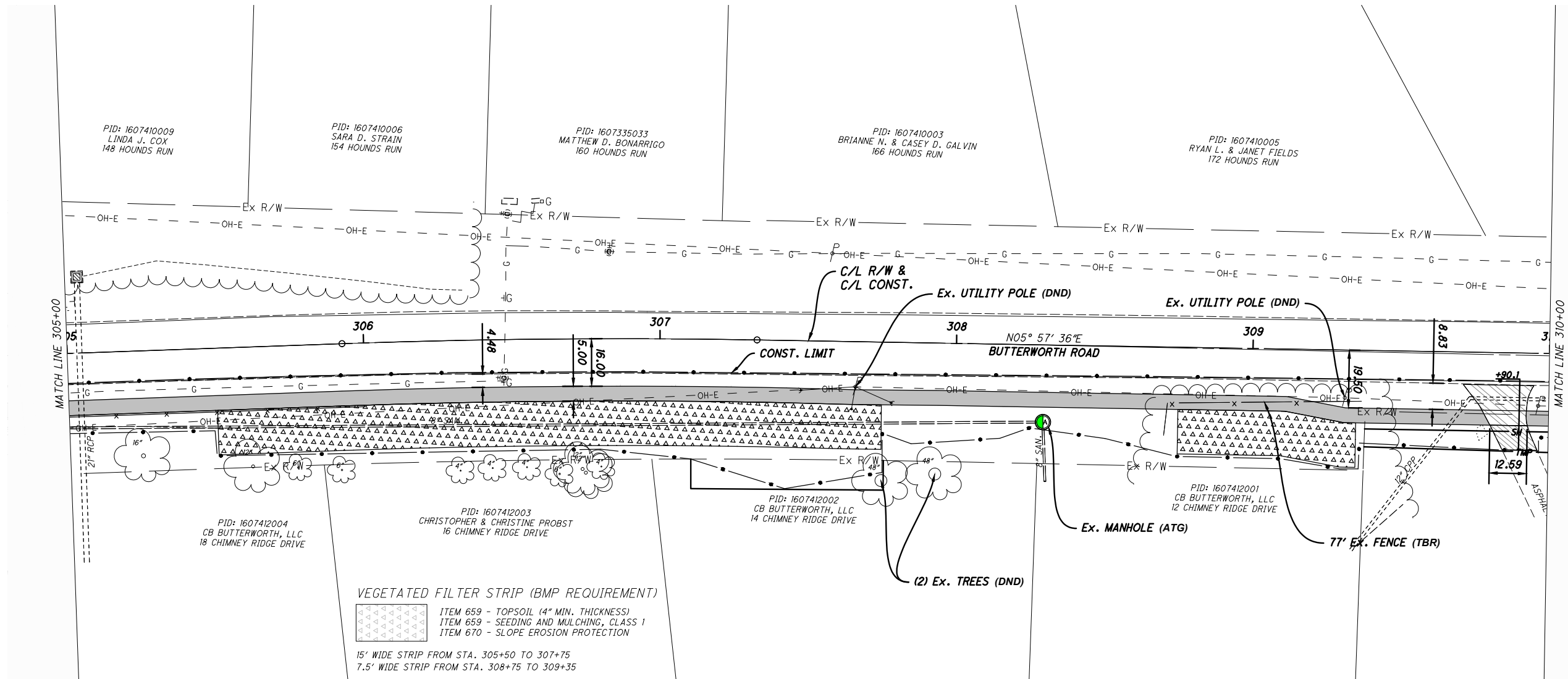


DESIGNER
NSS

REVIEWER
TAN 08-29-2025

PROJECT ID
121899

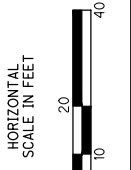
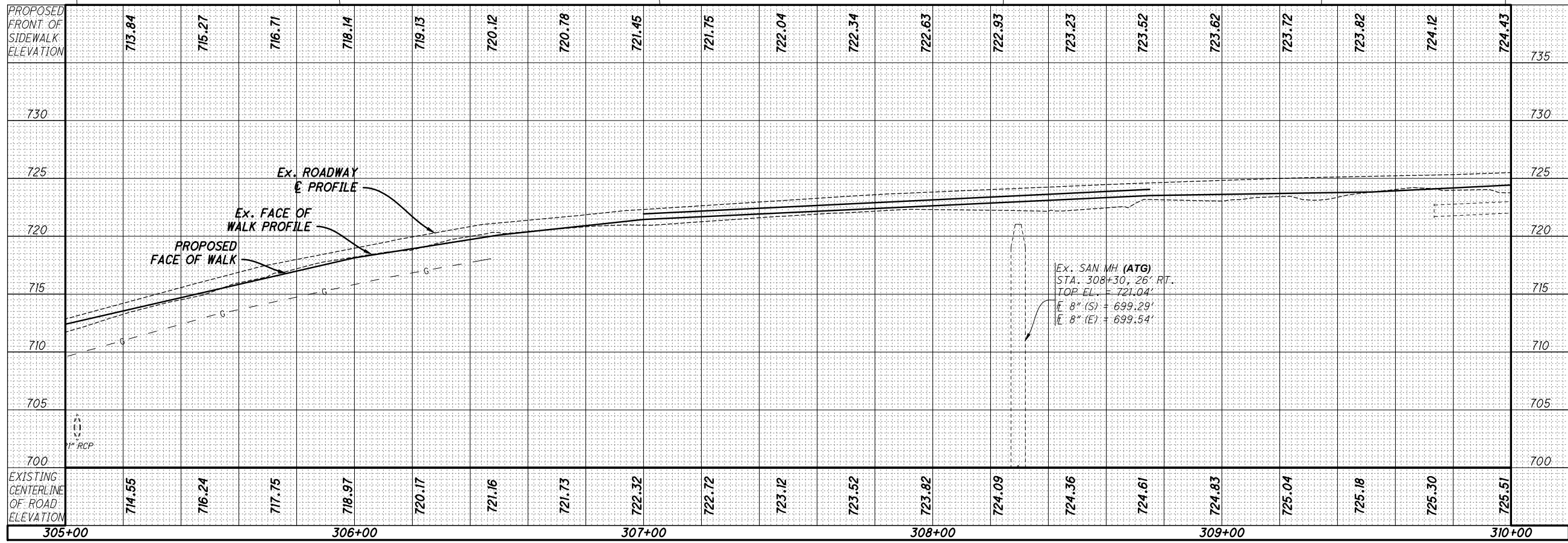
SHEET TOTAL
P.39 66



VEGETATED FILTER STRIP (BMP REQUIREMENT)

- ITEM 659 - TOPSOIL (4" MIN. THICKNESS)
- ITEM 659 - SEEDING AND MULCHING, CLASS 1
- ITEM 670 - SLOPE EROSION PROTECTION

15' WIDE STRIP FROM STA. 305+50 TO 307+75
7.5' WIDE STRIP FROM STA. 308+75 TO 309+35



PLAN AND PROFILE - BUTTERWORTH ROAD
STA. 305+00 TO STA. 310+00

DESIGN AGENCY

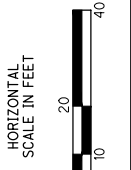
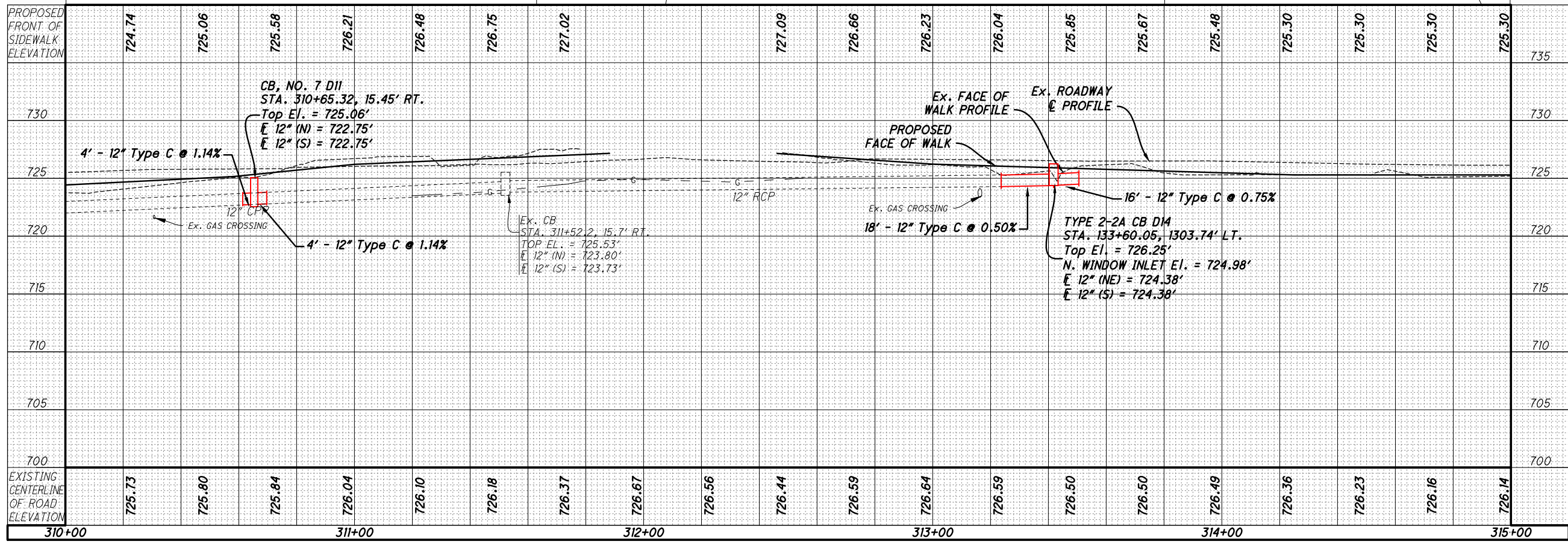
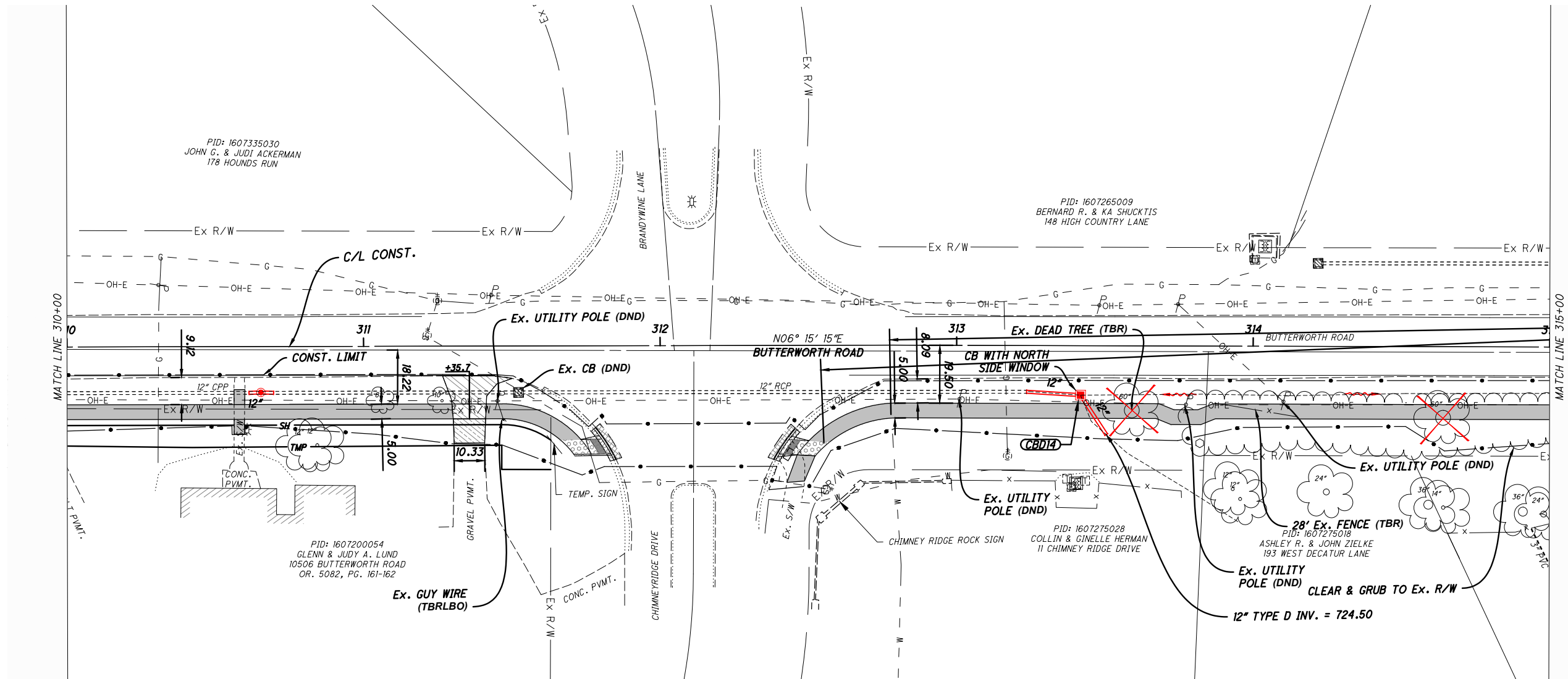
CHOICE ONE ENGINEERING

DESIGNER
NSS

REVIEWER
TAN 08-29-2025

PROJECT ID
121899

SHEET TOTAL
P.40 66



PLAN AND PROFILE - BUTTERWORTH ROAD
 STA. 310+00 TO STA. 315+00

DESIGN AGENCY



CHOICE ONE ENGINEERING

DESIGNER

NSS

REVIEWER

TAN 08-29-2025

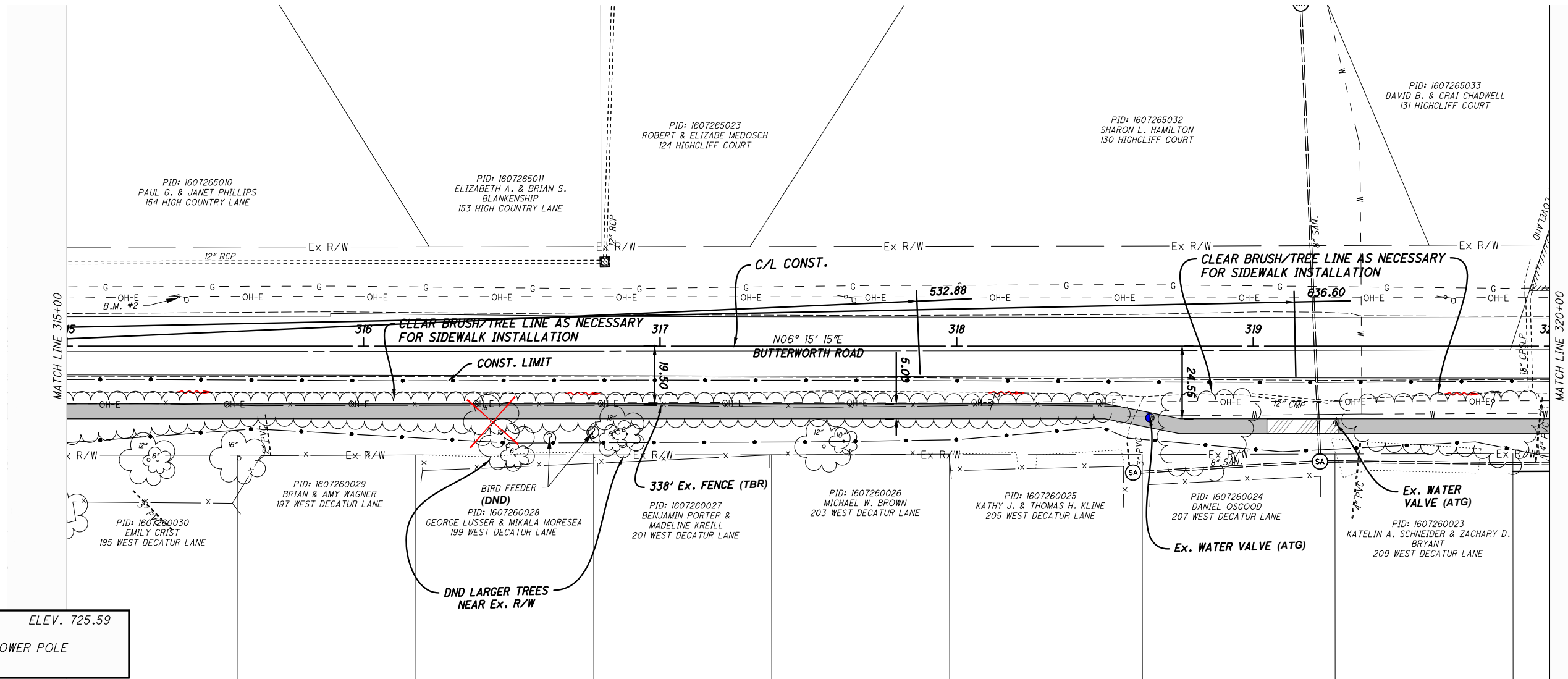
PROJECT ID

121899

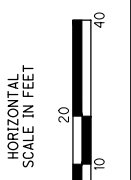
SHEET TOTAL

P.41 66

BENCHMARK #2 ELEV. 725.59
 PT # 90001
 MAG NAIL IN POWER POLE
 W94-27E.



PROPOSED FRONT OF SIDEWALK ELEVATION	725.30	725.30	725.26	725.22	725.18	725.14	725.10	725.06	725.02	724.98	724.94	724.90	724.86	724.82	724.88	724.94	724.79	724.64	724.67	724.70	735	
730																						730
725																						725
720																						720
715																						715
710																						710
705																						705
700																						700
EXISTING CENTERLINE OF ROAD ELEVATION	726.13	726.12	726.11	726.10	726.08	726.07	726.05	726.01	725.95	725.89	725.84	725.83	725.82	725.81	725.81	725.83	725.84	725.84	725.85	725.86		
	315+00			316+00				317+00				318+00			319+00					320+00		



PLAN AND PROFILE - BUTTERWORTH ROAD
 STA. 315+00 TO STA. 320+00

DESIGN AGENCY



CHOICE ONE ENGINEERING

DESIGNER

NSS

REVIEWER

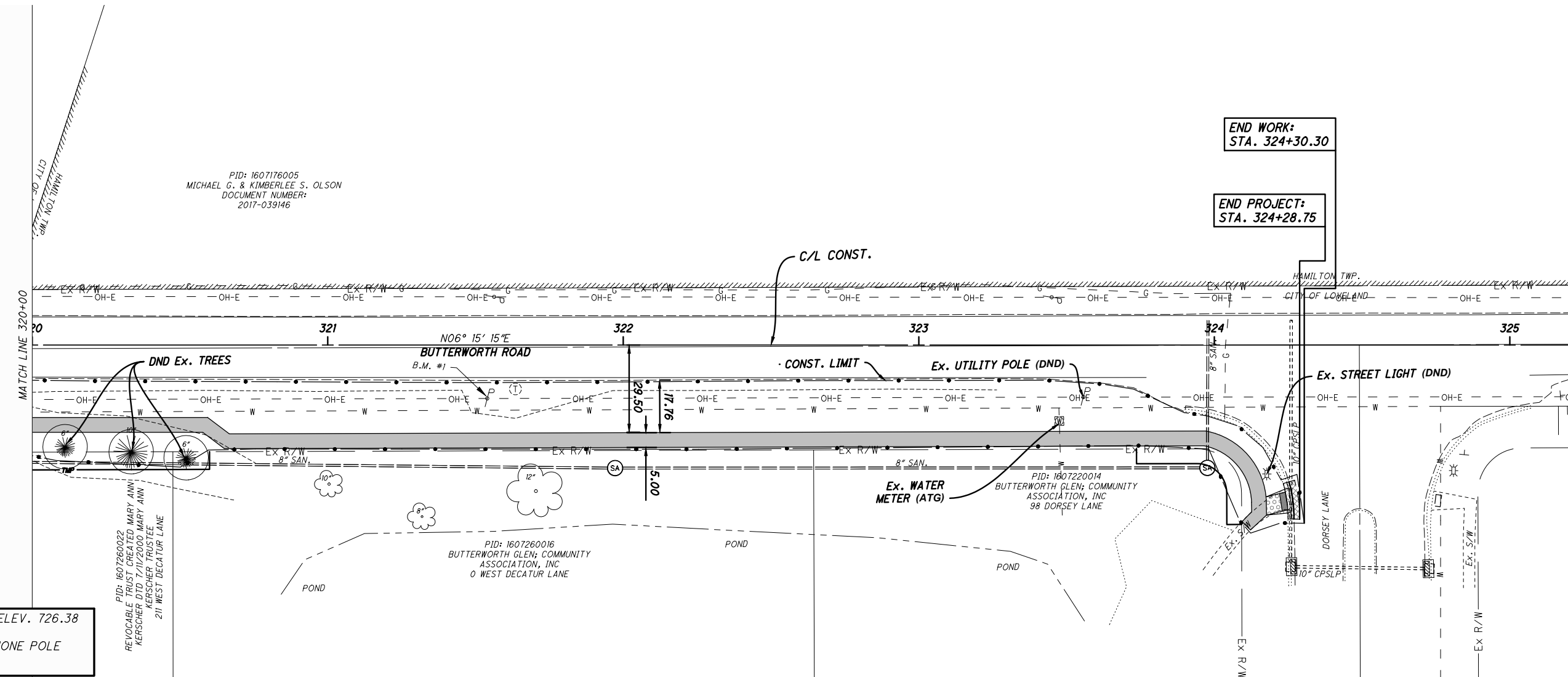
TAN 08-29-2025

PROJECT ID

121899

SHEET TOTAL


P.42 66



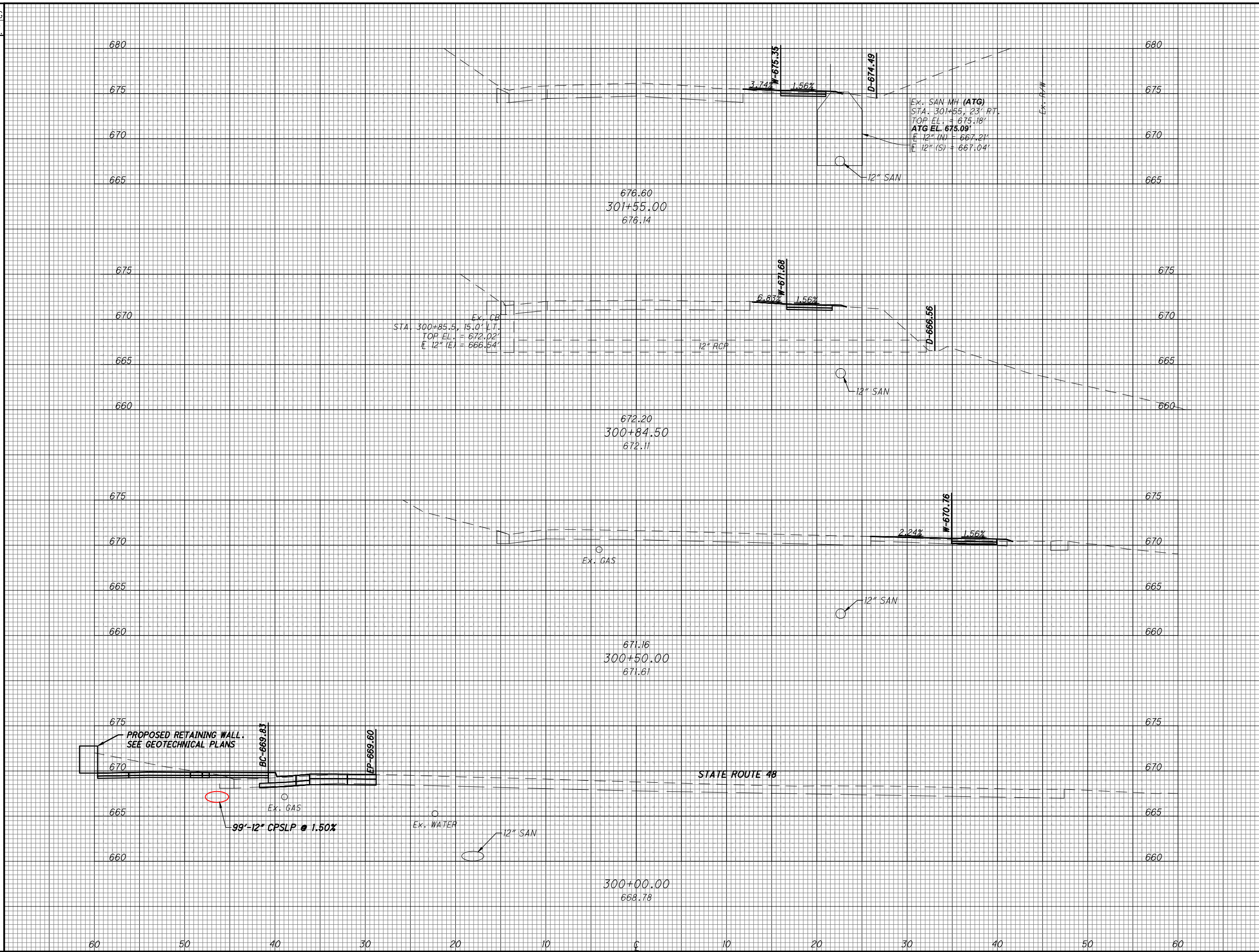
BENCHMARK #1 ELEV. 726.38
 PT # 90000
 MAG NAIL IN TELEPHONE POLE
 W4392.

PROPOSED FRONT OF SIDEWALK ELEVATION	725.05	725.39	725.38	725.36	725.34	725.32	725.31	725.29	725.44	725.58	725.73	725.88	726.03	725.97	725.92	725.87				735
730																				730
725																				725
720																				720
715																				715
710																				710
705																				705
700																				700
EXISTING CENTERLINE OF ROAD ELEVATION	725.87	725.88	725.89	725.93	725.99	726.04	726.11	726.20	726.34	726.48	726.53	726.52	726.51	726.49	726.47	726.57	725.91	725.20	724.54	723.45
	320+00			321+00				322+00				323+00				324+00				325+00

PLAN AND PROFILE - BUTTERWORTH ROAD
 STA. 320+00 TO STA. 325+00

DESIGN AGENCY

 CHOICE ONE ENGINEERING
 DESIGNER
 NSS
 REVIEWER
 TAN 08-29-2025
 PROJECT ID
 121899
 SHEET TOTAL
 P.43 66

SEEDING
END SO.
WIDTH YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CROSS SECTIONS - BUTTERWORTH ROAD
 STA. 300+00 TO STA. 301+55

DESIGN AGENCY



CHOICE ONE ENGINEERING

DESIGNER

NSS

REVIEWER

TAN08-29-2025

PROJECT ID

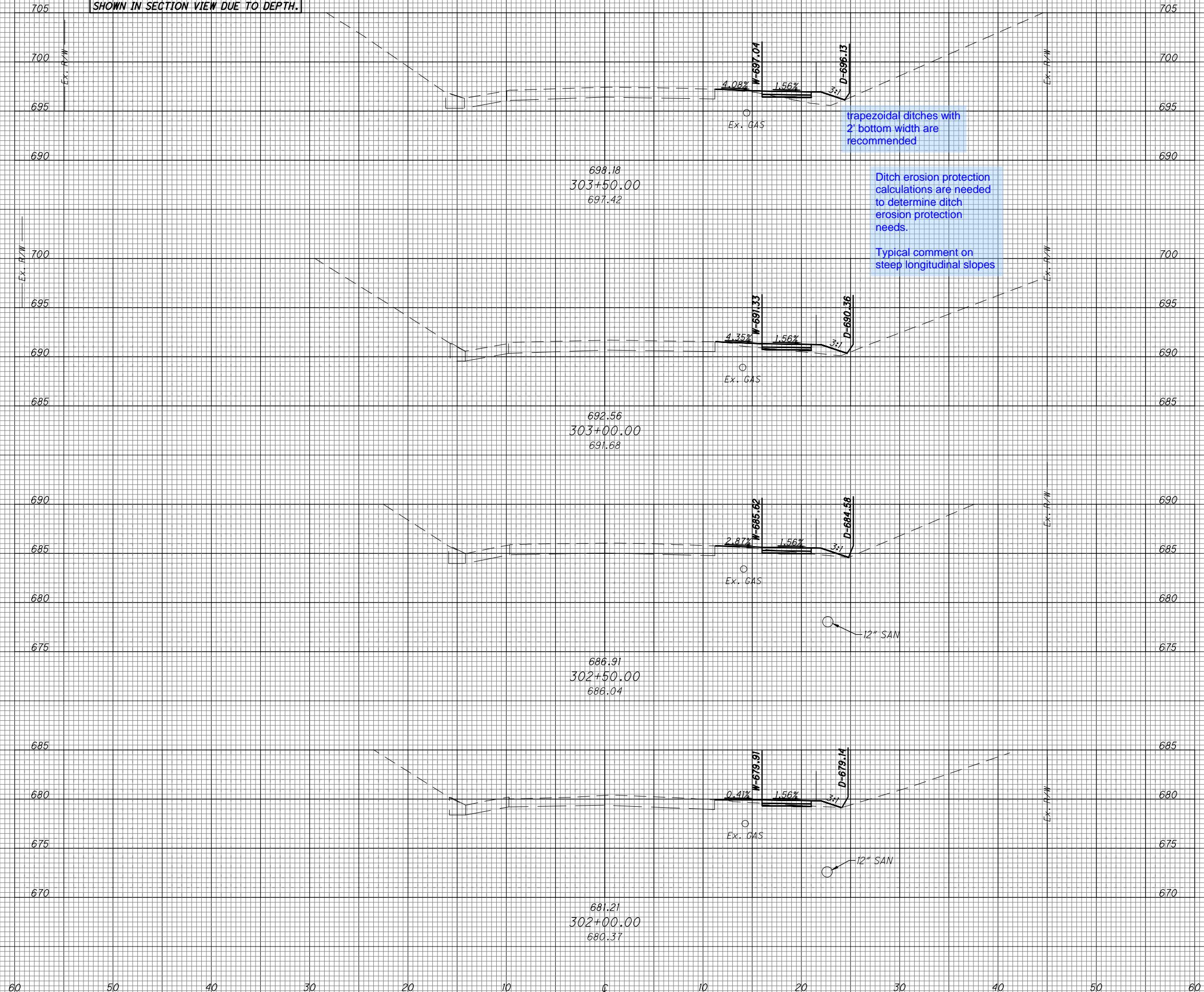
121899

SHEET TOTAL

P.44 66

SEEDING
END SO. WIDTH VOS.

NOTE: EXISTING SANITARY SEWER NOT SHOWN IN SECTION VIEW DUE TO DEPTH.



trapezoidal ditches with 2' bottom width are recommended
Ditch erosion protection calculations are needed to determine ditch erosion protection needs.
Typical comment on steep longitudinal slopes

END AREA
CUT FILL

VOLUME
CUT FILL

CROSS SECTIONS - BUTTERWORTH ROAD
STA. 302+00 TO STA. 303+50

DESIGN AGENCY



CHOICE ONE ENGINEERING

DESIGNER

NSS

REVIEWER

TAN08-29-2025

PROJECT ID

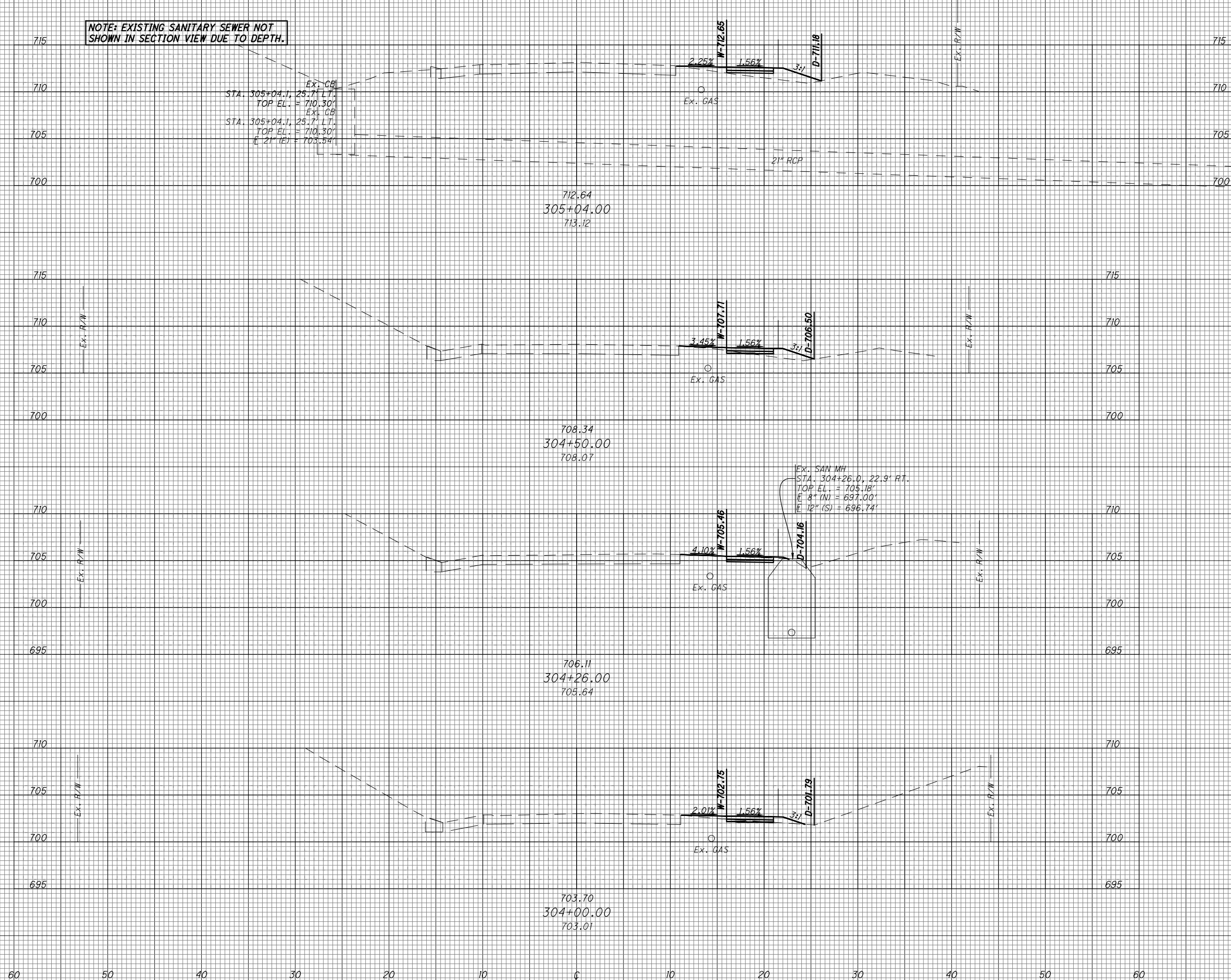
121899

SHEET TOTAL

P.45 66

SEEDING
END SO.
WIDTH YDS.

NOTE: EXISTING SANITARY SEWER NOT SHOWN IN SECTION VIEW DUE TO DEPTH.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CROSS SECTIONS - BUTTERWORTH ROAD
STA. 304+00 TO STA. 305+04

DESIGN AGENCY



CHOICE ONE ENGINEERING

DESIGNER

NSS

REVIEWER

TAN08-29-2025

PROJECT ID

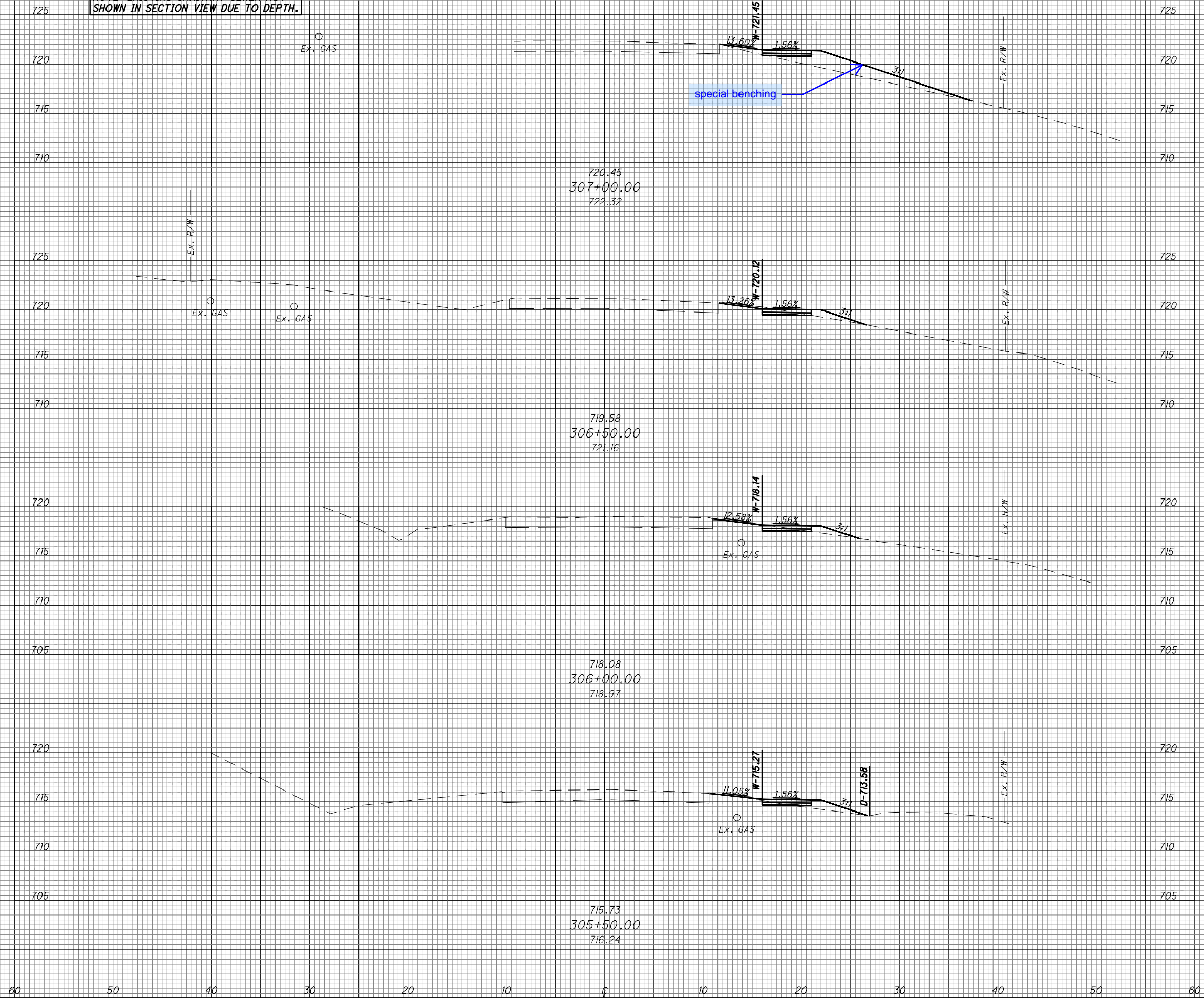
121899

SHEET TOTAL

P.46 66

SEEDING
END SO.
WIDTH YDS.

NOTE: EXISTING SANITARY SEWER NOT SHOWN IN SECTION VIEW DUE TO DEPTH.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CROSS SECTIONS - BUTTERWORTH ROAD
STA. 305+50 TO STA. 307+00

DESIGN AGENCY



CHOICE ONE ENGINEERING

DESIGNER

NSS

REVIEWER

TAN08-29-2025

PROJECT ID

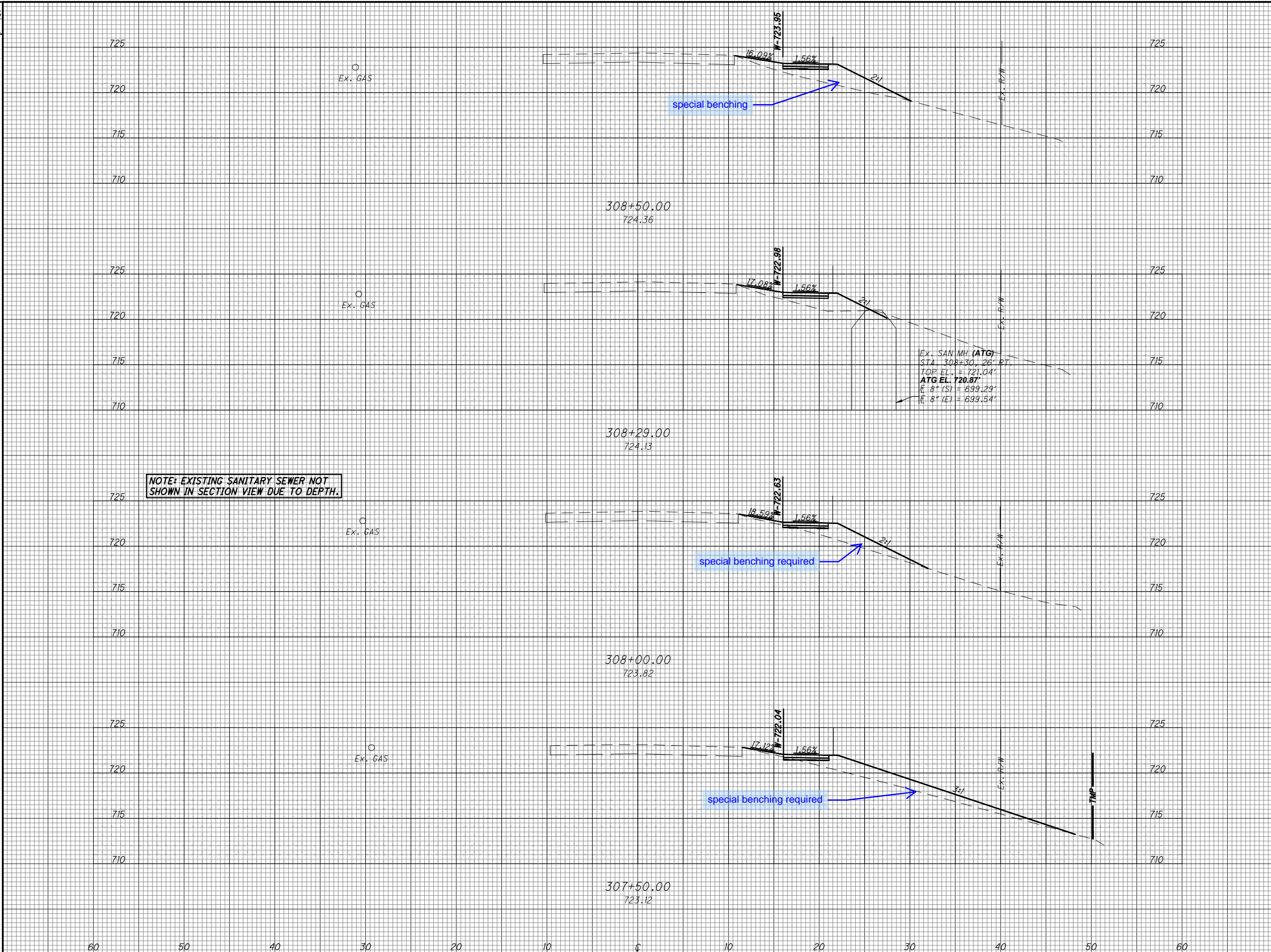
121899

SHEET TOTAL

P.47 66

SEEDING	SO.	WIDTH	YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL



CROSS SECTIONS - BUTTERWORTH ROAD
STA. 307+50 TO STA. 308+50

DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER
NSS

REVIEWER
TAN 08-29-2025

PROJECT ID
121899

SHEET TOTAL
P.48 66

SEEDING
END SO. WIDTH
CUT FILL YDS.

730
725
720
715
730
725
720
715
730
725
720
715
730
725
720
715
725
720
715
710

Ex. GAS

Ex. GAS

Ex. GAS

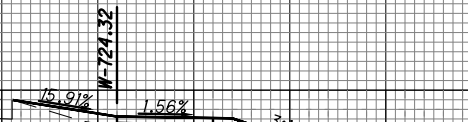
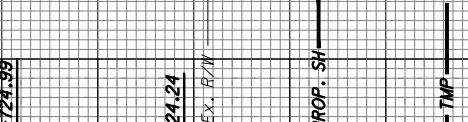
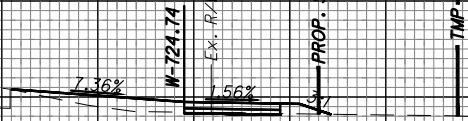
Ex. GAS

310+25.00
725.73

309+85.00
725.37
ASPHALT DRIVE RIGHT

309+50.00
725.18

309+00.00
724.83



END AREA
CUT FILL VOLUME
CUT FILL

CROSS SECTIONS - BUTTERWORTH ROAD
STA. 309+00 TO STA. 310+25

DESIGN AGENCY



CHOICE ONE ENGINEERING

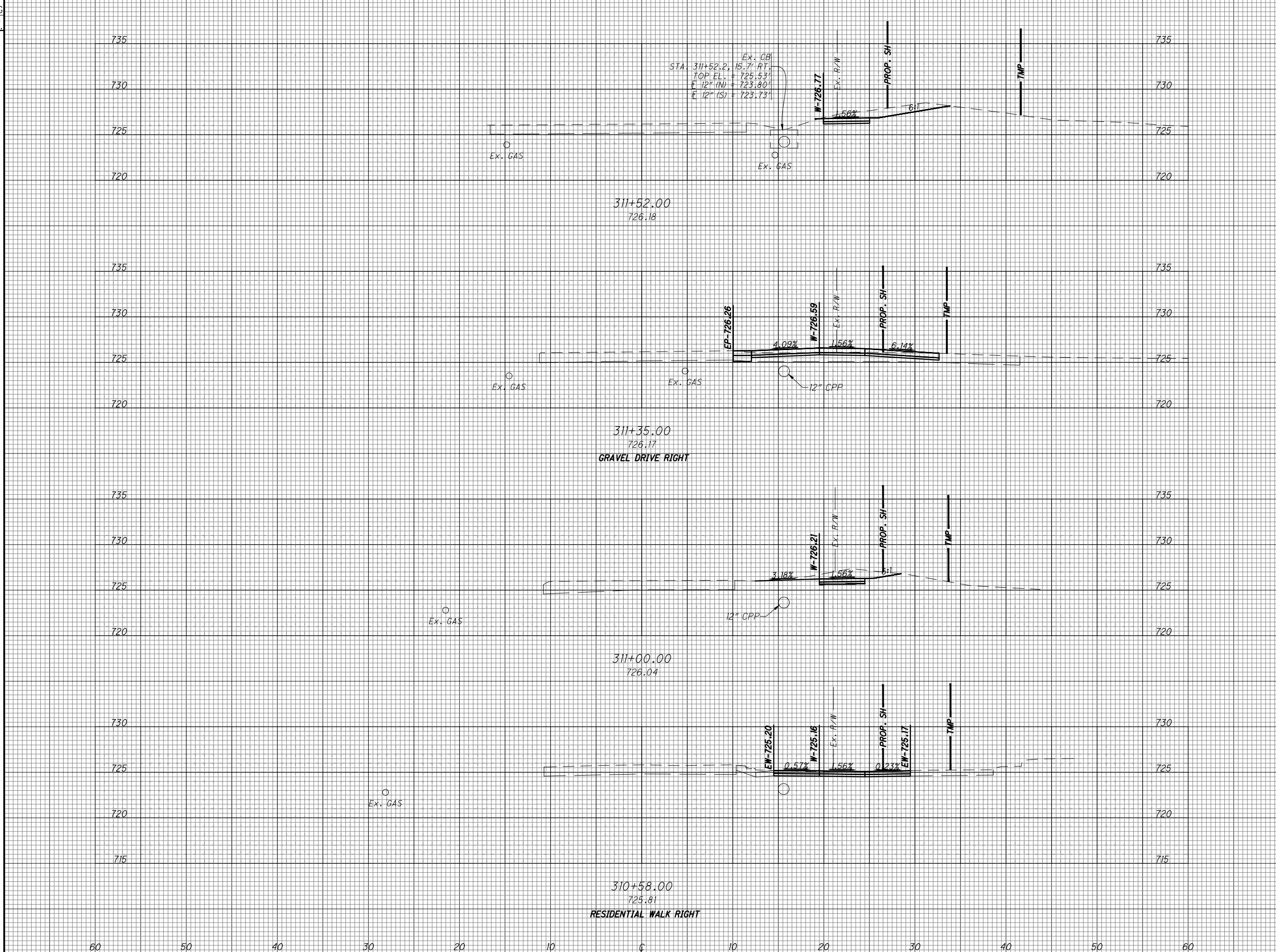
DESIGNER
NSS

REVIEWER
TAN08-29-2025

PROJECT ID
121899

SHEET TOTAL
P.49 66

SEEDING	
END	SO.
WIDTH	YDS.



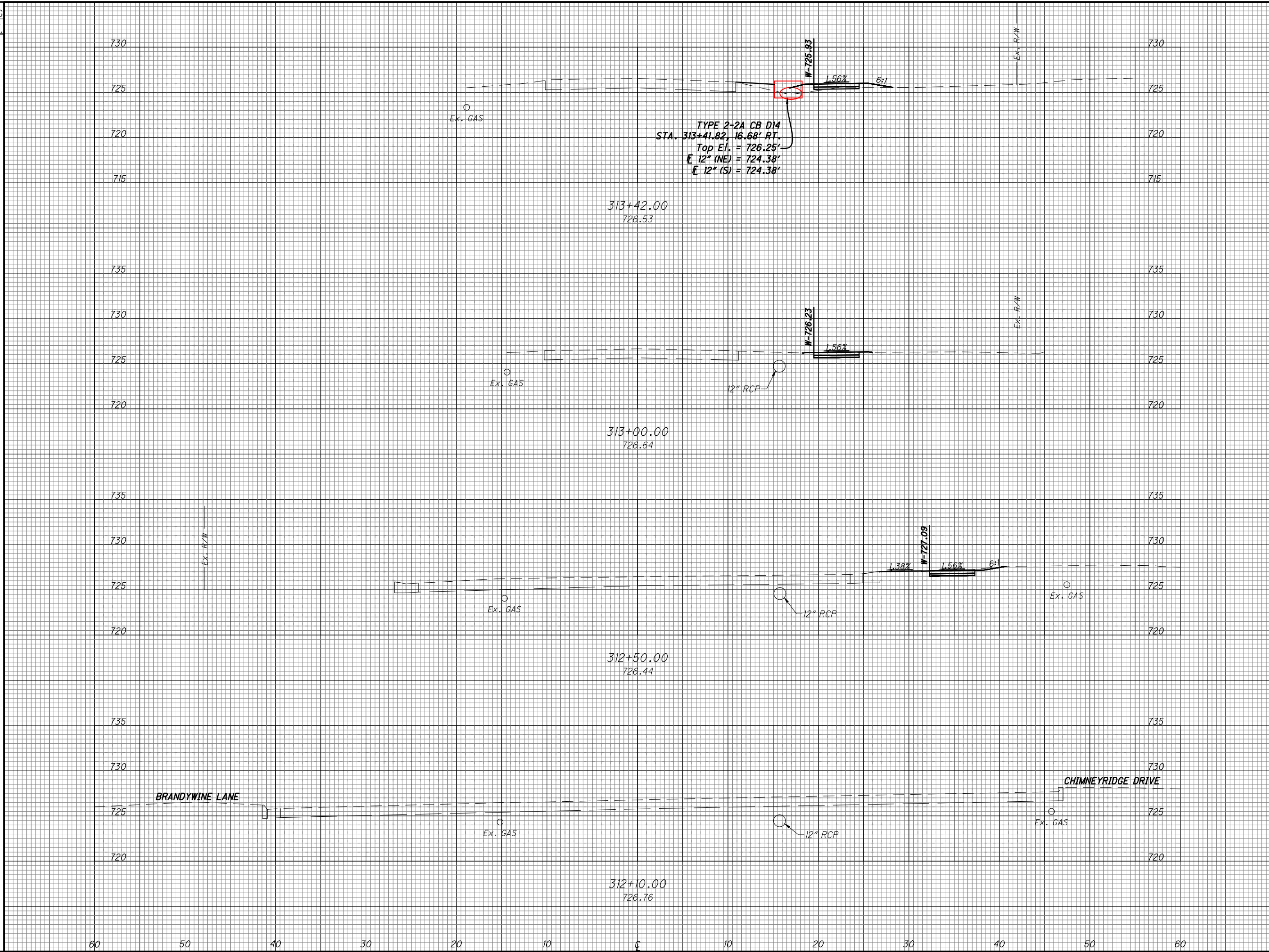
END AREA		VOLUME	
CUT	FILL	CUT	FILL

CROSS SECTIONS - BUTTERWORTH ROAD
 STA. 310+58 TO STA. 311+52

DESIGN AGENCY

 CHOICE ONE ENGINEERING
 DESIGNER
 NSS
 REVIEWER
 TAN08-29-2025
 PROJECT ID
 121899
 SHEET TOTAL
 P.50 66

SEEDING
END SO.
WIDTH YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CROSS SECTIONS - BUTTERWORTH ROAD
STA. 312+10 TO STA. 313+42

DESIGN AGENCY



CHOICE ONE ENGINEERING

DESIGNER

NSS

REVIEWER

TAN08-29-2025

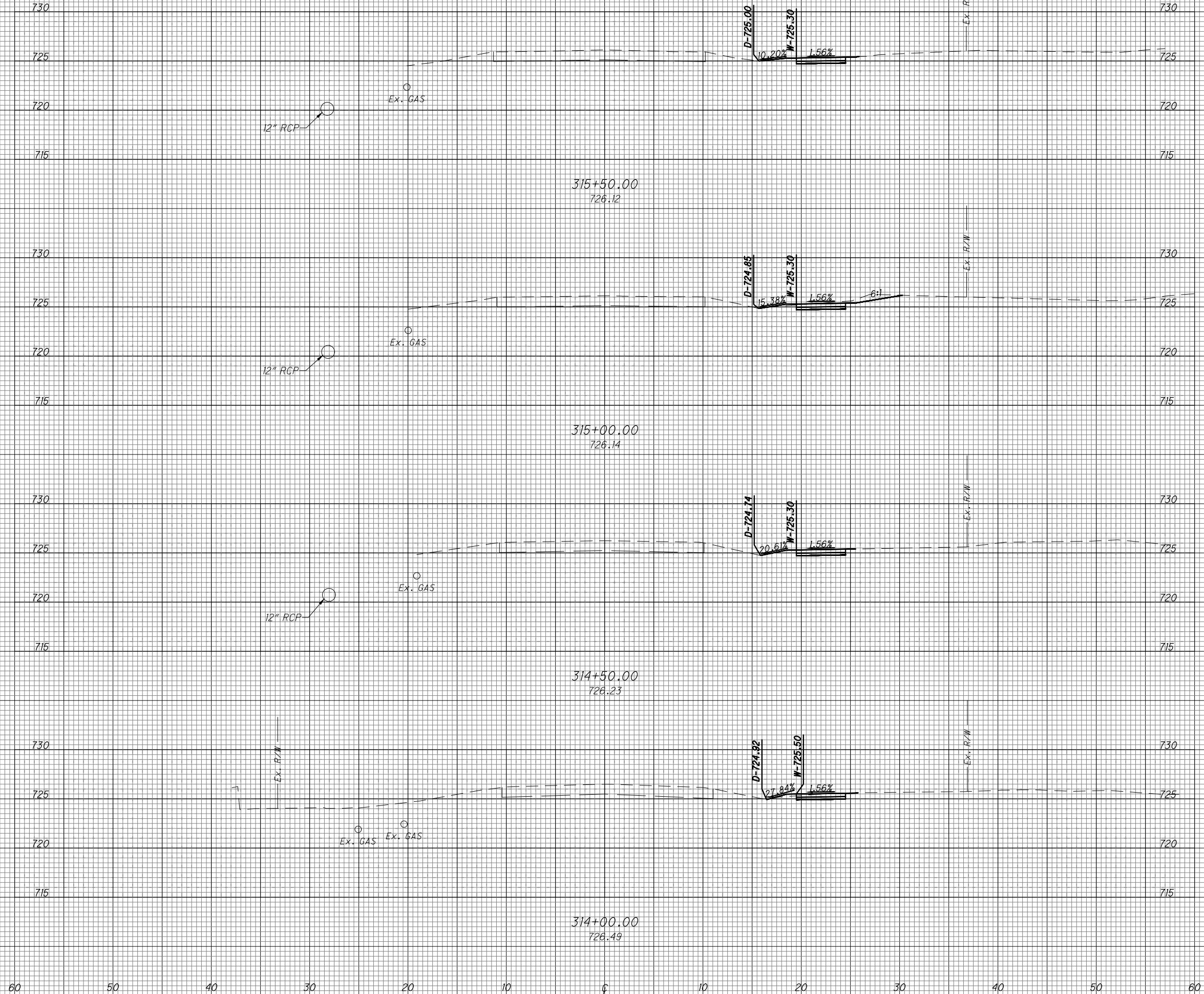
PROJECT ID

121899

SHEET TOTAL

P.51 66

SEEDING	
END SO.	
WIDTH YDS.	



END AREA	
CUT	FILL
VOLUME	
CUT	FILL

CROSS SECTIONS - BUTTERWORTH ROAD
 STA. 314+00 TO STA. 315+50

DESIGN AGENCY



CHOICE ONE ENGINEERING

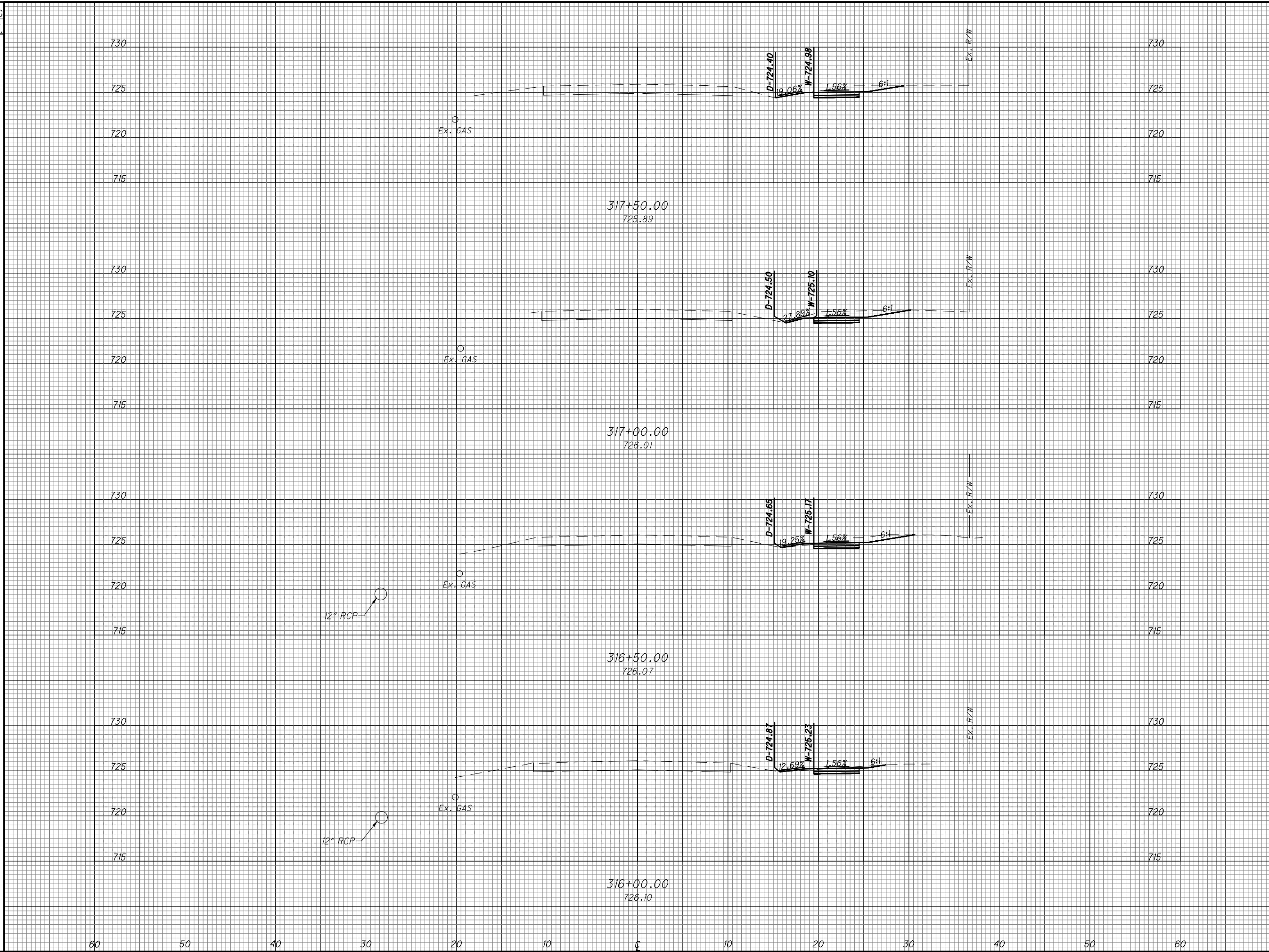
DESIGNER
NSS

REVIEWER
TAN08-29-2025

PROJECT ID
121899

SHEET TOTAL
P.52 66

SEEDING
END SO.
WIDTH YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CROSS SECTIONS - BUTTERWORTH ROAD
STA. 316+00 TO STA. 317+50

DESIGN AGENCY



CHOICE ONE ENGINEERING

DESIGNER

NSS

REVIEWER

TAN08-29-2025

PROJECT ID

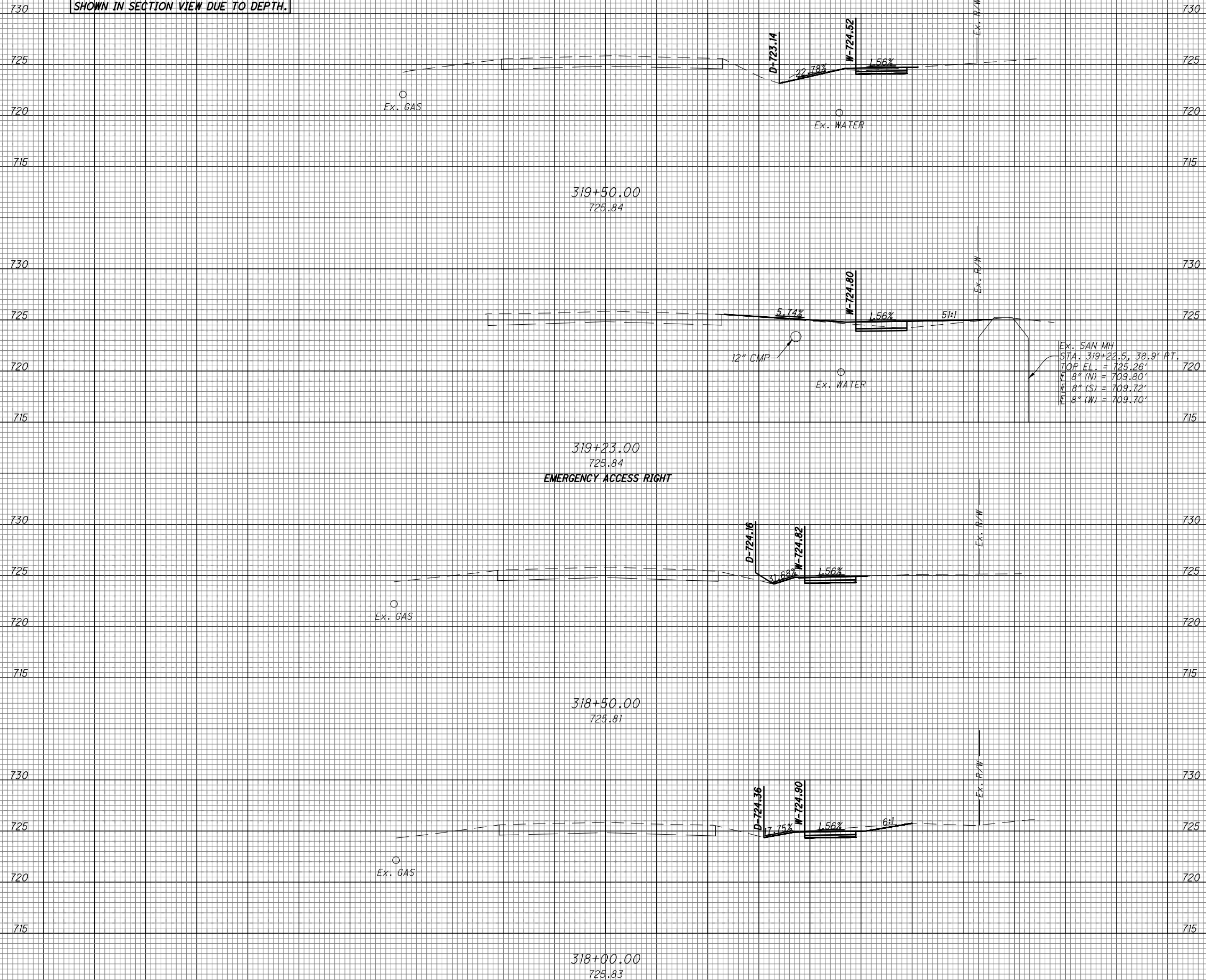
121899

SHEET TOTAL

P.53 66

SEEDING
END SO.
WIDTH YDS.

NOTE: EXISTING SANITARY SEWER NOT SHOWN IN SECTION VIEW DUE TO DEPTH.



Ex. SAN MH
STA. 319+22.5, 38.9' RT.
TOP EL. = 725.26'
E 8" (N) = 709.80'
E 8" (S) = 709.72'
E 8" (W) = 709.70'

END AREA		VOLUME	
CUT	FILL	CUT	FILL

Z:\project\Warren\LoveLand\WAR-LOV-2401SR48SidewalkConstructionPlans\121899_XS001.dwg 29-Aug-25 1:45 PM

121899

CROSS SECTIONS - BUTTERWORTH ROAD
STA. 318+00 TO STA. 319+50

DESIGN AGENCY



CHOICE ONE ENGINEERING

DESIGNER
NSS

REVIEWER

TAN08-29-2025

PROJECT ID

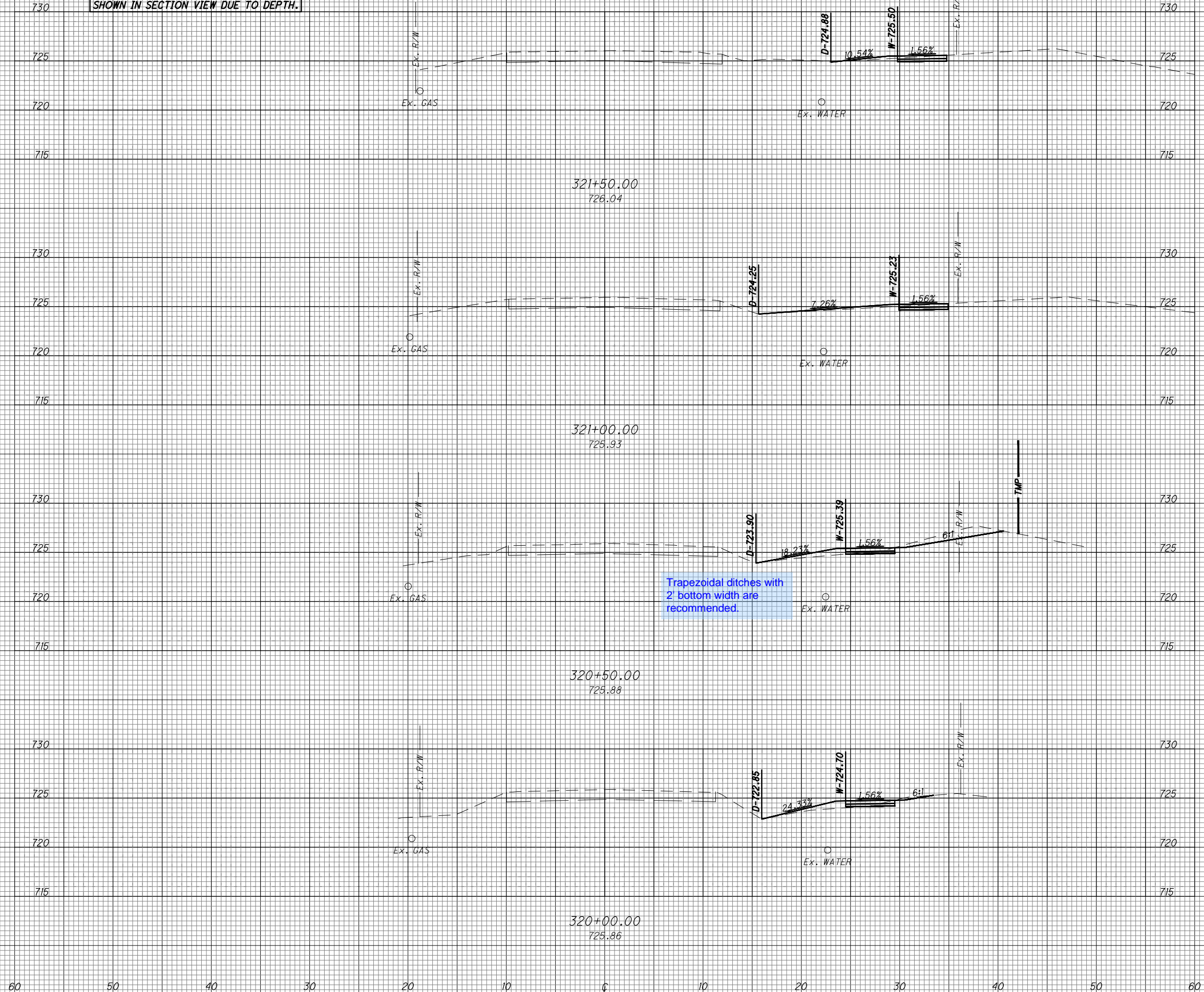
121899

SHEET TOTAL

P.54 66

SEEDING
END SO.
WIDTH YDS.

NOTE: EXISTING SANITARY SEWER NOT SHOWN IN SECTION VIEW DUE TO DEPTH.



Trapezoidal ditches with 2' bottom width are recommended.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CROSS SECTIONS - BUTTERWORTH ROAD
STA. 320+00 TO STA. 321+50

DESIGN AGENCY



CHOICE ONE ENGINEERING

DESIGNER
NSS

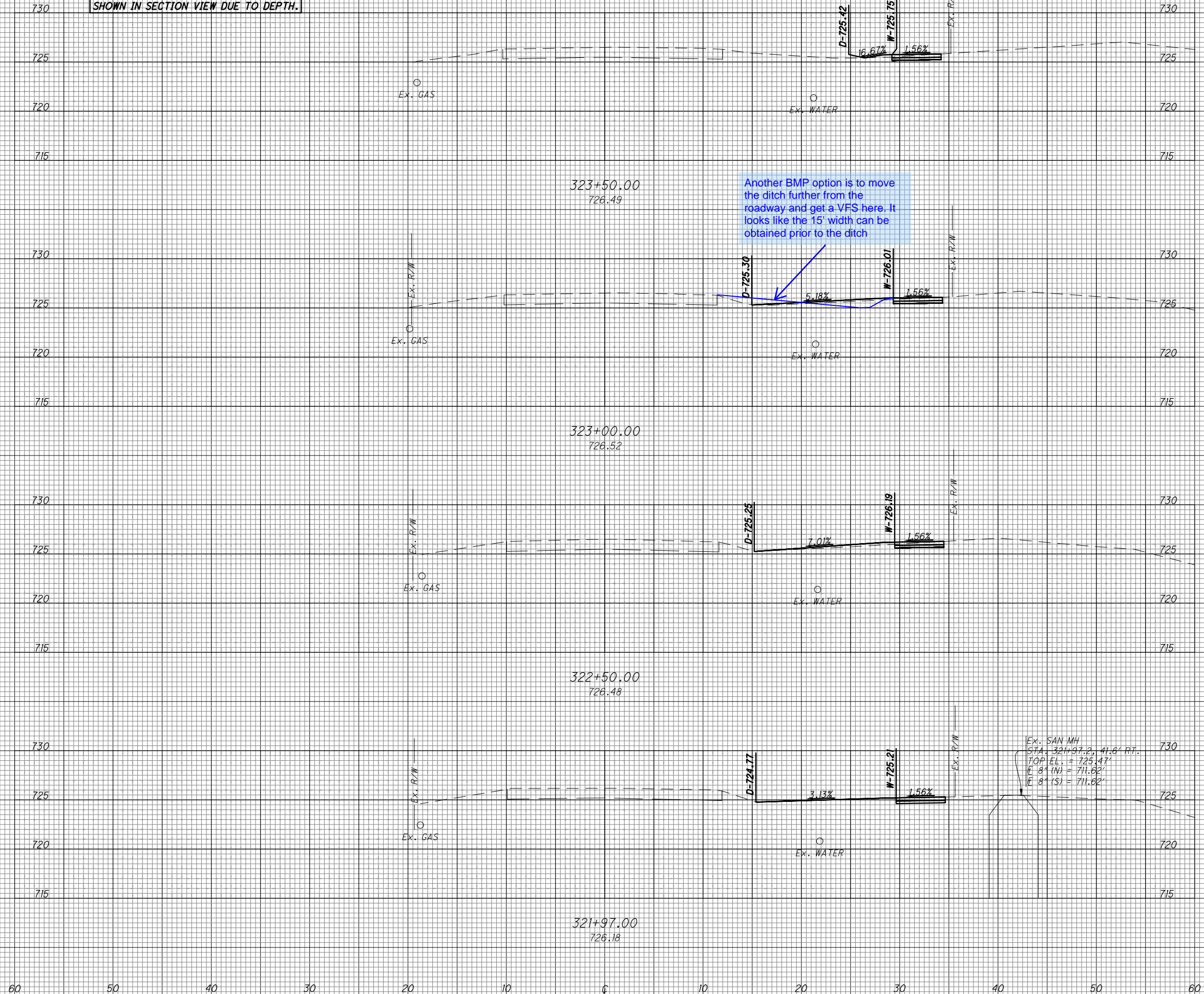
REVIEWER
TAN08-29-2025

PROJECT ID
121899

SHEET TOTAL
P.55 66

SEEDING
END SO.
WIDTH YDS.

NOTE: EXISTING SANITARY SEWER NOT SHOWN IN SECTION VIEW DUE TO DEPTH.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CROSS SECTIONS - BUTTERWORTH ROAD
STA. 322+00 TO STA. 323+50

DESIGN AGENCY



CHOICE ONE ENGINEERING

DESIGNER
NSS

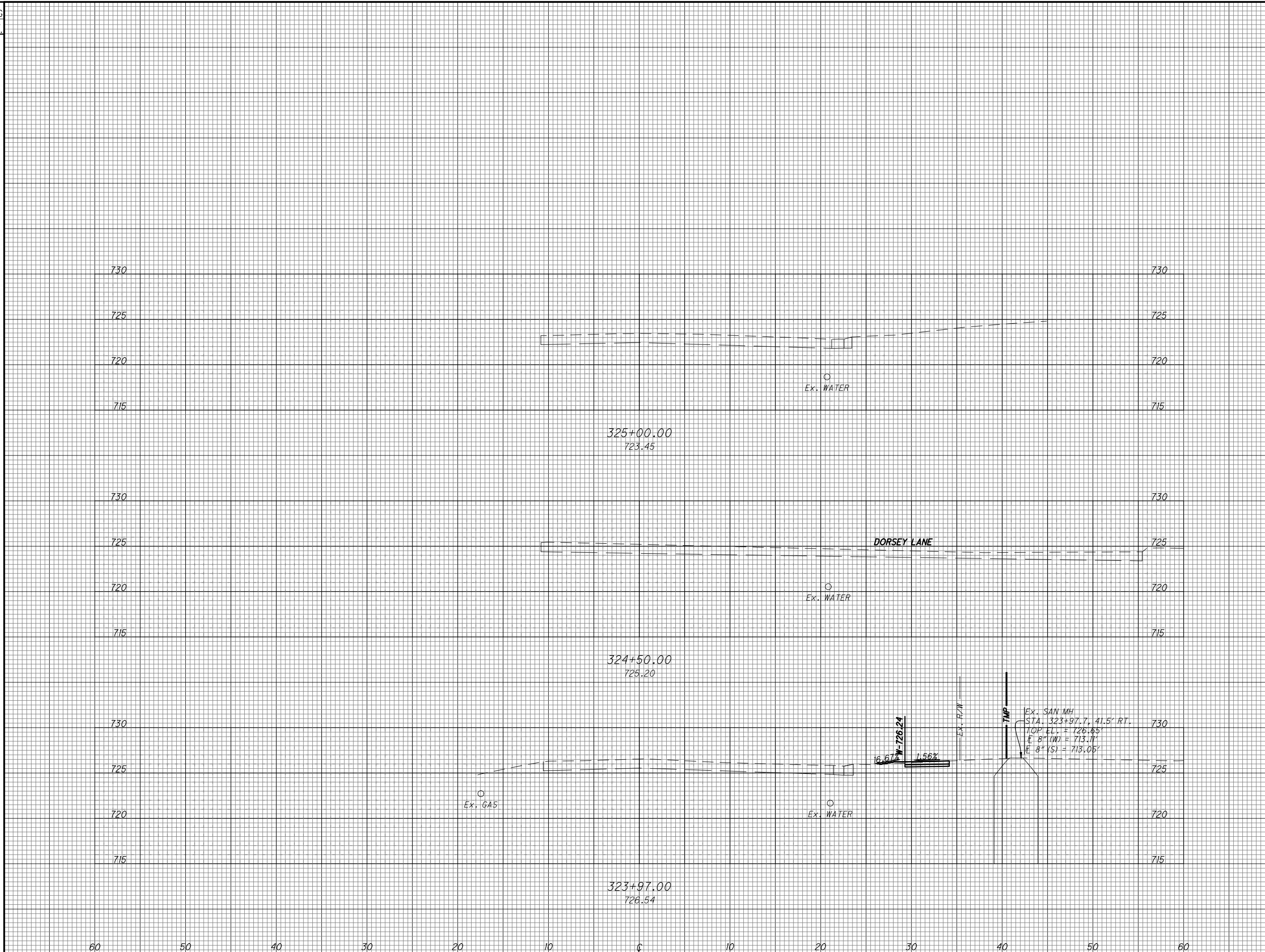
REVIEWER
TAN08-29-2025

PROJECT ID
121899

SHEET TOTAL
P.56 66

SEEDING
END SO.
WIDTH YDS.

END AREA
CUT FILL
VOLUME
CUT FILL



CROSS SECTIONS - BUTTERWORTH ROAD
STA. 323+97 TO STA. 325+00

DESIGN AGENCY



CHOICE ONE ENGINEERING

DESIGNER

NSS

REVIEWER

TAN08-29-2025

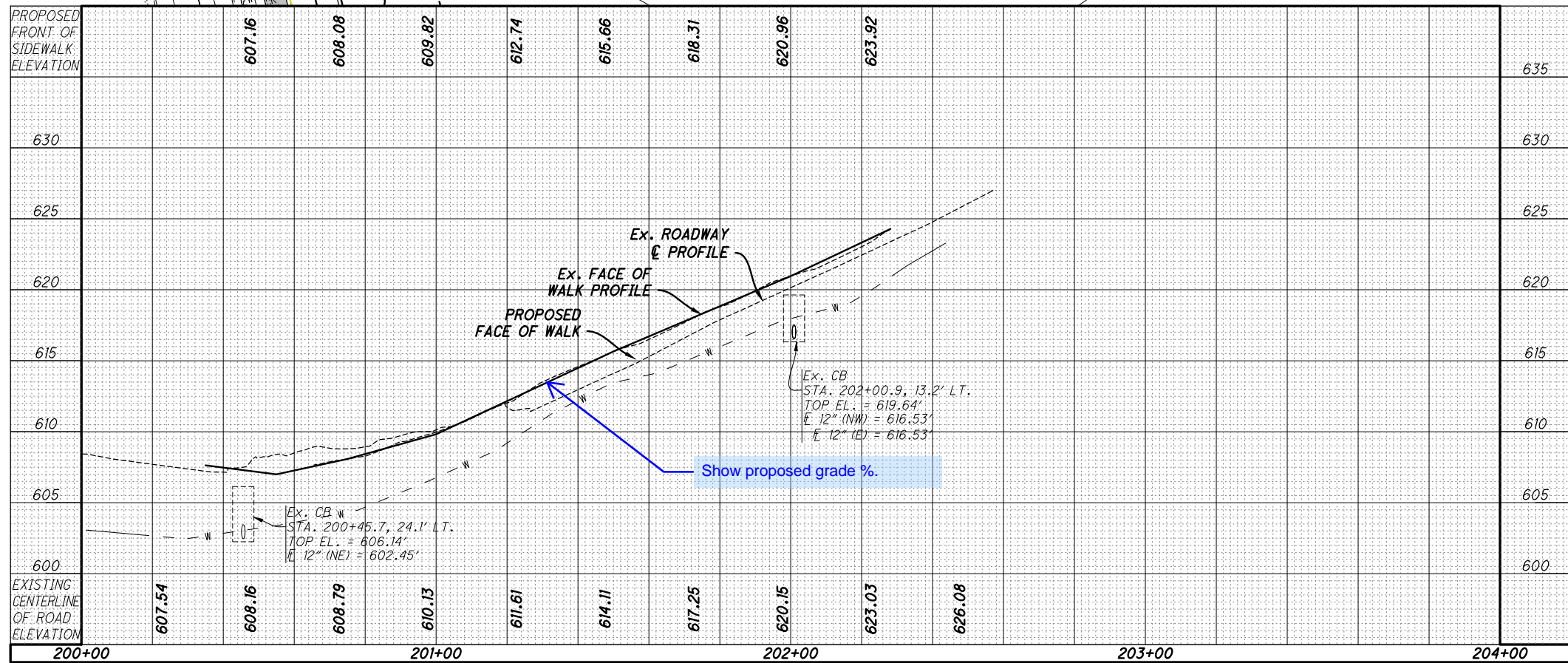
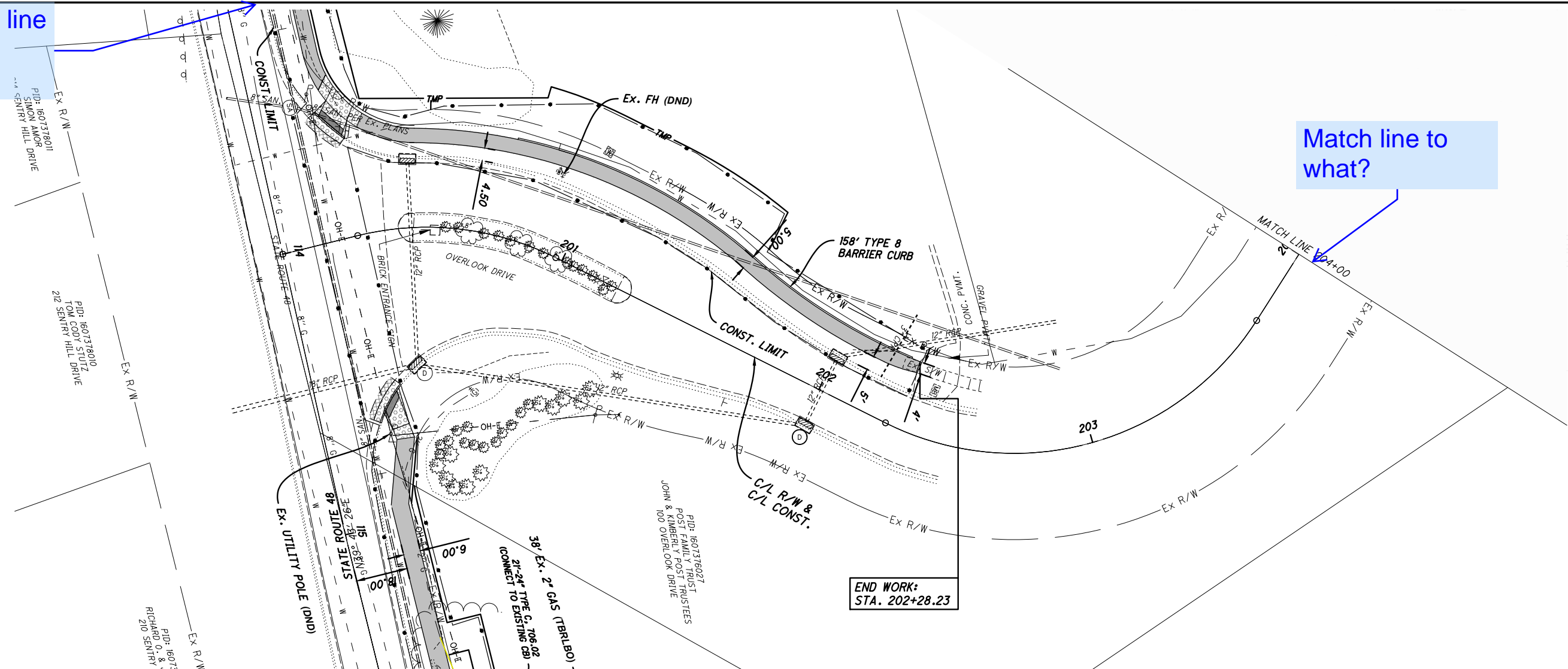
PROJECT ID

121899

SHEET TOTAL

P.57 66

Show match line and sheet number.



PLAN AND PROFILE - OVERLOOK DRIVE
STA. 200+00 TO STA. 204+00

DESIGN AGENCY



CHOICE ONE ENGINEERING

DESIGNER

REVIEWER

TAN 08-29-2025

PROJECT ID

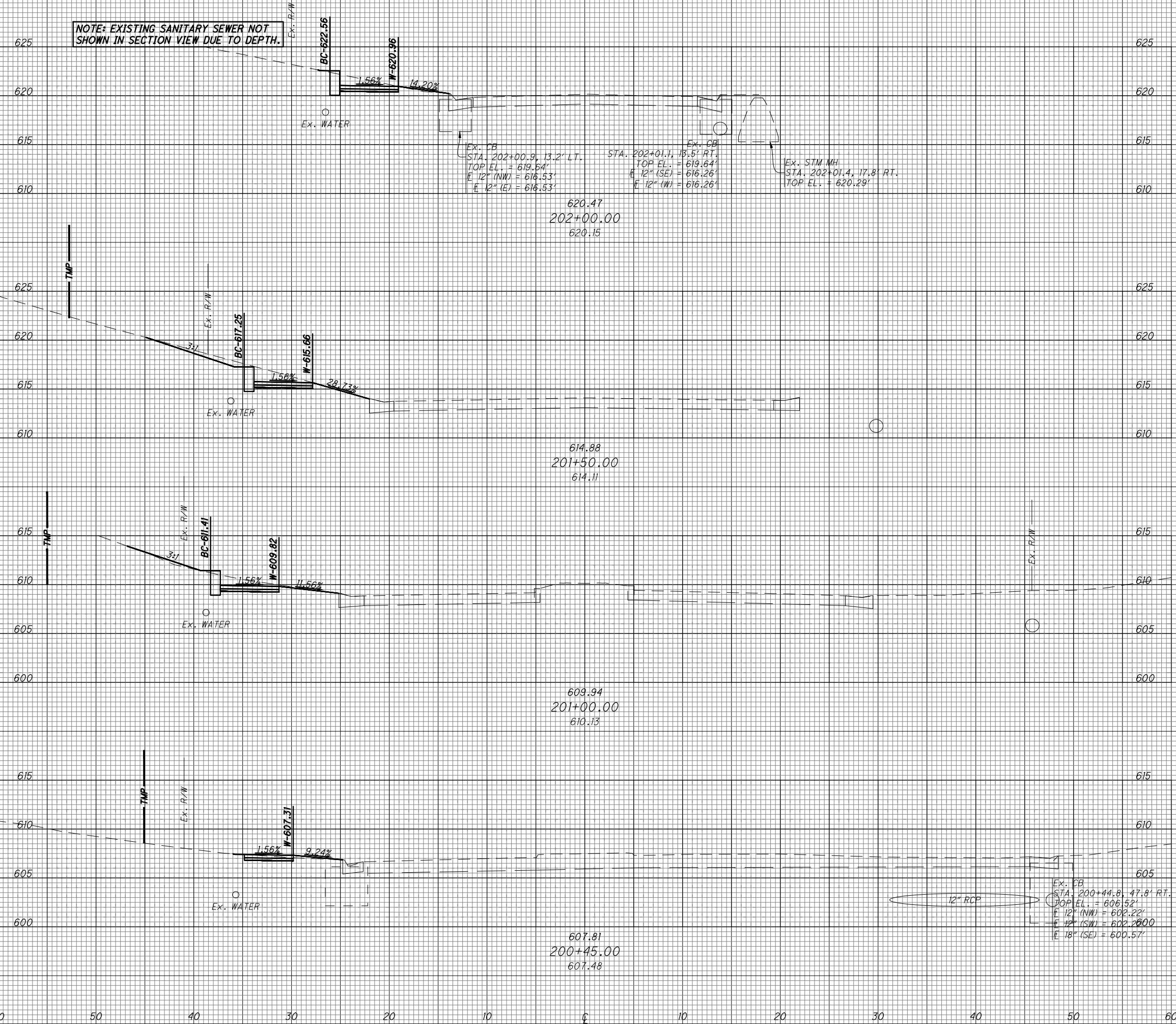
121899

SHEET

TOTAL

P.58 66

SEEDING
END SO.
WIDTH YDS.



END AREA	VOLUME	
	CUT	FILL

CROSS SECTIONS - OVERLOOK DRIVE
STA. 200+45 TO STA. 202+00

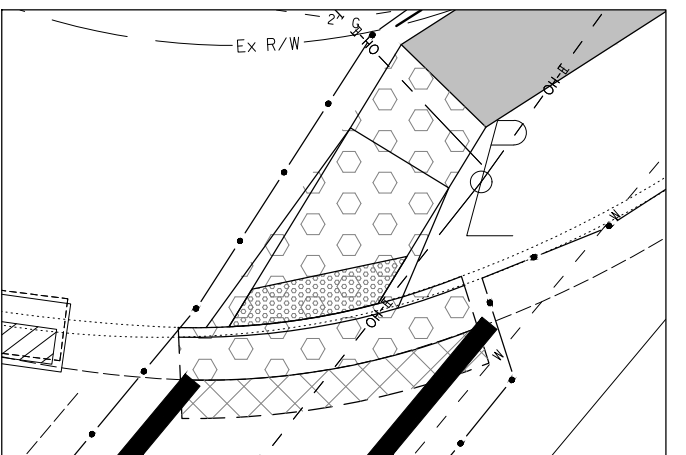
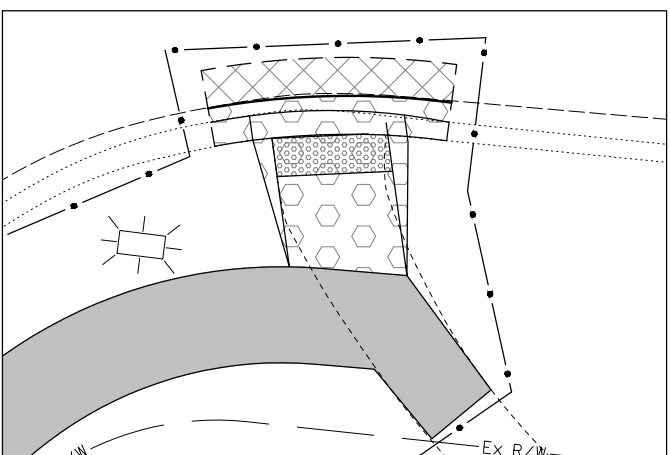
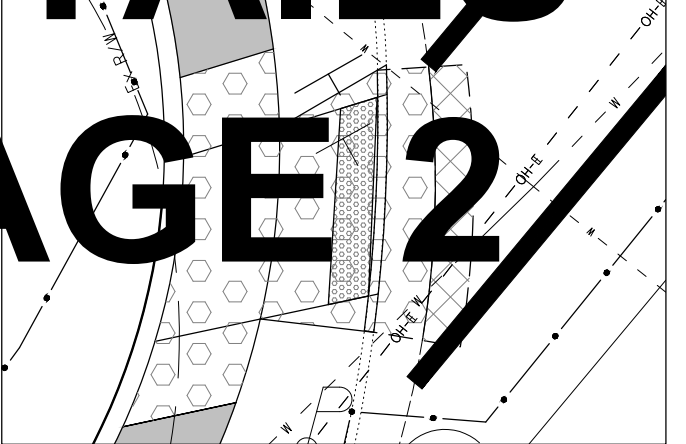
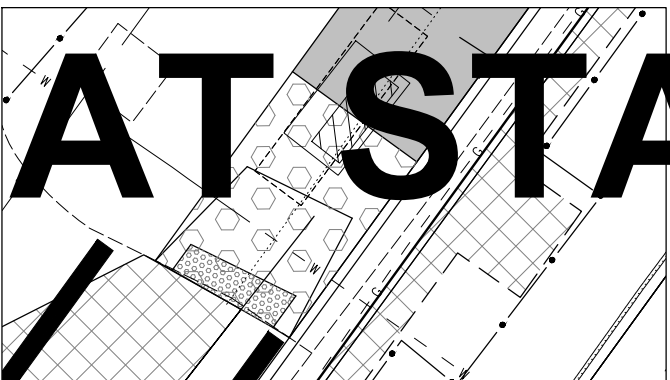
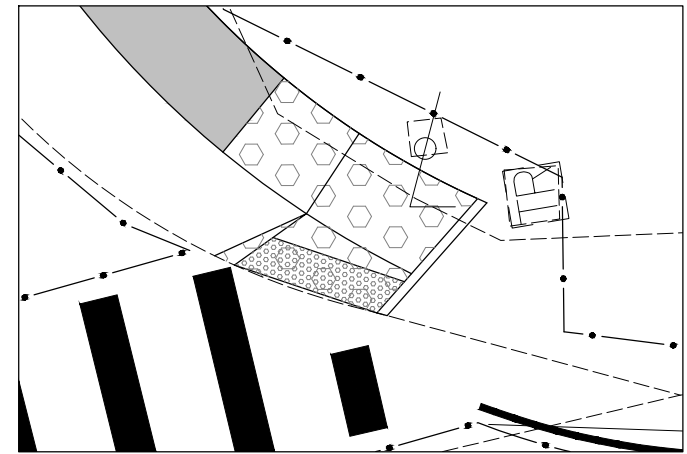
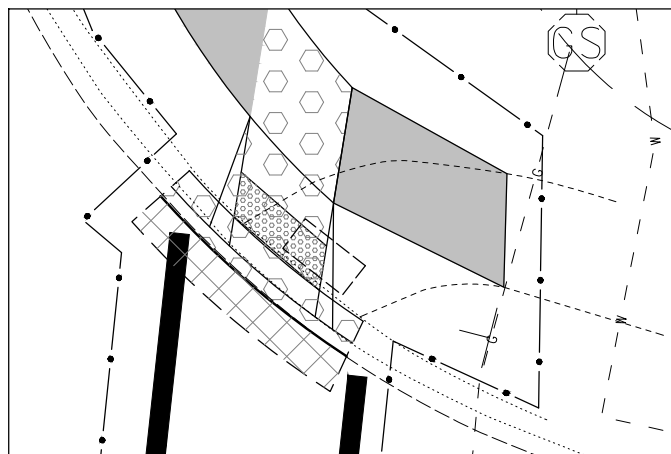
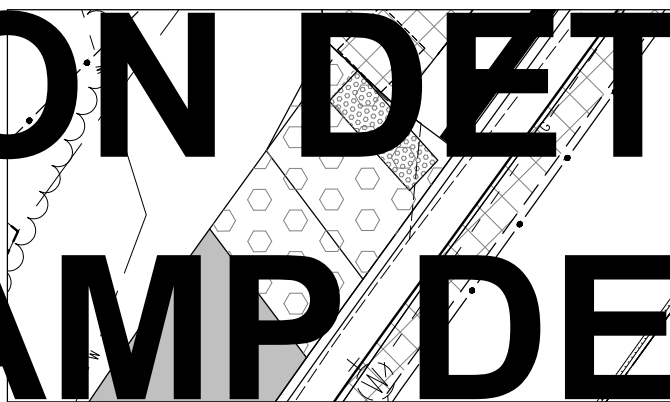
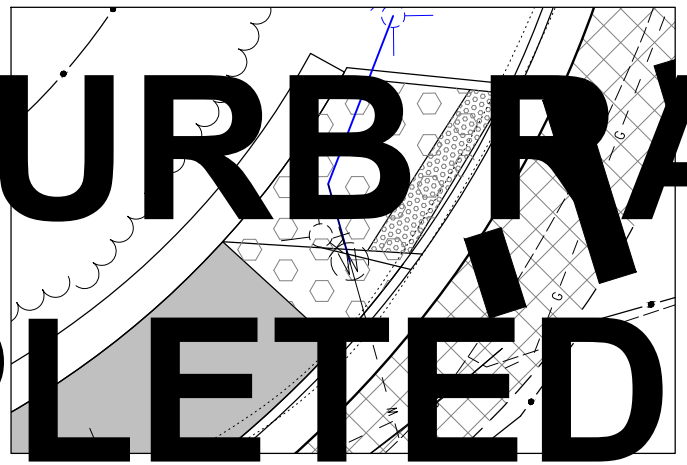
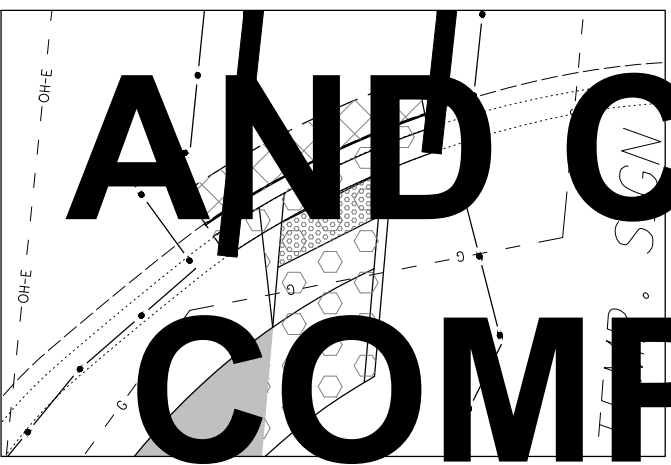
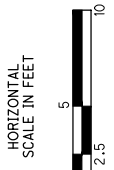
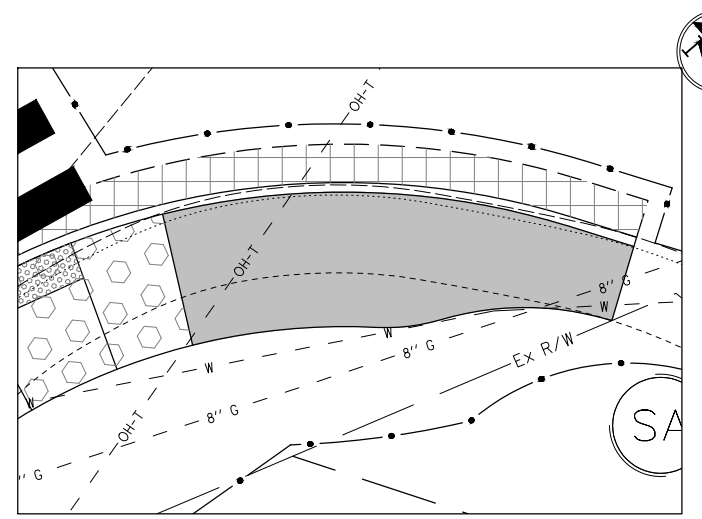
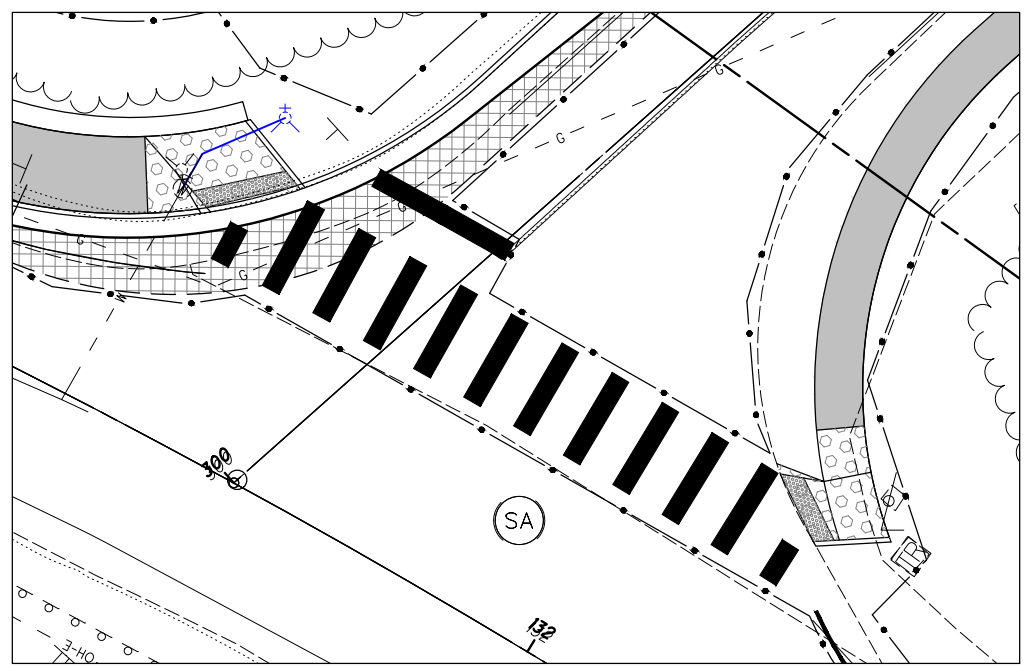
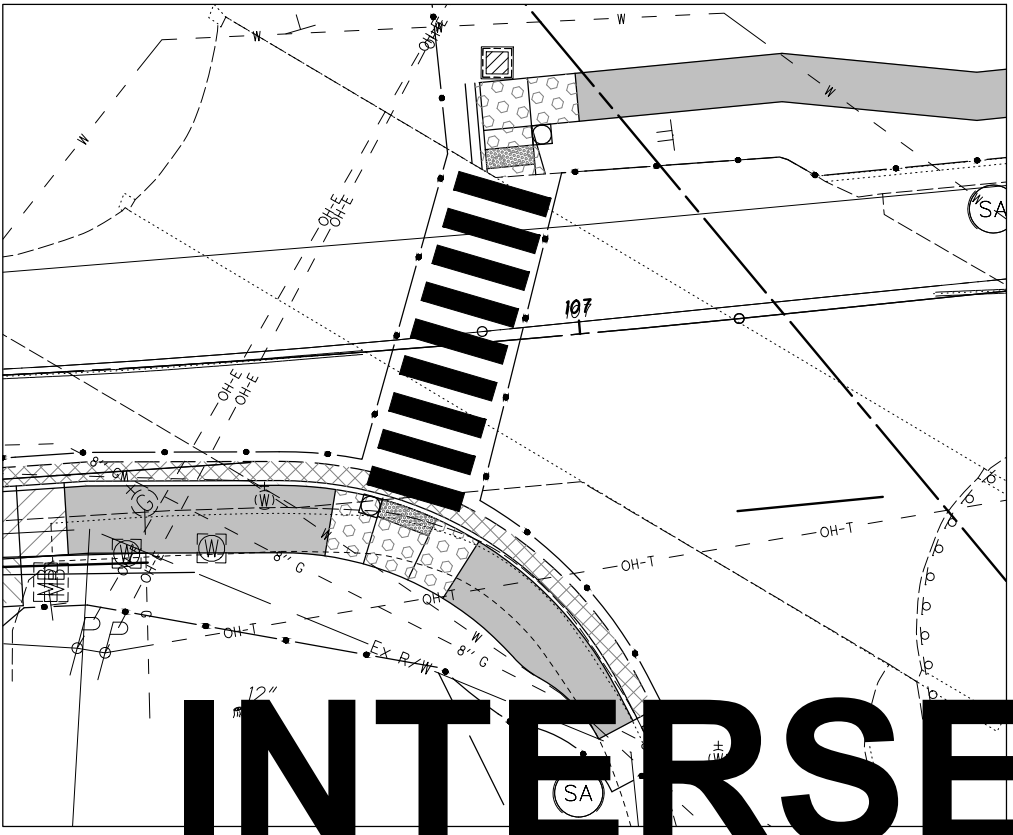
DESIGN AGENCY
CHOICE ONE ENGINEERING

DESIGNER
NSS

REVIEWER
TAN08-29-2025

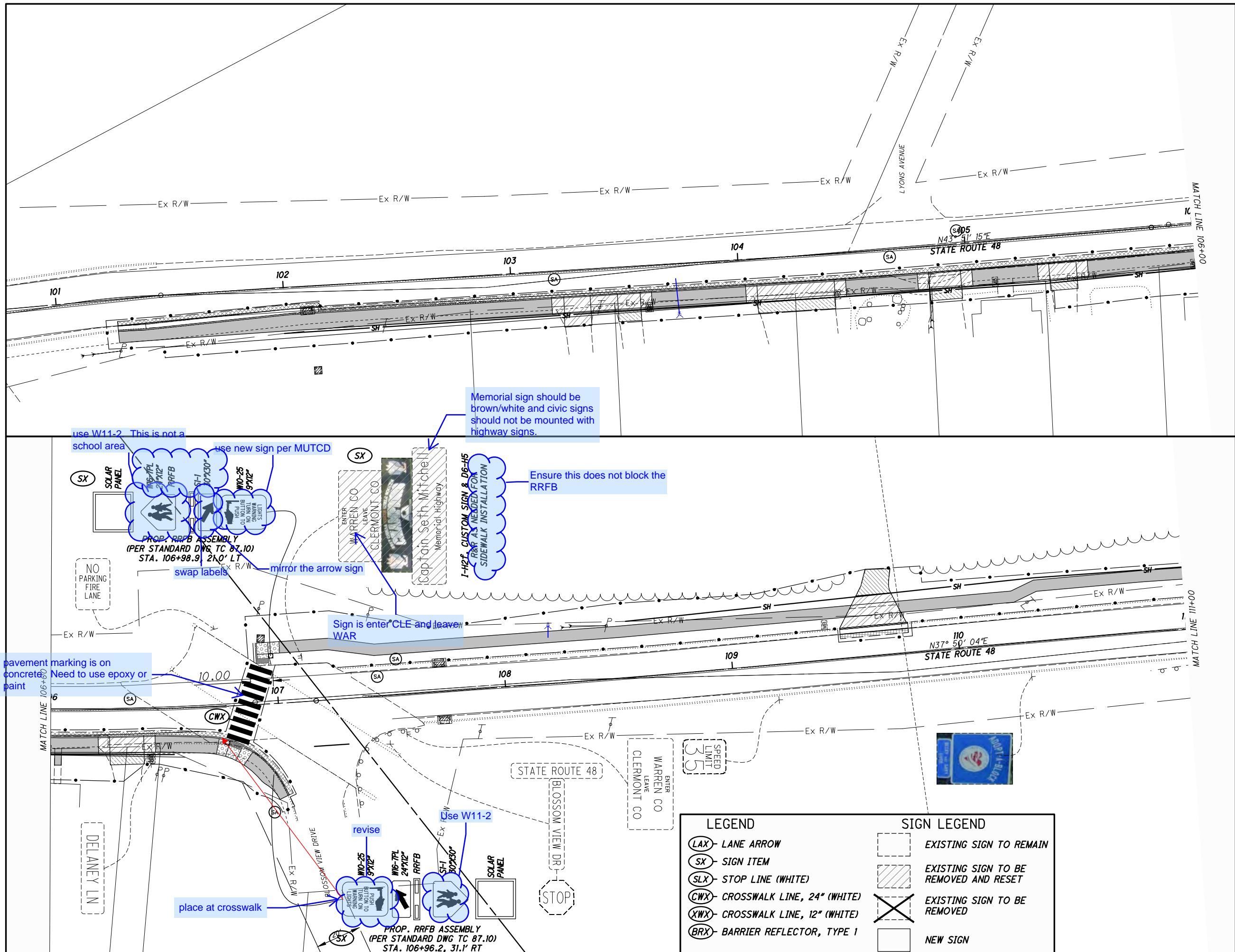
PROJECT ID
121899

SHEET TOTAL
P.59 66

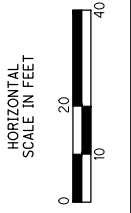


INTERSECTION DETAILS AND CURB RAMP DETAILS COMPLETED AT STAGE 2



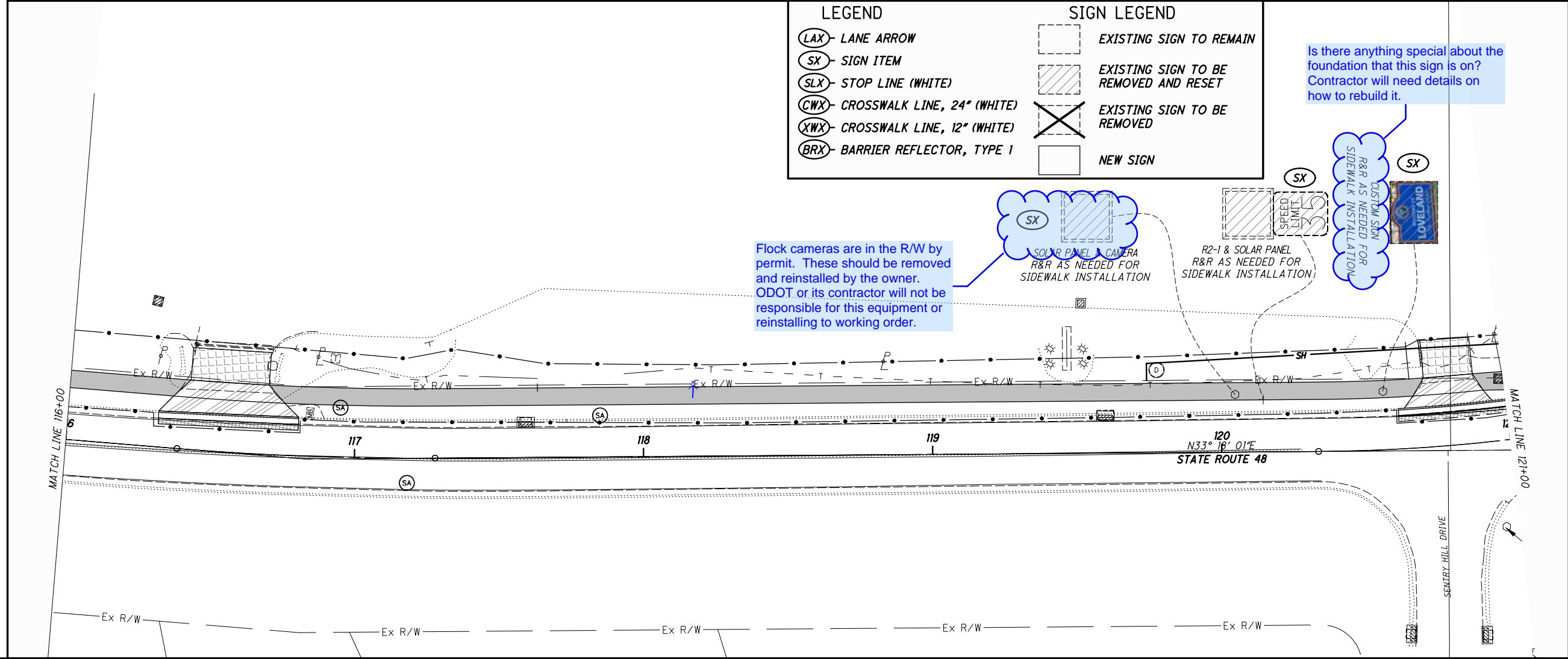
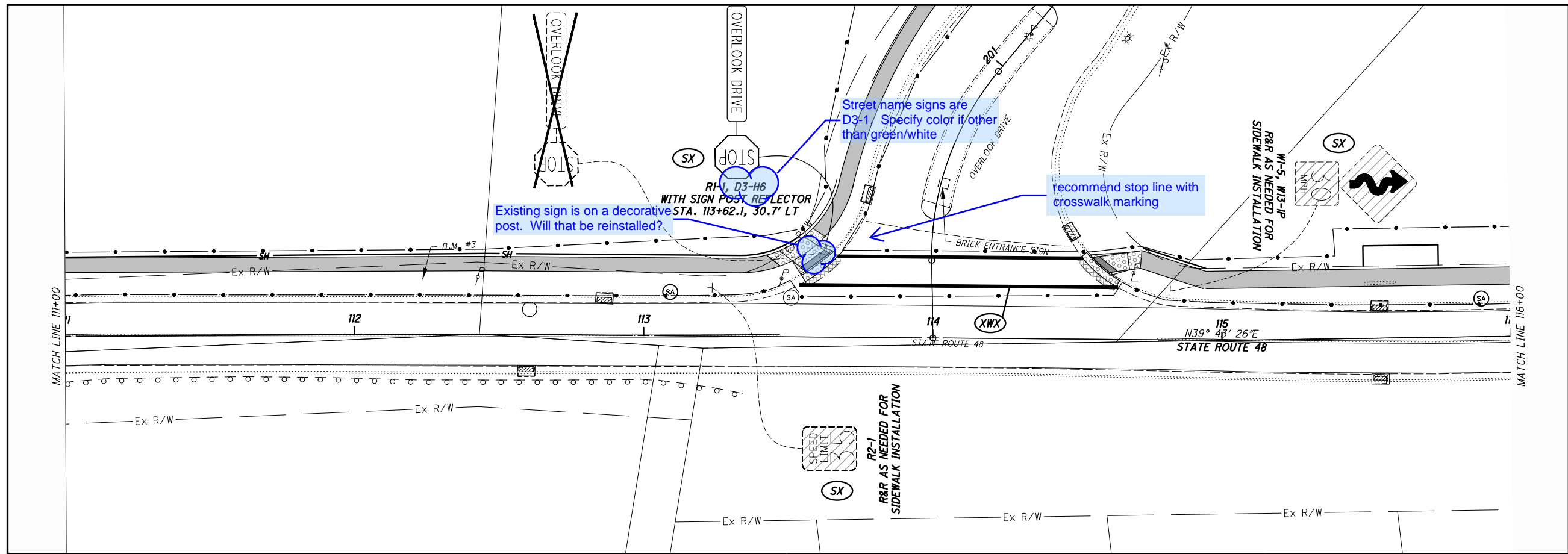


LEGEND	SIGN LEGEND
(LAX) LANE ARROW	[Dashed Box] EXISTING SIGN TO REMAIN
(SX) SIGN ITEM	[Hatched Box] EXISTING SIGN TO BE REMOVED AND RESET
(SLX) STOP LINE (WHITE)	[Box with X] EXISTING SIGN TO BE REMOVED
(CWX) CROSSWALK LINE, 24" (WHITE)	[White Box] NEW SIGN
(XWX) CROSSWALK LINE, 12" (WHITE)	
(BRX) BARRIER REFLECTOR, TYPE 1	

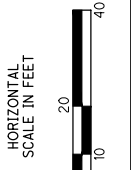


TRAFFIC CONTROL PLAN - STATE ROUTE 48
STA. 101+00 TO STA. 111+00

DESIGN AGENCY	
CHOICE ONE ENGINEERING	
DESIGNER	NSS
REVIEWER	TAN08-29-2025
PROJECT ID	121899
SHEET TOTAL	P.61 66

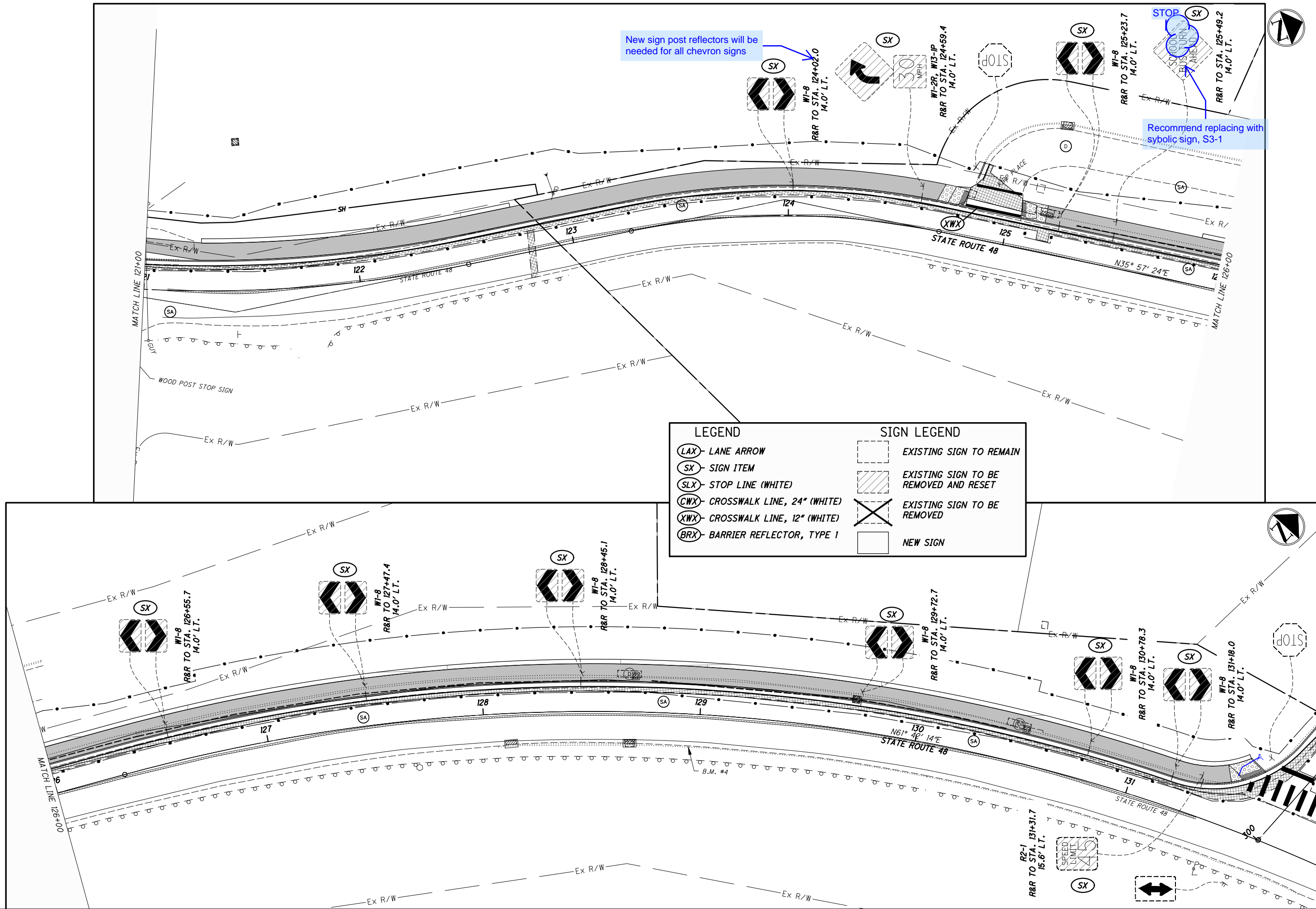


LEGEND		SIGN LEGEND	
(LAX)	LANE ARROW	(---)	EXISTING SIGN TO REMAIN
(SX)	SIGN ITEM	(//)	EXISTING SIGN TO BE REMOVED AND RESET
(SLX)	STOP LINE (WHITE)	(X)	EXISTING SIGN TO BE REMOVED
(CWX)	CROSSWALK LINE, 24" (WHITE)	(□)	NEW SIGN
(XWX)	CROSSWALK LINE, 12" (WHITE)		
(BRX)	BARRIER REFLECTOR, TYPE 1		

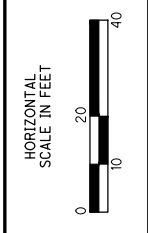


TRAFFIC CONTROL PLAN - STATE ROUTE 48
STA. 111+00 TO STA. 121+00

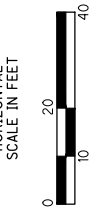
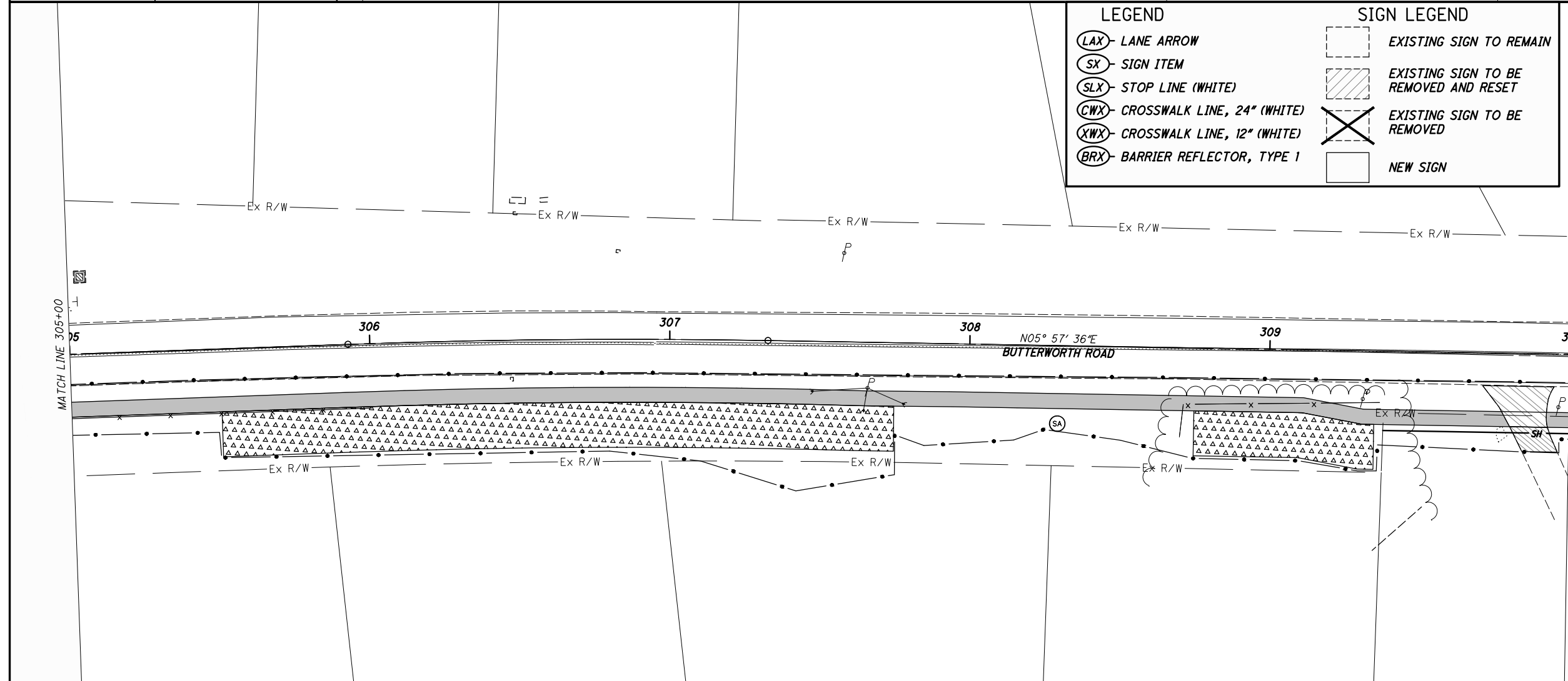
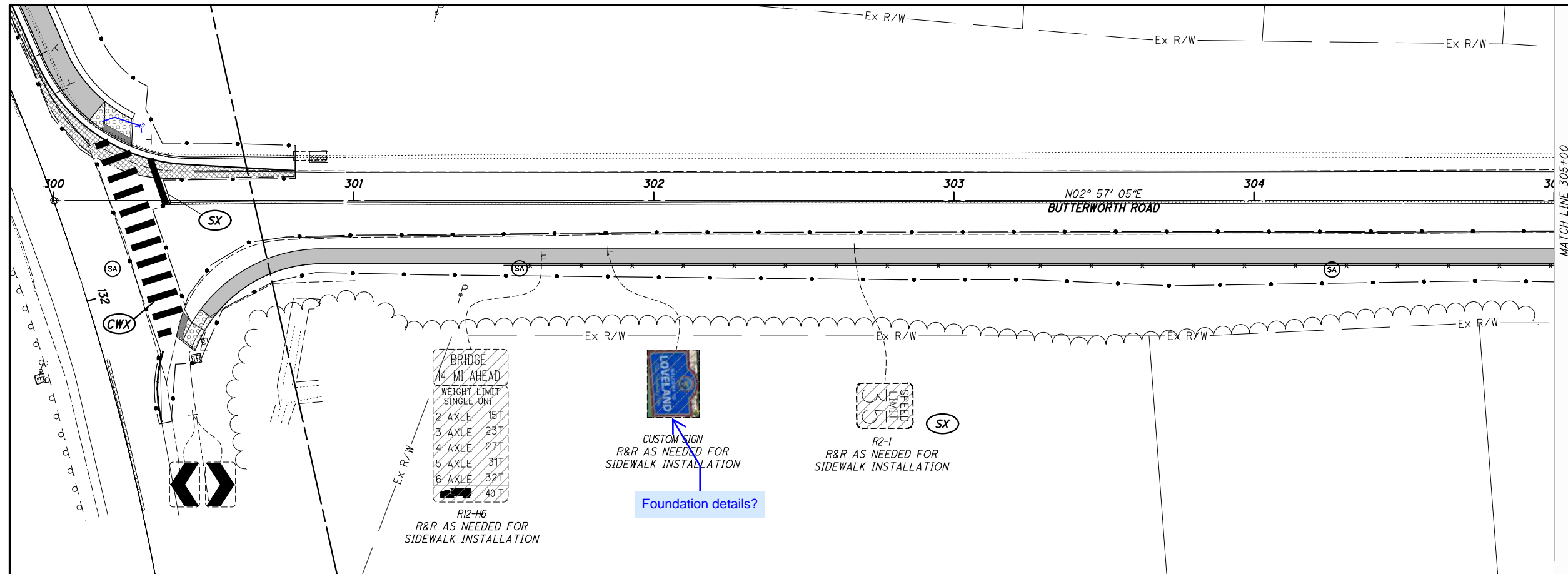
DESIGN AGENCY	
CHOICE ONE ENGINEERING	
DESIGNER	
NSS	
REVIEWER	
TAN08-29-2025	
PROJECT ID	
121899	
SHEET	TOTAL
P.62	66



TRAFFIC CONTROL PLAN - STATE ROUTE 48
 STA. 121+00 TO STA. 131+95



DESIGN AGENCY	
CHOICE ONE ENGINEERING	
DESIGNER	
NSS	
REVIEWER	
TAN08-29-2025	
PROJECT ID	
121899	
SHEET	TOTAL
P.63	66



TRAFFIC CONTROL PLAN - BUTTERWORTH ROAD
STA. 300+00 TO STA. 310+00

DESIGN AGENCY



CHOICE ONE ENGINEERING

DESIGNER

NSS

REVIEWER

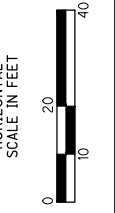
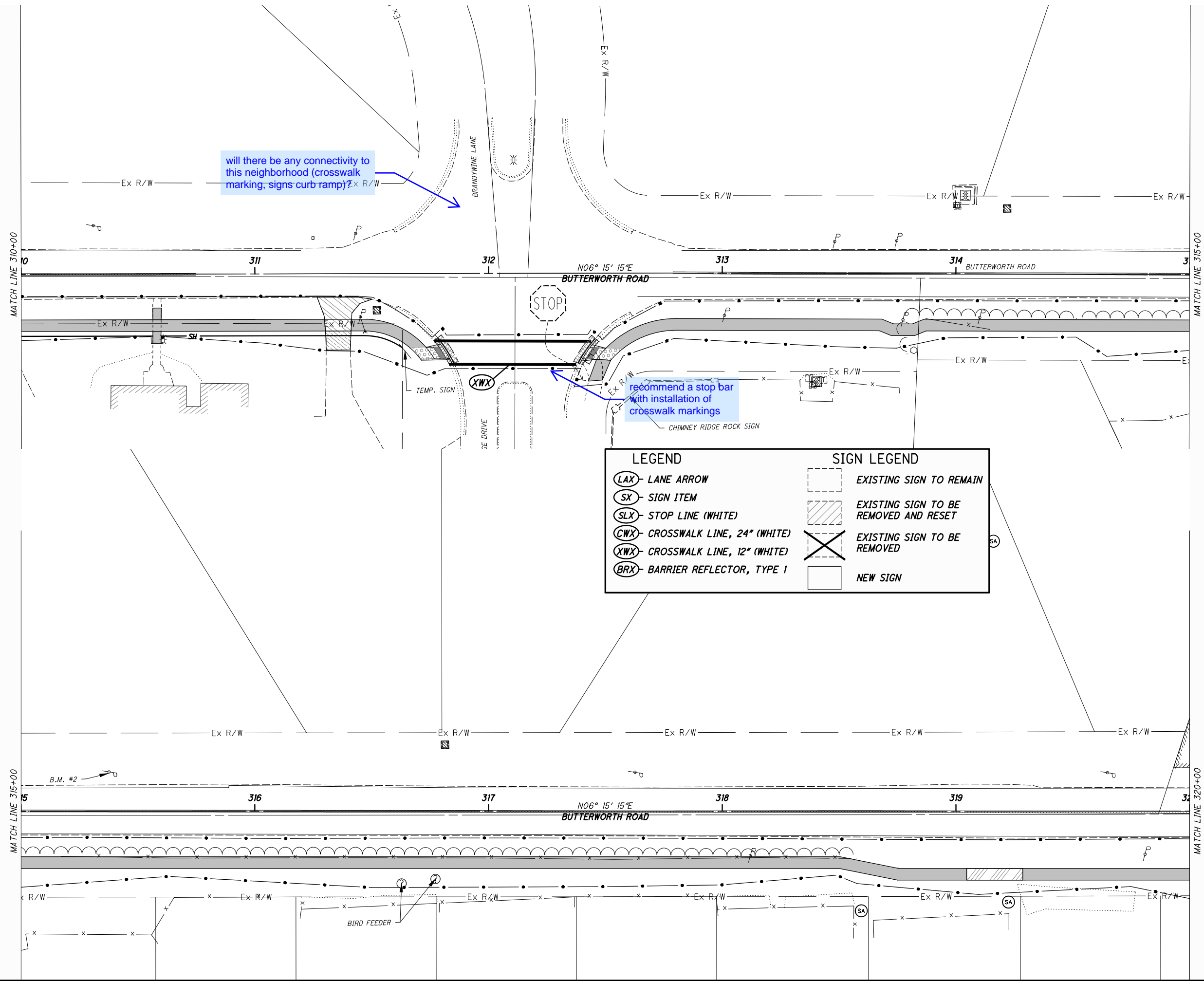
TAN08-29-2025

PROJECT ID

121899

SHEET TOTAL

P.64 66



TRAFFIC CONTROL PLAN - BUTTERWORTH ROAD
 STA. 310+00 TO STA. 320+00

DESIGN AGENCY



CHOICE ONE ENGINEERING

DESIGNER

NSS

REVIEWER

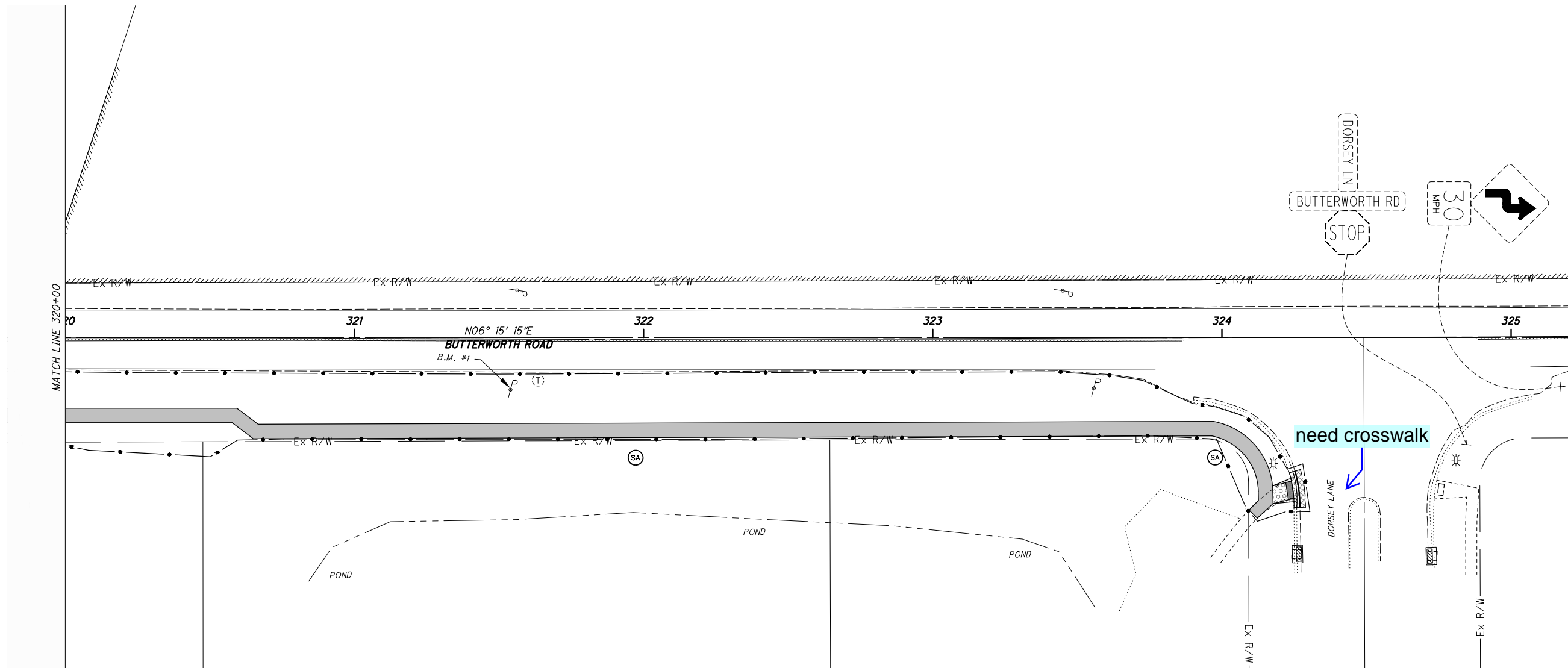
TAN08-29-2025

PROJECT ID

121899

SHEET TOTAL

P.65 66



LEGEND		SIGN LEGEND	
(LAX)	LANE ARROW	[Dashed Box]	EXISTING SIGN TO REMAIN
(SX)	SIGN ITEM	[Hatched Box]	EXISTING SIGN TO BE REMOVED AND RESET
(SLX)	STOP LINE (WHITE)	[Box with X]	EXISTING SIGN TO BE REMOVED
(CWX)	CROSSWALK LINE, 24" (WHITE)	[Solid Box]	NEW SIGN
(XWX)	CROSSWALK LINE, 12" (WHITE)		
(BRX)	BARRIER REFLECTOR, TYPE 1		

TRAFFIC CONTROL PLAN - BUTTERWORTH ROAD
STA. 320+00 TO STA. 325+00

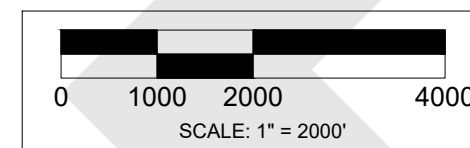


DESIGN AGENCY	
CHOICE ONE ENGINEERING	
DESIGNER	
NSS	
REVIEWER	
TAN08-29-2025	
PROJECT ID	
121899	
SHEET	TOTAL
P.66	66

SOLDIER PILE & LAGGING WALL WAR-SR48-6.65

CHOICE ONE ENGINEERING CORP SR-48 AND BUTTERWORTH ROAD LOVELAND, OHIO

SITE VICINITY MAP



SHEET INDEX

- SHEET 1 - COVER & TITLE SHEET
- SHEET 2 - OVERALL SITE PLAN
- SHEET 3 - SOLDIER PILE & LAGGING WALL PLAN & PROFILE - SPL1
- SHEET 4 - SOLDIER PILE & LAGGING WALL PLAN & PROFILE - SPL2
- SHEET 5 - SOLDIER PILE & LAGGING WALL PLAN & PROFILE - SPL2
- SHEET 6 - SOLDIER PILE & LAGGING WALL DETAILS
- SHEET 7 - SOLDIER PILE & LAGGING WALL SCHEDULE - SPL1
- SHEET 8 - SOLDIER PILE & LAGGING WALL SCHEDULE - SPL2
- SHEET 9 - GENERAL NOTES & SOLDIER PILE UNDERDRAIN DETAIL
- SHEET 10 - 2025 BORING LOGS
- SHEET 11 - HISTORIC BORING INFORMATION
- SHEET 12 - HISTORIC BORING INFORMATION

GENERAL DRAWING NOTES

1. THESE PLANS ARE SIZED FOR 34 INCHES BY 22 INCHES PAPER.
2. THESE PLANS ARE INTENDED TO BE PRINTED IN COLOR.
3. THE BID DRAWINGS ARE TO AN APPROXIMATE SCALE BASED ON SITE TOPOGRAPHIC MAPPING. WHILE REASONABLE ATTEMPTS WERE MADE TO PROVIDE THE BIDDERS WITH ACCURATE SCALED PLANS THAT REFLECT CURRENT CONDITIONS, MINOR ERRORS ARE EVIDENT. THE BIDDERS SHOULD VERIFY QUANTITIES BY PERFORMING A THOROUGH SITE VISIT AND OBTAINING HIS OWN TAKE OFF OF REQUIRED QUANTITIES FOR THE WORK ON THE PROJECT. TERRACON WILL NOT BE RESPONSIBLE FOR ADDITIONAL COSTS RESULTING FROM THE BIDDER NOT PERFORMING A THOROUGH SITE VISIT.

SHEET 1

DESIGNED BY:	JDH
DRAWN BY:	RLC
APPVD. BY:	DWW
SCALE:	AS NOTED
DATE:	9/5/2025
JOB NO.:	N1255021
SHEET NO.:	1 OF 12

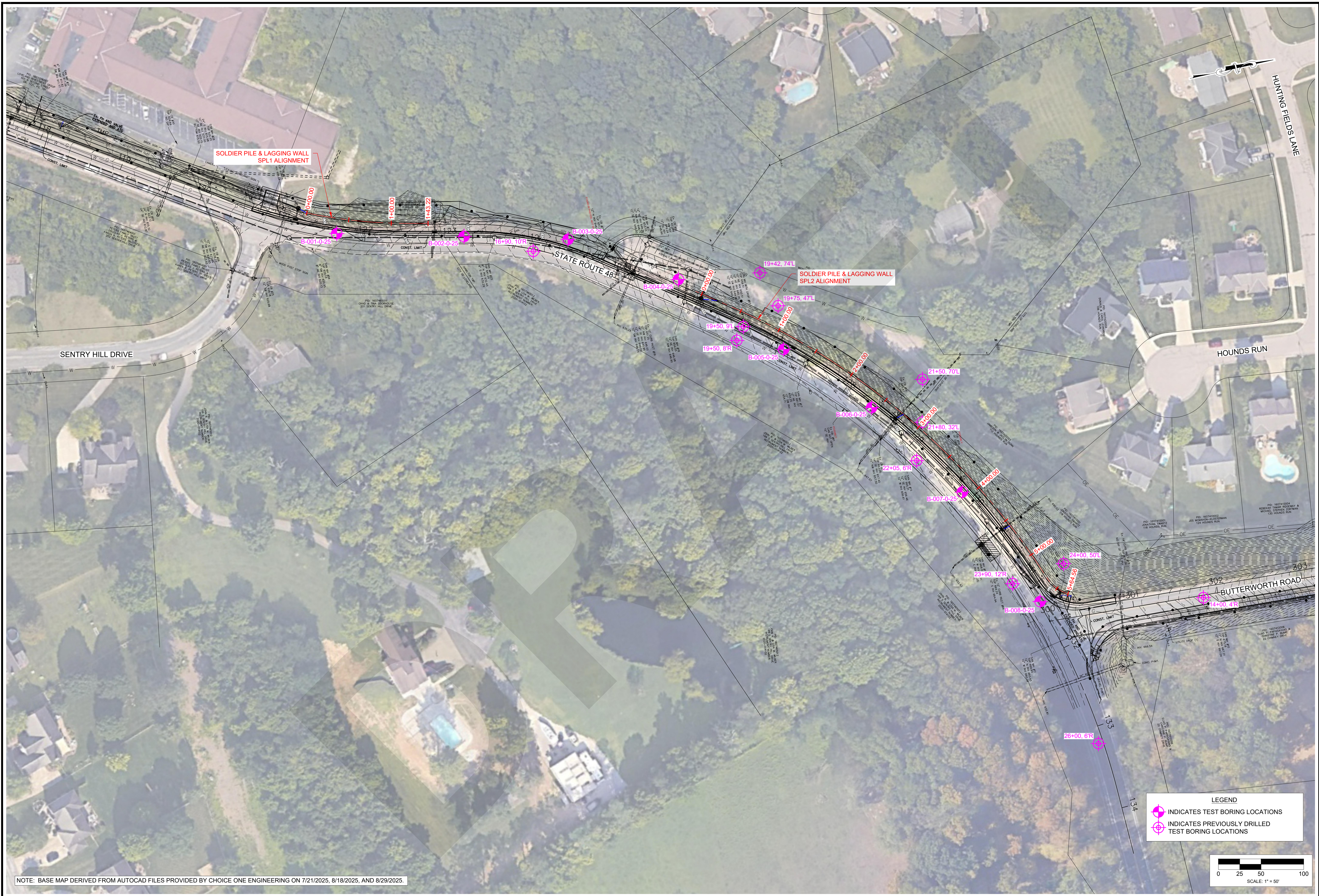
COVER & TITLE SHEET

WAR-SR48-6.65
CHOICE ONE ENGINEERING CORP
SR-48 AND BUTTERWORTH ROAD
LOVELAND, OHIO

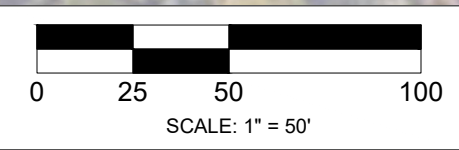
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611 LUNKEN PARK DRIVE
PH. (513) 321-5816
CINCINNATI, OHIO 45226
FAX. (513) 321-4540

REV.	DATE	BY	DESCRIPTION

Date: 9/6/2025 12:48 PM File Path: C:\USERS\JH\HAUBER\ONEDRIVE - TERRACON CONSULTANTS INC\JDH PROJECTS\N1255021 WAR-SR48-6.65 - GENERAL\07 WORKING FILES\03 MODEL\CAD\N1255021 SPL WALL PLANS.DWG



LEGEND
 INDICATES TEST BORING LOCATIONS
 INDICATES PREVIOUSLY DRILLED TEST BORING LOCATIONS



NOTE: BASE MAP DERIVED FROM AUTOCAD FILES PROVIDED BY CHOICE ONE ENGINEERING ON 7/21/2025, 8/18/2025, AND 8/29/2025.

REV.	DATE	BY	DESCRIPTION

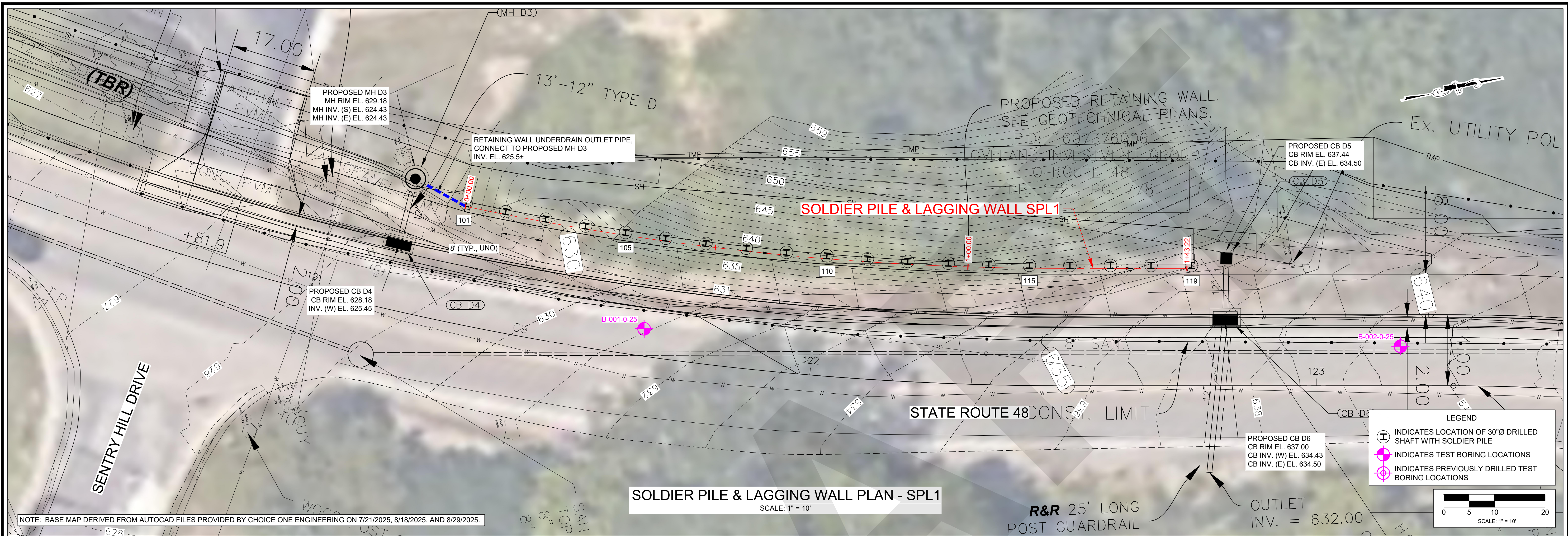
OVERALL SITE PLAN
 WAR-SR48-6.65
CHOICE ONE ENGINEERING CORP
 SR-48 AND BUTTERWORTH ROAD
 LOVELAND, OHIO

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 Explore with us
 611 LUNKEN PARK DRIVE CINCINNATI, OHIO 45226
 PH. (513) 321-5816 FAX. (513) 321-4540

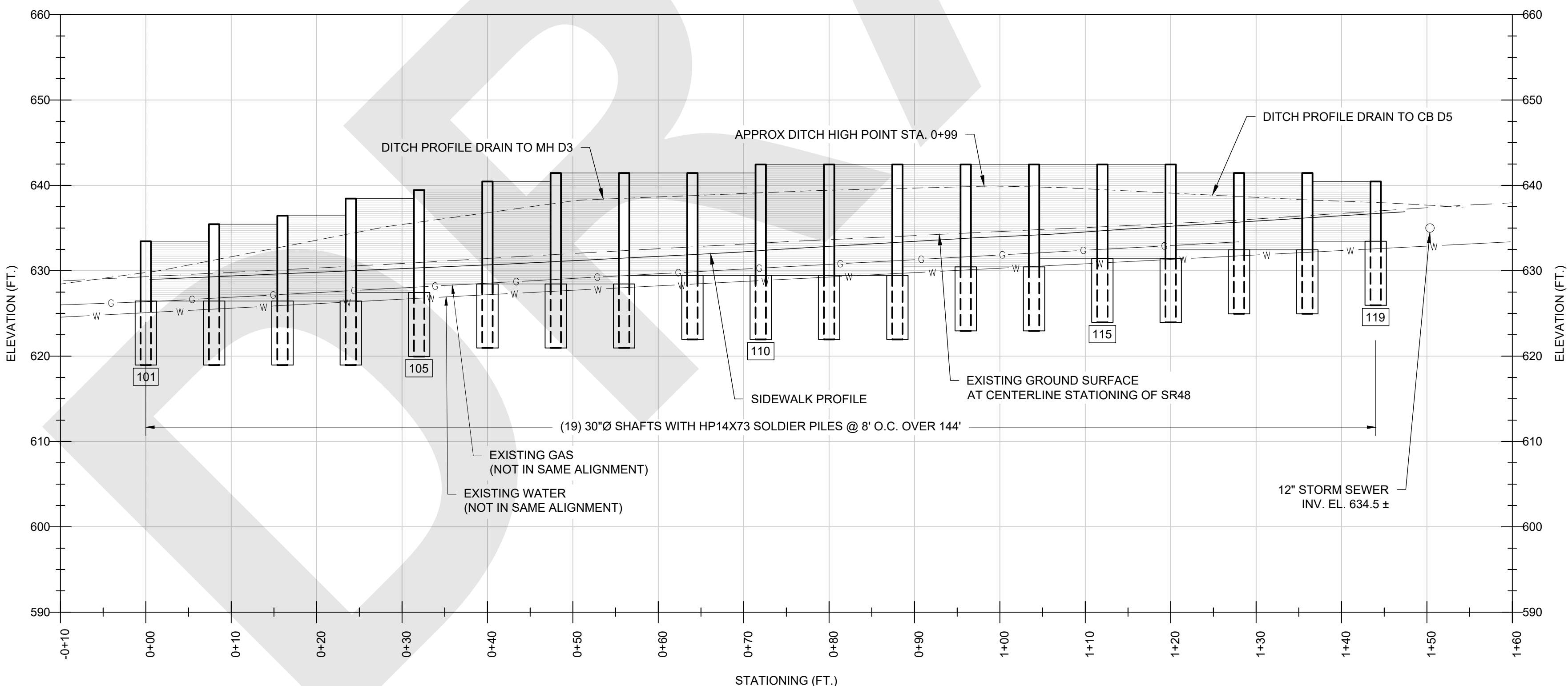
SHEET 2

DESIGNED BY:	JDH
DRAWN BY:	RLC
APPVD. BY:	DWW
SCALE:	AS NOTED
DATE:	9/5/2025
JOB NO.:	N1255021
SHEET NO.:	2 OF 12

Date: 9/5/2025 12:48 PM File Path: C:\Users\JDH\OneDrive - TERRACON CONSULTANTS INC\JDH PROJECTS\N1255021 WAR-SR48-6.65 - GENERAL\07 WORKING FILES\03 MODEL\CAD\N1255021 SPL WALL PLANS.DWG



SOLDIER PILE & LAGGING WALL PLAN - SPL1
SCALE: 1" = 10'



SOLDIER PILE & LAGGING WALL PROFILE - SPL1
SCALE: 1" = 10'

REV.	DATE	BY	DESCRIPTION

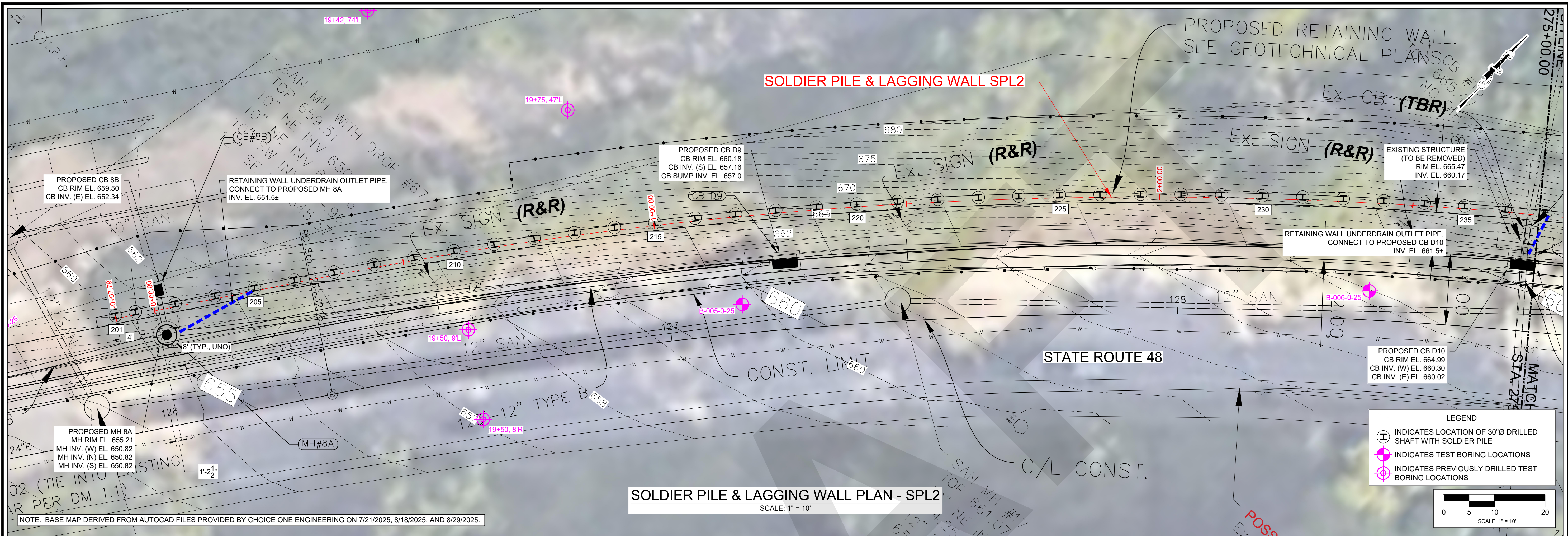
SOLDIER PILE & LAGGING WALL PLAN & PROFILE - SPL1
WAR-SR48-6.65
CHOICE ONE ENGINEERING CORP
SR-48 AND BUTTERWORTH ROAD
LOVELAND, OHIO

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CINCINNATI, OHIO 45226
FAX: (513) 321-4540

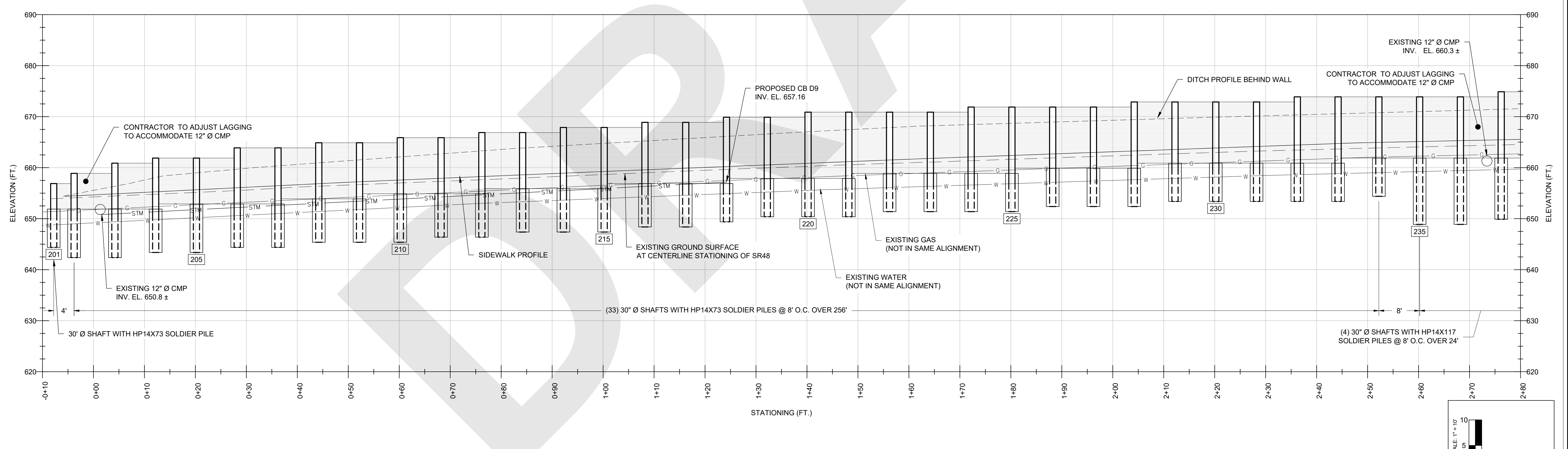
SHEET 3

DESIGNED BY:	JDH
DRAWN BY:	RLC
APPVD. BY:	DWW
SCALE:	AS NOTED
DATE:	9/5/2025
JOB NO.:	N1255021
SHEET NO.:	3 OF 12

Date: 9/5/2025 12:48 PM File Path: C:\Users\JDH\OneDrive - TERRACON CONSULTANTS INC\JDH PROJECTS\N1255021 WAR-SR48-6.65 - GENERAL\07 WORKING FILES\03 MODEL\CAD\N1255021 SPL WALL PLANS.DWG



SOLDIER PILE & LAGGING WALL PLAN - SPL2
SCALE: 1" = 10'



SOLDIER PILE & LAGGING WALL PROFILE - SPL2
SCALE: 1" = 10'

REV.	DATE	BY	DESCRIPTION

SOLDIER PILE & LAGGING WALL PLAN & PROFILE - SPL2

WAR-SR48-6.65

CHOICE ONE ENGINEERING CORP

SR-48 AND BUTTERWORTH ROAD
LOVELAND, OHIO

Terracon
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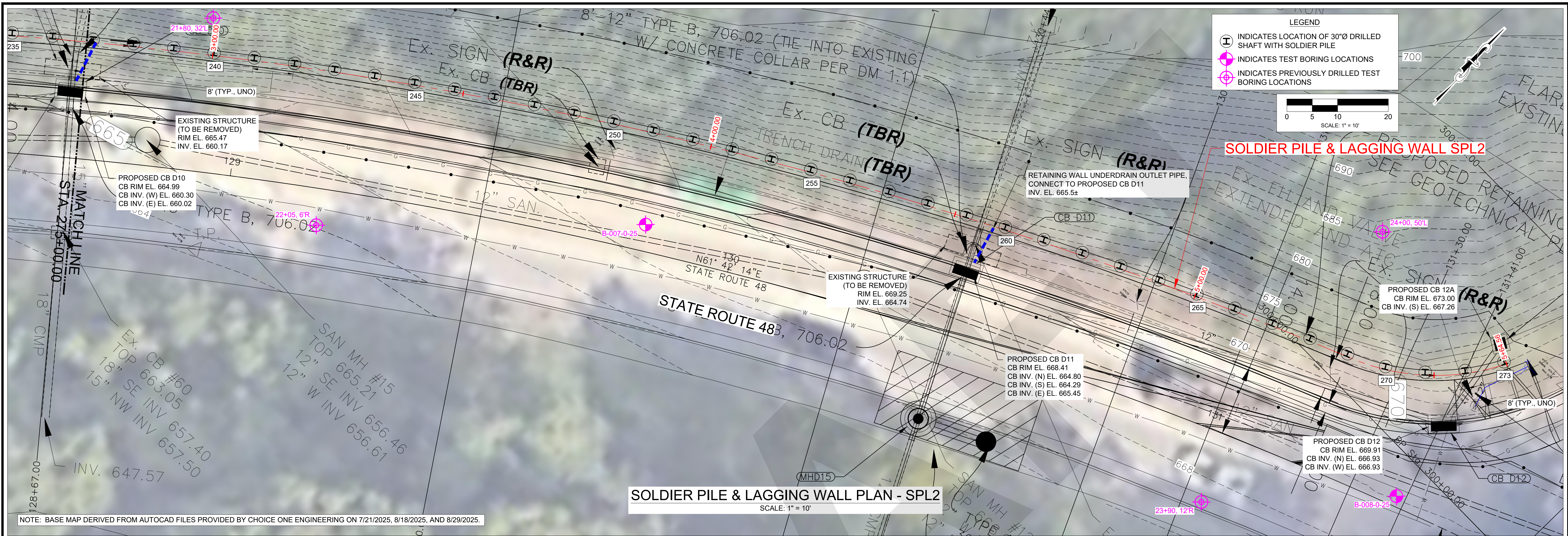
611 LUNKEN PARK DRIVE
PH. (513) 321-5816

CINCINNATI, OHIO 45226
FAX. (513) 321-4540

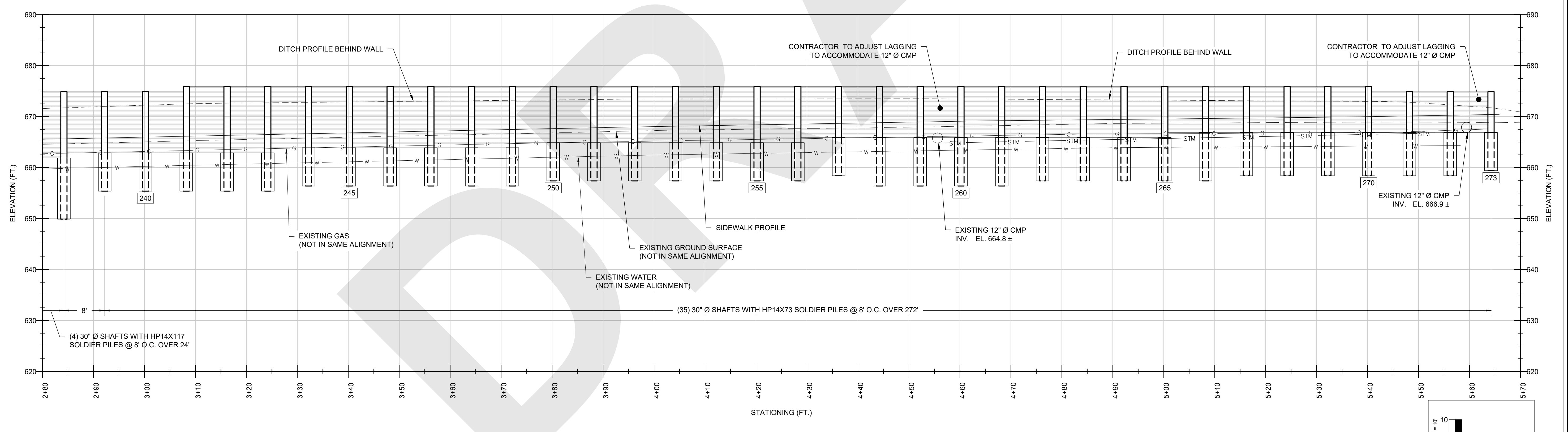
SHEET 4

DESIGNED BY:	JDH
DRAWN BY:	RLC
APPVD. BY:	DWW
SCALE:	AS NOTED
DATE:	9/5/2025
JOB NO.:	N1255021
SHEET NO.:	4 OF 12

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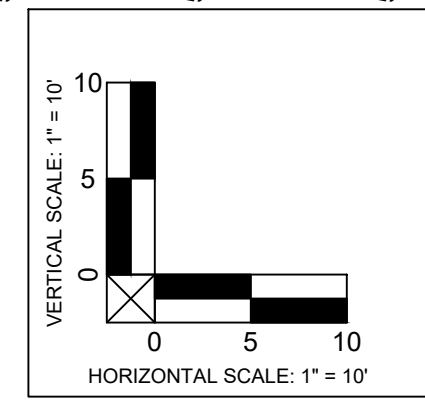
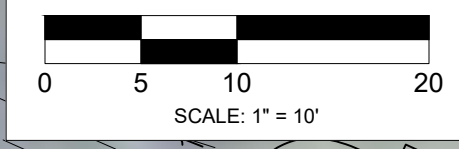
NOTE: BASE MAP DERIVED FROM AUTOCAD FILES PROVIDED BY CHOICE ONE ENGINEERING ON 7/21/2025, 8/18/2025, AND 8/29/2025.



SOLDIER PILE & LAGGING WALL PROFILE - SPL2
SCALE: 1" = 10'

LEGEND

- ⊕ INDICATES LOCATION OF 30" Ø DRILLED SHAFT WITH SOLDIER PILE
- ⊕ INDICATES TEST BORING LOCATIONS
- ⊕ INDICATES PREVIOUSLY DRILLED TEST BORING LOCATIONS



REV.	DATE	BY	DESCRIPTION

SOLDIER PILE & LAGGING WALL PLAN & PROFILE - SPL2

WAR-SR48-6.65

CHOICE ONE ENGINEERING CORP

SR-48 AND BUTTERWORTH ROAD
LOVELAND, OHIO

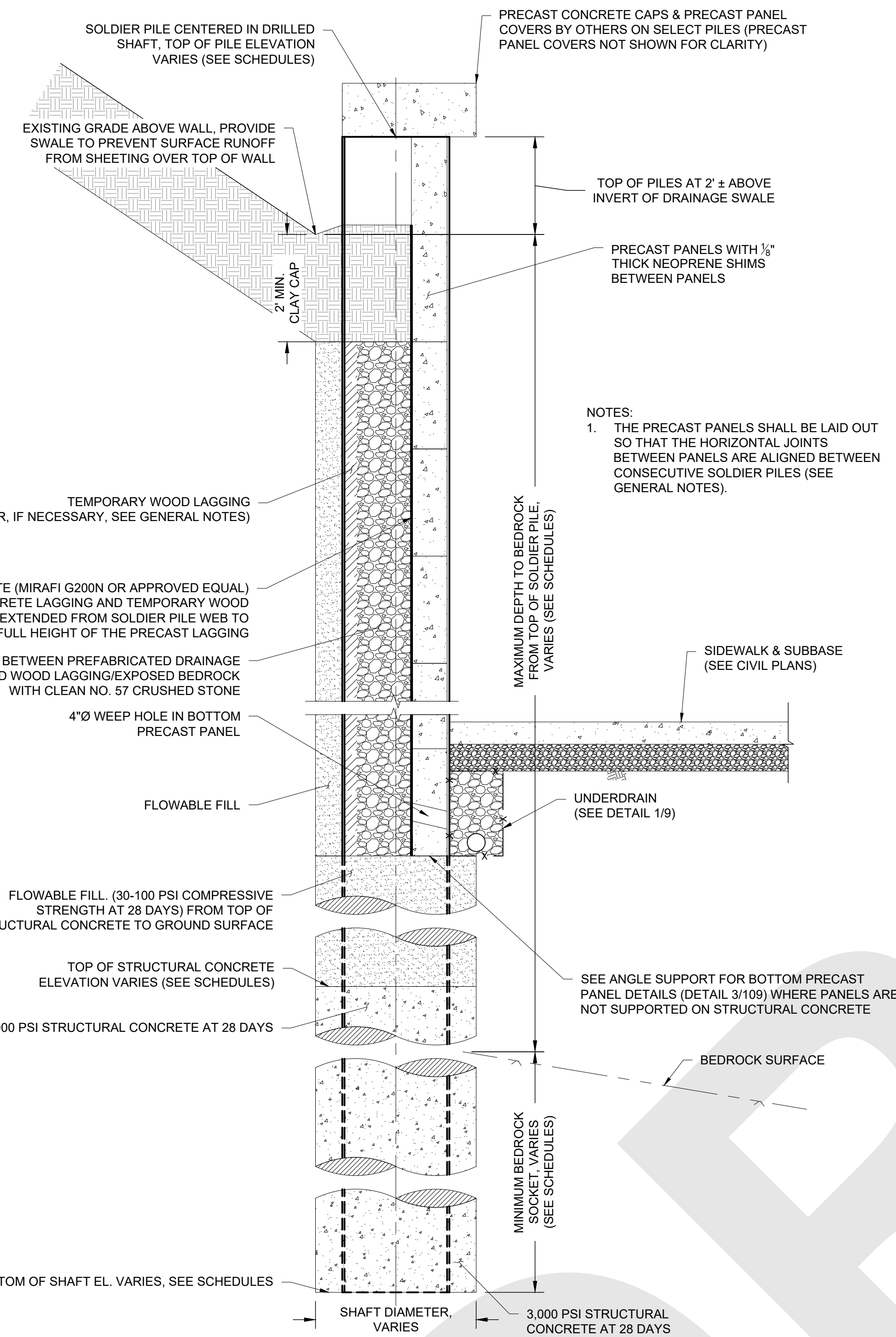
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CINCINNATI, OHIO 45226
PH: (513) 321-5816 FAX: (513) 321-4540

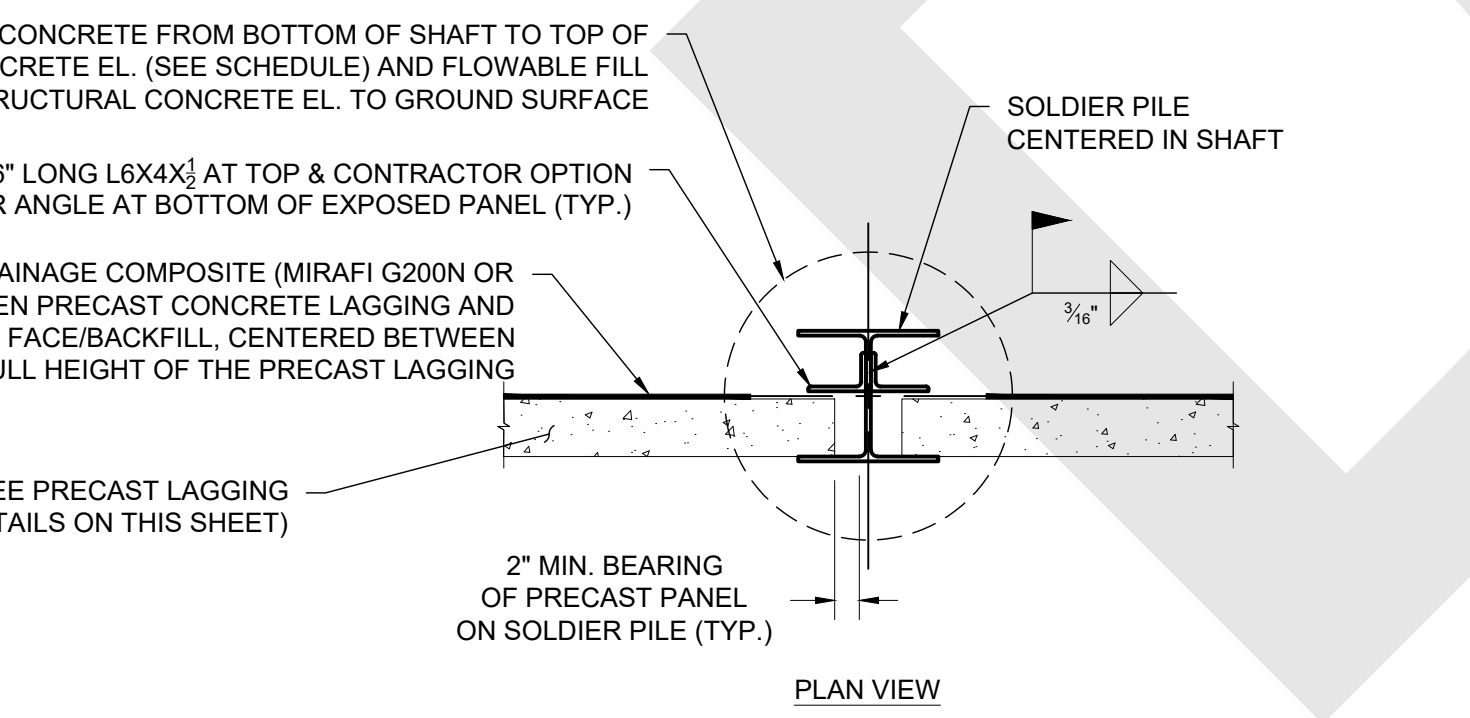
SHEET 5

DESIGNED BY:	JDH
DRAWN BY:	RLC
APPVD. BY:	DWW
SCALE:	AS NOTED
DATE:	9/5/2025
JOB NO.:	N1255021
SHEET NO.:	5 OF 12

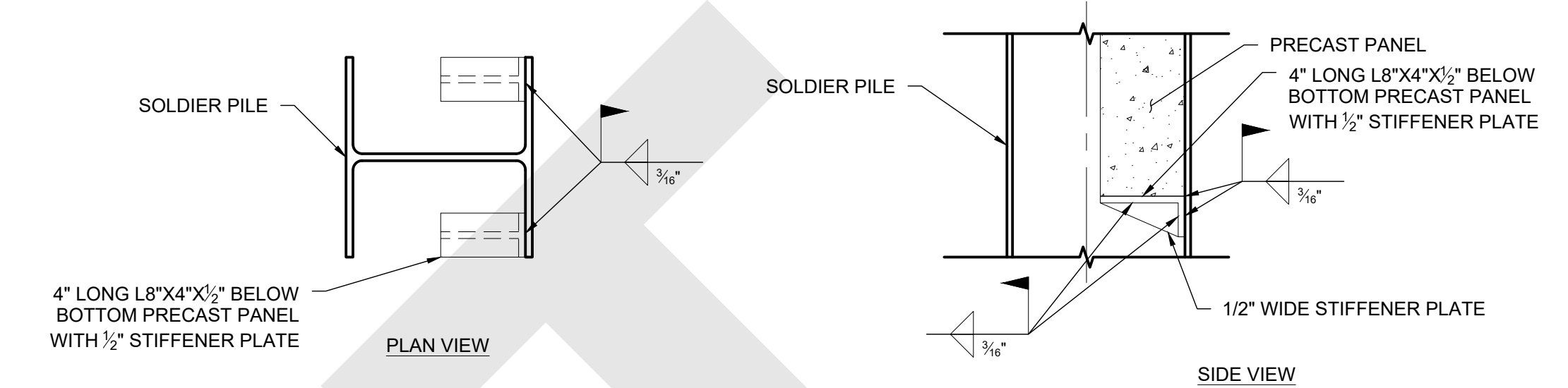
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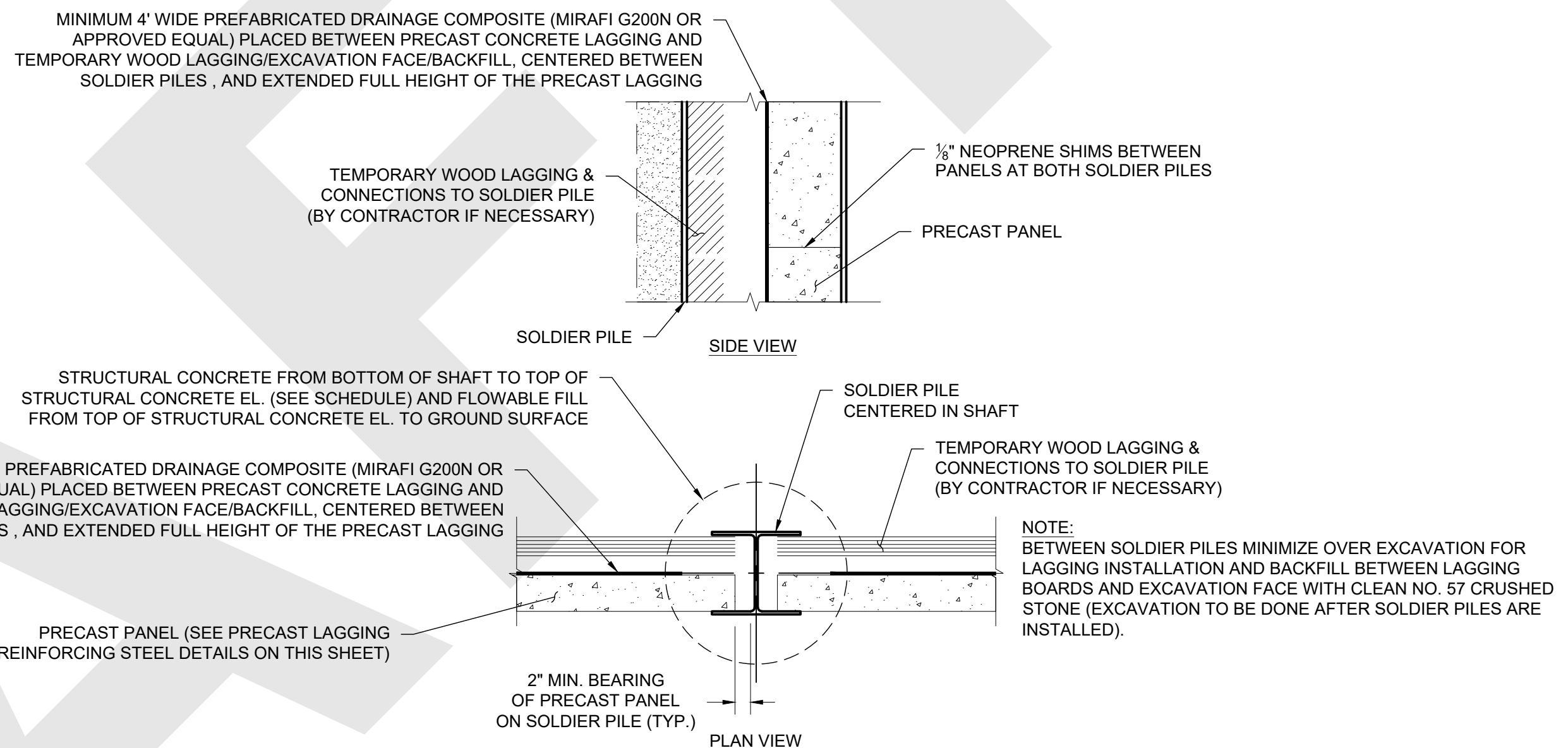
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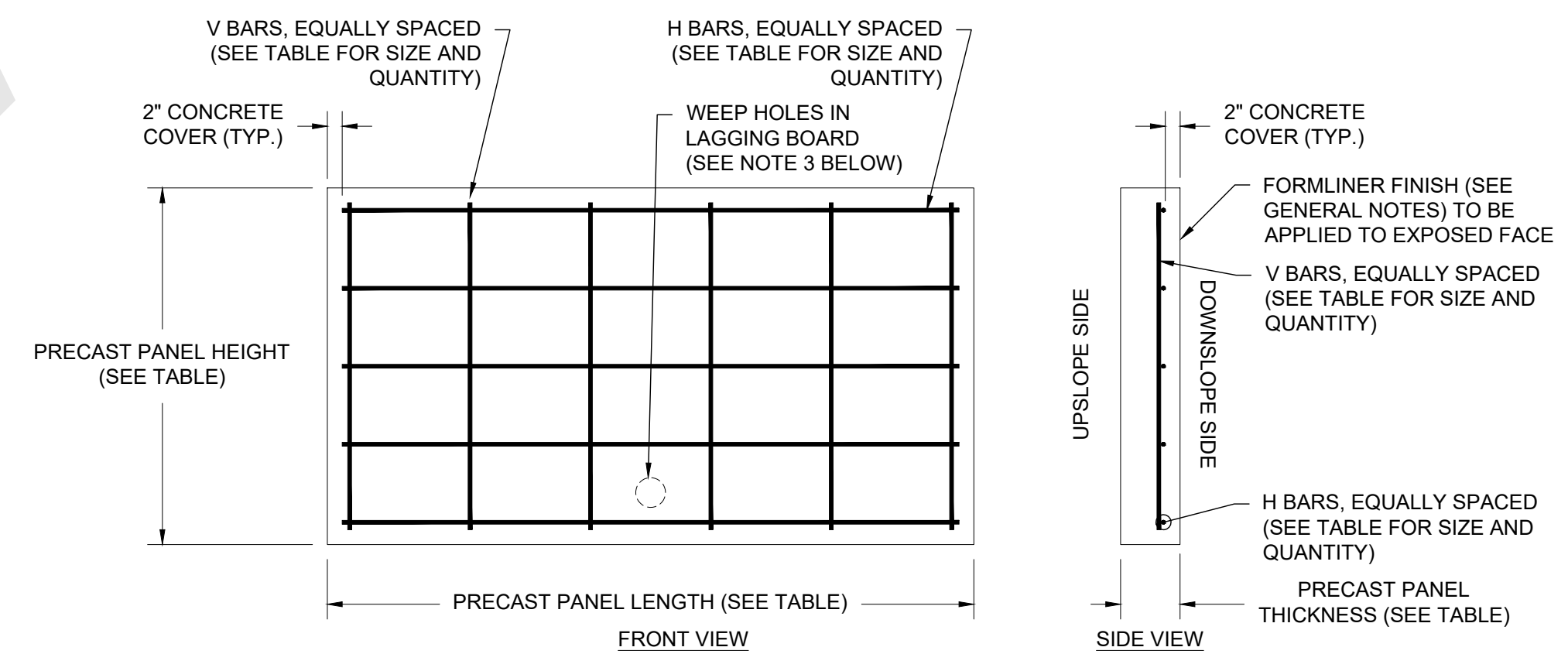
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SOLDIER PILE C-C SPACING	PRECAST PANEL LENGTH	PRECAST PANEL HEIGHT	PRECAST PANEL THICKNESS*	MIN. H BARS** (QTY. & SIZE)	MIN. V BARS** (QTY. & SIZE)
8'-0"	7'-8"	VARIES	6"	#5 @ 10" O.C.	#4 @ 16" O.C.
4'-0"	3'-8"	VARIES	6"	#5 @ 10" O.C.	#4 @ 16" O.C.

* PRECAST PANEL THICKNESS EXCLUDES THE RELIEF FROM THE FORMLINER
** ADDITIONAL REINFORCING STEEL FOR PRECASTING BY OTHERS

- NOTES:
- REINFORCING STEEL SHALL BE EPOXY COATED.
 - HORIZONTAL REINFORCING STEEL SHALL BE 2 INCHES CLEAR OF THE RELIEF ON THE FORMLINER FOR THE PRECAST PANELS.
 - ONE 4-INCH-DIAMETER WEEP HOLE SHALL BE CAST 6 INCHES CLEAR OF THE BOTTOM OF THE BOTTOM LAGGING PANEL BETWEEN EACH SET OF SOLDIER PILES. AT LEAST 2 INCHES OF CONCRETE CLEAR COVER SHALL BE PROVIDED BETWEEN THE WEEP HOLE AND ADJACENT REINFORCING STEEL. THE WEEP HOLE SHALL BE CAST NEAR THE MID-LENGTH OF THE PANEL.
 - THE PRECAST PANELS SHALL BE LAID OUT SO THAT THE HORIZONTAL JOINTS BETWEEN PANELS ARE ALIGNED BETWEEN CONSECUTIVE SOLDIER PILES (SEE GENERAL NOTES).
 - WHERE STORM PIPES CROSS BETWEEN SOLDIER PILES (E.G. BETWEEN SOLDIER PILES 202 AND 203, 236 AND 237, 259 AND 260, AND 272 AND 273), THE CONTRACTOR SHALL FIELD LOCATE THE EXISTING SEWER AND PREPARE SHOP DRAWINGS FOR REVIEW AND APPROVAL BY THE DESIGN ENGINEER THAT DETAIL THE PRECAST PANEL AROUND THE STORM SEWER PIPES.

5
6

REV.	DATE	BY	DESCRIPTION

SOLDIER PILE & LAGGING WALL DETAILS
WAR-SR48-6.65
CHOICE ONE ENGINEERING CORP
SR-48 AND BUTTERWORTH ROAD
LOVELAND, OHIO

Terracon
Explore with us
611 LUNKEN PARK DRIVE
CINCINNATI, OHIO 45226
PH. (513) 321-5816
FAX (513) 321-4540

SHEET 6

DESIGNED BY:	JDH
DRAWN BY:	RLC
APPVD. BY:	DWW
SCALE:	AS NOTED
DATE:	9/5/2025
JOB NO.:	N1255021
SHEET NO.:	6 OF 12

DRILLED SHAFT/ PILE NO.	DRILLED SHAFT DIAMETER (IN.)	PILE SIZE	NORTHING (FT.)*	EASTING (FT.)*	STATION**	OFFSET**	APPROX. EXISTING GROUND SURFACE EL. (FT.)	ESTIMATED BEDROCK SURFACE EL. (FT.)***	MINIMUM BEDROCK SOCKET LENGTH BELOW BOTTOM OF LAGGING (FT.)****	MAXIMUM DEPTH TO BEDROCK FROM TOP OF PILE (FT.)****	ESTIMATED BOTTOM OF SHAFT/PILE EL. (FT.)*****	TOP OF PILE EL. (FT.)	APPROX. PILE LENGTH (FT.)*****	TOP OF STRUCTURAL CONCRETE EL. IN SHAFT (FT.)	TOP OF LAGGING EL. (FT.)*****	BOTTOM OF LAGGING EL. (FT.)*****	DRILLED SHAFT/ PILE NO.
101	30	HP14X73	282,063.93	135,450.86	0+00.00	0.0	629.3	627.3	7.5	13	618.9	633.4	14.5	626.4	633.4	626.4	101
102	30	HP14X73	282,071.24	135,454.11	0+08.00	0.0	629.7	627.7	7.5	13	618.9	635.4	16.5	626.4	635.4	626.4	102
103	30	HP14X73	282,078.59	135,457.26	0+16.00	0.0	630.1	628.1	7.5	13	618.9	636.4	17.5	626.4	636.4	626.4	103
104	30	HP14X73	282,085.99	135,460.31	0+24.00	0.0	630.5	628.5	7.5	13	618.9	638.4	19.5	626.4	638.4	627.4	104
105	30	HP14X73	282,093.43	135,463.26	0+32.00	0.0	631.0	629.0	7.5	13	619.9	639.4	19.5	627.4	639.4	628.4	105
106	30	HP14X73	282,100.91	135,466.10	0+40.00	0.0	631.4	629.4	7.5	13	620.9	640.4	19.5	628.4	640.4	628.4	106
107	30	HP14X73	282,108.42	135,468.84	0+48.00	0.0	631.9	629.9	7.5	13	620.9	641.4	20.5	628.4	641.4	628.4	107
108	30	HP14X73	282,115.98	135,471.47	0+56.00	0.0	632.4	630.4	7.5	13	620.9	641.4	20.5	628.4	641.4	629.4	108
109	30	HP14X73	282,123.57	135,474.00	0+64.00	0.0	632.8	630.8	7.5	13	621.9	641.4	19.5	629.4	641.4	629.4	109
110	30	HP14X73	282,131.19	135,476.42	0+72.00	0.0	633.2	631.2	7.5	13	621.9	642.4	20.5	629.4	642.4	629.4	110
111	30	HP14X73	282,138.85	135,478.74	0+80.00	0.0	633.6	631.6	7.5	13	621.9	642.4	20.5	629.4	642.4	629.4	111
112	30	HP14X73	282,146.54	135,480.95	0+88.00	0.0	634.0	632.0	7.5	13	621.9	642.4	20.5	629.4	642.4	630.4	112
113	30	HP14X73	282,154.26	135,483.05	0+96.00	0.0	634.4	632.4	7.5	13	622.9	642.4	19.5	630.4	642.4	630.4	113
114	30	HP14X73	282,162.01	135,485.04	1+04.00	0.0	634.8	632.8	7.5	13	622.9	642.4	19.5	630.4	642.4	631.4	114
115	30	HP14X73	282,169.78	135,486.93	1+12.00	0.0	635.1	633.1	7.5	13	623.9	642.4	18.5	631.4	642.4	631.4	115
116	30	HP14X73	282,177.58	135,488.70	1+20.00	0.0	635.5	633.5	7.5	13	623.9	642.4	18.5	631.4	641.4	632.4	116
117	30	HP14X73	282,185.39	135,490.44	1+28.00	0.0	635.9	633.9	7.5	13	624.9	641.4	16.5	632.4	641.4	632.4	117
118	30	HP14X73	282,193.20	135,492.18	1+36.00	0.0	636.5	634.5	7.5	13	624.9	641.4	16.5	632.4	640.4	633.4	118
119	30	HP14X73	282,201.00	135,493.93	1+44.00	0.0	637.0	635.0	7.5	13	625.9	640.4	14.5	633.4	-	-	119

* THE DRILLED SHAFT COORDINATES ARE PROVIDED AS NORTHINGS AND EASTINGS BASED ON THE OHIO SOUTH STATE PLANE COORDINATE SYSTEM (NAD 83).

** THE SPL RETAINING WALL STATIONING BASELINE IS ALONG THE FACING OF THE WALL.

*** IF THE ACTUAL BEDROCK SURFACE ELEVATION ENCOUNTERED IN THE FIELD IS LOWER THAN THE TABULATED DESIGN VALUE SUCH THAT THE MAXIMUM DEPTH TO BEDROCK FROM THE TOP OF THE PILE IS EXCEEDED, THE DESIGN ENGINEER SHALL BE NOTIFIED TO REVIEW AND EVALUATE WHETHER THE SHAFT/PILE CONSTRUCTION CAN BE COMPLETED AS DETAILED WITH THE SCHEDULED MINIMUM BEDROCK SOCKET AND SOLDIER PILE.

**** THE BOTTOM OF THE SHAFT/PILE ELEVATIONS ARE APPROXIMATIONS BASED ON THE SUBSURFACE INFORMATION OBTAINED FROM THE BORINGS. THE MINIMUM BEDROCK SOCKET LENGTHS SHALL DICTATE THE ACTUAL BOTTOM OF SHAFT ELEVATIONS AND TOTAL SHAFT LENGTHS. HOWEVER, THE BOTTOMS OF PILES SHALL EXTEND DOWN TO AT LEAST THE MINIMUM BOTTOM OF SHAFT/PILE ELEVATION THAT IS TABULATED.

***** THE TOP AND BOTTOM OF LAGGING ELEVATIONS ARE FOR THE SECTIONS TO THE RIGHT OF THE DESIGNATED SHAFT/PILE NO.

REV. DATE BY DESCRIPTION

SOLDIER PILE & LAGGING WALL SCHEDULE - SPL1

WAR-SR48-6.65
CHOICE ONE ENGINEERING CORP
 SR-48 AND BUTTERWORTH ROAD
 LOVELAND, OHIO



611 LUNKEN PARK DRIVE
 PH. (513) 321-5816
 CINCINNATI, OHIO 45226
 FAX. (513) 321-4540

SHEET 7

DESIGNED BY: JDH
 DRAWN BY: RLC
 APPVD. BY: DWW
 SCALE: AS NOTED
 DATE: 9/5/2025
 JOB NO. N1255021
 SHEET NO.: 7 OF 12

Date: 9/6/2025 12:48 PM File Path: C:\USERS\JDH\WORKING FILES\03 MODEL\CAD\1255021 SPL WALL PLANS.DWG

DRILLED SHAFT/ PILE NO.	DRILLED SHAFT DIAMETER (IN.)	PILE SIZE	NORTHING (FT.)	EASTING (FT.)	STATION**	OFFSET**	APPROX. EXISTING GROUND SURFACE EL. (FT.)	ESTIMATED BEDROCK SURFACE EL. (FT.)***	MINIMUM BEDROCK SOCKET LENGTH BELOW BOTTOM OF LAGGING (FT.)****	MAXIMUM DEPTH TO BEDROCK FROM TOP OF PILE (FT.)****	ESTIMATED BOTTOM OF SHAFT/PILE EL. (FT.)*****	TOP OF PILE EL. (FT.)	APPROX. PILE LENGTH (FT.)*****	TOP OF STRUCTURAL CONCRETE EL. IN SHAFT (FT.)	TOP OF LAGGING EL. (FT.)*****	BOTTOM OF LAGGING EL. (FT.)*****	DRILLED SHAFT/ PILE NO.
201	30	HP14X73	282,489.26	135,639.90	0+07.79	0.0	653.9	651.9	7.5	13	644.4	656.9	12.5	651.9	656.9	651.9	201
202	30	HP14X73	282,492.50	135,642.25	0+03.79	0.0	654.1	652.1	9.5	13	642.4	658.9	16.5	651.9	658.9	651.9	202
203	30	HP14X73	282,498.97	135,646.95	0+04.21	0.0	654.4	652.4	9.5	13	642.4	660.9	18.5	651.9	660.9	651.9	203
204	30	HP14X73	282,505.45	135,651.64	0+12.21	0.0	654.8	652.8	8.5	13	643.4	661.9	18.5	651.9	661.9	652.9	204
205	30	HP14X73	282,511.92	135,656.34	0+20.21	0.0	655.2	653.2	9.5	13	643.4	661.9	18.5	652.9	661.9	652.9	205
206	30	HP14X73	282,518.40	135,661.04	0+28.21	0.0	655.5	653.5	8.5	13	644.4	663.9	19.5	652.9	663.9	652.9	206
207	30	HP14X73	282,524.87	135,665.75	0+36.21	0.0	656.0	654.0	8.5	13	644.4	663.9	19.5	652.9	663.9	653.9	207
208	30	HP14X73	282,531.30	135,670.52	0+44.21	0.0	656.4	654.4	8.5	13	645.4	664.9	19.5	653.9	664.9	653.9	208
209	30	HP14X73	282,537.68	135,675.35	0+52.21	0.0	656.7	654.7	8.5	13	645.4	664.9	19.5	653.9	664.9	654.9	209
210	30	HP14X73	282,544.02	135,680.24	0+60.21	0.0	657.0	655.0	9.5	13	645.4	665.9	20.5	654.9	665.9	654.9	210
211	30	HP14X73	282,550.31	135,685.19	0+68.21	0.0	657.3	655.3	8.5	13	646.4	665.9	19.5	654.9	665.9	654.9	211
212	30	HP14X73	282,556.56	135,690.20	0+76.21	0.0	657.6	655.6	8.5	13	646.4	666.9	20.5	654.9	666.9	655.9	212
213	30	HP14X73	282,562.75	135,695.27	0+84.21	0.0	658.0	656.0	8.5	13	647.4	666.9	19.5	655.9	666.9	655.9	213
214	30	HP14X73	282,568.90	135,700.40	0+92.21	0.0	658.3	656.3	8.5	13	647.4	667.9	20.5	655.9	667.9	655.9	214
215	30	HP14X73	282,575.00	135,705.58	1+00.21	0.0	658.7	656.7	8.5	13	648.4	667.9	20.5	655.9	667.9	656.9	215
216	30	HP14X73	282,581.05	135,710.83	1+08.21	0.0	659.0	657.0	8.5	13	648.4	668.9	20.5	656.9	668.9	656.9	216
217	30	HP14X73	282,587.05	135,716.13	1+16.21	0.0	659.3	657.3	8.5	13	648.4	668.9	20.5	656.9	668.9	656.9	217
218	30	HP14X73	282,593.00	135,721.48	1+24.21	0.0	659.7	657.7	7.5	13	649.4	669.9	20.5	656.9	669.9	657.9	218
219	30	HP14X73	282,598.89	135,726.90	1+32.21	0.0	660.0	658.0	7.5	13	650.4	669.9	19.5	657.9	669.9	657.9	219
220	30	HP14X73	282,604.74	135,732.36	1+40.21	0.0	660.3	658.3	7.5	13	650.4	670.9	20.5	657.9	670.9	657.9	220
221	30	HP14X73	282,610.53	135,737.89	1+48.21	0.0	660.6	658.6	7.5	13	650.4	670.9	20.5	657.9	670.9	658.9	221
222	30	HP14X73	282,616.27	135,743.47	1+56.21	0.0	660.8	658.8	7.5	13	651.4	670.9	19.5	658.9	670.9	658.9	222
223	30	HP14X73	282,621.96	135,749.10	1+64.21	0.0	661.1	659.1	7.5	13	651.4	670.9	19.5	658.9	670.9	658.9	223
224	30	HP14X73	282,627.60	135,754.79	1+72.21	0.0	661.4	659.4	7.5	13	651.4	671.9	20.5	658.9	671.9	658.9	224
225	30	HP14X73	282,633.18	135,760.53	1+80.21	0.0	661.6	659.6	7.5	13	651.4	671.9	20.5	658.9	671.9	659.9	225
226	30	HP14X73	282,638.70	135,766.32	1+88.21	0.0	661.9	659.9	7.5	13	652.4	671.9	19.5	659.9	671.9	659.9	226
227	30	HP14X73	282,644.17	135,772.16	1+96.21	0.0	662.2	660.2	7.5	13	652.4	671.9	19.5	659.9	671.9	659.9	227
228	30	HP14X73	282,649.59	135,778.06	2+04.21	0.0	662.5	660.5	7.5	13	652.4	672.9	20.5	659.9	672.9	660.9	228
229	30	HP14X73	282,654.95	135,784.01	2+12.21	0.0	662.7	660.7	7.5	13	653.4	672.9	19.5	660.9	672.9	660.9	229
230	30	HP14X73	282,660.25	135,790.01	2+20.21	0.0	663.0	661.0	7.5	13	653.4	672.9	19.5	660.9	672.9	660.9	230
231	30	HP14X73	282,665.49	135,796.05	2+28.21	0.0	663.3	661.3	7.5	13	653.4	672.9	19.5	660.9	672.9	660.9	231
232	30	HP14X73	282,670.68	135,802.15	2+36.21	0.0	663.5	661.5	7.5	13	653.4	673.9	20.5	660.9	673.9	660.9	232
233	30	HP14X73	282,675.81	135,808.30	2+44.21	0.0	663.7	661.7	7.5	13	653.4	673.9	20.5	660.9	673.9	661.9	233
234	30	HP14X73	282,680.88	135,814.49	2+52.21	0.0	663.9	661.9	7.5	13	654.4	673.9	19.5	661.9	673.9	661.9	234
235	30	HP14X117	282,685.89	135,820.74	2+60.21	0.0	664.1	662.1	13.0	13	648.9	673.9	25.0	661.9	673.9	661.9	235
236	30	HP14X117	282,690.84	135,827.02	2+68.21	0.0	664.3	662.3	13.0	13	648.9	673.9	25.0	661.9	673.9	661.9	236
237	30	HP14X117	282,695.74	135,833.36	2+76.21	0.0	664.5	662.5	12.0	13	649.9	674.9	25.0	661.9	674.9	661.9	237

* THE DRILLED SHAFT COORDINATES ARE PROVIDED AS NORTHINGS AND EASTINGS BASED ON THE OHIO SOUTH STATE PLANE COORDINATE SYSTEM (NAD 83).

** THE SPL RETAINING WALL STATIONING BASELINE IS ALONG THE FACING OF THE WALL.

*** IF THE ACTUAL BEDROCK SURFACE ELEVATION ENCOUNTERED IN THE FIELD IS LOWER THAN THE TABULATED DESIGN VALUE SUCH THAT THE MAXIMUM DEPTH TO BEDROCK FROM THE TOP OF THE PILE IS EXCEEDED, THE DESIGN ENGINEER SHALL BE NOTIFIED TO REVIEW AND EVALUATE WHETHER THE SHAFT/PILE CONSTRUCTION CAN BE COMPLETED AS DETAILED WITH THE SCHEDULED MINIMUM BEDROCK SOCKET AND SOLDIER PILE.

**** THE BOTTOM OF THE SHAFT/PILE ELEVATIONS ARE APPROXIMATIONS BASED ON THE SUBSURFACE INFORMATION OBTAINED FROM THE BORINGS. THE MINIMUM BEDROCK SOCKET LENGTHS SHALL DICTATE THE ACTUAL BOTTOM OF SHAFT ELEVATIONS AND TOTAL SHAFT LENGTHS. HOWEVER, THE BOTTOMS OF PILES SHALL EXTEND DOWN TO AT LEAST THE MINIMUM BOTTOM OF SHAFT/PILE ELEVATION THAT IS TABULATED.

***** THE TOP AND BOTTOM OF LAGGING ELEVATIONS ARE FOR THE SECTIONS TO THE RIGHT OF THE DESIGNATED SHAFT/PILE NO.

DRILLED SHAFT/ PILE NO.	DRILLED SHAFT DIAMETER (IN.)	PILE SIZE	NORTHING (FT.)	EASTING (FT.)	STATION**	OFFSET**	APPROX. EXISTING GROUND SURFACE EL. (FT.)	ESTIMATED BEDROCK SURFACE EL. (FT.)***	MINIMUM BEDROCK SOCKET LENGTH BELOW BOTTOM OF LAGGING (FT.)****	MAXIMUM DEPTH TO BEDROCK FROM TOP OF PILE (FT.)****	ESTIMATED BOTTOM OF SHAFT/PILE EL. (FT.)*****	TOP OF PILE EL. (FT.)	APPROX. PILE LENGTH (FT.)*****	TOP OF STRUCTURAL CONCRETE EL. IN SHAFT (FT.)	TOP OF LAGGING EL. (FT.)*****	BOTTOM OF LAGGING EL. (FT.)*****	DRILLED SHAFT/ PILE NO.
238	30	HP14X117	282,700.57	135,839.74	2+84.21	0.0	664.7	662.7	12.0	13	649.9	674.9	25.0	661.9	674.9	662.9	238
239	30	HP14X73	282,705.34	135,846.17	2+92.21	0.0	664.8	662.8	7.5	13	655.4	674.9	19.5	662.9	674.9	662.9	239
240	30	HP14X73	282,710.05	135,852.64	3+00.21	0.0	665.0	663.0	7.5	13	655.4	674.9	19.5	662.9	674.9	662.9	240
241	30	HP14X73	282,714.70	135,859.16	3+08.21	0.0	665.3	663.3	7.5	13	655.4	675.9	20.5	662.9	675.9	662.9	241
242	30	HP14X73	282,719.29	135,865.72	3+16.21	0.0	665.4	663.4	7.5	13	655.4	675.9	20.5	662.9	675.9	662.9	242
243	30	HP14X73	282,723.81	135,872.33	3+24.21	0.0	665.6	663.6	7.5	13	655.4	675.9	20.5	662.9	675.9	663.9	243
244	30	HP14X73	282,728.27	135,878.98	3+32.21	0.0	665.8	663.8	7.5	13	656.4	675.9	19.5	663.9	675.9	663.9	244
245	30	HP14X73	282,732.67	135,885.66	3+40.21	0.0	666.0	664.0	7.5	13	656.4	675.9	19.5	663.9	675.9	663.9	245
246	30	HP14X73	282,737.00	135,892.39	3+48.21	0.0	666.1	664.1	7.5	13	656.4	675.9	19.5	663.9	675.9	663.9	246
247	30	HP14X73	282,741.27	135,899.17	3+56.21	0.0	666.3	664.3	7.5	13	656.4	675.9	19.5	663.9	675.9	663.9	247
248	30	HP14X73	282,745.48	135,905.98	3+64.21	0.0	666.5	664.5	7.5	13	656.4	675.9	19.5	663.9	675.9	663.9	248
249	30	HP14X73	282,749.62	135,912.83	3+72.21	0.0	666.6	664.6	7.5	13	656.4	675.9	19.5	663.9	675.9	664.9	249
250	30	HP14X73	282,753.70	135,919.72	3+80.21	0.0	666.8	664.8	7.5	13	657.4	675.9	18.5	664.9	675.9	664.9	250
251	30	HP14X73	282,757.71	135,926.65	3+88.21	0.0	667.0	665.0	7.5	13	657.4	675.9	18.5	664.9	675.9	664.9	251
252	30	HP14X73	282,761.65	135,933.61	3+96.21	0.0	667.2	665.2	7.5	13	657.4	675.9	18.5	664.9	675.9	664.9	252
253	30	HP14X73	282,765.53	135,940.62	4+04.21	0.0	667.3	665.3	7.5	13	657.4	675.9	18.5	664.9	675.9	664.9	253
254	30	HP14X73	282,769.34	135,947.66	4+12.21	0.0	667.4	665.4	7.5	13	657.4	675.9	18.5	664.9	675.9	664.9	254
255	30	HP14X73	282,773.09	135,954.73	4+20.21	0.0	667.5	665.5	7.5	13	657.4	675.9	18.5	664.9	675.9	664.9	255
256	30	HP14X73	282,776.76	135,961.84	4+28.21	0.0	667.6	665.6	7.5	13	657.4	675.9	18.5	664.9	675.9	665.9	256
257	30	HP14X73	282,780.37	135,968.99	4+36.21	0.0	667.7	665.7	7.5	13	658.4	675.9	17.5	665.9	675.9	665.9	257
258	30	HP14X73	282,783.91	135,976.17	4+44.21	0.0	667.8	665.8	9.5	13	658.4	675.9	19.5	665.9	675.9	665.9	258
259	30	HP14X73	282,787.39	135,983.38	4+52.21	0.0	668.0	666.0	9.5	13	658.4	675.9	19.5	665.9	675.9	665.9	259
260	30	HP14X73	282,790.79	135,990.62	4+60.21	0.0	668.1	666.1	9.5	13	658.4	675.9	19.5	665.9	675.9	665.9	260
261	30																

GENERAL NOTES

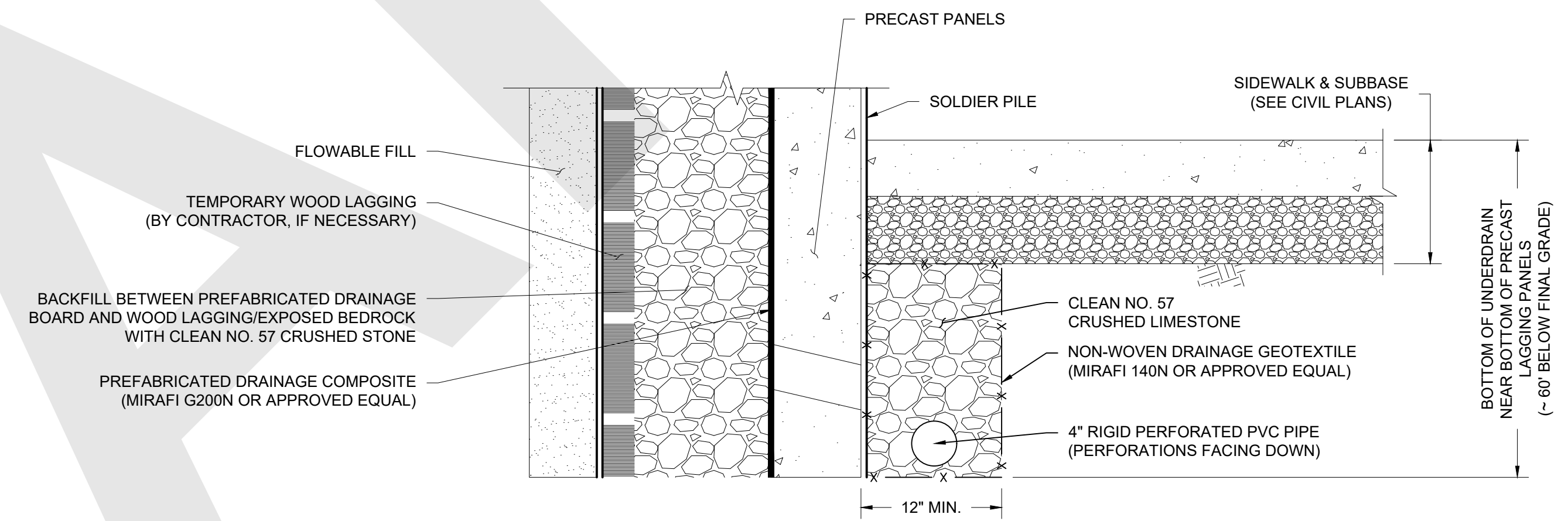
IN THE FOLLOWING NOTES, THE ENGINEER SHALL BE HELD TO MEAN THE DESIGN ENGINEER FROM TERRACON. THE OWNER SHALL BE HELD TO MEAN THE CITY OF LOVELAND. THE PROJECT PLANS SHALL BE HELD TO MEAN THESE PLANS PREPARED BY TERRACON. ODOT CMS SHALL BE HELD TO MEAN THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIALS SPECIFICATIONS, CURRENT EDITION.

1. THE CONTRACTOR SHALL REFER TO THE PROJECT PLANS AND THESE GENERAL NOTES, AND SHALL SATISFY THE REQUIREMENTS OF BOTH. ANY DISCREPANCIES BETWEEN THE PROJECT PLANS AND THESE GENERAL NOTES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IN WRITING. THE RESOLUTION OF ANY DISCREPANCY SHALL BE AT THE SOLE DISCRETION OF THE ENGINEER.
2. THE CONTRACTOR SHALL OBTAIN ANY NECESSARY PERMITS THAT ARE REQUIRED FOR THIS WORK PRIOR TO PERFORMANCE OF THIS WORK.
3. THE CONTRACTOR SHALL COORDINATE A STAGING AREA, ACCEPTABLE TO THE ENGINEER AND OWNER, FOR STOCKPILING MATERIALS, INCLUDING DRILLING AND EXCAVATION SPOILS.
4. THE CONTRACTOR SHALL DEVELOP A MAINTENANCE OF TRAFFIC CONTROL (MOT) PLAN AND ESTABLISH THE WORK ZONE WITHIN THE LIMITS OF THE ROADWAY IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD). THESE SHALL BE COORDINATED WITH THE OWNER PRIOR TO CONSTRUCTION.
5. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER, OH 811, AND ALL UTILITY COMPANIES TO CHECK FOR UNDERGROUND UTILITIES WITHIN THE WORK AREA BEFORE THE SHAFTS ARE DRILLED. THE ENGINEER SHALL BE NOTIFIED OF ANY EXISTING UTILITIES, STRUCTURES, OR OTHER INFRASTRUCTURE WITHIN THE PROPOSED DRILLED SHAFT LOCATIONS THAT DEVIATE FROM THE LOCATIONS SHOWN ON THE PROJECT PLANS OR ARE NOT SHOWN ON THE PROJECT PLANS BEFORE WORK BEGINS. SHOULD THE PRESENCE OF UNDERGROUND FEATURES NEGATIVELY IMPACT THE DESIGN OF THE SOLDIER PILE AND LAGGING WALL, A REASONABLE ALLOTMENT OF TIME SHALL BE PROVIDED IN THE CONSTRUCTION SCHEDULE TO MAKE DESIGN REVISIONS WHERE APPROPRIATE.
6. OVERHEAD UTILITIES SHALL BE PROTECTED AND/OR RELOCATED AS NECESSARY FOR CONSTRUCTION.
7. THE CONTRACTOR SHALL COORDINATE THE PROJECT PLANS AND THE FIELD CONDITIONS. THE ENGINEER SHALL APPROVE OF THE ADJUSTMENTS AND ADJUST THE REINFORCEMENT DESIGN AND/OR BEDROCK SOCKET LENGTH, IF NECESSARY.
8. STAKING OF THE DRILLED SHAFTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
9. ALL DRILLED SHAFT EXCAVATIONS SHALL BE REVIEWED BY THE ENGINEER, OR A REPRESENTATIVE THEREOF, DURING DRILLING AND PRIOR TO PLACING SOLDIER PILES AND CONCRETE. FINAL INTERPRETATION OF THE SOLDIER PILE AND LAGGING WALL PLANS AND THE GENERAL NOTES SHALL BE AT THE DISCRETION OF THE ENGINEER. MATERIAL TESTING AND SPECIAL INSPECTIONS OF THE SOLDIER PILE AND LAGGING WALL SHALL BE CONTRACTED SEPARATED BY THE OWNER; HOWEVER, THE CONTRACTOR SHALL BE FAMILIAR WITH THE REQUIRED SPECIAL INSPECTIONS AND THEIR FREQUENCY, SHALL SCHEDULE THE ENGINEER, OR A REPRESENTATIVE THEREOF, AND SHALL PROVIDE SAFE ACCESS FOR THE REQUIRED TESTING AND REVIEWS.
10. THE DRILLED SHAFTS SHALL BE DRILLED WITH DRY DRILLING METHODS AND SHALL BE DRILLED SO THAT THEY DO NOT COLLAPSE DURING DRILLING. PLACEMENT OF SOLDIER PILES, AND/OR CONCRETING. CASING OF THE DRILLED SHAFTS SHALL BE PROVIDED, AS NECESSARY, TO CONTROL CAVING SOILS AND/OR EXCESSIVE GROUNDWATER SEEPAGE.
11. THE DRILLED SHAFTS SHALL BE EXCAVATED PLUMB, AND THE BOTTOMS SHALL BE RELATIVELY LEVEL AND REASONABLY FREE OF LOOSE AND DISTURBED MATERIAL PRIOR TO PLACING CONCRETE. THE OUT-OF-PLUMB TOLERANCE SHALL BE 1.5 PERCENT OF THE SHAFT LENGTH. THE DRILLED SHAFT EXCAVATIONS WILL EXTEND INTO THE INTERBEDDED SHALE AND LIMESTONE BEDROCK, AND THE CONTRACTOR SHALL BE PREPARED TO DRILL THROUGH THE BEDROCK WITH THE PROPER EQUIPMENT.
12. THE SOLDIER PILE WALL WILL DERIVE ITS LATERAL RESISTANCE FROM BEDROCK SOCKETS. DISTURBANCE OF BEDROCK WITHIN 8 FEET HORIZONTALLY OF THE DRILLED SHAFTS SHALL BE PROHIBITED UNLESS REVIEWED BY THE ENGINEER, INCLUDING FOR NEW STORM SEWERS AND REMOVAL OF OLD STORM SEWERS. CONSEQUENTLY, THE CONTRACTOR SHALL EMPLOY CARE WHEN COMPLETING EXCAVATIONS, INCLUDING TRENCH EXCAVATIONS FOR UTILITIES TO AVOID OVERBREAK OF THE BEDROCK THAT MAY COMPROMISE THE BEDROCK SOCKETS FOR THE SOLDIERS. EXCAVATIONS WITHIN THE NOTED LIMITS SHALL BE BACKFILLED WITH FLOWABLE FILL THAT HAS A MINIMUM COMPRESSIVE STRENGTH OF 100 PSI, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
13. THE DRILLED SHAFTS SHALL BE REINFORCED AND FILLED WITH CONCRETE THE SAME DAY THAT THE ENTIRE BEDROCK SOCKET (TOP TO BOTTOM) IS DRILLED. IF CONCRETE CANNOT BE PLACED THE SAME DAY AS THE BEDROCK SOCKET IS DRILLED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER FOR DIRECTION, WHICH MAY INVOLVE EXTENDING THE DRILLED SHAFT DEEPER AND/OR REDRILLING THE SHAFT WITH A LARGER DIAMETER AUGER, ETC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL COSTS ASSOCIATED WITH NOT FILLING THE DRILLED SHAFT WITH CONCRETE THE SAME DAY THAT THE BEDROCK SOCKET IS DRILLED.
14. DRILLING AND EXCAVATION SPOILS SHALL BE WASTED OFF SITE OR MAY BE USED FOR FILL (IF ACCEPTABLE MATERIAL) WHERE INDICATED ON THE CIVIL PLANS.
15. CONCRETE:
 - A. CONCRETE FOR THE DRILLED SHAFTS SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH (F_c) OF 3,000 PSI, SHALL HAVE A MAXIMUM AGGREGATE SIZE OF 1.5 INCHES, AND SHALL BE PLACED AT A SLUMP OF 5 TO 7 INCHES.
 - B. CONCRETE SHALL NOT BE PLACED THROUGH MORE THAN 3 INCHES OF STANDING WATER THAT MAY ACCUMULATE AT THE BOTTOM OF ANY DRILLED SHAFT EXCAVATION. CONCRETE PLACEMENT FOR ANY GIVEN DRILLED SHAFT SHALL BE CONTINUOUS. IF CASING IS REQUIRED DURING THE DRILLED SHAFT EXCAVATIONS, THE TEMPORARY CASING SHALL BE EXTRACTED AT SUCH A RATE AND IN SUCH A MANNER THAT THE OVERBURDEN SOILS DO NOT CAVE INTO THE SHAFT DURING CONCRETE PLACEMENT AND THAT POCKETS OF AIR AND SOIL ARE NOT INTRODUCED INTO THE CONCRETE. THE TOP 6 FEET OF CONCRETE IN THE DRILLED SHAFTS SHALL BE VIBRATED WITH A CONCRETE VIBRATOR.

- C. CONCRETE FOR THE PRECAST LAGGING PANELS SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH (F_c) OF 4,000 PSI, A MAXIMUM AGGREGATE SIZE OF 3/4 INCHES, AND SHALL CONTAIN 4 TO 6 PERCENT ENTRAINED AIR.
- D. THE CONTRACTOR SHALL FOLLOW THE GUIDELINES WITHIN ACI 301, "STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE," AND, WHEN NECESSARY, SHALL IMPLEMENT THE PRACTICES OUTLINED WITHIN ACI 305, "HOT WEATHER CONCRETING," OR ACI 306, "COLD WEATHER CONCRETING."
16. FLOWABLE FILL, WHERE USED, SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH BETWEEN 20 AND 100 PSI, UNLESS NOTED OTHERWISE IN THESE PROJECT PLANS.
17. THE REINFORCING STEEL BARS FOR THE PRECAST LAGGING PANELS SHALL CONFORM TO ASTM A615, GRADE 60 AND SHALL HAVE A MINIMUM YIELD STRENGTH (F_y) OF 60,000 PSI (60 KSI), UNLESS NOTED OTHERWISE. ALL REINFORCING STEEL CONSTRUCTION AND PLACEMENT SHALL BE IN CONFORMANCE WITH ACI 318-19. ALL REINFORCING STEEL SHALL BE RELATIVELY CLEAN OF RUST, SOIL, AND OTHER DEBRIS IMMEDIATELY PRIOR TO THE PLACEMENT OF CONCRETE. UNLESS NOTED OTHERWISE, ALL REINFORCING STEEL SHALL HAVE MINIMUM CLEAR COVER OF 3 INCHES WHERE THE CONCRETE IS CAST AGAINST SOIL OR BEDROCK AND 2 INCHES WHERE THE CONCRETE IS CAST AGAINST FORMS.
18. LAP SPLICES MAY BE USED FOR THE NO. 10 AND SMALLER BARS PER ACI 318-19.
19. THE SOLDIER PILES SHALL BE ROLLED STEEL HP-SHAPED MEMBERS AS SHOWN ON THE DRAWINGS. THE HP-SHAPES SHALL CONFORM TO ASTM A572, GRADE 50 ($F_y = 50$ KSI). PROVIDE PILES FREE OF CAMBER OR TWIST THAT WOULD AFFECT THEIR STRUCTURAL CAPACITY. SPlicing OF THE SOLDIER PILES SHALL NOT BE PERMITTED WITHOUT REVIEW AND WRITTEN PERMISSION BY THE ENGINEER.
20. EXPOSED PORTIONS OF THE SOLDIER PILES SHALL BE PAINTED USING A COLOR APPROVED BY THE OWNER. THE PAINT SHALL CONFORM TO SECTION 708 OF THE ODOT CMS, AND SHALL BE APPLIED IN ACCORDANCE WITH SECTION 514 OF THE ODOT CMS.
21. PRECAST PANELS SHALL BE PROVIDED WITH AN ARCHITECTURAL FINISH SIMILAR TO CUSTOMROCK FORMLINER PATTERN #2001 - FLAT RANDOM STONE, OR EQUAL TO BE APPROVED BY THE OWNER.
22. PRECAST PANELS SHALL BE LAID OUT SO THAT THE HORIZONTAL JOINTS BETWEEN PANELS ARE ALIGNED BETWEEN CONSECUTIVE SOLDIER PILES. THE CONTRACTOR SHALL PREPARE SHOP DRAWINGS FOR REVIEW AND APPROVAL BY THE ENGINEER AND OWNER THAT ILLUSTRATE THE PANEL SIZES AND LAYOUT OF HORIZONTAL JOINTS.
23. PRECAST CAPS SHALL BE PROVIDED OVER THE TOPS OF THE SOLDIER PILES AND PRECAST LAGGING PANELS. PRECAST PANEL COVERS SHALL BE PROVIDED TO COVER EXPOSED FLANGES OF SOLDIER PILES. THE CONTRACTOR SHALL PREPARE SHOP DRAWINGS FOR THE PRECAST CAPS AND PANEL COVERS THAT ILLUSTRATE THEIR DIMENSIONS AND MEANS OF CONNECTION TO THE SOLDIER PILES FOR REVIEW AND APPROVAL OF THE DESIGN ENGINEER AND OWNER.
24. AN ANTI-GRAFFITI COATING SHALL BE APPLIED TO THE PRECAST PANELS AND SHALL CONSIST OF MONOCHEM PERMASHIELD® PREMIUM, OR EQUAL TO BE APPROVED BY THE OWNER AND DESIGN ENGINEER.
25. TEMPORARY WOOD LAGGING SHALL CONSIST OF 3" WIDE BY 8" HIGH, ROUGH CUT, NO. 2 OR BETTER SOUTHERN YELLOW PINE OR MIXED HARDWOOD LAGGING, UNLESS NOTED OTHERWISE. TEMPORARY LAGGING SHALL BE INSTALLED INCREMENTALLY AS THE EXCAVATION PROCEEDS IN ACCORDANCE WITH OSHA CRITERIA.
26. EXCAVATION AND DISTURBANCE OF THE BEDROCK BELOW THE PRECAST CONCRETE LAGGING AND HORIZONTAL BEDROCK EXCAVATION BETWEEN THE SOLDIER PILES SHALL BE MINIMIZED.
27. PREFABRICATED DRAINAGE COMPOSITE (MIRAFI G200N OR APPROVED EQUAL) SHALL BE PROVIDED BETWEEN THE PRECAST CONCRETE LAGGING AND TEMPORARY WOOD LAGGING/BEDROCK EXCAVATION/BACKFILL.
28. PLATE STEEL, STEEL ANGLES, THREADED RODS, AND PLATE WASHERS FOR CLAMPING WOOD LAGGING TO SOLDIER PILES SHALL CONFORM TO ASTM A36 ($F_y = 36$ KSI).
29. ALL WELDING MATERIALS AND PROCEDURES SHALL CONFORM TO AWS D1.1 "STRUCTURAL WELDING CODE". ALL WELDING ELECTRODES SHALL HAVE A MINIMUM TENSILE STRENGTH OF 70 KSI. ALL FIELD WELDS SHALL BE VISUALLY REVIEWED BY A CERTIFIED WELDING INSPECTOR, OR A QUALIFIED REPRESENTATIVE THEREOF, EXCLUSIVE OF TACK WELDING.
30. ANY VOIDS BEHIND THE LAGGING SHALL BE FILLED WITH CLEAN NO. 57 STONE.
31. CLAY BACKFILL SHALL CONSIST OF CLEAN LEAN CLAY SOILS, CLASSIFYING AS CL ACCORDING TO THE UNIFIED SOIL CLASSIFICATION SYSTEM (USCS) WITH A MAXIMUM LIQUID LIMIT OF 45% AND A MAXIMUM PLASTICITY INDEX OF 24%. CLAY BACKFILL SHALL BE COMPACTED TO AT LEAST 98 PERCENT OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D698). BEDROCK SHALL BE EXCLUDED FROM CLAY BACKFILL.
32. WALK-BEHIND COMPACTORS SHALL BE USED FOR COMPACTION WITHIN THE LIMITING HORIZONTAL DISTANCE BEHIND THE BACK OF THE WALL, WHERE THE LIMITING HORIZONTAL DISTANCE IS DEFINED AS THE GREATER OF 5 FEET AND 50 PERCENT OF THE EXPOSED WALL HEIGHT. HEAVY EQUIPMENT SHALL ALSO NOT BE PERMITTED OR OPERATED WITHIN THIS LIMITING HORIZONTAL DISTANCE.
33. NON-WOVEN DRAINAGE GEOTEXTILE SHALL CONSIST OF MIRAFI 140N OR AN APPROVED EQUIVALENT.
34. DISTURBED AREAS SHALL BE SEEDED AND COVERED WITH A TEMPORARY EROSION CONTROL MAT, CONFORMING TO ODOT CMS ITEM 712.11, UNLESS OTHERWISE NOTED ON THE CIVIL PLANS.
35. REFER TO THE CIVIL PLANS FOR RESTORATION OF ANY PAVEMENT DAMAGED BY THE SOLDIER PILE AND LAGGING WALL CONSTRUCTION.
36. REFER TO THE BORING LOGS ON SHEET 10 OF THESE PROJECT PLANS FOR SUBSURFACE INFORMATION, AS WELL AS THE HISTORIC BORING INFORMATION ON SHEETS 11 AND 12.
37. TERRACON HAS DESIGNED THE SOLDIER PILE AND LAGGING WALL TO SUPPORT THE LATERAL EARTH PRESSURES GENERATED FROM THE THE PROPOSED GRADES SHOWN ON THE PROJECT PLANS PLUS ADDITIONAL MATERIAL THAT MAY ACCUMULATE UP TO THE THE TOP OF THE WALL FROM FUTURE UPSLOPE INSTABILITY AND A 2-FOOT-TALL TOE BULGE THAT MAY DEVELOP ABOVE THE TOP

OF THE WALL. THE OWNER IS RESPONSIBLE FOR REGULAR SITE VISITS TO EVALUATE IF MATERIAL IS BEGINNING TO BUILD UP BEHIND THE WALL AND EXTEND ABOVE. ONCE MATERIAL BEGINS TO BUILD ABOVE THE WALL, THE OWNER SHALL BE RESPONSIBLE FOR SCHEDULING MAINTENANCE TO REMOVE THE ACCUMULATED MATERIAL BACK TO THE PROPOSED DESIGN GRADES ABOVE THE WALL.

38. TERRACON ASSUMES NO RESPONSIBILITY FOR, BUT NOT LIMITED TO, THE FOLLOWING ITEMS:
 - A. LOCATION AND PROTECTION OF EXISTING UNDERGROUND OR ABOVE GROUND UTILITIES.
 - B. COORDINATION AND VERIFICATION OF DIMENSIONS AND DETAILS WITH EXISTING ON-SITE CONDITIONS.
 - C. CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF PERSONS AND PROPERTY DURING CONSTRUCTION.
 - D. TRAFFIC CONTROL
 - E. SLOPE MOVEMENT UPSLOPE AND BEYOND THE LIMITS OF THE PROPOSED RETAINING WALL.



- ### NOTES
1. TRENCHED UNDERDRAIN SHALL BE EXCAVATED AFTER THE NEW COMPACTED AND TESTED FILL HAS BEEN PLACED TO THE TOP OF SUBGRADE ON THE LOW SIDE OF THE WALL, AND SHALL EXPOSE THE WEEPHOLES IN THE BOTTOM PRECAST CONCRETE LAGGING PANELS OF THE SOLDIER PILE AND LAGGING WALL.
 2. WEEPHOLES SHALL BE CLEANED AND CLEARED OF ANY DEBRIS PRIOR TO INSTALLING UNDERDRAIN MATERIALS.
 3. THE BOTTOM OF THE EXCAVATION FOR THE TRENCHED UNDERDRAIN SHALL BE TRIMMED SMOOTH AND SLOPED TO DRAIN AT A MINIMUM OF 1 PERCENT.
 4. THE CLEAN NO. 57 CRUSHED LIMESTONE SHALL CONTAIN LESS THAN 5 PERCENT FINES AND BE COMPACTED TO 75 PERCENT RELATIVE DENSITY, AS DETERMINED BY ASTM D4253 AND D4254.
 5. THE CLEAN NO. 57 CRUSHED LIMESTONE SHALL BE WRAPPED WITH AN APPROVED NON-WOVEN GEOTEXTILE (E.G., MIRAFI 140N), AND SHALL BE LAPPED A MINIMUM OF 6 INCHES.
 6. THE WRAPPED NO. 57 STONE SHALL BE IN CONTACT WITH EACH WEEPHOLE.
 7. THE 4-INCH DIAMETER RIGID PERFORATED PVC PIPE SHALL BE SLOPED TO DRAIN AT A MINIMUM OF 1 PERCENT AND SHALL BE CONNECTED TO SOLID 6-INCH DIAMETER RIGID PVC OUTLET PIPE (OUTLET PIPE) THAT IS SLOPED TO DRAIN AT A MINIMUM OF 1 PERCENT TOWARD PROPOSED/EXISTING STORM SEWER SYSTEM. THE OUTLET PIPES SHALL BE LOCATED AT LEAST 1 FOOT ABOVE THE OUTLET INVERT OF THE STORM SEWER STRUCTURES THAT THEY CONNECT TO.
 8. THE PERFORATED AND SOLID PVC PIPES SHALL BE SDR 35 OR BETTER.

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9
SOLDIER PILE WALL UNDERDRAIN DETAIL
NOT TO SCALE

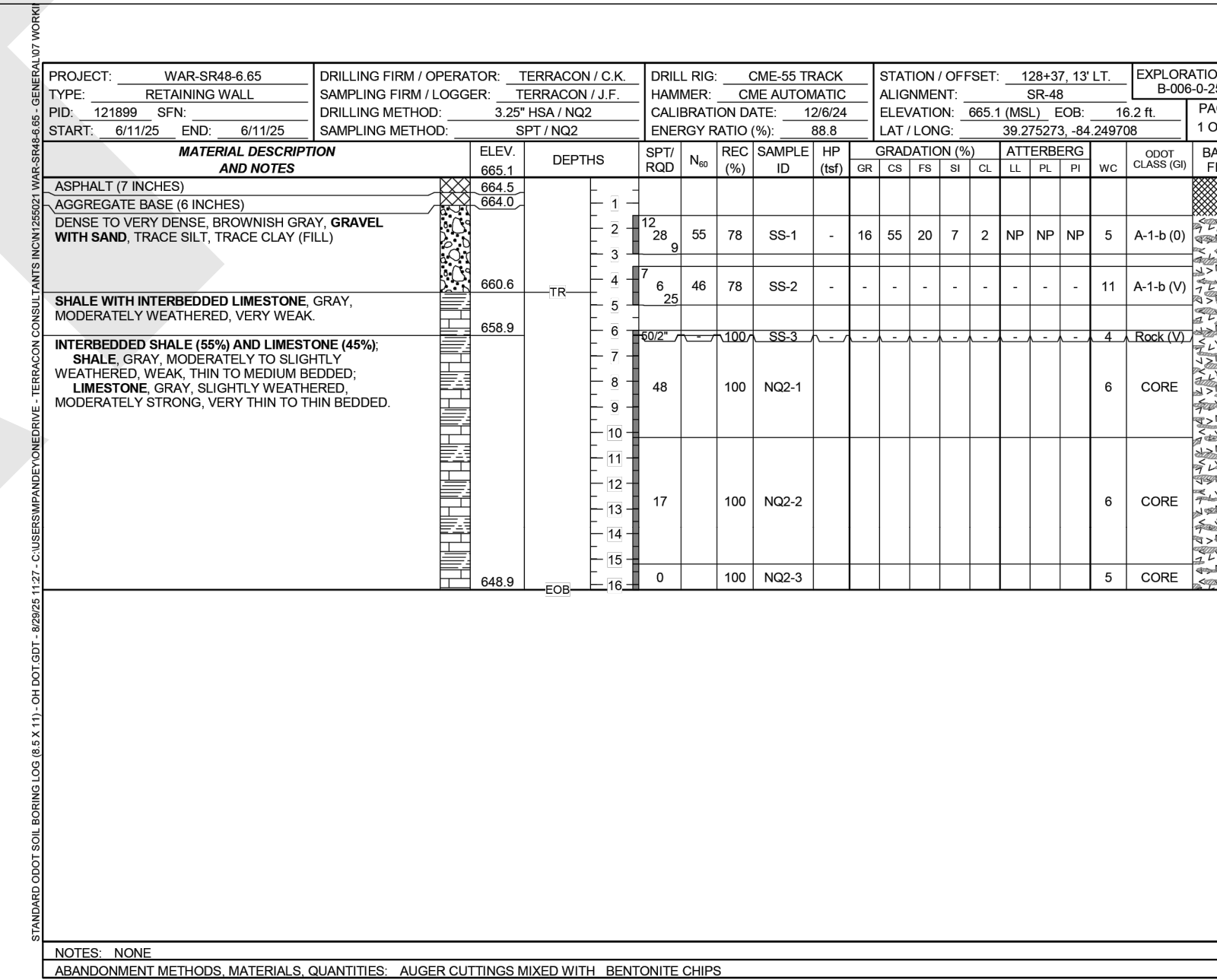
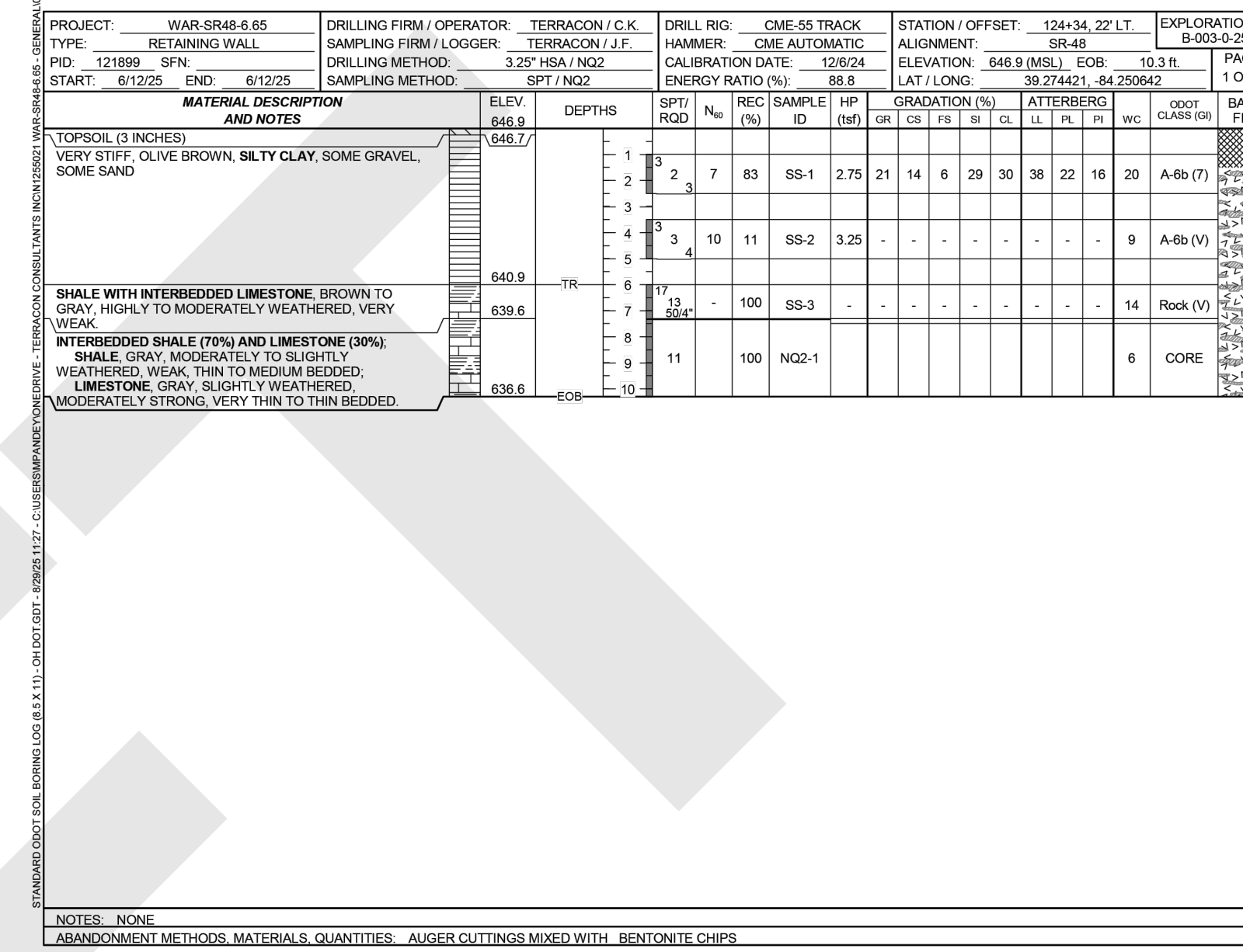
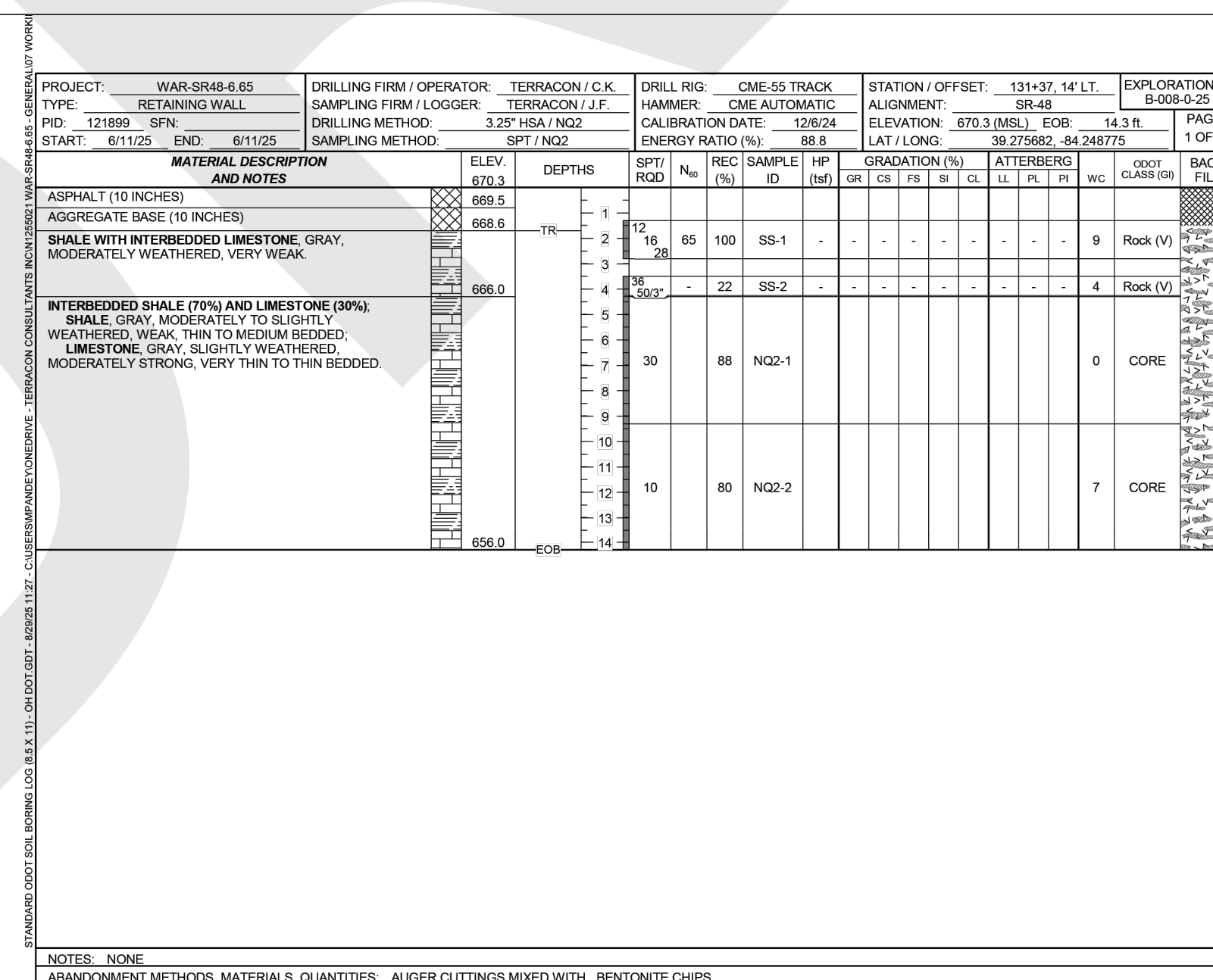
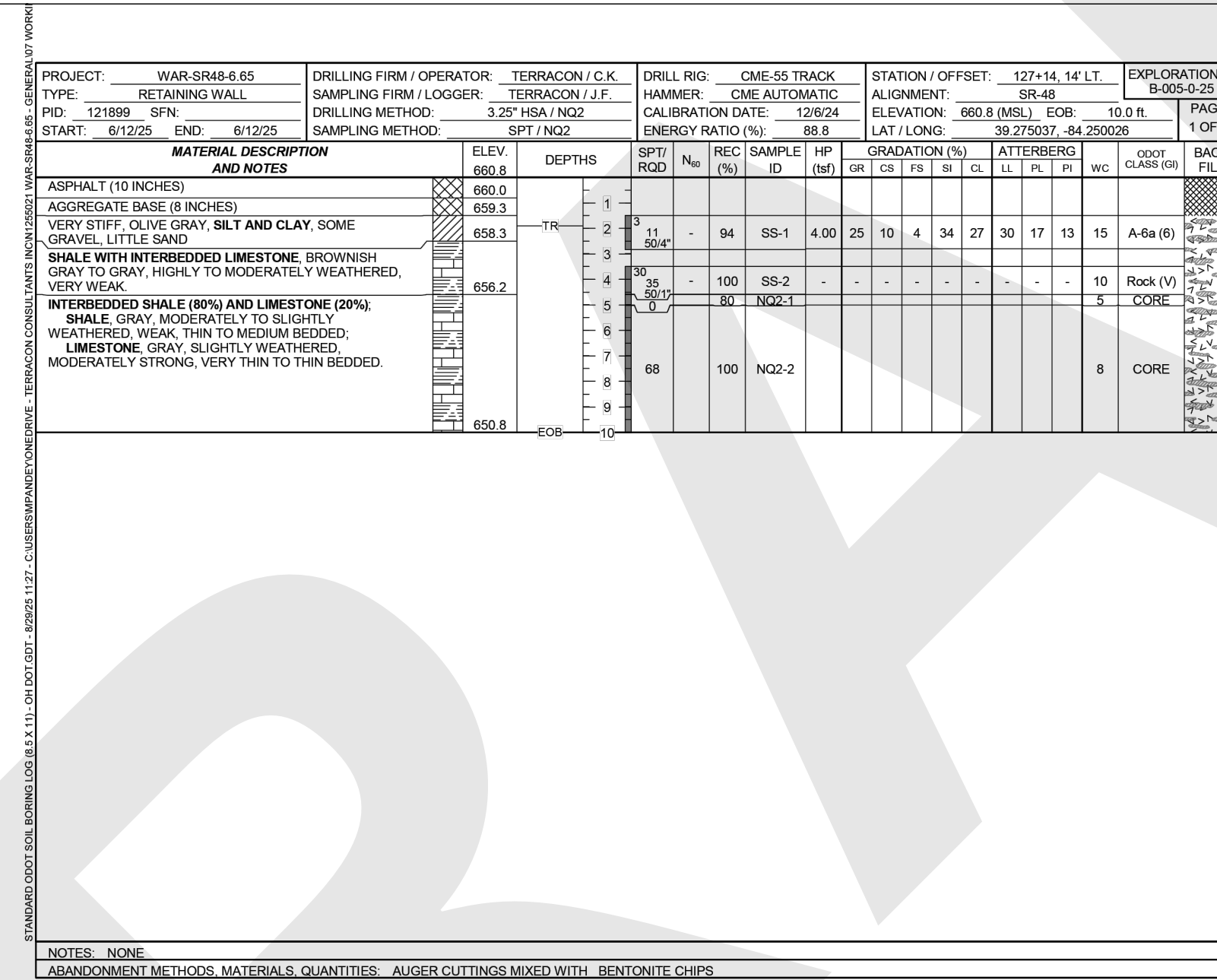
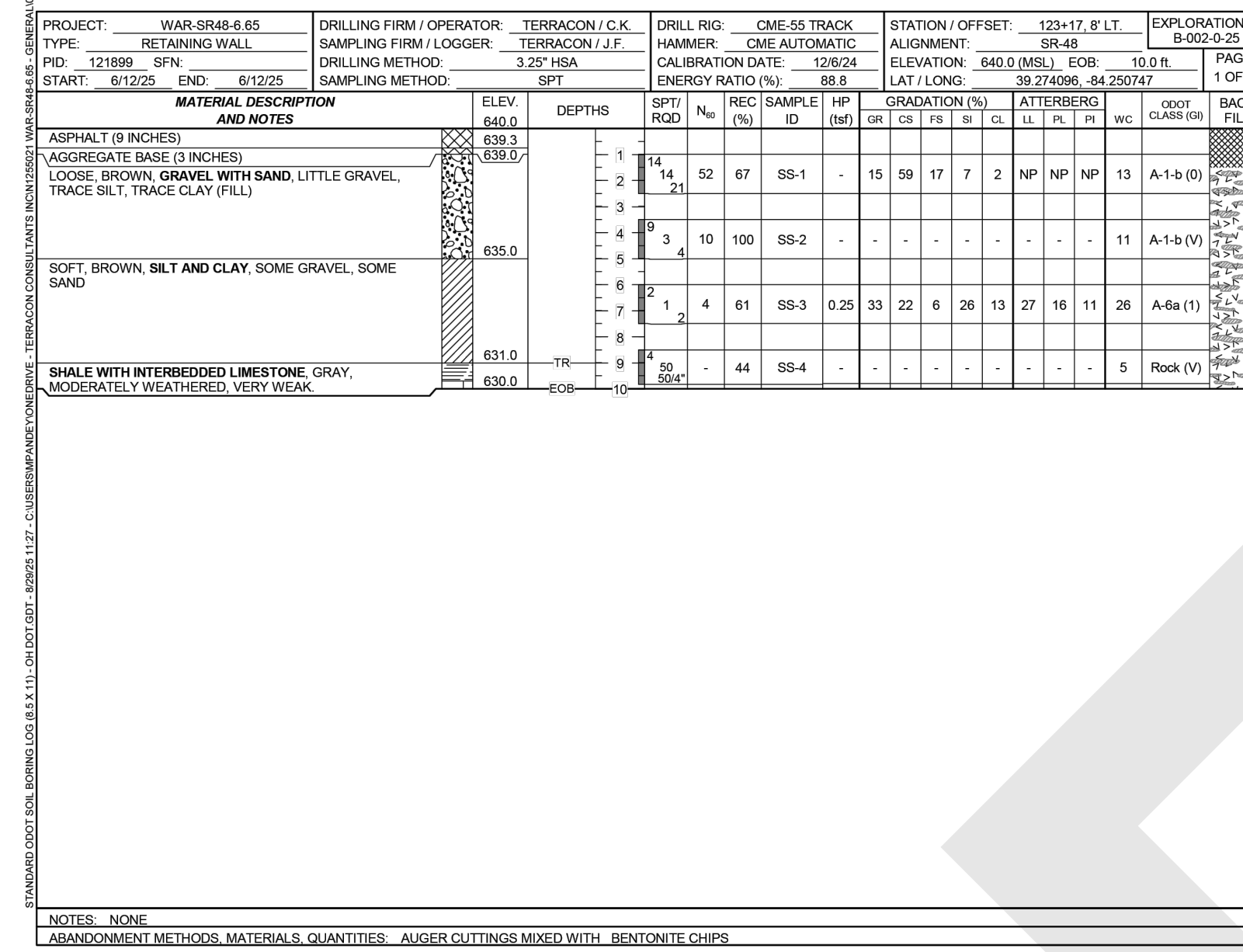
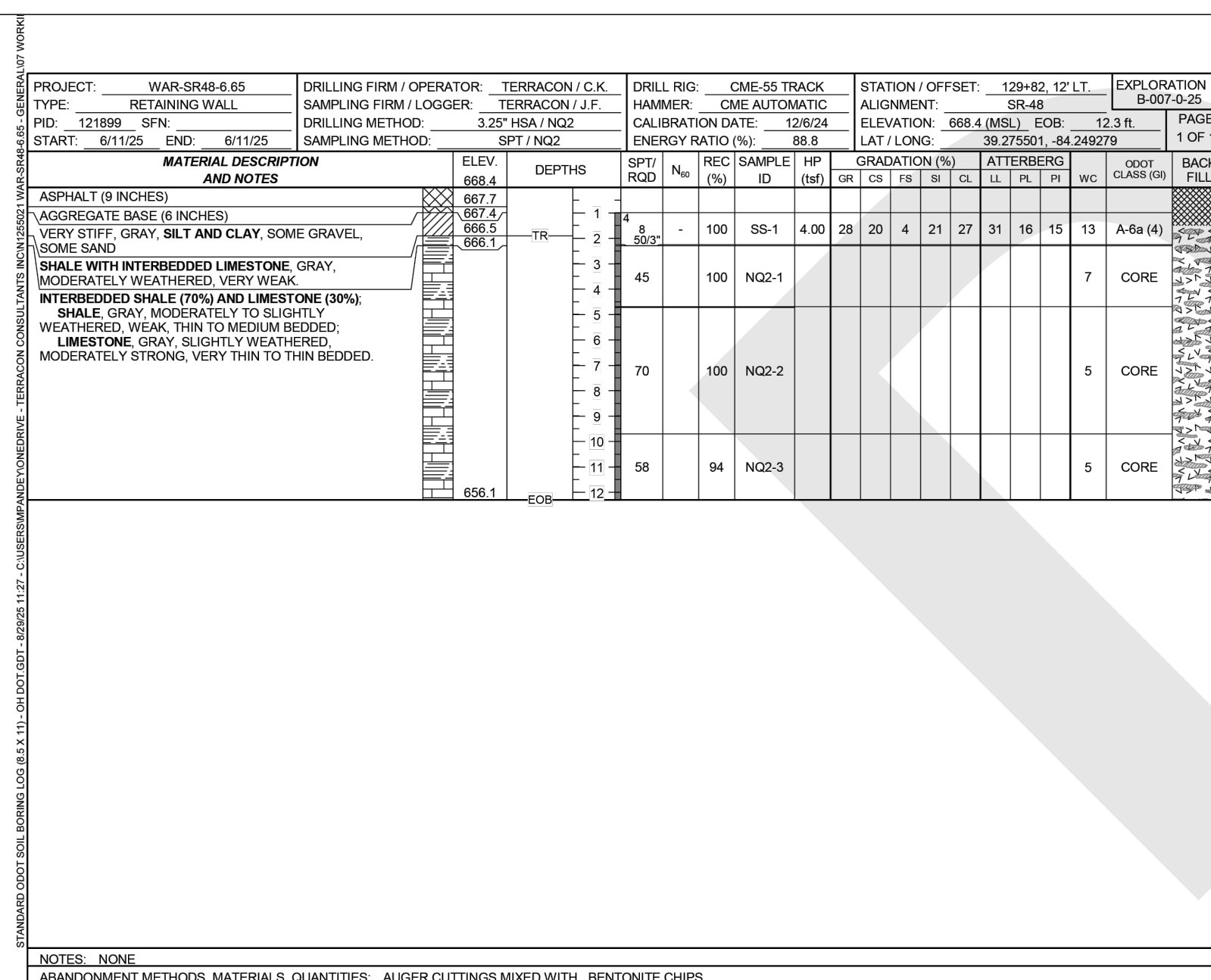
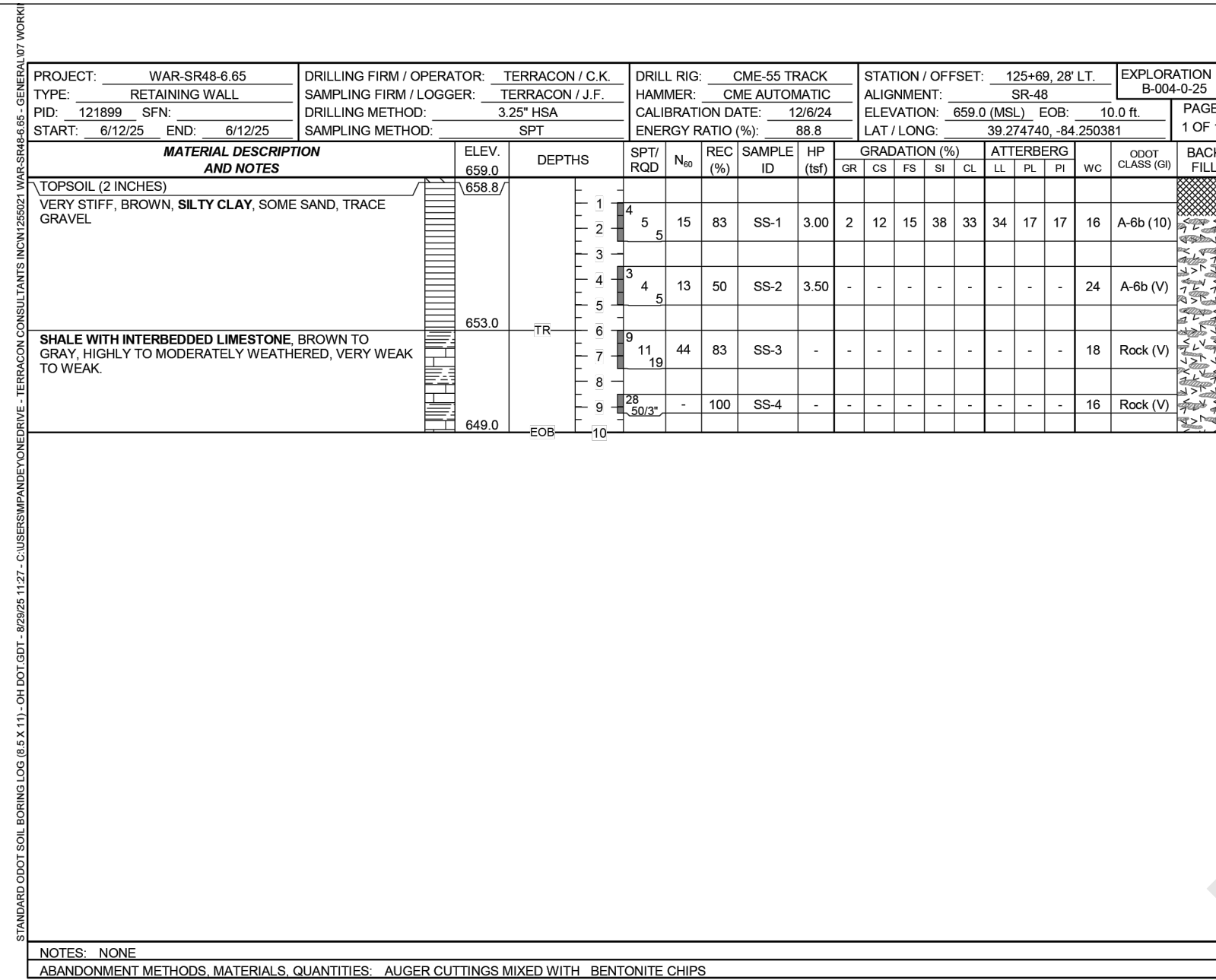
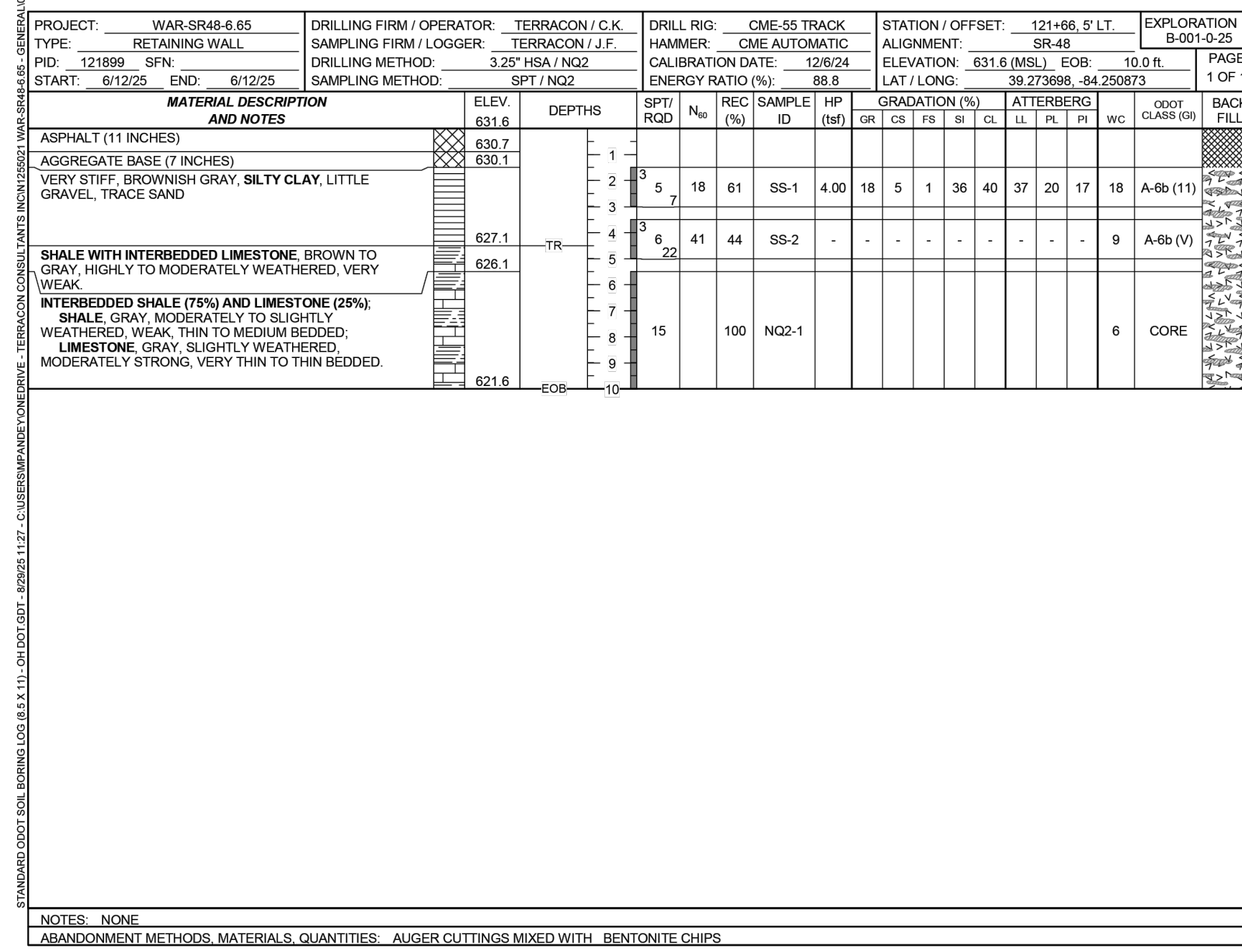
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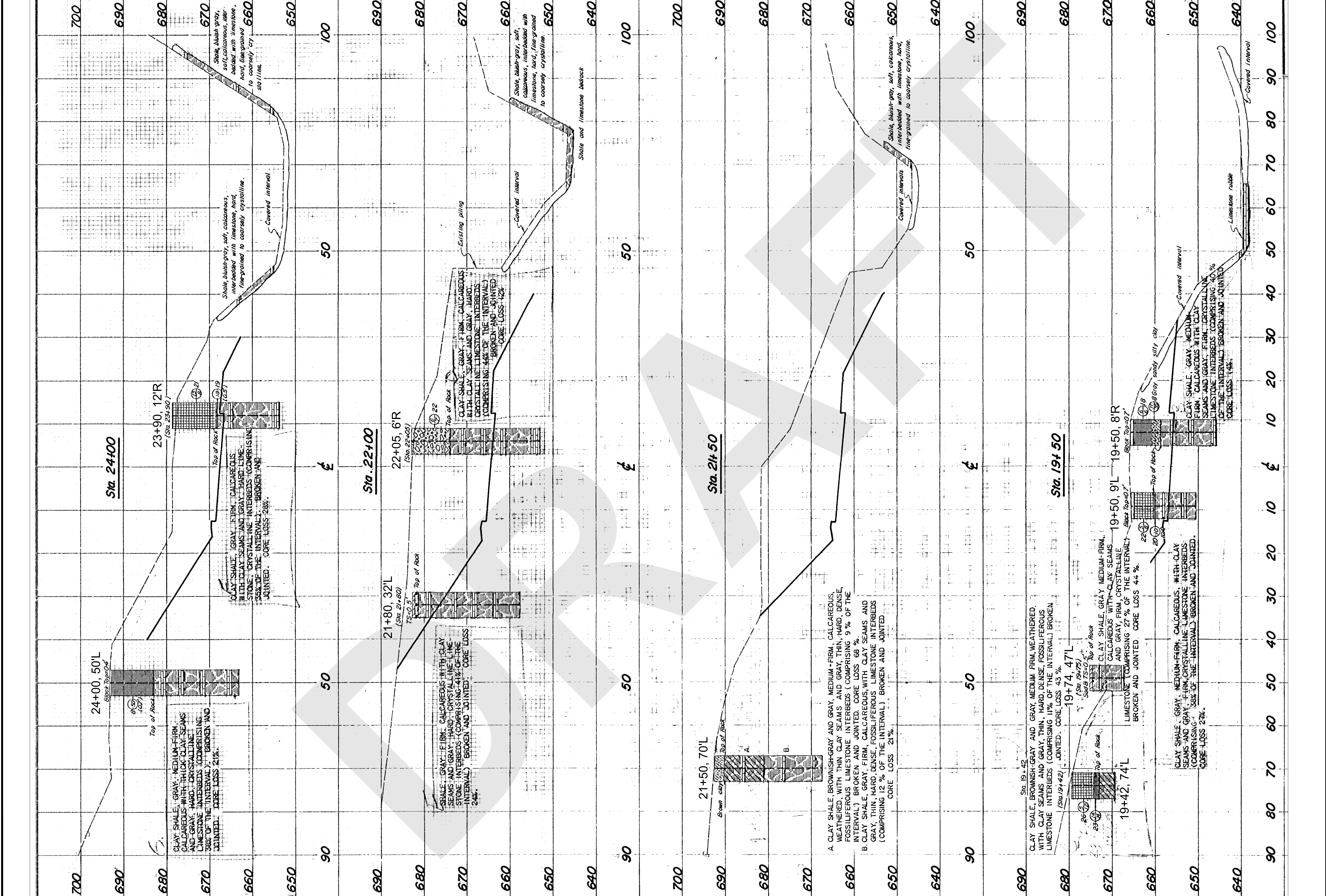
GENERAL NOTES & SOLDIER PILE WALL UNDERDRAIN DETAIL
 WAR-SR48-6.65
CHOICE ONE ENGINEERING CORP
 SR-48 AND BUTTERWORTH ROAD
 LOVELAND, OHIO

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SHEET 9

DESIGNED BY:	JDH
DRAWN BY:	RLC
APPVD. BY:	DWW
SCALE:	N.T.S.
DATE:	9/5/2025
JOB NO.:	N1255021
SHEET NO.:	9 OF 12





<p>TERRACON Explore with us</p> <p>611 LUNKEN PARK DRIVE CINCINNATI, OHIO 45226 PH. (513) 321-5818 FAX. (513) 321-4540</p>		<p>HISTORIC BORING INFORMATION</p> <p>WAR-SR48-6.65</p> <p>CHOICE ONE ENGINEERING CORP</p> <p>SR-48 AND BUTTERWORTH ROAD LOVELAND, OHIO</p>	
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